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Wait Times Reduction Task Force: Final Report

Submitted to the Minister of Health, Seniors and Active Living

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ACRONYMS

ACP	Advanced Care Paramedic
ALC	Alternate Level of Care
ALOS	Average Length of Stay
ALS	Advanced Life Support
ASIST	Applied Suicide Intervention Training
BLS	Basic Life Support
BRHC	Brandon Regional Health Centre
CAEP	Canadian Association of Emergency Physicians
CAS	Complex Adaptive System
CAU	Clinical Assessment Units
CEC	Collaborative Emergency Centre
CIHI	Canadian Institute for Health Information
CMA	Canadian Medical Association
COPD	Chronic Obstructive Pulmonary Disease
CPSM	College of Physicians and Surgeons of Manitoba
CRC	Crisis Response Centre
CT	Computerized Tomography
CTAS	Canadian Triage Acuity Scale
DI	Diagnostic Imaging
DSM	Diagnostic Services Manitoba
ECG	Electrocardiogram
ED	Emergency Department
EDIS	Emergency Department Information System
EDOC	Emergency Department Overcrowding
EDVIP	Emergency Department Violence Intervention Program
EDWTRC	Emergency Department Wait Times Reduction Committee
EM	Emergency Medicine
EMS	Emergency Medical Services

EP	Emergency Physician
ePCR	Electronic Patient Care Record
EPIC	Emergency Paramedic in the Community
ER	Emergency Room
FASD	Fetal Alcohol Spectrum Disorder
FFS	Fee for Service
HSC	Health Sciences Centre
ICP	Intermediate Care Paramedic
ICU	Intensive Care Unit
IERHA	Interlake Eastern Regional Health Authority
IFT	Interfacility Transfer
IMG	International Medical Graduates
IPTA	Intoxicated Person Detention Act
IT	Information Technology
IV	Intravenous
LPN	Licensed Practical Nurse
MASH	Mobile Army Surgical Hospital
MCHP	Manitoba Centre for Health Policy
MH	Mental Health
MHC	Misericordia Health Centre, situated within the WRHA
MHSAL	Manitoba Health, Seniors and Active Living
MRI	Magnetic Resonance Imaging
MSP	Main Street Project
MUC	Misericordia Urgent Care
NP	Nurse Practitioner
NRHA	Northern Regional Health Authority
OAG	Office of the Auditor General
OCP	Overcapacity Protocols
PA	Physician Assistant
PACT	Program for Assertive Community Treatment

PAM	Paramedic Services Manitoba
PCH	Personal Care Home
PCP	Primary Care Paramedic [in the context of Emergency Department]
PCP	Primary Care Provider [in the context of Priority Procedures]
PECS	Provincial Emergency Consultation Service
PEN	Psychiatric Emergency Nurse
PMH	Prairie Mountain Health Regional Health Authority
PoC	Point of Care Testing
PPWTRC	Priority Procedures Wait Times Reduction Committee
RAZ	Rapid Assessment Zone
RCMP	Royal Canadian Mounted Police
RFP	Request for Proposals
RHA	Regional Health Authority
RN	Registered Nurse
SES	Socio-Economic Status
SBH	St. Boniface Hospital
SHSM	Shared Health Services Manitoba
SHSS	Southern Health - Santé Sud Regional Health Authority
SPA	Service Purchase Agreement
STARS	Shock Trauma Air Rescue Service
STEMI	ST Segment Elevation Myocardial Infarction
TAT	Turn around time
TIPA	Time to Initial Physician
TLP	Triage Liaison Physician
TOC	Theory of Constraints
TRC	Truth and Reconciliation Commission
UC	Urgent Care
VUC	Victoria [General Hospital] Urgent Care
WEDOC	Western Emergency Department Operations Conference

WFPS	Winnipeg Fire and Paramedic Service
WHO	World Health Organization
WPS	Winnipeg Police Service
WRHA	Winnipeg Regional Health Authority
WTBS	Wait to be seen
WTRTF	Wait Times Reduction Task Force

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EXECUTIVE SUMMARIES

EMERGENCY DEPARTMENTS

The Emergency Department Wait Times Reduction Committee (EDWTRC) was established under the direction of the Minister of Health, Seniors and Active Living. The Emergency Departments (ED) section of this report was informed by extensive consultation with front-line healthcare professionals, ED managers, hospital executives, regional health authority leaders, and those most affected by wait times—the public. There was an extensive review of available evidence, reports, surveys and expert opinion, resulting in recommendations on ways to improve access to emergency care and decrease ED wait times for Manitobans. The ED section of the report has been divided into seven chapters.

The **Overview** looks at the ‘big picture’, as well as covering important concepts, definitions and metrics that will be revisited throughout the report. For many people, our healthcare system is a confusing array of disparate services that they never think about until a sudden health problem occurs. When it does, they gravitate to the ED, with the expectation that, no matter how serious or benign, the ED will look after it, 24/7. This is not necessarily a bad thing, as seemingly innocuous symptoms can sometimes be life-threatening, but because of its broad mandate the ED depends on many other people and processes. When the interlinked system is not working smoothly, it manifests as ED overcrowding (EDOC). It is now recognized that EDOC is a symptom of whole-system problems, just as a high fever warns us that there is an infection somewhere, but does not specify the source. But, unlike a thermometer, the ED has many other essential functions it must also perform in the midst of EDOC.

The concept of ‘patient flow’, analogous to water flowing continuously in a river, is vital to understanding ED wait times. We use an *input-throughput-output* model, first introduced in the ED literature in 2003, to examine ED flow throughout this report. Sudden heavy rain (a surge of patients, or *input*), multiple small obstructions (ED processes, or *throughput*), or a strategically located dam (inpatient bed block, or *output*) may all result in flooding (EDOC). Therefore, good data that tracks patient flow, care provider performance, processes, pathways, and outcomes is critical to managing the many parts of this highly complex system. Data quality, availability, and analysis is variable—one of the foundational problems and potential solutions to EDOC.

Healthcare and EDs are increasingly recognized as operating within a ‘complex adaptive system’—similar to a human body that has multiple organ systems, each of which has a specific function, but also interacts with all other systems interdependently. It is critical to understand that changes that are directed at one area will always affect other parts of the system—directly or indirectly, as illustrated by the *three paradoxes* in this first chapter. Furthermore, highly complex problems like EDOC can rarely be ‘fixed’, but can be better managed and planned for. That leads to the most fundamental role of government—to

establish an overarching governance structure to ensure the system has clear authority, shared goals, effective decision-making and accountability.

Understanding the **Fundamentals of Flow in Urban EDs** within a complex system is dependent on data collection, timely analysis, and the use of ‘metrics’. There has been a gradual shift away from looking at average performance to the use of 90th percentile performance. When a patient asks, ‘how long do I have to wait?’ and the answer given is, ‘on average about four hours’, half the time it will be greater than four hours, sometimes much longer. A 90th percentile answer will not disappoint the patient, nine times out of 10. In the section on *Input*, a variety of innovations are cited that address specific patient needs before they reach the ED and the concept of *streaming* (a form of queuing) to rapid assessment zones (*RAZ*) is explored. In the *Throughput* section, the impact of diagnostic testing in the ED is recognized, as well as that of both emergency physician and consultant processes. *Output*, the final part of the admitted ED patient journey, is described as a ‘wicked problem’ as defined in the preceding chapter, because of its intractability and reliance on processes outside the ED. Nevertheless, improvements based on successful practices elsewhere and guidelines from experts in the field are referenced and crafted into recommendations.

The **Rural and Remote ED Access** chapter explores unique rural challenges, including the availability of clinicians, geography, volume-dependent clinical competencies, and significant distance from diagnostic facilities and specialists. Rural sites must often rely on larger local ‘hub’ hospitals for their specialist and diagnostic testing needs, so the role of EMS transport is critical. The angst regarding EDs being open or closed distracts attention from the most basic unmet need in many rural and northern communities—accessible, high quality primary care. A prevailing risk is that low numbers of very sick patients make it difficult for doctors, nurses, and paramedics to maintain assessment and resuscitation skills at a time when prompt diagnosis and decision-making can make a difference. That can influence patient outcomes, but also is a disincentive for these healthcare professionals to work in rural settings. Telemedicine solutions are recommended, such as the proposed Provincial Emergency Consultation Service (PECS), where emergency experts can be immediately accessed to provide advice and guidance for patient care, or assist in arranging specialist consultation and transport when needed. Care providers stated they would be far more comfortable working in their rural communities if they had easily accessible support from other specialists when needed.

Vulnerable Populations include the very young and very old, the socially disadvantaged and those with mental health problems. Pediatric patients are well served by Health Science Centre (HSC)-Children’s in Winnipeg, but receive variable care in other parts of Manitoba because care providers rarely see very sick children. The capacity of Children’s to meet the needs of increasing numbers or surges needs to be further examined. Programs such as peer support for those with mental illness and the ED Violence Intervention Program (EDVIP) identify and manage vulnerable groups proactively to reduce subsequent ED use. Patients who are frail, chronically ill or cannot be safely discharged frequently present to Emergency. Chronic hospital crowding makes all admitting medical services reluctant to accept such patients to their limited beds, so days

and sometimes weeks can pass with these *orphan patients* stuck in the chaos of the ED. None of these patients should remain in the ED longer than 16 hours before being moved to a ‘clinical assessment unit’ for further evaluation and planning, or being admitted to the hospital.

Indigenous Peoples live throughout Manitoba, in urban and rural areas, on and off reserves. At HSC, up to 40% of the ED users identify as Indigenous and some rural EDs serve an even higher percentage. For too many Indigenous peoples, deficits in income, housing, education and other social determinants of health have led to acute and chronic diseases, and dependence on emergency services. Healthcare providers must respect cultural diversity and better understand Indigenous priorities. We recommend that consideration be given to a separate, focused report, with primary input from Indigenous health care experts, administrators and patients themselves.

Emergency Medical Services (EMS) and ED care are linked and interdependent. EMS is the glue that connects many aspects of the emergency care system and requires a well-planned and executed governance model that is dynamic and innovative. A well-trained EMS improves patient outcomes by assessing and managing problems early and initiating potentially life-saving treatments prior to ED arrival. EMS is also used to safely transport sick patients between hospitals, enabling inter- and intra-regional emergency care networks to function. Low acuity inter-facility transfers should be performed by providers with more basic training, whereas sick or unstable patients require paramedics with critical care experience. Paramedics should not be confined to ambulances only. Their unique blend of knowledge and skills can be used in the community, providing focused home care, inner city clinics, care for frequent EMS or ED users, and others.

A New Way Forward connects the discussion and recommendations of this report to recent announcements regarding governance and health system reorganization that will profoundly impact the way emergency services are delivered, in Winnipeg and throughout the province. The theme of this section is ‘hasten slowly’: changes clearly need to happen, but in a *complex adaptive system*, well-intentioned changes in one area can result in unexpected and far-reaching consequences. The hospital/ED consolidation announced in April, 2017 is seen, conceptually, as a positive stride forward, but the devil is in the details—it must be properly evaluated, phased in, and coordinated with rural ED care, under a unifying governance structure.

There is great variation in the 63 EDs in rural Manitoba—some are as large as Winnipeg’s community EDs; others treat very small numbers of very sick patients and do mostly primary care. Although people may feel reassured there is an ED in town, if the staff feel ill-equipped to deal with the sickest patients or there are frequent closures, expectations may not be met. The goal in rural areas should be to provide accessible, timely primary care and ensure there is ready access to emergency care, through a coordinated network, when required. That network would include a robust EMS system and well-resourced rural ‘hubs’, supported by on-line physician experts 24/7.

A list of all recommendations is available in Appendix 16.1.

PRIORITY PROCEDURES

The Priority Procedures Wait Times Reduction Committee (PPWTRC) was established as part of the Wait Times Reduction Task Force (WTRTF), under the direction of the Minister of Health, Seniors and Active Living. This report analyzes waits and delays for hip and knee replacements, cataract surgery, and magnetic resonance imaging (MRI). It then makes recommendations on ways to reduce wait times and improve access to these four procedures. These services were chosen for the PPWTRC, out of the few services where nationally comparable data is available, because these are services where Manitoba ranks below the national average per the annual wait time report published by the Canadian Institute for Health Information (CIHI).¹ This section of the report has been divided into five chapters.

The **introduction** provides an overview of the wait time metrics used throughout this report, explaining how wait times are standardly measured and tracked. It also introduces the methodology used throughout the report. For each service the committee followed the patient's journey, from suspicion of a medical concern to procedure. This included analyzing the actual demand for services and analyzing the true capacity in the system. The committee also mapped the processes to determine the demand and capacity at each step in the process. This assists in the determination of which step or steps are the bottleneck, so resources can be better distributed. Finally, the chapter introduces the concept of a provincial programs approach, which the committee believes is the next necessary step in order for the WTRTF to accomplish its overall goals.

The **MRI, hip and knee replacement surgery, and cataract surgery** chapters each follow the same structure:

1. An overview of the service, including an illustration of the current patient journey.
2. Context around who needs and who gets the service, including discussion of issues around equity of access to services.
3. An analysis of current demand for the service in Manitoba.
4. An analysis of the current capacity that is available in Manitoba, including whether it is sufficient to meet the demand.
5. An assessment of the current state of quality assurance/quality improvement for the service, and opportunities for improved appropriateness and quality processes.
6. An analysis of the current process for patients to access the service, as well as an assessment of access challenges such as travel distance.
7. Context around the current mechanisms for funding and tracking service volumes.

¹ (Canadian Institute for Health Information, 2017)

8. A description of current wait time and access indicators, including discussion of performance metrics.
9. Context around how the service is managed at a regional and/or provincial level, and an assessment of how the service fits into a potential provincial program.
10. A proposed patient journey pathway for the service, based on the discussion in the previous nine sections of the chapter.
11. A list of recommendations to improve access and wait times for the service.

Section 11 for each of these three chapters begins with a recommendation focused on the need for collaboration within the health care system, and the need to centre the health system's care around the patient. Most remaining recommendations are further broken down into sub-sections, directly addressing ways to reduce demand, increase capacity, and establish a provincial program.

There are some overarching **additional issues** which the PPWTRC felt were important in order to address wait times for all specialty health care services, not just the four discussed in this report. These are:

- The need for patient and public participation in the planning and governance of the health care system. It has been demonstrated that involving patients can enhance the quality of health care services,² and is key in order to implement change.
- The need for more robust clinical governance for many services, including: establishing standards of practice; monitoring performance, i.e. quality assurance; continuously improving quality and reviewing standards; and creating an environment where innovation and improvement can flourish.
- The need to review physician remuneration, to ensure it provides fairness for physicians and value for money.
- The need to maximize the use of existing information technology (IT) systems, and identification of some key areas where IT investment could enhance the system's ability to implement recommendations from the previous chapters.
- Increase health system access for people with socio-economic risk, e.g., with more comprehensive, high quality primary health care. There should be further research to better understand risks in certain populations, and to develop strategies to ameliorate these risks. This is particularly an issue for specific populations such as Indigenous peoples, populations with low socio-economic status, and populations who live in rural and remote areas of the country. These populations generally have both poorer overall health status as well as more challenges accessing needed health care services.

² (Coulter, 2012)

It is clear to the PPWTRC that there is work to be done beyond the mandate of the WTRTF to truly address access issues. However, the PPWTRC believes that the report's recommendations represent a good first step to improving wait times and access for services.

A list of all recommendations is available in Appendix 16.1.

1 OVERVIEW

1.1 MANDATE AND PRINCIPLES

In May, 2016, the newly appointed Minister of Health, Seniors and Active Living, Kelvin Goertzen, received a Ministerial Mandate Letter.³ The Minister was asked to play a key role in delivering on the commitment to be the most improved province in shortening emergency room (ER) and other wait times. The Wait Times Reduction Task Force (WTRTF) was created to recommend specific actions to shorten wait times in emergency rooms and for other priority procedures and treatments where Manitoba ranks below the Canadian average.

1.2 ROLE AND STRUCTURE OF THE WAIT TIMES REDUCTION TASK FORCE

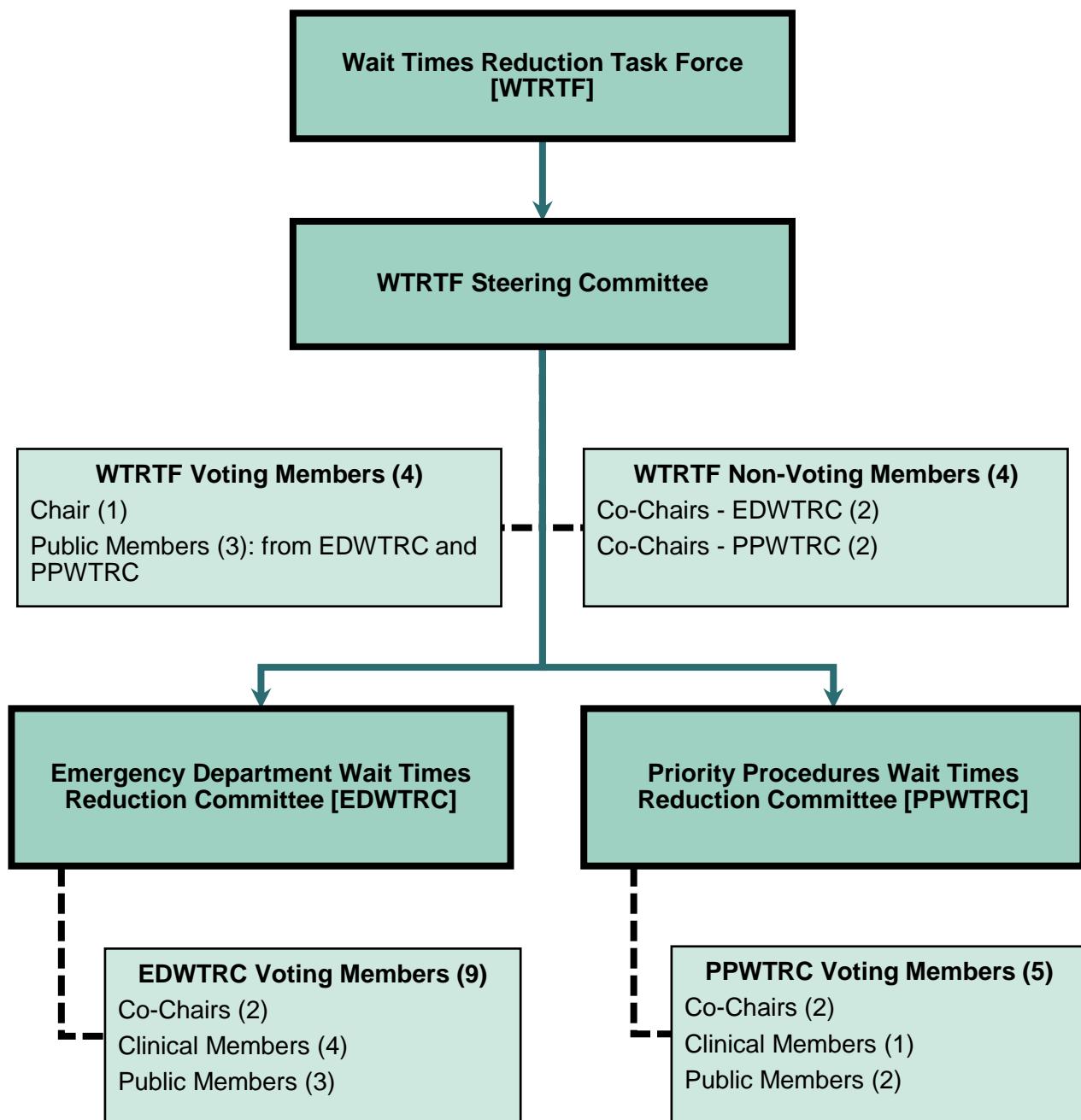
The WTRTF was directed to include frontline workers, health care professionals, and impacted stakeholders in its work to achieve the following:

- conduct in-depth analysis of who is seeking treatment at ERs and for what conditions
- identify roadblocks and solutions to improving access
- identify opportunities to enhance the overall wellness of Manitobans, including preventative measures

It was recognized early in the WTRTF development that wait times were most significant in several distinct areas—diagnostic imaging, surgical procedures and emergency care. It was decided to develop two sub-committees, one that focused only on emergency care, while the other focused on diagnostic imaging (Magnetic Resonance Imaging [MRI]) and surgical procedures (hip and knee replacement surgery, cataract surgery). The sub-committees report to the Steering Committee, as illustrated in the figure below. Terms of Reference for each committee are included in Appendices 16.2, 16.3, and 16.4.

³ (Pallister, 2016)

Figure 1.1: Wait Times Reduction Task Force Hierarchy



1.3 REPORT STRUCTURE

Each sub-committee was asked to produce a report of recommendations, informed by evidence and consultation, on ways to improve access to the previously noted services. The committees were instructed to make recommendations that reflect principles such as patient-centred values, equity of access to services, innovation, transparency, value for

Manitobans, evidence-based practice, and fiscal prudence, while maintaining clinical quality. The committees were also instructed to ensure any recommendations are either cost neutral, or to identify from where funding can be found. These principles underlie all the recommendations throughout this report. The report has been reviewed and approved by each level of the WTRTF committee membership prior to being presented to the Minister.

The analyses and recommendations included in this report are based in part on the result of surveys, and in-person consultations with the public, administrators, clinical experts, and frontline staff including nurses, doctors, clerks, imaging and lab personnel, hospital support staff, and Emergency Medical Services (EMS). There were recurring themes from multiple sites in addition to unique, local issues. A summary of the consultations conducted are included in Appendix 16.5.

The quotes that are scattered throughout the report are only a fraction of the enormous external input from the consultations and surveys, and are a reminder of the focus the WTRTF placed on people and their experiences. Copies of the surveys, profiles of respondents, and select responses are included in Appendices 16.6–16.12.

Recommendations are also based on analyses of data regarding both the need and the availability of these services, now and in the future; peer-reviewed literature; government- and Regional Health Authority (RHA)-initiated reports and reviews; and other sources regarding best practices, including what has worked (or not worked) in other provinces and other countries.

1.4 PUBLIC CONSULTATIONS

Public meetings were held in communities in all five RHAs in Manitoba (see Appendix 16.13 for a map of regions). Attendance at public consultations varied; some were very well attended and some had low attendance, in part due to challenges with advertising. Specific focus groups were held to fill in acknowledged gaps in responses from inner city residents and older seniors. Additional public feedback was achieved through the use of a public survey, which included long answer questions allowing people to share their experiences, identify problems, and make suggestions for solutions.

1.5 COMMUNICATION

It is important to recognize that the public are key stakeholders in any discussion around the health care system, as they are both the users and the funders. Any changes should come with a clear communication strategy, to inform, answer questions, and address their concerns. The public should be considered partners in their own and their families' care, and provided with the supports they need to make informed decisions about their health. The public are important partners with government and health care providers; without their involvement, building a better health care system is not possible.

2 COMMON CONCEPTS IN HEALTH CARE

There are distinct and separate issues which affect wait times and access for emergency departments, compared with those affecting access to diagnostic imaging and surgical services. As noted in the introduction, these differences resulted in the Wait Times Reduction Task Force (WTRTF) being split into two sub-committees to identify and address in more detail these barriers to access. However, there are also a number of common issues which affect access all health services. These include the background and structure of Canada's health care system, and population factors which affect people's need for, and ability to access, health care. While these issues are quite broad and out of scope of the WTRTF mandate, they all impact access and therefore it is important to provide some background and Canadian context.

2.1 OVERVIEW OF GOVERNANCE AND FUNDING

The 1984 *Canada Health Act*⁴ stipulates the rules by which the Federal government grants money to provincial health insurance programs. Overall, the provinces are required to insure the full coverage of acute hospital care (inpatient and outpatient) and care by physicians. The provinces also cover all or parts of other services, such as home care and pharmaceuticals. Some services are provided by the public sector, e.g. Regional Health Authorities. Others are provided by private non-profit organizations, e.g. St. Boniface Hospital, many personal care homes. Others are provided by the for profit sector, e.g. most pharmacies.

According to the most recent data from the Canadian Institute for Health Information, Canada was estimated to spend \$228 Billion on health care or about \$6300 per capita.⁵ Approximately 70% of total spending is public and 30% is private. The public sector funds over 90% of hospital care and almost 99% of physicians' services. Conversely the public sector pays less than one-third of pharmaceutical costs and less than 10% of dental costs. Hospital care amounted to 28% of total costs, with 16% percent going to pharmaceuticals, 15% to physicians, and 10% for other institutions (mainly personal care homes).⁶

2.1.1 How does Canada Compare Internationally?

In 2014, Canada's overall spending of \$5545 per capita and 10% of Gross domestic Product was much lower than the US (\$11,126 and 16.6% respectively) and was in the

⁴ The Canada Health Act consolidated and added to the 1957 Hospital and Diagnostic Services Act and the 1966 Medical Care Act. (Government of Canada, 2012)

⁵ (Canadian Institute for Health Information, 2016)

⁶ (Canadian Institute for Health Information, 2016)

middle of the pack amongst other wealthy countries.⁷ Canada's proportion of public spending at seventy percent is markedly higher than the US, which is at 49%. However, it is lower than most other wealthy countries such as Germany (85%), France (79%), and the UK (80%).

2.1.2 How does Manitoba Compare in Canada?

In 2016, Manitoba's total health expenditure per capita were \$7120 or about 13% more than the Canadian average. The pattern of expenditures was roughly equivalent to the Canadian average for hospitals (29.6%) and physicians (14.7%). However, Manitoba spent more on other institutions (12.3%) and less on pharmaceuticals (12.4%).⁸

2.2 WAIT TIMES AND ACCESS: How CANADA COMPARES INTERNATIONALLY

The points below are excerpts from the report, *How Canada Compares: Results from The Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*,⁹ showing how Canadian health care compares among wealthy countries:

- **ED** wait times are longest in Canada among Commonwealth countries.
- Canadians visit **EDs** more often than people in other countries and wait longer for **emergency care**; Canada has the highest proportion of patients waiting four or more hours during a visit.
- Only 34% of Canadians report that they could get care on evenings or weekends without going to an **ED**. However, after-hours access is closer to the international average (43%) in Ontario and Alberta.
- Wait times are longer in Canada for all **elective surgeries** than the average among Commonwealth countries.
- Reported **wait times for specialists** and non-emergency surgeries in Canada are also the highest among the 11 countries, with all provinces showing significantly longer waits for specialists.
- Results suggest that coordination of patient care between regular providers and **specialists** could be improved in all countries. Similar to the international average, 1 in 5 Canadians report that their regular doctor did not seem up to date about the care they received from a specialist.

⁷ Slightly lower than Germany, France, Sweden and slightly higher than the UK, Australia, and New Zealand. (Canadian Institute for Health Information, 2014)

⁸ (Canadian Institute for Health Information, 2016)

⁹ (Canadian Institute for Health Information, 2017)

- Compared with the international average, fewer Canadians report skipping a medical appointment, test or treatment due to cost.
- Canadians with below-average income face cost barriers for all health services more often than those with average or above-average income. Other research suggests the cost of transportation to medical appointments or taking time off work can be a barrier to care for low-income Canadians.
- Nearly 3 in 4 Canadians rate the quality of care they receive from their regular doctor as very good or excellent; however, 55% also believe the health care system overall requires fundamental changes.

2.3 WAIT TIMES AND ACCESS: How MANITOBA COMPARES IN CANADA

The Canadian Institute for Health Information (CIHI) reports wait times at the 90th percentile, i.e. the 9th longest wait time out of every 10 patients. CIHI reports the 90th percentile wait time to be seen by a physician (WTBS) in an emergency department was 3.0 hours for Canada and 5.5 for Manitoba, and time waiting To Be Admitted (TBA) to a hospital bed was 29 hours (90th percentile) for Canada and 40 hours (90th percentile) for Manitoba.¹⁰

Each year the CIHI produces a wait time report, comparing wait times for priority procedures for each province across Canada, including hip and knee replacement, cataract surgery, and MRI. Results from the 2017 report, showing how Manitoba compares to the rest of Canada for services provided between April and September 2016, are shown below:¹¹

¹⁰ (Canadian Institute for Health Information, 2016)

¹¹ (Canadian Institute for Health Information, 2017)

Table 2.1: Manitoba's Priority Procedures Ranking Relative to the Other Provinces

Service	Rank* for 50 th percentile wait time	Rank* for 90 th percentile wait time	2012-2016 Trend** of percentage within benchmark
Hip replacement	7/10	8/10	▲
Knee replacement	8/10	8/10	▲
Cataract surgery (first eye only) [†]	10/10	10/10	not available
MRI	5/6	3/6	no benchmark

*Ranking corresponds to Manitoba results compared to the results of the other provinces, with "1" being the lowest median wait time or lowest 90th percentile. The denominator of the ranking indicates the number of provinces which provide the service and were able to report comparable data.

A trend means a **5-point change during the time period.

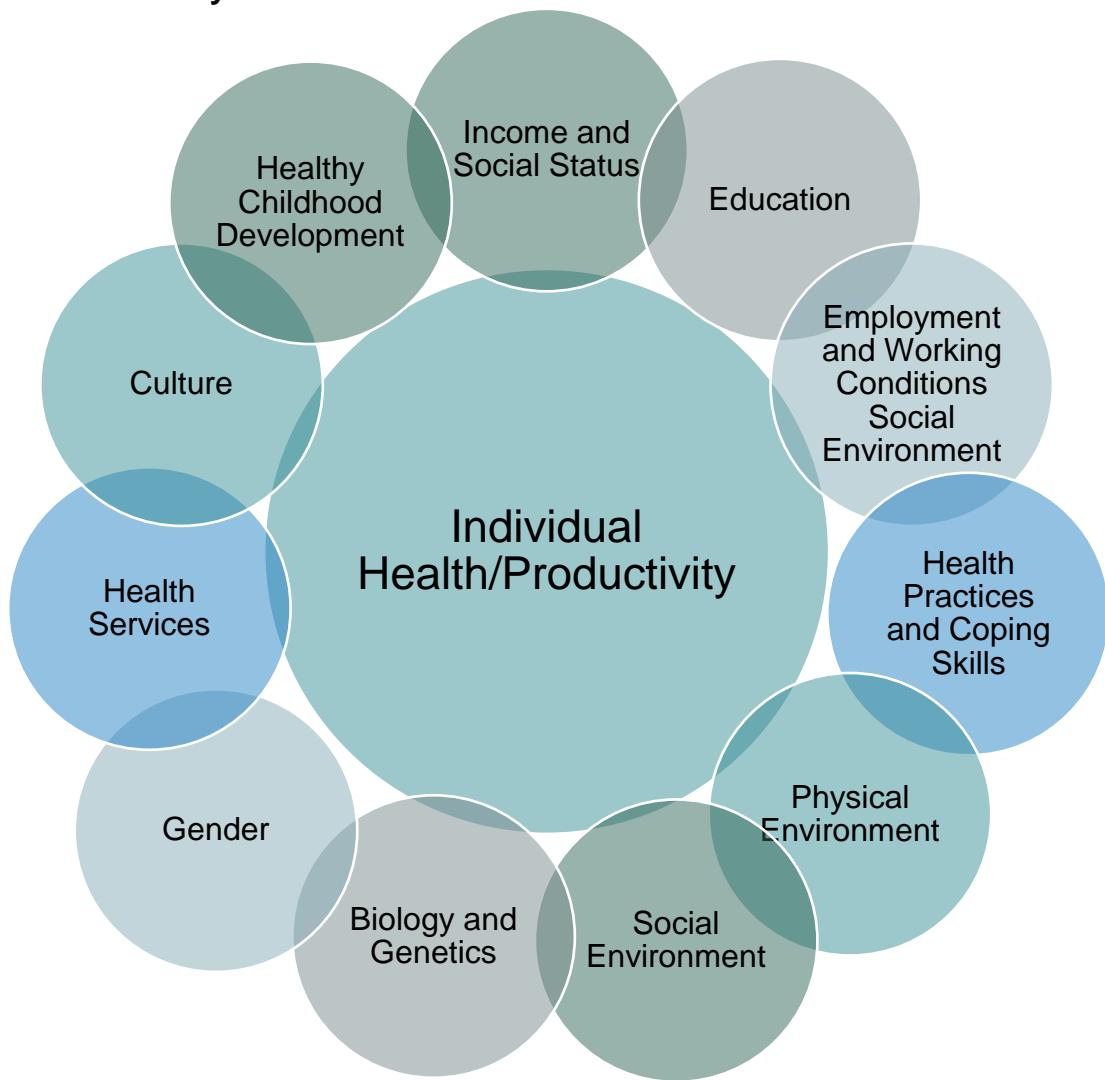
[†] Second year of reporting wait times for the first eye only. Due to change in methodology, the results are not comparable with data for 2014 and earlier and no trending can be done.

2.4 HEALTH EQUALITY, HEALTH EQUITY AND SOCIAL DETERMINANTS OF HEALTH

The primary factors that shape the health of Canadians, and people everywhere in the world, are not medical treatments or lifestyle choices but rather their living conditions. The figure below identifies social determinants of health that directly affect individual health and productivity.¹²

¹² (Routledge, 2015)

Figure 2.1: Interplay between the Social Determinants of Health and Individual Health/Productivity



Only one of the 12—health services—directly involves the health care system on which we spend a lot of time and money. Further, emergency and specialist care—the focus of this report—make up only a small part of the full spectrum of health services in Canada. Unfortunately, the failure of the other 11 determinants often end up becoming medical problems that will result in people seeking care. They also impact the way patients use health care services, including EDs.

Some examples of access challenges related to these determinants include:

- Due to a variety of these factors, patients may not have regular access to primary care. As a result they may go longer and have more deterioration in their conditions prior to diagnosis, resulting in them needing emergency care.
- Follow-up care, tests and appointments may be a challenge for both patients and health care practitioners, especially if the patients are marginally housed or do not

have a regular phone number. As a result, patients may seek care in an ED if they are not able to access care in another way.

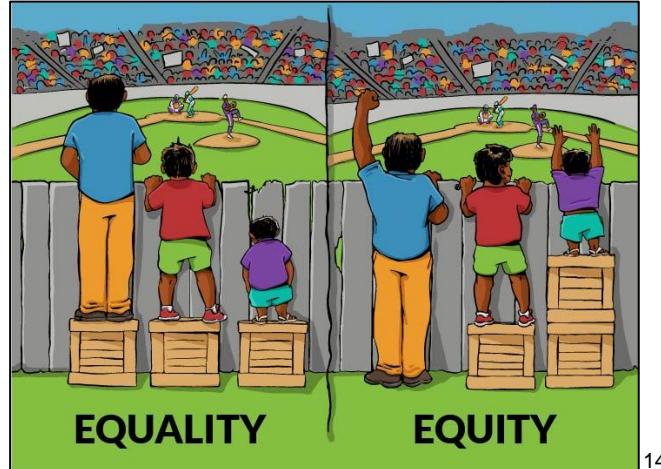
- Patients who have difficulty reading or communicating in writing, or who are marginally housed with no fixed address or consistent access to mail, may be removed from a wait list if they do not properly complete and return the necessary paperwork.
- Patients without a regular phone number may have their appointment cancelled, if they are required to confirm their appointment by phone.

In thinking about access challenges in general, whether related to the social determinants of health or to other factors such as long wait times, it is important to distinguish between health inequality, and health inequity. Health inequality is a difference between population groups “naturally” occurring within and across populations. One example of health inequality is a higher mortality rate among the elderly than among children, related to the natural aging process. Another example is genetic predispositions among certain population groups, such as Sickle Cell disease among people whose ancestors come from Sub-Saharan Africa, South America, Cuba, Central America, Saudi Arabia, India, and Mediterranean countries such as Turkey, Greece, and Italy.

In contrast, health inequity is defined as “a subset of health disparities or inequalities that are systematically associated with underlying social disadvantage (e.g. by virtue of being poor and/or a member of a disenfranchised or marginalized group). They reflect unequal opportunities to be healthy and thus, are considered avoidable and unfair.”¹³

Figure 2.2 below illustrates the difference between a solution that treats people equally, compared with one that treats people equitably based on their needs.

Figure 2.2: Equality and Equity



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¹³ (Braveman & Gruskin, 2003)

¹⁴ (Maguire, 2016)

Some health inequities are due to the underlying disadvantage of lack of access to health care. For example, some low income Manitobans have difficulty affording health services, and low income Canadians have significantly more dental health problems than better off Canadians. Sometimes the health care system has systemic barriers that prevent those with low income or lower education from access even to services covered by Medicare. Studies in Ontario showed that lower income patients were less likely to get needed stroke or cardiac care than their need would have indicated.^{15,16}

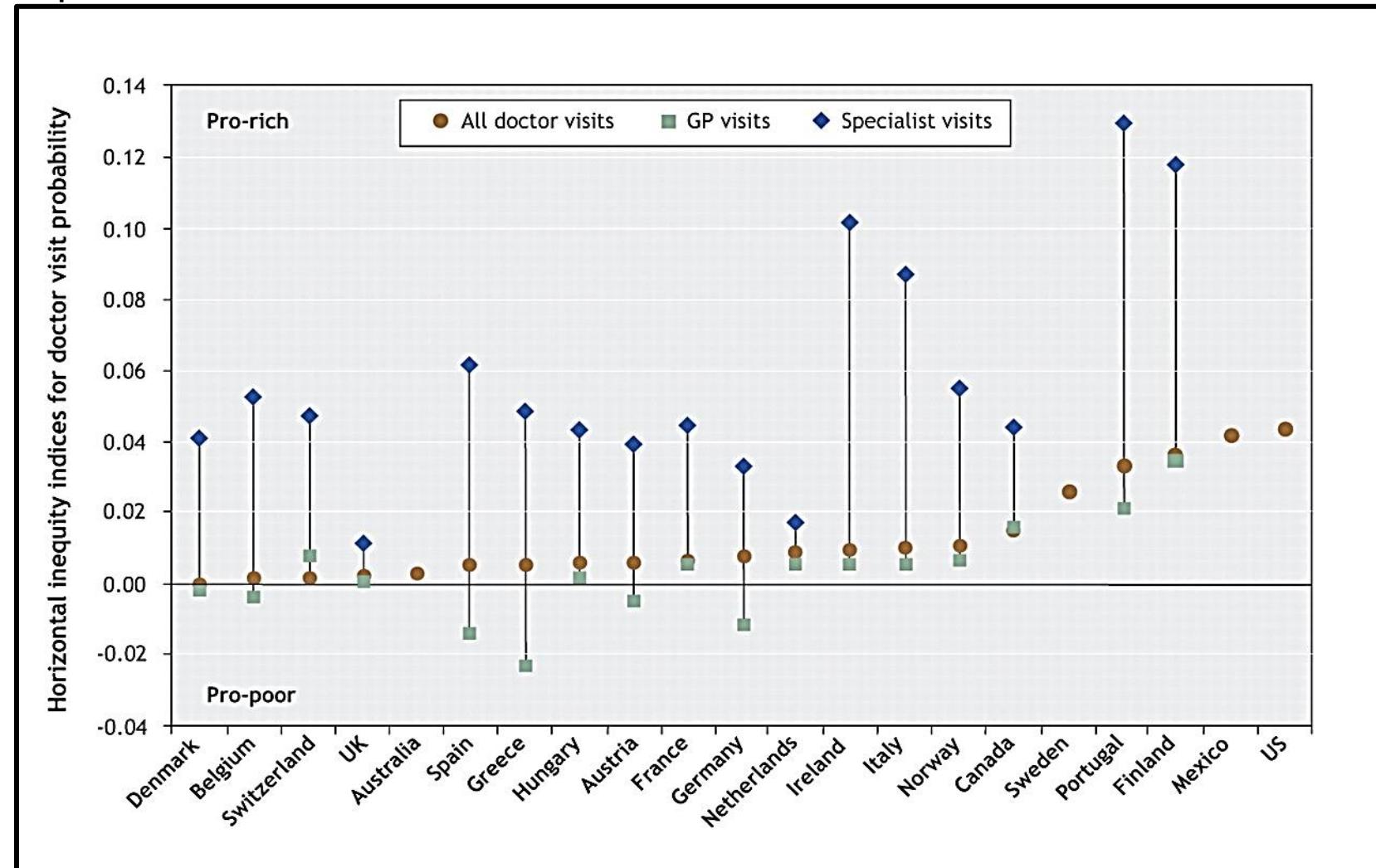
As can be seen in Graph 2.1 below, while low-income patients in Canada generally have equitable access to general practitioners, they are much less likely to get outpatient specialty care than their higher income neighbours.

While fully addressing access challenges related to health inequities and the social determinants of health is a large topic with wide-ranging implications, there are some things that could help improve equity of access to services. In keeping with the WTRTF principles, health equity issues are addressed throughout this report.

¹⁵ (Alter, Naylor, Austin, & Tu, 1999)

¹⁶ (Kapral, Wang, Mamdani, & Tu, 2002)

Graph 2.1: Income Quintile Relative to Access to Health Care Services



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¹⁷ (van Doorslaer, Masseria, & Koolman, 2006)

EMERGENCY DEPARTMENTS

3 EMERGENCY DEPARTMENTS: OVERVIEW

Which of the following patients truly needs an assessment in an emergency department (ED) and how long should each wait to be seen?

Case Study #1:



A 24 year-old insulin-dependent diabetic, who has been to the ED more than 100 times in the past year and also has mental health problems. He often eats a large quantity of candy to drive his blood sugar up, then shows up at the ED asking for help. His family and friends no longer support him, so he lives on the street.

Case Study #2:



A 68 year-old man tripped on a curb and fell. He has a small cut and a “goose egg” on his forehead. It is still bleeding a bit because he is on blood thinners for a heart condition. His wife forced him to go the ED and, hearing there is a 4 hour wait, he wants to leave. The ED is overcrowded and the triage nurse is busy. Despite pressures from the patient and other staff members to send him home or to a walk in clinic, the nurse advises him to stay in the waiting room where he will be reassessed at a later time.

Case Study #3:



A 79 year-old female is brought by her son, because she is weak and has been having back pain. She is placed in the waiting room with 20 other patients.

Unfortunately, all of these patients, based on real cases, have potentially life-threatening conditions. The young diabetic had *ketoacidosis*—a complicated metabolic derangement. His frequent medical visits eventually ceased when his homelessness and mental health were dealt with. The 68 year-old man was developing bleeding around his brain that required an urgent operation, and the older woman had suffered a serious heart attack three days earlier. All of them may have had to wait too long in a busy ED because of the complex set of social, economic and medical problems that converge in our EDs every

day. Trying to match the demand for accessible emergency care with resources has been called a “*wicked problem*”—as we will discuss later in this chapter—because the problems and solutions keep changing over time.

Considerable research over the last 20 years is providing a growing understanding about the root causes of emergency over-crowding and waiting, along with innovative solutions. Some EDs across the country have made impressive gains in improving access that are worth considering for Manitoba. But before we get to those, it is important to have a sense of the role of emergency departments in the overall healthcare system.

3.1 ROLE OF EMERGENCY CARE IN THE HEALTHCARE SYSTEM

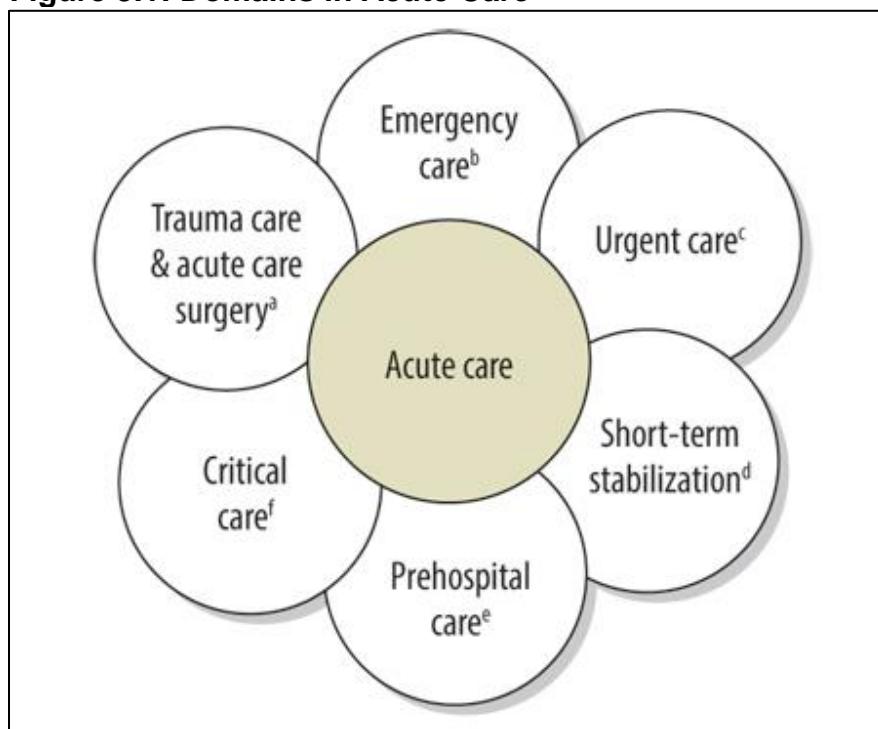
In a 2012 Bulletin of the World Health Organization (WHO), the opening sentence seems to capture the role of emergency care well:

“As populations continue to grow and age, there will be increasing demand for acute curative services responsive to life-threatening emergencies, acute exacerbation of chronic illnesses and many routine health problems that nevertheless require prompt action. Emergency interventions and services should be integrated with primary care and public health measures to complete and strengthen health systems.”

While emergency care is closely linked to primary care and public health, its natural domain is in the world of acute care, which the Bulletin went on to describe:

“A proposed definition of acute care includes the health system components, or care delivery platforms, used to treat sudden, often unexpected, urgent or emergent episodes of injury and illness that can lead to death or disability without rapid intervention. The term acute care encompasses a range of clinical healthcare functions, including emergency medicine, trauma care, pre-hospital emergency care, acute care surgery, critical care, urgent care and short-term inpatient stabilization.”

Figure 3.1: Domains in Acute Care



- a) Treatment of individuals with acute surgical needs, such as life threatening injuries, acute appendicitis or strangulated hernias.
- b) Treatment of individuals with acute life- or limb-threatening medical and potentially surgical needs, such as acute myocardial infarctions or acute cerebrovascular accidents, or evaluation of patients with abdominal pain
- c) Ambulatory care in a facility delivering medical care outside a hospital emergency department, usually on an unscheduled, walk-in basis. Examples include evaluation of an injured ankle or fever in a child.
- d) Treatment of individuals with acute needs before delivery of definitive treatment. Examples include administering intravenous fluids to a critically injured patient before transfer to an operating room.
- e) Care provided in the community until the patient arrives at a formal health-care facility capable of giving definitive care. Examples include delivery of care by ambulance personnel or evaluation of acute health problems by local health-care providers.
- f) The specialized care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units.

The preceding definitions and descriptions highlight that emergency care covers an extremely broad base of health care. In the Canadian system, which has as basic principles *universality* and *accessibility*,¹⁸ the ED is in fact the only universal access point to services otherwise unavailable to its citizens. As such, it has been called “the safety

¹⁸ (McDowell, 2017)

“net” of our healthcare system. This has contributed over time to the belief that it should be all things to all people, all the time, creating expectations, on the parts of both patients and other providers that cannot reasonably be met. The result has been increasing wait times, Emergency Department overcrowding (EDOC), increasing public anxiety and calls for action. Long wait times in Manitoba, called by some “the worst in Canada,”¹⁹ are shared to varying degrees across the country. And Canadian ED wait times are reported as the longest in the developed world.²⁰

ED staff, especially triage personnel and Emergency Physicians, commented frequently in consultations on a growing pressure point—the ED’s role of ‘system gatekeeper.’ The safety net role described above creates a conflict for frontline staff: they need to be unconditionally accepting, non-judgmental and compassionate, while being selective about the limited resources of the hospital and healthcare system in general. Keeping the ED’s gates wide open for everyone’s needs, while trying to meet benchmarks for rapid flow, creates a dilemma. The following are some examples:

EXAMPLE:



A 54 year-old patient is having dizzy spells. Her family doctor has reassured her, booked her for tests, and promised to send her to a specialist if the symptoms persisted, but that will not be for months. She is worried about waiting, is not sleeping well, and knows a friend who just had a stroke. She wants to see a specialist now - a reasonable concern, but is this an ‘emergency?’

Is it right to send her away without any test or consultation if she has waited four hours to see a doctor? Is a well-functioning system one where the only default is to use the ED?

EXAMPLE:



A 29 year-old male is having a flare up of his Crohn’s disease on the Friday of a long weekend. His family doctor is away and no one is on call for his doctor or gastroenterologist, so he goes to the local ED, even though he is not that sick. The ED doctor there does not know him, so he orders lab tests and, later, an abdominal CT scan. It is his third CT scan in the past year; both patient and doctor are concerned about the radiation, but no one will be able to follow him up for a week, and he ‘waited too long last Christmas’. The patient waits three hours to see the emergency doctor, three hours to have the lab and CT scan done, an additional two hours until the radiologists calls with the interpretation, and is reassessed and discharged by a different doctor nine hours after arrival.

¹⁹ (Leslie, 2016)

²⁰ (Hall, 2012)

Consider the costs here in time, money, equipment, radiation and quality. In this case, ED waiting times are a manifestation of much broader system dysfunction. But it is not just patients who utilize emergency as their default option....

EXAMPLE:



A surgeon likes to see some post-operative patients and a few minor “lumps and bumps” in the ED every Thursday morning. His office is over-booked and this allows him to do his work—wound checks, dressing changes, and minor procedures—while using ED staff, stretchers, supplies and not having to worry about cost. As one of the only surgeons in town, he knows he is an essential part of the “team” and appreciates the help he receives. It gets his patients in faster, too.

Is this a reasonable use of the ED? Is it reasonable even when new patients presenting with medical concerns must wait because pre-booked patients are seeing the surgeon? If he is confronted about this by Emergency staff, will he leave and set up practice elsewhere, like a previous specialist did? It's hard to retain physicians.

3.2 WHAT IS AN EMERGENCY DEPARTMENT?

Although EDs are in the news all the time, there is persistent confusion about what qualifies as an emergency department. People working in teaching hospitals often have very different perspectives from non-medical people living in small towns—both say they have an “ED” but the staffing, roles, equipment, range of services, and availability are very, very different.

A common definition of an ED is as follows (emphasis ours):²¹

*An emergency department... is a medical treatment facility specializing in acute care of patients who present without prior appointment, either by their own means or by ambulance... Due to the unplanned nature of patient attendance, the department **must provide initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention.** In some countries, emergency departments have become important entry points for those without other means of access to medical care. **The emergency departments of most hospitals operate 24 hours a day.***

²¹ (Definitions.Net, 2017)

No matter the size of the ED, the expectation of the public is that it be accessible to them at all times, staffed by personnel who are qualified to evaluate and treat the entire spectrum of acute illness and injury, and can ensure they are referred expeditiously, if necessary, for further care.

The Canadian Association of Emergency Physicians (CAEP) produced the following definition of Emergency Medicine in 2016:

“Emergency medicine is a field of medical practice comprised of a unique set of competencies required for the timely evaluation, diagnosis, treatment and disposition of all patients with injury, illness and/or behavioural disorders requiring expeditious care, 24/7/365. These conditions are often undifferentiated and include, but are not limited to those that are life threatening, acute and urgent...”²²

The CAEP definition reiterates the 24 hours per day, seven days per week (24/7) practice of Emergency Medicine, describes a *unique set of competencies* and talks about the “undifferentiated” patient (i.e., a patient with symptoms but no clear diagnosis). Later in this report, we will emphasize the need for both timely access AND competent care. An ED is not an ED unless it can offer both. Fortunately, modern technology offers us options to virtually link specialists in Emergency with care providers attending acutely ill patients, even in non-ED settings. These will be outlined later in this report.

The following cases are examples of the role of emergency care in a city of 780,000 people and a town of 2,000 people:



EXAMPLE – Big City:

Bob is 78 years old and is brought by ambulance to the ED with severe abdominal pain. His history and vital signs are obtained at triage and he is placed immediately in a resuscitation room. Several nurses immediately start the assessment and one of three emergency doctors working that shift is called in. The immediate suspicion is a leaking Aorta (large blood vessel). A bedside test is performed by the emergency physician, confirming the diagnosis, and the Vascular Surgery team that is in the hospital 24/7 is notified. Bob is in the operating room in 40 minutes. The ED staff note that very similar cases to Bob have been managed in that ED three times in the last four weeks.

²² (Canadian Association of Emergency Physicians, 2017)



EXAMPLE – Small Town:

Bob is 78 years old and is brought by ambulance to the ED with severe abdominal pain. The registration clerk and nurse are very concerned, as they rarely see patients this uncomfortable. The doctor is called to come from a nearby clinic, cancels the clinic, and arrives at the ED within 10 minutes. She too is very concerned. There is no ultrasound technician. The doctor did take a course quite some time ago for basic ultrasound, but it is rarely needed in her setting and she is not confident using it in this circumstance. Anyway, Bob looks sick enough that he must see a specialist as soon as possible. A call is made to the nearest regional ED that has surgical doctors on call. The paramedics have stayed in the ER, suspecting this case would require a transfer. Bob is taken to the regional ED 80 km away, but 3 hours have passed since the original 911 call. The surgeon at the referral hospital takes Bob to the operating room immediately after arrival, as he is now “in extremis.”

The city ED sees 50,000 patients a year, many of whom are quite sick, because they have been selectively referred from smaller EDs. That concentration of sick people supports the need for 24/7 diagnostic imaging (computerized tomography (CT) scan, ultrasound, x-rays) and specialists in Internal Medicine, Cardiology, various surgeries, etc. Specialists have narrow, but deep knowledge and are very skilled in their area. Some say they know more and more about less and less. Because very sick people who require their knowledge and skills are relatively uncommon, it takes a large population of people to keep them busy and justify paying them. Something similar could be said of specialist emergency physicians, as compared to rural family physicians working in an ED. Although emergency medicine is a broad-based specialty, the “unique competencies” of emergency medicine have expanded over time, requiring emergency physicians to focus their energies in the ED. In contrast, rural general practitioners who cover the ED are required to know “more and more about more and more.” It is very challenging for them to provide the same level of care to the sickest patients in their EDs.

An excellent summary of the contrast between large city and small community EDs can be found in a 1997 document prepared by the Rural Committee of the CAEP.²³

²³ (Rural & Small Urban Committee of the Canadian Association of Emergency Physicians, 1997)

Table 3.1: Comparison between Large City and Small Community EDs

Issue	Urban Context	Rural Context
Geography and demographics	Patients and health care providers live within an area readily available to a hospital ED.	Some of the population served is spread over a large area, often with difficult access to the hospital in acute illness, requiring emergency observation capability in the rural hospital.
Prehospital transport	Short times and distances.	Short and long times and distances regularly encountered.
Prehospital crews	Usually Advanced Life Support (ALS) on call from ambulance base.	Usually Basic Life Support (BLS) or volunteer on call from home, or remote ALS crews have to be called in from other communities.
Ambulance service regions	Usually a single service in a single community.	Often the physician has to coordinate multiple services from multiple nearby communities.
Inter-hospital transport	ALS often available.	Physicians often have to provide patient care. ALS crews might be available from a remote community.
Initial patient nursing contact in hospital.	Experienced emergency nurse specialist.	Often a general duty nurse who also works on inpatient wards and in the case room.
Nurse staffing	Full time nurses working in the ED.	Part time nurses covering the whole hospital.
Emergency physician availability	Immediate.	Often on call from home or office.
Specialist availability	All specialties in the largest centers.	Usually few or none, although fellow family physicians might have extra training in anesthesia, surgery, emergency medicine.
Diagnostic facilities	State of the art facilities often available, especially in the largest centers.	Limited services available.
Rate of encountering major emergencies	High.	Low to moderate.
Options for referral	Within the local community.	Same as urban, but also referral over a time-distance barrier to other rural or urban communities.

Issue	Urban Context	Rural Context
Procedures required of family physicians	Few, limited to office practice unless the family physician takes shifts in the ED.	Many, including invasive procedures such as intubation, chest tube insertion, minor surgery.
Practice Focus	Emergency physicians can focus entirely on emergency medicine.	Rural physicians practice all branches of medicine, and must spread themselves across a variety of health care administrative committees.
Library resources	Often a university medical library in the city.	Local library difficult to maintain.
Community life	Physicians often have anonymity.	Rural physicians have relationships with most members of the community.
Extra ED support staff	Wide varieties of health care providers available to work with patients and physicians in the ED (crisis teams, social workers, and security staff).	Few or no extra help is available beyond the duty nurses and physician.
Collegial critical mass	Many other physicians are close at hand to develop programs, maintain professional associations.	Very difficult for rural physicians to get together on important issues that affect them and their patients.
Medical Education	Local programs readily available.	Must travel to programs, or participate via remote electronic communication methods.
Continuing Education	ED physicians are often able to concentrate on emergency medicine.	Rural physicians must obtain Continuing Medical Education in all areas of preventive, acute and chronic medicine.
Research base	Research in emergency medicine is usually done in tertiary care or urban settings.	Little research in rural settings where research is still largely descriptive.
Skill Linking	Not an issue in large urban centers where many physician specialties are present.	A significant issue in a small hospital medical staff, where individual physicians might have unique skills that complement others in the group. The loss of such a physician results in a significant loss of patient care capability in the whole community.

As of 2017, across Manitoba, and the rest of Canada, there are healthcare access points called “Emergency Departments” that are not open, or have limited hours, have staff with variable knowledge and skills, and have limited diagnostic services and specialist access. While the decreasing range of services available as one goes from large to small makes practical sense, the “Emergency Department” sign needs to change to “Urgent Care” or something else that is able to deliver on what its name promises the public. There are a number of other options in this regard that will be discussed in Chapter 5 of this report. As will become abundantly clear in that chapter, the need in small communities is reliable and timely provision of primary (acute and chronic) care and ready access to more advanced care in larger centers, when needed. Ambulances, well-trained paramedics and STARS/Lifeflight physicians can now provide essential assessment and stabilization of seriously ill and injured people and take them to definitive care, while performing much of the stabilization that happens early on in any ED.

To recap, based on the definitions above, open and closed rural “EDs,” with variable staffing and limited equipment are, in reality, not emergency departments. Once we concede that, we should focus on helping communities address both their day-to-day primary care needs and less frequent emergency needs. The problems faced in larger EDs are different: “access block”²⁴ due to hospital and larger system flow and capacity constraints, along with “throughput” challenges. Although these emergency departments certainly meet the definition, their function and safety can be compromised by a host of internal and external factors. Of these, ED overcrowding is the most serious.

3.3 EMERGENCY DEPARTMENT OVER-CROWDING

What we heard...



“I think wait times are largely due to high numbers of patients who present to ED when other options are more appropriate/efficient.”

- Public Survey Respondent

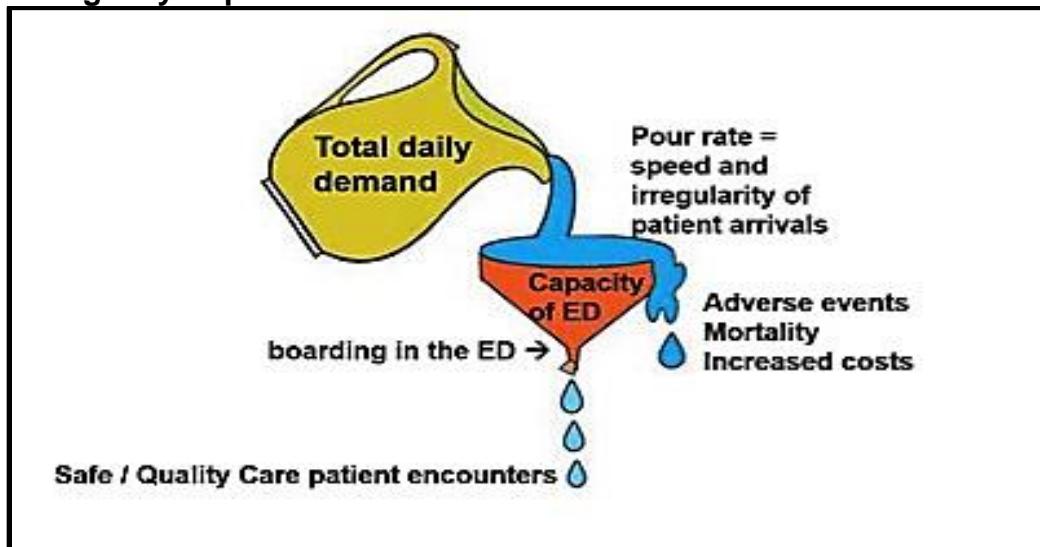
The CAEP published its first position paper on EDOC in 1994. There were updates in 2009 and 2013. The 2013 introduction states:

ED overcrowding is a complex, multi-dimensional health services problem which is conceptualized using the input-throughput-output model. While media attention has highlighted input factors and inappropriate use of the ED across Canada, the primary cause of ED overcrowding is hospital overcrowding (also

²⁴ A full explanation of access block and the input-throughput-output paradigm can be found in Chapter 4.

known as “Access Block.”) Hospital overcrowding can also be conceptually organized with the same model: input (e.g. elective and ED admissions); throughput (in-patient services and flow); and output (e.g. discharge, community care resources, access to long-term care.)” The most significant factor causing EDOC in most urban EDs in Canada is the inability to access in-patient beds from the ED for patients who require admission to hospital.²⁵

Figure 3.2: Relationship between demand and capacity as it relates to Emergency Departments



The position statements are thoroughly researched, evidence-based documents written collaboratively by experienced emergency clinicians and research scientists from across Canada. Useful metrics are defined for measuring the current state of ED, hospital, and out-of-hospital performance. They also provide relevant, updated recommendations for reducing the effects of EDOC, which helped inform this review.

In addition to *output*, (i.e., *access block*), *throughput* issues are increasingly appreciated as local processes which have a major impact on patient flow in both small and large EDs.²⁶ Unlike “access block” these are at least partially within the domain of the ED and provide opportunities for reducing wait times by reducing or eliminating waits for such things as diagnostic testing or consultations.

3.4 COMMON METRICS WORTH UNDERSTANDING

Many people turn off when they hear the word “metrics,” thinking it refers to arcane mathematical formulae that have no relevance to their lived experience. In fact, a metric

²⁵ (Affleck, Parks, Drummond, & Rowe, 2013)

²⁶ (Douce, et al., 2017)

is just a way of measuring things to guide our work and can be very straightforward. In healthcare, to this day, we either do not collect, or do not make use of, high quality data to guide decisions. Choosing a course of action, including what to fund or not, where to focus resources, and when changes need to happen, is too often made at the last minute, under pressure, and by people who have to partially guess the best options. So, a vital part of defining and finding solutions to the problem of EDOC is having broadly agreed upon data and measurement “metrics.”

3.4.1 Measuring Value

In an article published in the New England Journal of Medicine in 2010, Dr. Michael Porter provided a brilliant perspective on “what is value in healthcare?”²⁷ The key message is:

$$\text{Value} = \text{Outcomes}/\text{Cost}$$

Far too often decisions are based on cost alone. Sadly, that is either because useful data does not exist or a useable analysis is not available. His point is that decisions should not be made on cost alone, because it omits the effect on patients—the sole reason we have a healthcare system in the first place! Instead, we need to be carefully collecting meaningful data on outcomes of patient care strategies and funding the ones that are effective, while stopping the ones that are ineffective, or even dangerous. As an example, an expensive procedure or treatment may be high value because it results in very good outcomes. Some relatively cheap treatments may be low value because they have minimal effect on outcomes. When we are told, “we have no money,” effective but expensive *appearing* programs are often at risk, because there is no value assessment. There were many practices with little value identified in our review, and other programs or proposals were supported where the initial expense appears to be additional, but patient outcomes are improved AND costs are lower in the intermediate term. That is value.

3.4.2 Measuring Acuity: Canadian Triage Acuity Score

When a patient is first encountered by Emergency Medical Services (EMS) or at the ED, the presenting complaint or problem and a set of vital signs are obtained. These include heart rate, blood pressure, breathing rate, temperature, blood oxygen (oxygen saturation), and blood sugar. Level of consciousness is assessed, along with the degree of distress and level of pain. With other modifying factors, these contribute to a triage score from one to five—serious to less serious.

Triage is a French word that means “to sort” and was originally used, very primitively, to determine which injured soldiers on the battlefield needed attention first. It has become a

²⁷ (Porter, 2010)

very refined tool—in larger busy EDs it is computer assisted—to determine the priority of emergency care by paramedics and ED staff. It is based on the ideal time to be seen by a treating clinician (usually doctor, but can also be a nurse practitioner [NP] or physician's assistant [PA]). It is, however, a guideline, not an inflexible rule, based on ideal times rather than real-world experience, and in most sites is not met consistently except in serious emergencies. Following the initial assessment, a patient is assigned a Canadian Triage Acuity Score (CTAS) 1-5. Reassessment and long waits may result in a change to the score—it is meant to be dynamic depending on patient condition.

- **CTAS 1:** no waiting. Examples include cardiac arrest, multi-system trauma, severely abnormal vital signs.
- **CTAS 2:** less than 15 minute wait. Examples include heart attack, other life or limb threatening conditions, severe pain.
- **CTAS 3:** less than 30 minute wait. Examples include suspected pneumonia, elder with acute or chronic medical problems, abdominal pain. CTAS 3 captures a very broad segment of ED visits and tends to require more comprehensive evaluation to sort ‘sick’ from “not-sick.”
- **CTAS 4:** triage to treatment time less than 60 minutes. Examples include some mental health problems, work-related back pain, other acute musculoskeletal injuries, lacerations.
- **CTAS 5:** triage to assessment time within 120 minutes. Examples include very minor injuries, medication refills, walk-in clinic like problems.

Graph 3.1 shows the combined Winnipeg ED visit distribution of CTAS levels 1, 2, 3, 4 and 5. This is quite similar to other large cities in Canada. Although “ER” (emergency room) TV shows seem to show the high acuity CTAS 1 and 2 type patients almost exclusively, much of the ED business is ruling out serious illness and injury and managing complex elderly patients who present as, “*not that sick but not that well.*” These CTAS 3 patients—represented by the tall green bars in the graph—are often the ones contributing to long waits, as they are large in number, not sick enough to be first in line, but often too weak or ill to be kept in a chair. Once evaluated, if they cannot go home and there is no inpatient capacity, they can languish in the ED for hours or days, blocking beds. They are referred to, in common ED parlance, as “boarders.”

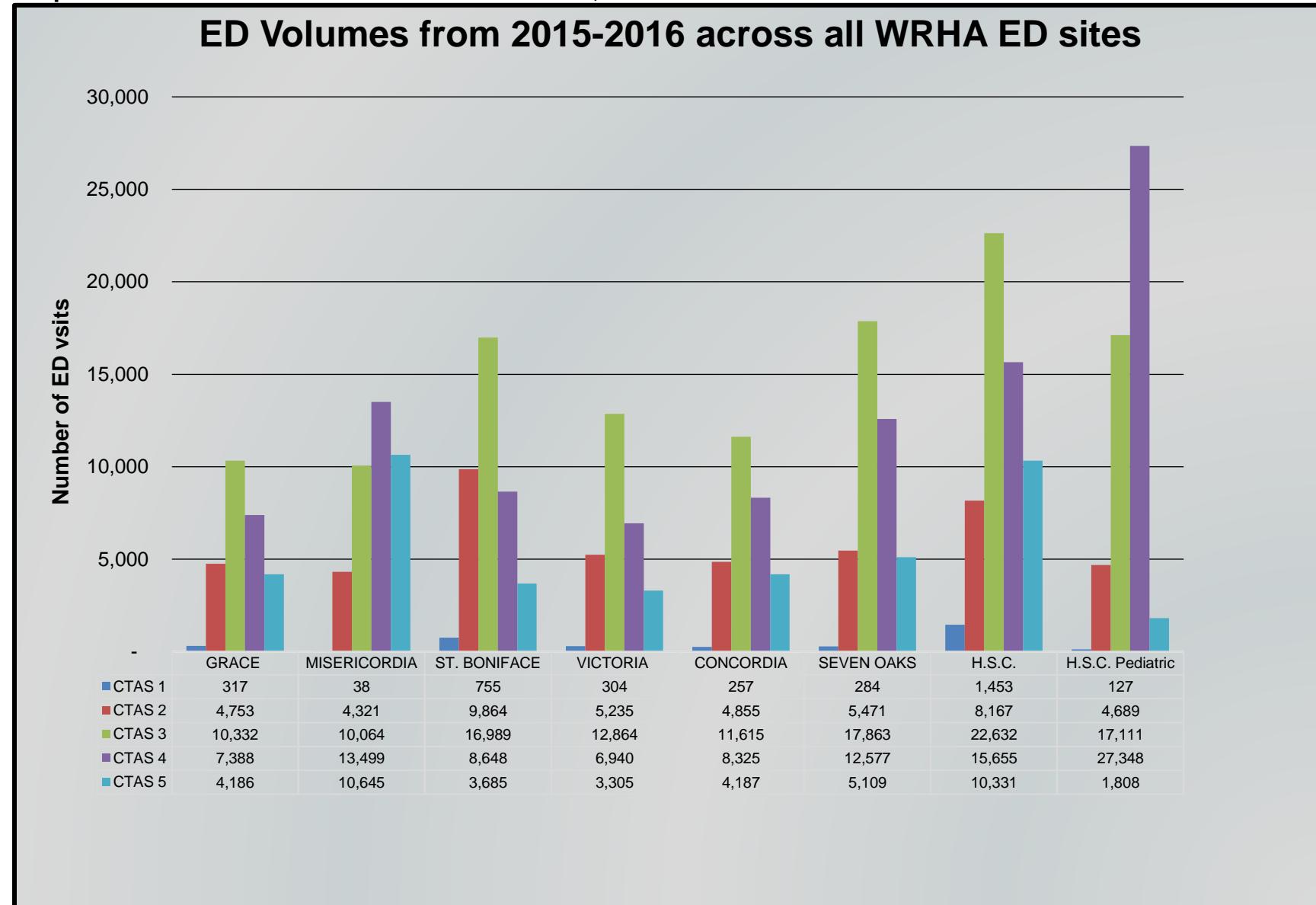
CTAS 4 and 5 level patients have been identified by media, politicians, many ED staff, and fellow ED patients as the “black sheep” of emergency care. There is an enduring, persistent belief that THEY are the fundamental problem in EDOC. If they can be dealt with elsewhere, all will be well. That is a MYTH. In an Ontario study, 4.1 million ED visits over one year were analyzed. For every CTAS 4 and 5 patient arriving in the ED, the other CTAS 1, 2, and 3 patients experienced a 32 second increase in their total time spent in the ED and a 13 second delay in seeing an Emergency Physician.²⁸ In other words, no

²⁸ (Schull, Kiss, & Szalai, 2007)

to minimal affect. Millions of dollars and many years have been wasted across Canada creating alternate care solutions for CTAS 4 and 5 patients. And yet, EDOC has persisted and worsened over time. There will be more on this theme in this report.

We will add a very positive note here though. The quality of care for true emergencies—CTAS 1s and 2s—in Winnipeg’s EDs, is very high, and their wait times are generally very short. Also, in collecting wait time data from our Emergency Department Information System (EDIS) we miss some of our wins. For example, in Winnipeg, the EPIC (emergency paramedics in the community—see Chapter 8) program diverts high needs CTAS 4 and 5 patients who have low acuity problems in the setting of complex social issues. If seen in the ED, they could require considerable staff time, have prolonged lengths of stay and contribute to increased wait time for others. Other paramedic programs provide nursing home care, community services, home visits—all of which reduce low acuity higher needs patients from using ED resources. The problem is that we do not measure visits that do not happen and therefore undervalue these incredibly successful programs.

Graph 3.1: ED Volumes Across all WRHA ED Sites, 2015-2016



3.5 MEASURING EMERGENCY DEPARTMENT WAIT TIMES

3.5.1 Time to Initial Physician Assessment (TIPA)²⁹

According to CAEP, the interval from triage to TIPA assessment should have a median of one hour and three hours at the 90th percentile.

Whoa! What does that jargon mean? Since a few really short or really long waits will affect the average, it may not be a good representation of what most people experience. A “median” is different (and better) than an average, as it is the value with an equal number above and below it. Often it is very close to the average, but not always.

The 90th percentile metric is also useful. It is what many companies base guarantees on (e.g. pizza delivery within 30 minutes; package delivery in 48 hours). It is a true reflection of the patient experience, in that nine times out of 10 that level of performance will be achieved. We know that you cannot promise 100% performance reliably, so the 90% is a good proxy for high performance, with some “wiggle room.”

3.5.2 Time to Inpatient Bed

Large busy Regional, Community, and Teaching Hospital EDs require admission for approximately 15% of the patients they treat. This is true across Canada. The remaining 85% are discharged home or to other settings. The most persistent challenge, and primary cause of EDOC, is the time spent in the ED waiting for a bed once the emergency phase (assessment; resuscitation; stabilization) is complete. There is clear evidence that prolonged ED stays contribute to increased illness (morbidity) and death (mortality), as well as prolonged hospital stays (length of stay [LOS]) as an admitted in-patient.

CAEP recommends a median target of two hours and a 90th percentile of eight hours from the decision to admit a patient to leaving the ED for a ward or special care bed.

3.5.3 Overall LOS in ED

This is the time spent from first arrival to discharge, or transfer to a bed for continuing hospital care. It reflects the total patient ED time. CAEP recommends the following:

- Low acuity CTAS 4 and 5 who are discharged home—median target two hours; 90th percentile four hours

²⁹ Also called “Time to Most Responsible Clinician (MRC).” Although NPs and PAs and residents can also see patients in the ED, in MB, the ED Information System (EDIS) uses TIPA by convention

- CTAS 2 and 3 patients who can be discharged home—median target four hours and 90th percentile eight hours. The longer times are generally due to greater complexity, more diagnostic testing and specialty consultations. A key premise is that it is best to support people in, or close to their homes, rather than in a crowded hospital. Longer diagnosis time in the ED can be worth the extra time and resources if a hospital admission is prevented.
- CTAS 1-5 patients who require admission to hospital—median target of eight hours and 90th percentile of 12 hours.

As noted at the beginning of this section, the above metrics can be compared across and within regions, provinces, and across the country as performance benchmarks. Very few hospitals in Canada meet these consistently. In fact, most hospitals across Canada (and some entire provinces) do not report their benchmarks to CIHI—they may be doing well, but *reporting bias* would suggest they are doing worse. However, there ARE quite a few hospitals that are achieving the benchmarks. Successful initiatives have been well documented and shared at national conferences.³⁰ Therefore, for the sake of good, safe patient care, the onus is on underperforming hospitals to look at and adopt best practices and meet what are generally accepted as national benchmarks.

“Fixing” healthcare is like pushing a rope uphill.

“Wait a minute, did I read that the first CAEP position paper was published in 1994? That is 23 years ago! Why are the good ideas not working? Why are we still talking about and suffering from EDOC?”

There are two important concepts that must be understood before proceeding.

3.5.4 Complex Adaptive Systems (CAS)

If we are really good at problem solving, we slow down, analyze the situation, try and break it down into composite parts, look for patterns, then devise and test solutions. This is a mechanistic, engineering-like approach and it works well...for many problems. But what if the problem keeps changing and evolving while you are trying to solve it? What if a ‘solution’ results in three new problems?

Complex implies diversity—involving a wide variety of elements. *Adaptive* suggests capacity to alter or change or the ability to learn from experience. *System*—a set of connected or interdependent things.

³⁰ (The University of British Columbia, 2017)

Patients, as organic entities, cannot be understood as a collection of their parts—they are in fact *greater than* the sum of those parts—but this is also true of the healthcare system. That system, like the human body, is a perfect example of a complex adaptive system—twisting, turning, and evolving with research and technology. It is helping to keep people living longer, but this also results in a greater burden of chronic illness and complications from novel treatments, which in turn increases demand on the system. Its success is also its greatest challenge. Also, within the system are the providers—doctors, nurses and others—who adapt to the changes and challenges by changing their own behaviour. Which leads to the second vital concept—“wicked problems.”

3.6 WICKED PROBLEMS AND PARADOXES OF EMERGENCY DEPARTMENT FLOW

Wicked problems were first formally described in 1973.³¹ Since then, researchers have used three problem descriptors: tame, messy, and wicked.³² A tame problem is simple to break down, figure out, and generally has a successful, predictable end-point. A messy problem requires managing multiple tame problems that are somehow related, simultaneously. With some planning and organization, messy problems can be at least managed, if not completely resolved. An example is getting a man on the moon...and back again.

When messy problems include socio-political and moral-spiritual issues, wicked problems are born. Wicked problems, by nature, cannot be solved. However, it is possible to manage, and plan around them. But it is critical to understand that we cannot solve wicked problems with tame solutions—they often exacerbate the problems. Old evidence and practices may not work. Solving only small parts of the problem, or by increments is not suitable either. The following is an excerpt from the Raisio article:

“...to survive wicked problems, we need to think holistically, work with as many different people as possible, include citizens in the planning and decision making, and start thinking and working in fundamentally novel and creative ways. Instead of being managers of everything, we need to be leaders who are not afraid to admit that we do not know everything. Instead of using authoritative or competitive strategies we need to use collaborative strategies, which help us to achieve overarching win-win situations. Instead of trying to control everything, we need to live with this uncertainty as well as possible, seeing it as a possibility instead of a threat.”³³

Figure 3.1: Domains in Acute Care showed seven intersecting circles highlighting the roles that the modern ED must play. Each of those circles is influenced by many other circles. It is a complex adaptive system that can present as a wicked problem. Fixing the

³¹ (Rittel & Webber, 1973)

³² (Raisio, 2009)

³³ (Raisio, 2009)

issue of seemingly “tame” waiting times is messy, at best. In fact, wait times are more accurately designated as a wicked problem. The perspective of a politician will be different from that of a front-line worker, that of a rural citizen different from an urban specialist. All have a say in the matter, but all need to understand that the tame solutions that each of them believe in each one different from the other—result in a collision of priorities—a wicked problem. Each part of the ED wait time problem that we try to address, and that may seem “tame,” is influenced by fundamental, larger societal issues that can negate improvements. There are good examples of this in the world of emergency mental health services, such as a busy ED in Ontario that improved its access for mental health patients. When wait times improved initially, MH patients started using it more, which increased volumes and increased wait times. Complex adaptive. (A more fulsome discussion of the complexities of accessing emergency psychiatric care can be found in Chapter 7: Vulnerable Populations.)

Another example—a small community ED had difficulty scheduling doctors, so they unilaterally increased compensation. They were then able to fill all the shifts, but patients faced closed smaller EDs when doctors, now working more of the better compensated community ED shifts, were not available. (The underlying wicked problem of attracting and retaining ED doctors in small communities is a focus of Chapter 5: Rural and Remote ED Access.)

Dr. Sara Kreindler, Manitoba Research Chair in Health System Innovation, recently published a very insightful perspective on ED flow within the WRHA’s complex adaptive system.³⁴ She identified three “paradoxes” that have impeded success at a system level:

Paradox 1: “Many Small Successes and One Big Failure”

The first paradox refers to system bottlenecks and the Theory of Constraints (TOC), which is central to understanding the lack of progress on ED flow over the past two decades. Dr. Eliyahu Goldratt developed the TOC and introduced it to a general audience through his bestselling 1984 novel, “The Goal.”³⁵ TOC hypothesizes that every complex system consists of multiple linked activities, one of which acts as a constraint upon the entire system.³⁶ The TOC states that the “weakest link” in the chain will always limit the production cycle, no matter how many improvements have been made to other processes. In the engineering process that is patient flow, the weakest link is generally accepted to be output block, so the countless Quality Improvements and Lean initiatives that have been undertaken within the ED have often met with muted success, because the rate-limiting step of access block has constrained the entire process.

³⁴ (Kreindler, 2017)

Please note: the three paradoxes in quotes are taken directly from the article, but the text below each paradox was written by the authors of this report, to adapt it to the chapter.

³⁵ (Goldratt , 1984)

³⁶ (Goldratt , 1984)

Paradox #2: “Your Innovation Is My Aggravation”

Getting a clear-cut admission directly to the hospital ward from ED would seem straightforward, but it is not. While community hospitals have allowed the emergency doctor to do this directly, our larger hospitals must wait for a ‘screening resident’ to perform an additional check and balance. Attempts to eliminate this process and speed flow have caused conflict between programs. Similar conflict occurs with attempts to expeditiously find and assign a patient to the “correct” admitting service. These disputes can take hours, sometimes days, to resolve, and leave some scars. But are not we all on the same team here?

Unfortunately not. Within the matrix of an RHA, programs can develop innovations that help their patients, but undermine the practice patterns of others. There is no sense of overarching governance and there are fundamentally conflicting notions on how to accomplish the same goal, as each program struggles to adapt within a harsh environment. This underlines Raisio’s message: Instead of using authoritative or competitive strategies we need to use collaborative strategies, which help us to achieve overarching win-win situations.³⁷ To achieve that level of collaboration between entrenched cultures will not be easy, or quick.

Paradox #3: Your Order Is My Chaos

Do we allow Emergency to break down program gates, to clear the ED flow dam, which other programs fear would cause chaos on the wards? Or should we build additional gates and customized pathways, pre-emergency, to allow patients to be properly streamed to the all the right clinics, with same-day or next-day service? There is international evidence that such streaming pre-emergency can ameliorate ED overcrowding.³⁸ It is a laudable long-term goal but would require major investments in system redesign. In the short term, addressing ED access block requires a more pragmatic, albeit less ideal, approach.

3.7 GOVERNANCE

This topic is covered in greater detail in Chapters 9 and 14, as a new governance structure for provincial health care was just recently announced³⁹. In considering how to improve emergency access and begin to address wait times, “governance” is a foundational principle that too frequently is misunderstood or done poorly. And like any foundation that is faulty, it leads to a dysfunctional structure that is at the root of some, perhaps most, of the wicked problems in healthcare “transformation.”

³⁷ (Raisio, 2009)

³⁸ (Pines, et al., 2011)

³⁹ A more detailed discussion of the differences between administrative and clinical governance is included in Chapter 14.

Governance stripped to the bone has three key components:

- **Authority:** define who is in charge and what person or group has authority over the people and programs entrusted with the *deliverables*. If this is not clear, “*the system*” will be blamed for everything, and nothing will change.
- **Decision-making:** how will decisions be made? If there is disagreement, what is the process for resolution? It must be agile and timely.
- **Accountability:** who is responsible for the *deliverables* and what are the consequences if expectations are not met? Will shared accountability for flow achieve better metrics than ascribing it to a single program? What are the standards to measure performance? What are the rewards and consequences regarding system performance and outcomes?

There is an excellent, easy to read nine-page report from the 2013 Provincial and Territorial National Summit on Healthcare Governance.⁴⁰ Key messages included:

- No participants felt more money was needed in the healthcare system. It needs far better management.
- Change is a constant. Governance structures must be agile and promote and support inevitable change.
- RHAs need authority, and **accountability**, to carry out mandates.
- Engagement of citizens, patients, providers, community services in deep conversations on what change we need and how fiscal discipline is an essential component of any system going forward.
- Trust is critical.

The issue of accountability, has been a wicked problem in itself, as managers, hospitals, RHAs and government wrestle with how to ensure ED wait time and flow benchmarks are met. If there is no clear accountability, in a complex, adaptive system under stress, then enforcement never happens. People continue to use the ED for acute and chronic problems; clinics and doctors continue to use it after hours and as a gateway to other parts of the system; patients continue to flow in, but there is no flow out, as dams are built around program silos, each with its own hard cap on patient numbers. When dams are built, water rises upstream and flooding occurs. In Manitoba, we are all too familiar with that.

In Quebec, the Minister of Health recently took the unprecedented step of proposing legislative accountability for ED flow, which would result in severe sanctions for system

⁴⁰ (Institute of Public Administration of Canada (IPAC), November 2013)

managers who allowed patients in the ED longer than 24 hours.⁴¹ Perhaps this is just another tame solution to a wicked problem. Ideally, accountability should not have to be legislated but such has been the degree of difficulty in establishing an accountability framework for access block in Canadian EDs.

3.8 THE CONTEXT OF THIS REPORT

The purpose of this chapter is to give the reader a general overview of the complexity of ED access within the Canadian healthcare system. Patient flow into, through, and out of large busy EDs has been a problem for over 20 years. Many tame solutions have been tried, often at the input end, while the messy and wicked problems at the output end have not been effectively dealt with, and throughput problems have been overlooked. Each of these will be explored in greater detail in the following chapters, along with other key determinants of access, in EDs of varying sizes and for specific populations who depend heavily on ED services.

Health care has changed dramatically over the past 20 years. Research and technology have been friends to the ill and injured, but have also increased the complexity and cost of diagnostics and treatment. People are living much longer and 30% of our acute care beds are now occupied by patients requiring an alternate level of care. All of this flows backwards into the ED, compromising access and increasing wait times. Across Canada, there have been numerous government efforts to address this, but short political cycles, a desire to see “quick wins,” poor system governance, and poor understanding of the dynamics of complex adaptive systems have resulted in many well intentioned failures, disappointment, loss of trust, and worst of all, patient and family suffering.

While the Premier’s mandate to the Minister of Health was to improve wait times, fixing the appearance of a metric is not enough. Nor is it easy. There are many moving parts—some connected and others seemingly remote—that affect emergency wait times. The authors of this report hope to provide the reader with some concrete recommendations in the context of the complexity of health services and encourage leaders and managers to try a variety of solutions, expect surprises, communicate regularly, be agile, and never stop learning.

⁴¹ (Barrette, 2017)

4 FUNDAMENTALS OF FLOW IN URBAN EMERGENCY DEPARTMENTS

4.1 WHAT IS “PATIENT FLOW”?

Individuals arriving at an Emergency Department (ED) can be experiencing a variety of different symptoms, but any perception of an imminent threat to health is almost universally accompanied by fear and anxiety. Their initial concern, and a focus of this task force, is to have them assessed as soon as reasonably possible by an experienced health care professional. The respected and influential management consultant, educator, and author Peter Drucker summed up this initial role well:

“Many years ago, I sat down with the administrators of a major hospital to think through the mission statement of the emergency room. It took us a long time to come up with the very simple, and (most people thought) too obvious statement that the emergency (department) was there to give assurance to the afflicted... some people are rushed to intensive care, others get a lot of tests, and yet others are told...don’t worry...But the first objective is to see everybody, almost immediately—because that is the only way to give assurance.”⁴²

But what happens when there are 150-200 people every day seeking that almost immediate assurance at one ED? Depending on time of day, prevalence of illness, time required for each person, and many other factors, queues will form, people will be sorted into different care pathways, and “flow” along an assessment-testing—treatment—reassessment continuum. This may sound more like a production cycle than health care delivery, but when efficient and effective, it can meet the needs of patients and providers. When ineffective, the result is “access block,” ED crowding, and compromised quality of care.

Manitoba has more than one urban center, but Winnipeg is the most populous, with 780,000 residents and a hospital catchment area of approximately 1.5 million people, encompassing all of Manitoba, Nunavut and North Western Ontario, and part of the Northwest Territories. Winnipeg’s EDs and Urgent Care see approximately 300,000 patients per year. Those are the only EDs in Manitoba that report wait time data to the Canadian Institute for Health Information (CIHI) national database ⁴³ so most of

⁴² (Drucker, 1990)

⁴³ The Canadian Institute of Health Information (CIHI) houses the National Ambulatory Care Reporting System (NACRS), which contains data for all reported hospital-based and community-based ambulatory care.) Only a limited number of hospitals and Regions submit data, so the results reflect a collection (selection) bias. Quebec, NWT and most of Atlantic Canada does not submit. Only urban EDs (i.e. WPG) in MB submit.

(Canadian Institute for Health Information, 2014)

Manitoba's EDs are unable to compare to national benchmarks. Brandon's relatively short ED wait times are not submitted to CIHI- it will be addressed at the end of this chapter. Waiting times for a doctor in smaller EDs tend to be much shorter than in the big city, but there are numerous other "waits" and challenges with access to emergency care in those facilities, which will be addressed in the next chapter.

As discussed in Chapter 3, the Canadian healthcare system is recognized by many, inside and outside the country, for its quality, but is burdened with long waiting times. Some waiting is unavoidable when desired access to a service is unplanned. We lack the available well-trained human resources and money to staff EDs for zero waiting. Also, more people would use an emergency system that is "free" and has no waiting, which would drive costs higher and also lead eventually to increased waits. So naturally there is a balance, where some waiting acts to control demand for medical conditions that are unpredictable and less urgent than others.

Figure 4.1



4.2 MEASURING AND UNDERSTANDING THE CAUSES OF WAIT TIMES

The most intractable problem in Winnipeg's EDs has been the long waiting times to be admitted to the hospital. This directly relates to delayed discharge of patients from hospital wards, which backs up into Emergency and results in "boarded" patients waiting for admission in ED stretchers. That, in turn, delays the time to initial assessment of new patients, who continue to arrive and require those assessment spaces for *almost immediate* assessment and assurance. Like a river with an ice jam, flow slows, or stops when too many admitted ("boarded") patients are no longer moving forward in the system.

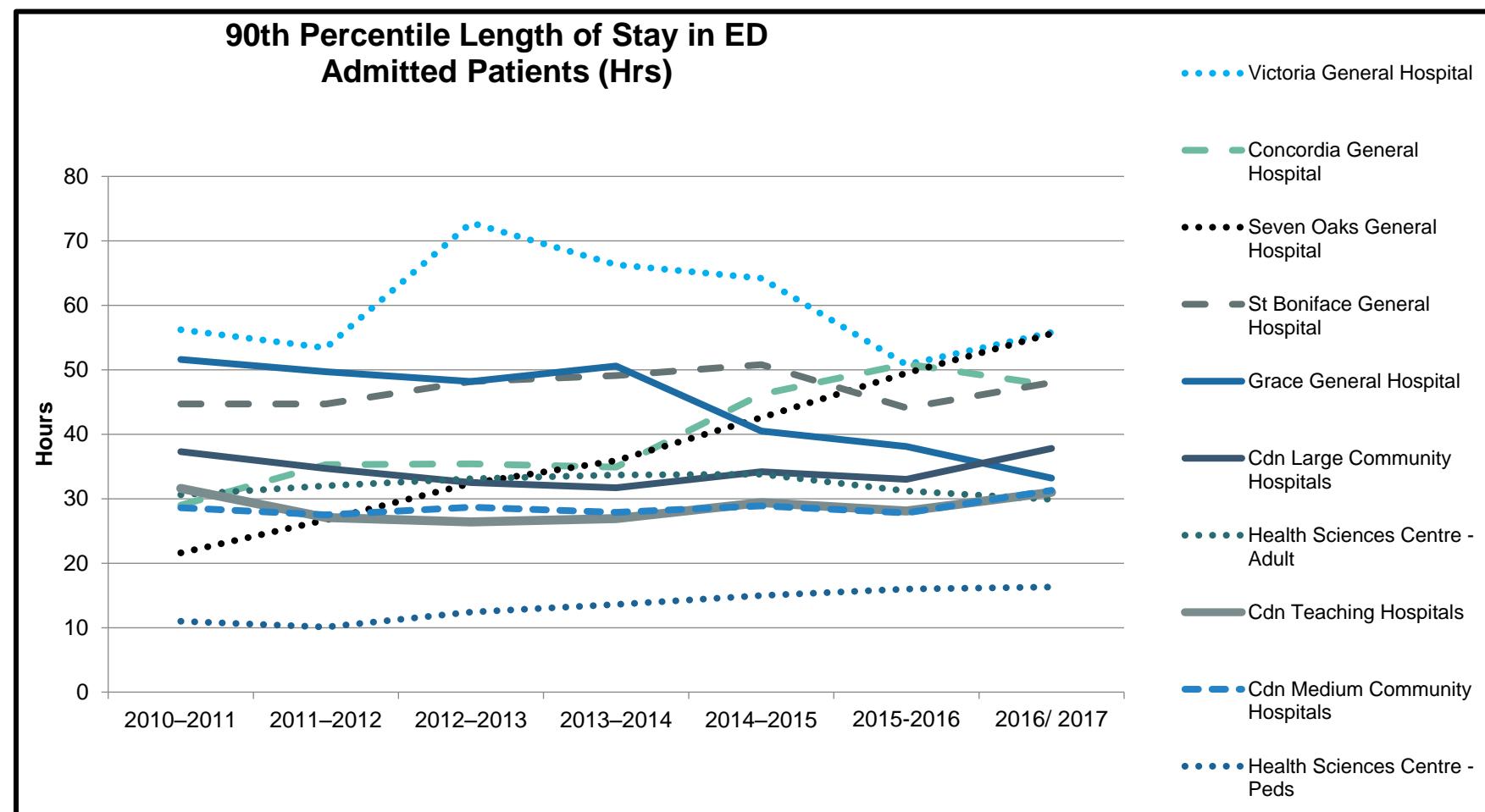
If we are ever to improve waiting times, the boarding issue in Winnipeg's EDs must definitively be addressed. However, this is not the only problem; there are also several "throughput," or processing, issues—such as testing and waiting for consultation—that significantly impact waiting times in major urban EDs. These problems, along with potential solutions, will be outlined in the remainder of this chapter.

Winnipeg Regional Health Authority (WRHA) hospital consolidation anticipates a reduction from six to three EDs and a net gain of one Urgent Care (UC), for a total of two. One of the structural problems contributing to long ED waits in Winnipeg has been having

six acute care hospitals, along with one UC. Each hospital and ED requires its own staffing, diagnostic resources and consultant specialists to function optimally, but it is not possible to fully resource each with all the services needed on a 24/7 basis. That means some resources are shared, so patients and some providers must move between sites. Despite a robust pre-hospital transport team, this results in inevitable delays and long waits for those patients, and, as flow backs up, for patients in the waiting room and those newly arriving by Emergency Medical Services (EMS). Other major cities have fewer, bigger and better resourced EDs, which was part of the rationale for ED consolidation in Winnipeg. However, until sufficient capacity is created in the hospitals with the remaining EDs and UC, and consistent flow into, through, and out of inpatient units occurs, some challenges may be encountered with the upcoming changes. The impact of Winnipeg Regional Health Authority (WRHA) ED consolidation is discussed in detail in Chapter 9.

Graph 4.1 shows the longest lengths of stay of admitted patients in Winnipeg's EDs. It is evident that these wait times have exceeded those reported by other Canadian EDs, by considerable margin in some cases. Patients at Victoria ED waited well over 60 hours at the 90th percentile, blocking access to patients requiring that stretcher for many days.

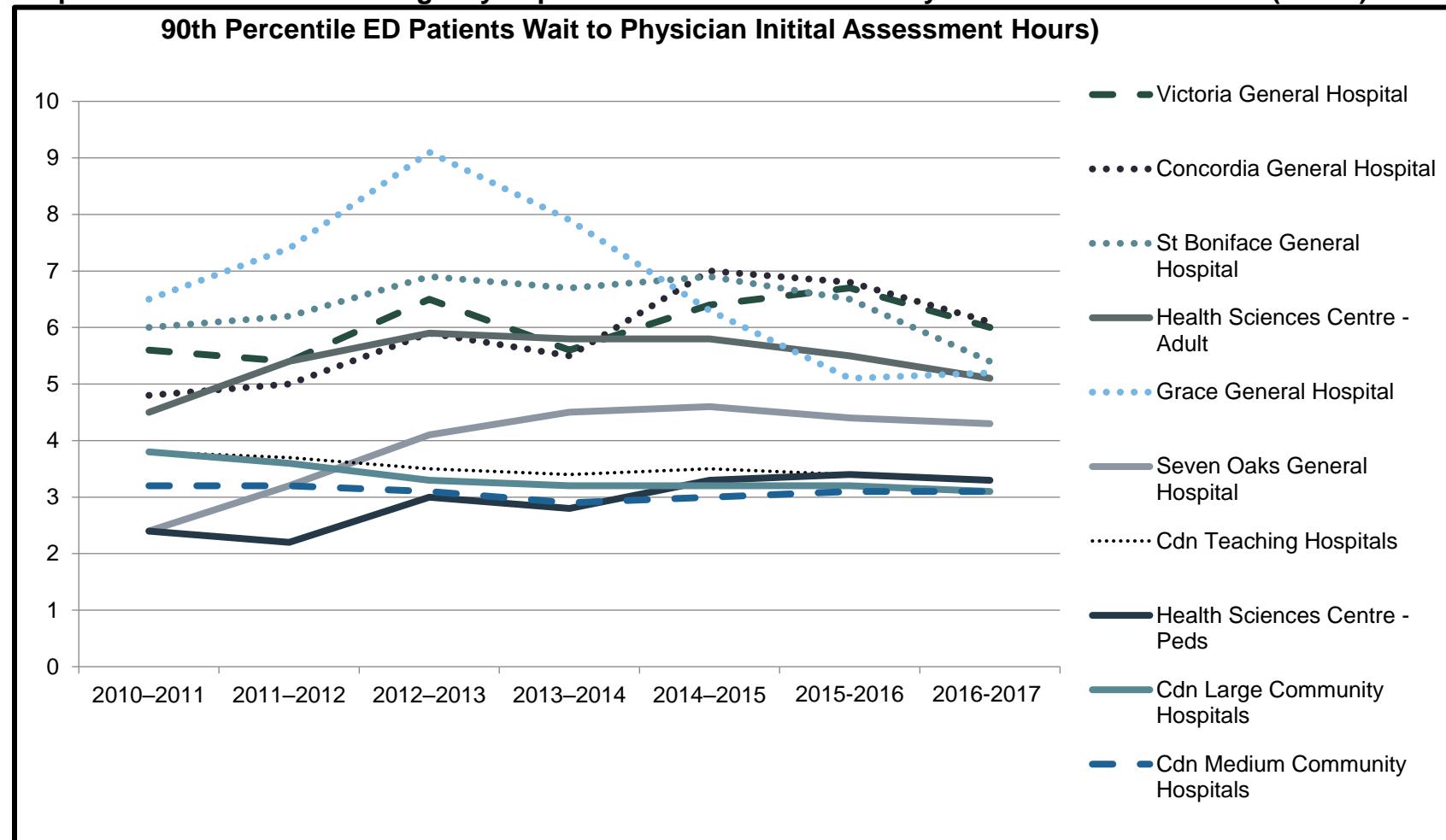
Graph 4.1: 90th Percentile Length of Stay in ED Admitted Patients (Hours)



NOTE: We use “90th percentile” as a measure of the real patient experience. Many reports use “average” wait times. In general, an average wait time hides the fact that half the patients have a shorter wait while the other half has a longer wait. In other words, it is a coin toss, 50:50, or 50th percentile. A patient asks a nurse, “I just got admitted—how long until I move from the ED to a bed upstairs?” When the nurse answers, “32 hours” using the average, they are only right 50% of the time. When the nurse answers, “less than 62 hours” they are right 90% of the time.

Graph 4.2 shows waiting times to see an emergency physician, which have been similarly high in Winnipeg's hospitals, and are linked to admission outflow delays, sometimes called "output block." It is abundantly clear that until we address output block, waiting times to see an Emergency Physician will never be optimal. In other words, a block at the end of the emergency care phase affects everything "up stream."

Graph 4.2: 90th Percentile Emergency Department Patients' Wait to Physician Initial Assessment (Hours)



On a positive note, time to ED physician initial assessment has been decreasing in most of Winnipeg's EDs over the past year. That is in part because more patients are being assessed and treated in "Rapid Assessment Zones" (RAZ) that minimize stretcher use, have "internal waiting rooms," and focus on rapid, continuous throughput. This will be discussed in more detail later in the chapter.

It is easy to believe that average or 90th percentile ED wait times mean that everyone waits a long time to be seen in the ED. Another common misconception is that ED crowding—what experts call "access block"—is mainly due to "unnecessary minor visits by people who should not be there." These are urban myths. Dr. Michael Schull, an Emergency Physician/researcher studied four million visits to 110 EDs in Ontario in 2002/03.⁴⁴ He found that for each low acuity ("minor") patient in the ED, Length of Stay (LOS) increased for other patients by 32 seconds and time to first assessment by a physician increased by 13 seconds—both negligible. More recently, the Manitoba Centre for Health Policy (MCHP) released its 2017 report, *Factors Affecting Emergency Department Waiting Room Times in Winnipeg*, which dispelled the myth that low acuity (Canadian Triage Acuity Score [CTAS] 4 and 5) patients attending the ED are a significant factor in long wait times for sicker (CTAS 1 to 3) patients.⁴⁵ So, if low acuity patients are generally not the main problem, what is? This will be detailed shortly, but first it is important to illustrate what acuity looks like.



EXAMPLE – CTAS 1 (Highest Priority):

A 68-year-old is found by his son in his apartment, drowsy and short of breath. Paramedics are called. They arrive promptly, assess the patient to be in shock, provide oxygen, start an intravenous therapy (IV) and notify the ED of their impending arrival. The care team—consisting of a physician, two nurses, x-ray technician and clerk—prepares the ED resuscitation room; the paramedics take the patient directly to a stretcher. The choreographed team works smoothly and they identify a severe infection (sepsis), causing pneumonia, with associated heart, liver and kidney damage. Essential treatments are started immediately, including antibiotics, an advanced airway and blood pressure support. The intensive care unit (ICU) resident is called and arrives in the ED promptly. A bed is made available in the ICU and the patient is transferred there for further care.

Total time in Emergency: 50 minutes

⁴⁴ (Schull, Kiss, & Szalai, 2007)

⁴⁵ (Doupe, et al., 2017)



EXAMPLE – CTAS 3 (Mid Priority):

An 88 year-old man is found in his apartment by his son, looking disheveled and more confused than usual. The man's wife recently died and he has not been coping well. The son calls an ambulance and he is brought to Emergency. Two paramedics wait 90 minutes in a hallway before offloading the patient to a stretcher in a treatment area, because 40% of the available stretchers in the ED are occupied by "boarded" (already admitted, but still in the ED) patients, with the remainder taken up by patients receiving acute care or waiting for other specialists.

An Emergency doctor assesses the patient three hours after arrival and orders diagnostic tests, but it is already clear this man cannot safely go home. The bloodwork, X-Ray and head CT take four hours to complete, because multiple patients are in the testing queue. The tests reveal only mild anemia and chronic kidney damage, but nothing "acute." Family Medicine is consulted for admission, but they have no beds. Internal Medicine is then consulted, but decline, stating that the patient does not meet their admission criteria. An entire day has passed and there is no one to admit the patient. He spends the night in Emergency and becomes agitated. Psychiatry is consulted and conclude he has a delirium due to a medical, not psychiatric cause. A Gastrointestinal specialist is consulted for the anemia and performs 'scopes' on days three and four, finding nothing. The Geriatrics service is consulted to find a temporary bed, but insist the man's medical and behavioural issues need to be resolved before he can be pained for a personal care home (PCH). He becomes increasingly confused in the 24 hour chaos of the ED and develops a fever. On day six, he is admitted to Internal Medicine, where he stays for three months before a Personal Care Home bed is found.

Time to initial decision that he required admission: 3 hours after arrival in the ED.

Total time in Emergency: 141 hours

Time in hospital: 3 months

From the perspective of Emergency care, Winnipeg's system is a tale of two cities, boasting high quality and rapid access for the sickest of patients, mixed with longstanding access problems for patients such as the one above. In Canada, the majority of large,

busy EDs—including Winnipeg’s—manage CTAS 1 and 2 (the sickest) patients promptly and effectively. CTAS 3 patients are a heterogeneous group—some look sick but have normal vital signs; some look well but are actually quite sick; and others are frail and “fallen” (e.g. the elderly). They represent the largest group of patients who come to EDs and some of the most challenging to sort through. CTAS 4 patients are often more straightforward, but can still be quite socially (and sometimes medically) complicated. On busy days, or with a surge of acutely ill patients in the absence of “surge staffing,” this patient population is typically the one that waits the longest. CTAS 5 are generally small in number, have other options and occupy very little ED space or staff time.

4.3 MEASURING WAITS USING AN INPUT, THROUGHPUT, AND OUTPUT MODEL

Patient flow through the ED will be analyzed throughout this report using an input-throughput-output model.⁴⁶ Breaking flow analysis into three basic parts makes sense from a mechanistic point of view and achieving good patient flow is undoubtedly, in part, an engineering challenge. But it is also *social engineering*, where the vagaries of human behaviour, politics, turf protection and communication can undermine the best flow chart. The reader is reminded, therefore, to be mindful that the basic model of input-throughput-output is not nearly as simple as it appears and that simple solutions rarely yield sustained improvements unless there is buy-in from the people who do the work.

4.4 THE IMPORTANCE OF GOOD DATA

In modern, complex health systems, an efficient flow of data is a critical factor in creating an efficient flow of patients. Just as patient flow can be analyzed in terms of input, throughput, and output, information flow follows these same steps. Information and data are terms that are often used interchangeably. Data and information, however, actually represent points along a continuum of insight that clinicians and administrators use to inform decisions. Data can be considered the raw materials of information that must be processed (through the addition of context, business rules, etc.) before it actually becomes useful as information and insight for decision-making.

There is a saying, regarding data, that “garbage in leads to garbage out.” In healthcare, that means bad data leads to bad decisions. Just as the ED patients flow through emergency care along an input–throughput–output path, data follows a similar process. There is an inherent tension though, especially in the ED, between providing immediate care to patients versus taking time to collect and input good data into Emergency Department Information System (EDIS). Good data is critically important, because without it we cannot meaningfully measure wait times. It includes:

⁴⁶ (Asplin, 2003)

- Name and date of birth, which can be challenging if the patient is found alone, without ID, and unconscious.
- When did the doctor see the patient? Was it really three hours, or was she too busy seeing multiple cases to chart any of them before the end of the shift?
- Timing, types and results of tests ordered. This is not easy when there are 40+ active treatment areas, 80 patients in the ED and clerks still manually transcribing orders. Some tests require patient movement around the ED or hospital—where are they now, how did they get there, when did they get back?
- Consults: when was the call made, when what it answered? Was it really a four-hour delay or did someone forget to input their arrival? What other specialists were involved in the care?
- Multiple other variables.

If data entry is sloppy or incomplete, then managing a dynamic complex system is impossible. But who enters the data, and when? If it is clinical people working the front lines, does it interfere with timely patient care? Does it cost more? And if data is wrong or missing, how bad is that?

4.4.1 Emergency Department Information System and Dashboards

Before the evolution of computers and networks, patients entering the ED were “tracked,” in most EDs, on a central board. Their name, age, and location in the ED, tests ordered and completed, specialists called and other events during their stay were written and updated with markers by clinicians or clerks. In a wide open ED, the big board was easy for most to see, but in EDs with many hallways, it was very inefficient. In addition, medical records with details of past visits, recent test results, etc., had to be called up from Health Records—a vast cavern in hospitals that stored files of paper for each patient. Porters had to deliver the files, often on wheeled carts because the pile of papers was so big.

In recent years, large patient tracking boards have morphed into sophisticated computer programs that could be accessed from any desk or counter top. Patients’ data is entered starting at the triage and registration desks, linked to hospital databases that accesses past records and test results for immediate use—no paper, no porters. Patient numbers in the waiting room, their entrance complaints, and their wait times are continuously updated. Built in timers can also automatically remind staff to re-evaluate or re-triage waiting patients. New information is highlighted in different colours or flashes.

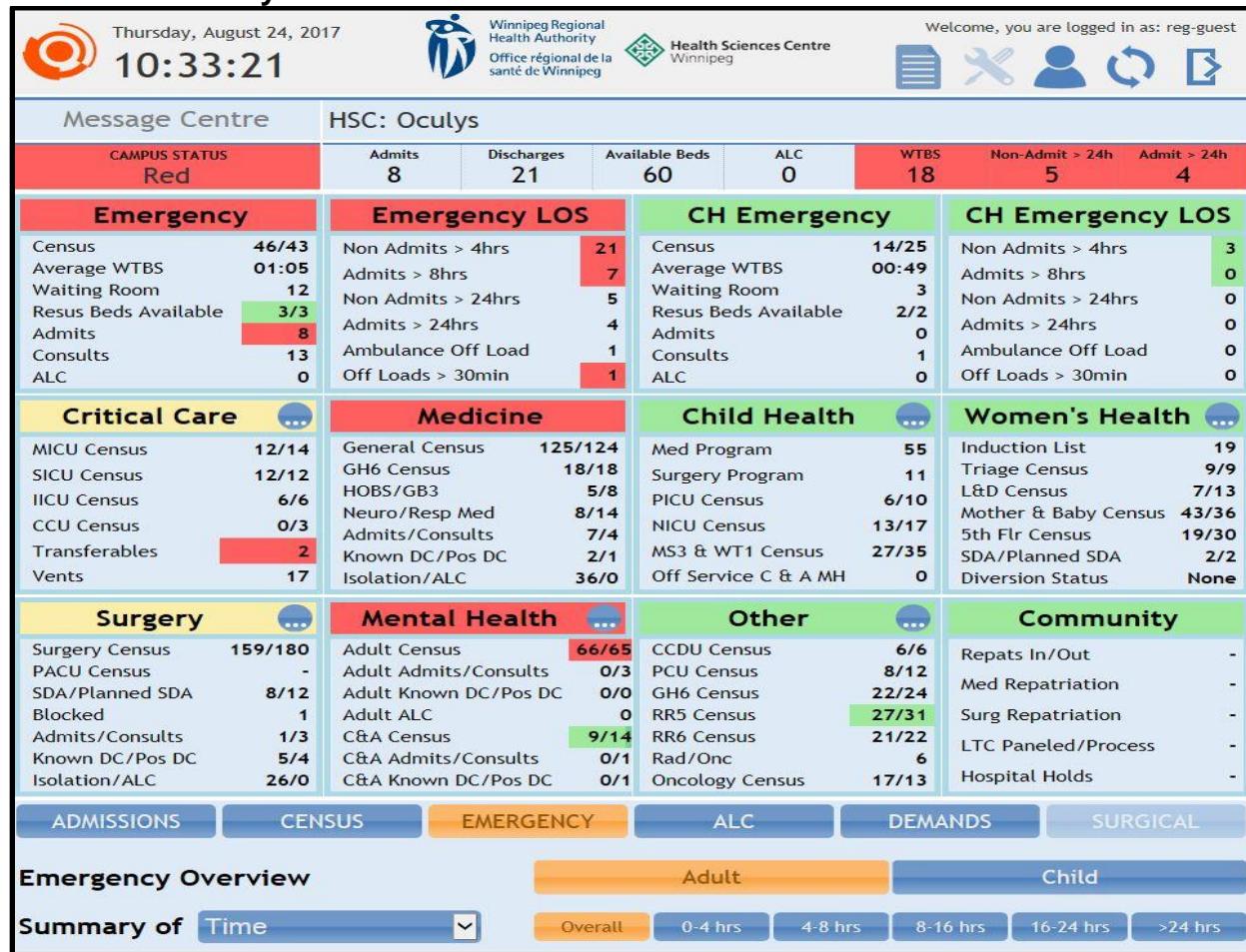
Tests and consultations can be ordered on line in some (but not yet all our) EDs. Patient care priorities, communication between clinical staff, status updates and many other features are displayed simultaneously on connected screens.

4.4.2 Facility Dashboards

Facility dashboards allow ED staff to see how many beds are available throughout a facility; inpatient unit staff, and how many patients are waiting for admission, enabling staff to work to make the required number of beds available in an expedited manner. Systems like this facilitate transparency between the ED and other units within a facility.

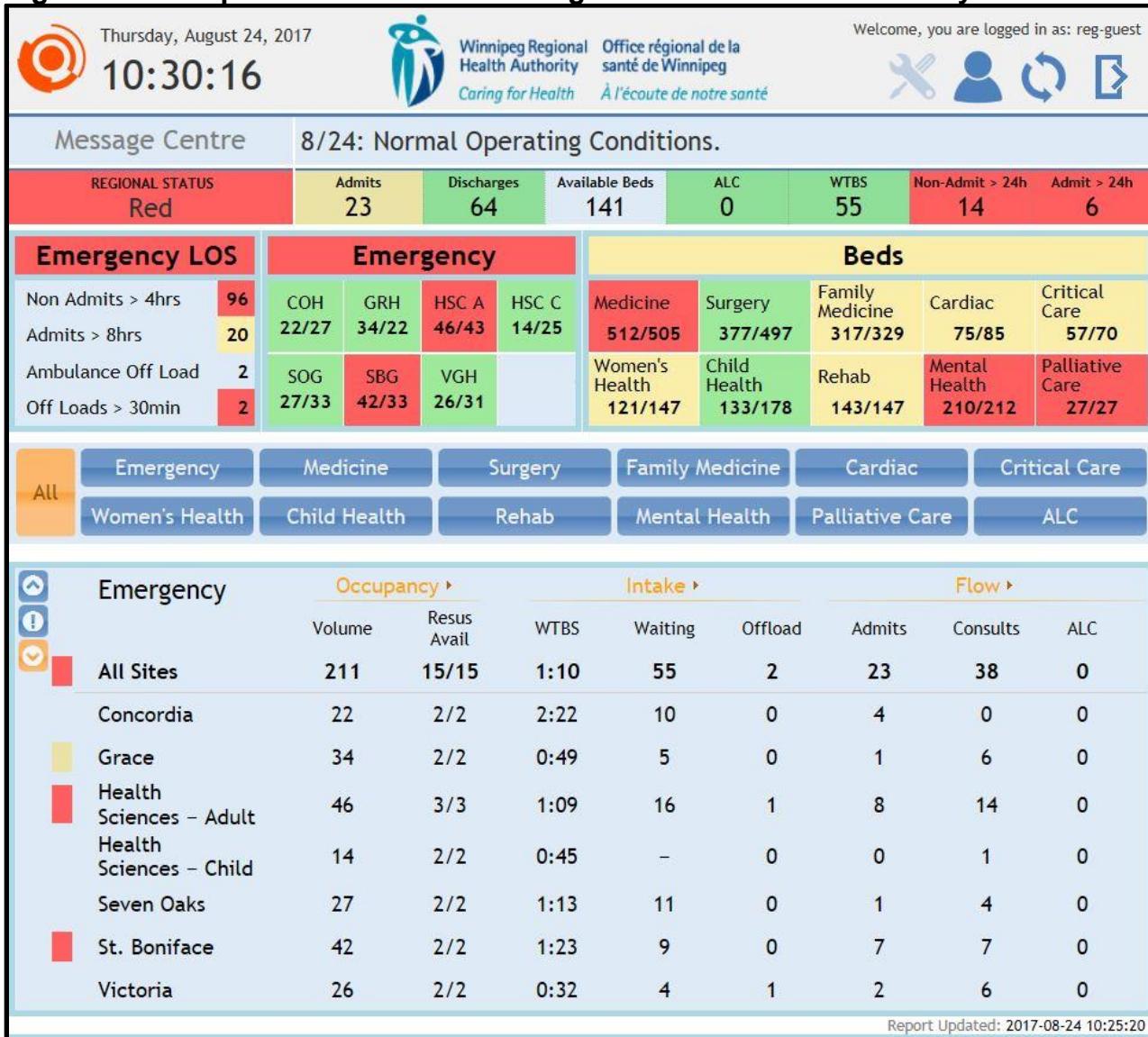
One such system is Oculys, currently present in all WRHA EDs and a small number outside of Winnipeg, which can be deployed in two modes: a site-specific view and a regional view. The site-specific view provides information about how patients are flowing through the site, with specific details on how many inpatient beds are available in each of the units, and what the current inpatient bed demand is for Emergency Patients. The site view enables improved transparency, communications, and patient transfers between the Emergency and the inpatient units.

Figure 4.2: Sample Screenshot from a site-specific (Health Sciences Centre [HSC]) instance of Oculys



The regional view mode of Oculys provides a “bird’s-eye” view of patient flow across the WRHA, highlighting any demand and capacity issues relating to Emergency and/or inpatient beds.

Figure 4.3: Sample Screenshot from a Regional-view instance of Oculys



The regional view provided by Oculys will be especially important as WRHA consolidates services across sites, as the eventual destination for an admitted patient may not necessarily be the site at which they presented to Emergency / Urgent Care, but in fact the site that will provide the most appropriate post-Emergency care. The potential exists for Oculys (or in-house developed dashboards) to help reduce delays waiting for external services (such as home care) to help provide a safe discharge location for patients.

Although this section barely scratches the surface of describing the power of ED information systems, it should be clear that all EDs in the province—at least those of medium and large size—require a fully-functioning EDIS and facility dashboards to manage care efficiently. Furthermore, because effective emergency care requires the linkage of EMS, small EDs and large EDs as a networked system, the emergency

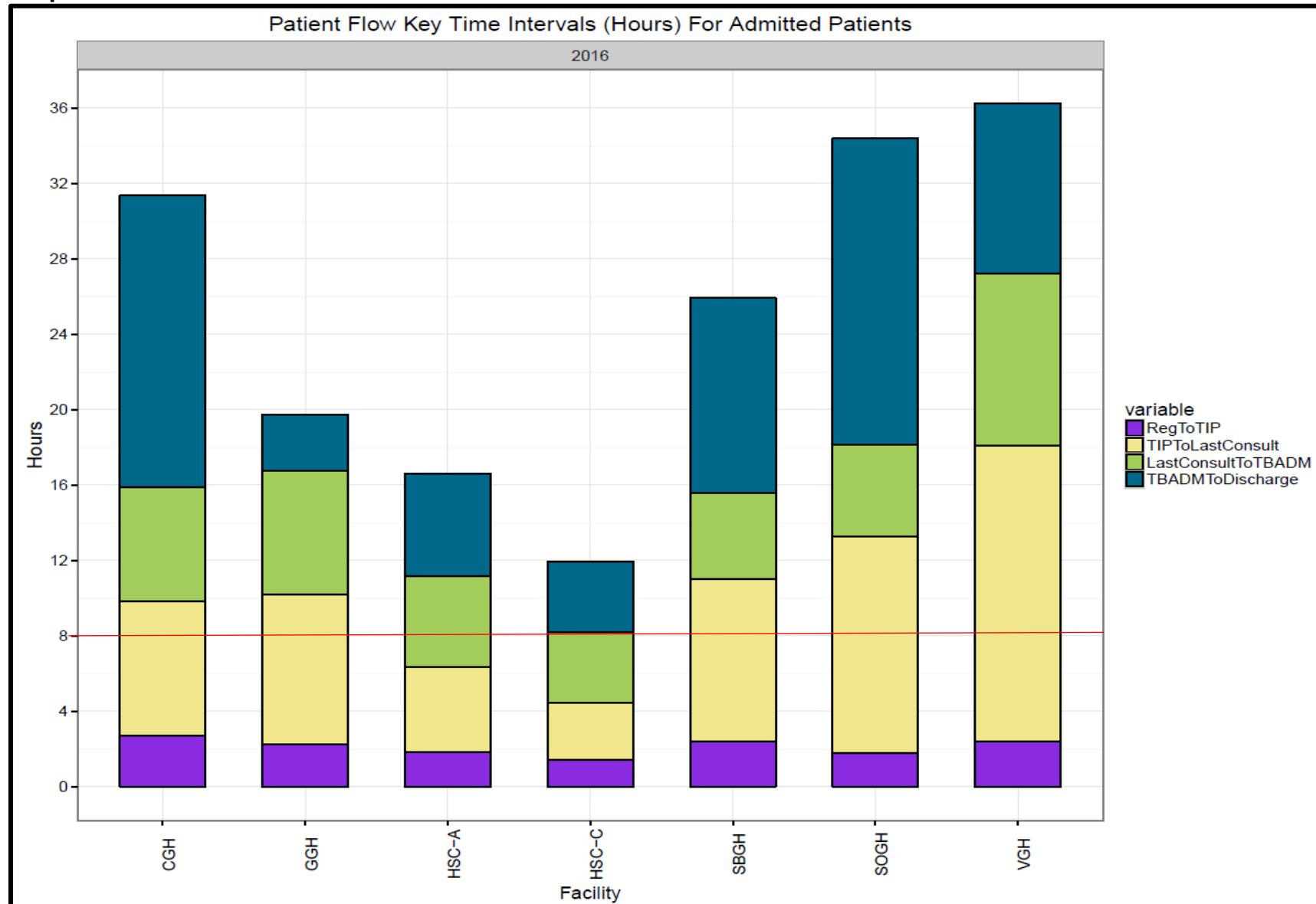
department information system (EDIS) at each site must be able to join a larger provincial network to enable up-to-date system performance, evaluation, and coordination.

Throughout this chapter most of the graphics are created from data derived from EDIS. Although the EDIS is used by clinicians for minute-to-minute patient care, its huge data can also be mined or reconfigured to answer many research and planning questions.

4.5 APPLYING EMERGENCY DEPARTMENT INFORMATION SYSTEMS TO FLOW

The following graph shows the value of EDIS data entry and interpretation that enables comparisons between EDs/hospitals for similar processes.

Graph 4.3: Admitted ED Patients – 2016



The bar graph above shows the timelines for patients who required admission, from the ED, at Winnipeg's EDs, using 2015 data. There is considerable variation between sites. The vertical line (*y axis*) is the total number of hours from first registering in the ED to leaving the ED to go to a hospital bed. The red line is the Canadian Association of Emergency Physicians (CAEP) recommended total time, a national benchmark of **8 hours (median), or 12 hours** from triage/registration to ED departure for 90% of admitted patients. 90% is used to allow for unusual delays in exceptional cases.

- **INPUT** Triage/registration to first ED clinician (Physician, Physician Assistant, Nurse Practitioner) assessment. This is an average of all acuity levels and, while too long at all sites, is generally a small part of the total.
- **THROUGHPUT I** Time from initial ED clinician (usually the Emergency Physician, EP for short) to the last consultation. That time period is part of the throughput, used by the EP for assessment, ordering tests, and consultation, when required. Although this is an active treatment phase, many of its processes entail long waits, where no active treatment occurs. An example is 1) decide an x-ray is needed; 2) order x-ray; 3) process x-ray order; perform test; 4) wait for x-ray result and; 5) include x-ray result in final decision process. Each step adds time.
- **THROUGHPUT II** Time from last consult request to admission order request. That time period is also throughput, representing time the final consult service uses for assessing the patient, ordering other tests, teaching junior learners, etc. It is generally several hours.
- **OUTPUT** Time from admission order to leaving the ED for an in-patient unit bed. From an ED perspective, this is just wasted time: the emergency phase of care is completed and in-patient care should be occurring on a unit. The limited number of ED stretchers remain occupied. This is *output block*. It directly affects input at the other end of the ED because arriving patients cannot access occupied assessment and treatment spaces. As has been mentioned and will be further explained in the section on Variance, the waits shown on the graph (4-16 hours) are average times. On the most challenging days, output block for given patients can last for many days, occasionally even a week or more.

For patients who require admission to hospital from the ED, Winnipeg hospitals lie FAR outside the benchmark target of 12 hours (90th percentile) total ED time (the target time for patients who return home is four hours). The focus for improvement must be on reducing throughput inefficiencies (assessment, testing, consultation, disposition decision) and expediting transfer to inpatient units (output) when an admission decision is made. The ED cannot function as a holding unit for consulting services to observe patients, nor admitted patients waiting for a hospital bed.

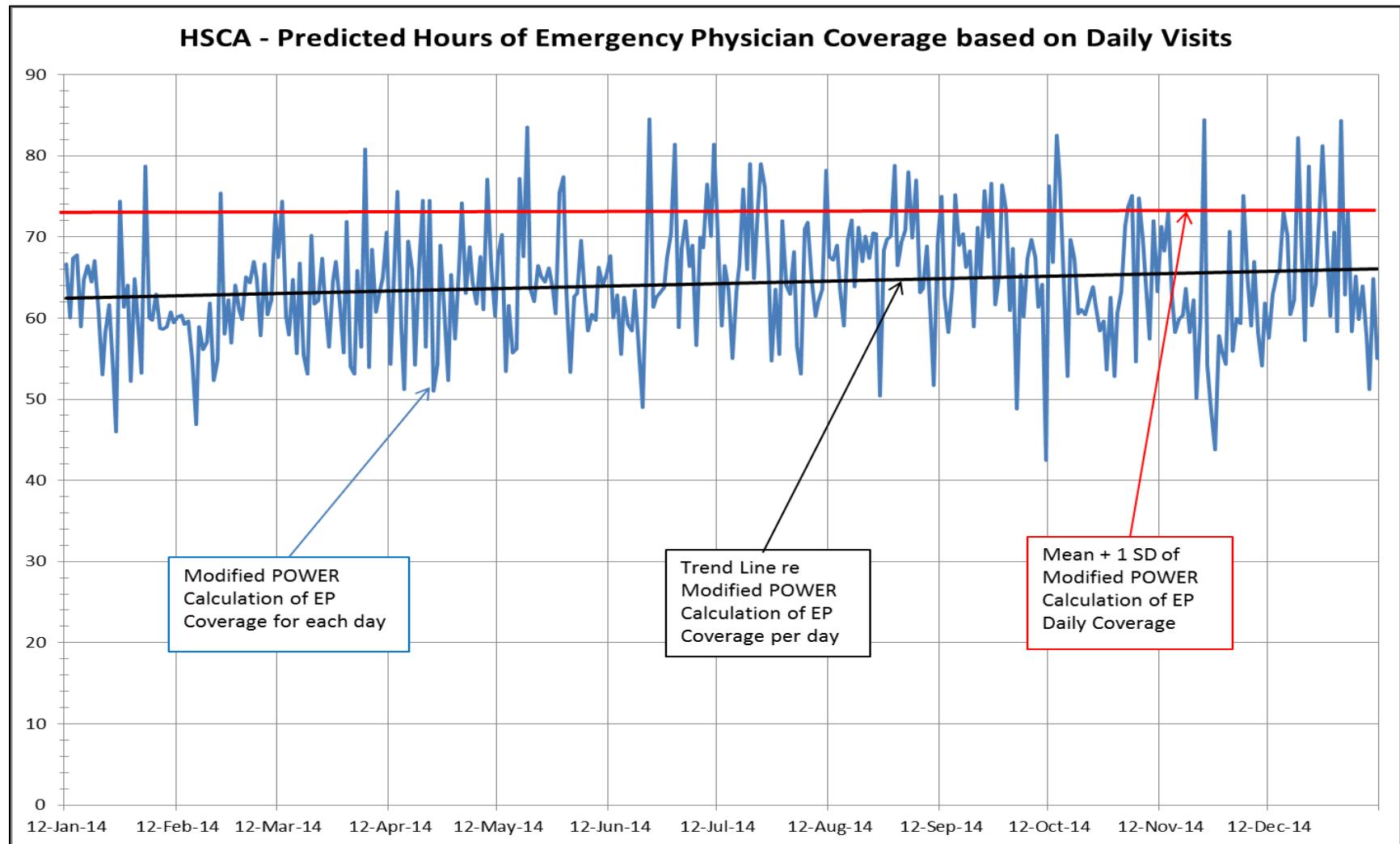
4.5.1 Variance, Surges and Staffing

An important concept in understanding and planning for ED wait times is that of variance. EDs are often staffed according to the average patient volume, but due to natural fluctuations in volume, 50% of the time the ED will be over-staffed and 50% of the time it will be understaffed. The greater the variance, the less helpful “averages” are and the less efficient fixed staffing becomes. Put another way, if you were asked by someone what the weather in Winnipeg was like in October, you might reply that, on average, the days were warm and the evenings cool. But if you were subjected to the elements for the entire month, you might well experience rain, snow, bitter cold, as well as warm summery days. Preparation for the extremes, not averages, is necessary, both to survive our climate and to ensure ED flow is not compromised.

ED variance can be corrected to some degree by using metrics for predictive scheduling, such as adding additional medical staff to Friday and Saturday nights, and other anticipated peaks in patients visiting the ED. These are predictable, or regularly irregular patterns. But in the ED, it is not uncommon to have irregularly irregular visit patterns, even within a single day. A “surge” option should be built into physician staffing so that spikes in visit numbers and acuity can be addressed quickly. A spike in patients arriving can overwhelm thinking/decision-making capacity or what is called “cognitive overload.” It is manifested by a decrease in productivity and the potential for medical error. It is clear that EDs need to be staffed to meet the needs of the busiest days and sickest patients while avoiding cognitive overload.

The chaotic tracing (in blue) below is the calculated number of physician hours needed each day, over one year, based on the number of patient visits to one ED, based on a commonly used calculation (POWER). The blue line shows huge variations, from 45–85 hours/day reflecting quiet days and VERY busy days. The black line shows the calculated required hours of coverage, based on average volumes, where half the time there would be too much, and half the time too little. The red line shows hours of coverage based on a statistical calculation (one standard deviation from the mean)—it requires more physician hours but can significantly reduce waiting by being prepared for predictably unpredictable surges and variance.

Graph 4.4: Depiction of Physician Hours needed per day over one year relative to the number of patients visits to one ED



ED staff must respond to the immediate needs of the sickest patients—CTAS 1 and 2. Their arrivals are unpredictable and they cannot wait. But they are fewer in number than the CTAS 3 to 5 patients, who can afford to wait a bit. When the staffing complement is right and the ED is not overwhelmed with boarded patients, treating CTAS 3 to 5 patients can occur between caring for CTAS 1 and 2. It can be a symphony of efficiency. The use of a multi-variable physician staffing model that addresses surge and variance is therefore recommended.

Staffing EDs on a sustained basis with the right number and quality of provider can be very challenging:

- Not just any health professional can or should work in the ED. In larger sites, doctors and nurses require special training and experience. That significantly limits the number of potential staff to choose from in surge situations.
- A 24/7 ED means that 76% of the working hours occur during evenings, nights, weekends, and holidays. The “adrenaline junkies” who work in busy EDs are exposed to social, physiological, and emotional stresses that take a toll over time.
- When input and throughput decrease due to output block by admitted and observed patients, the metrics of ED efficiency decrease, but the work actually increases. It then includes the equivalent of in-patient care, as well as trying to see incoming patients in hallways, the waiting room, in chairs etc.—all locations that are far less efficient (and less safe). Efficiency, safety and quality of care decrease while medical errors increase. Staff are exposed to increased liability.

In order to make this a sustainable vocation, scheduling and funding formulas must consider all the vagaries and unique circumstances of emergency care in urban areas.

When patient volumes increase, other departments also require flexible surge protocols. The need for increased lab tests and imaging, consultations, discharge planning and admissions also rises. A well-staffed ED that must depend on a poorly resourced hospital is senseless.

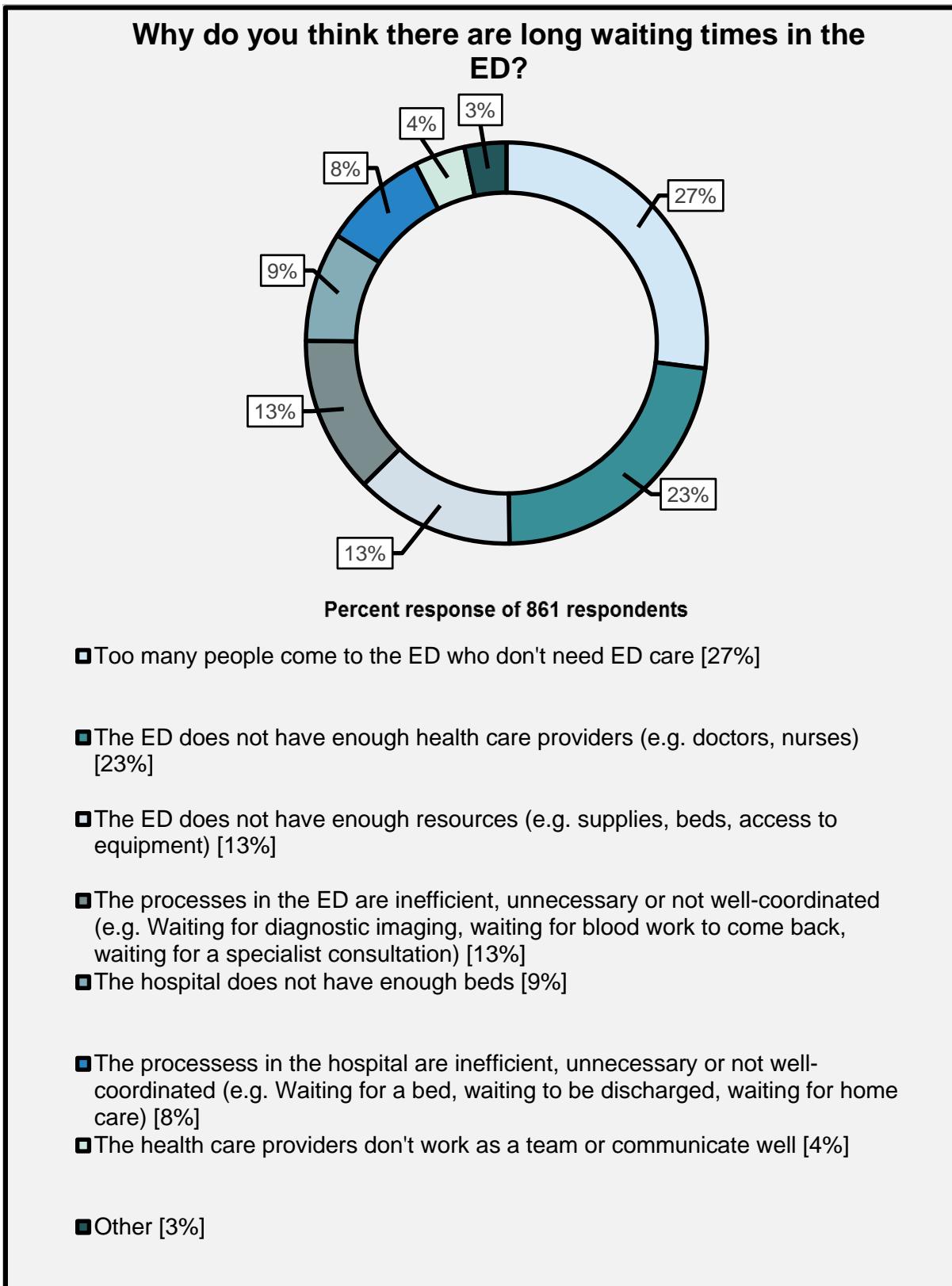
4.5.2 Scheduling Software for Physicians

There are a number of scheduling systems now available that can help with scheduling, but also ensure an even distribution of physicians and nurses between EDs, and balancing of slower with faster physicians. Preference-based scheduling software lessens the stress of shiftwork and can improve efficiency. The WRHA should support a uniform “preference-based” scheduling system for all its EDs/UCs.

4.6 INPUT

As illustrated by the opinions expressed by the respondents to our public survey (see figure below), far too many people believe that long wait times are caused by too many people who “don’t need ED care” using the ED inappropriately. As we have stated repeatedly, that IS NOT the case. Many attempted solutions in the past have followed this misconception that low acuity patients, an input problem, causes overcrowding. The result has been public advertising about when to use/not use the ED; more quick care clinics; and attempts to divert minor complaints. But little has changed.

Figure 4.4: Top Ranked Responses for Identifying Why EDs have Long Wait Times



4.6.1 Pre-Emergency Input

All patients who present to an ED constitute “input.” They may have decided to access the ED themselves, have been directed there by primary care providers or by the provincial health contact centre. They may be walking, limping, in a wheelchair, or on an ambulance stretcher. However, before using the ED by default, there are opportunities to consider alternatives.

In addition to walk-in clinics, there are several other options for select patient types. The following are examples of several “pre-emergency” options that are available in the WRHA:

1. **EPIC:** An effective pre-ED option was developed in Winnipeg—the Emergency Paramedic in the Community (EPIC) program. Some people suffering chronic social and medical problems, many of whom call for ambulances frequently, are managed by paramedics. That low acuity/high needs group is well served while significantly reducing ED use and ambulance calls. (More on EPIC in Chapter 7: Vulnerable Populations.)
2. **Specialty Clinics:** Ideally the ED should be available for unexpected, undiagnosed acute illness and injury. Chronically ill medical specialty patients (people receiving on-going treatment from various specialists) are a large cohort, whose ED visits are best prevented or avoided altogether. Examples are those with heart failure, chronic lung disease, diabetes, kidney disease, cancer, etc. Many “simple” sounding problems are not simple when there is a backdrop of multiple other health problems. They can be more effectively managed by clinicians who already know them well instead of strangers in the ED.

Improved access to specialty outpatient clinics can profoundly reduce ED visits, unnecessary tests, potentially harmful radiation and time-consuming consultation. The availability of such clinics has reduced wait times, improved care and quality of life for affected patients. As people continue to live longer with more chronic illness, development of such clinics is critical.

3. **The EDVIP (Emergency Department Violence Intervention Program):** has targeted a vulnerable group of 14-24 year olds brought to the ED with trauma. A multidisciplinary team intervenes, with the aim of preventing secondary ED presentations and reducing harm, in a group in whom repeat trauma and negative outcomes is the general rule. The long term benefits of secondary prevention (an intervention triggered by a primary event) are huge and extend well beyond the ED. Furthermore, it is a model which could be extended to other vulnerable groups, such the opioid overdose population, and selected mental health subgroups. (More on EDVIP in Chapter 7: Vulnerable Populations.)
4. **Health Links:** The provincial nurse advice telephone line provides a service to the public. Nurses who take calls provide advice and guidance on a very wide range of health-related issues. They use regularly updated, evidence-based medical decision algorithms that are used extensively across North America. There is a general perception that they direct many people to the ED, “so what is the point in

calling?" There are, of course, two sides to this. First, such a service must not miss any truly sick people. Determining sick/not sick over the telephone can be difficult, so there is a low risk default to advise being seen by an experienced healthcare provider if there is any doubt. About 15% of all callers are advised to activate EMS 911 or go to the ED immediately. That seems quite reasonable. However, another 22% are advised to see a healthcare provider the same day. With very limited "same-day" access to healthcare, most of those people may be going to EDs also. So Health Links may be indirectly sending a third of callers to the ED because "the system" and Health Links are not effectively working together.



What we heard...

"You should consider alternatives like enhancing the role of Health Links. This is a great service but normally results in advice that would lead you to an ER waiting room. Perhaps if you had a few doctors to weigh in on some calls to triage those calling the helpline... this could reduce the need for those wishing to seek medical advice at an ER when a simple three minute conversation with a doctor over video conference could indicate whether your condition warrants a visit to an urgent care or emergency care clinic or could be solved with some rest at home."

— Public Survey Respondent

4.7 DIVERTING PATIENTS AT THE "FRONT DOOR" OF THE EMERGENCY DEPARTMENT

This has been a controversial topic when considering options to manage ED crowding. It seems simple on the surface—send patients who do not need the resources of an ED to a local or co-located clinic. Everyone will be happier. It is very common for people to tell us that while they were waiting in the waiting room for several hours, "most of the other people did not need to be there." While it is a common observation, it generally is not true. There is a complicated spectrum of patient types that present to an ED for care, many with innocuous symptoms...that are not. Here are some examples:



EXAMPLE #1:

61 year-old female was complaining of jaw pain—she thought there might be a dental infection. Triage questioned whether she could be sent to the local dental clinic.

After more in depth questioning and a physical exam that did not reveal pain from her teeth, an ECG showed she was actually having referred pain into her jaw from a heart attack. She suffered a cardiac arrest 20 minutes after first arriving, but was revived successfully.



EXAMPLE #2:

23 year-old man was having left-sided chest pain in an area the size of a dollar coin. He was certain it was a heart attack—his grandfather recently died from one—and was angry at the triage nurse's suggestion that it sounded non-urgent. He was doing mid term exams at university and, on further questioning, had been having panic attacks.

After initial reassurance, his ECG confirmed he was fine, which he found very comforting. The ED psychiatry nurse (PEN) provided input and follow-up.



EXAMPLE #3:

31 year-old female had a right-sided facial bruise that she said she got when she missed a step and fell, while carrying a laundry basket. She wanted to rule out a significant injury, but appeared well physically aside from the bruise.

On further questioning, she did not fall but was actually assaulted by her partner—the fourth time that had happened. He had threatened to kill her. She had never been asked about that before, but once it was offered, she wanted assistance. She was referred to a multi-disciplinary team who found safe housing and supports. Also, further ED visits were avoided.

These cases and thousands more are examples of why efforts to determine a patient's likely diagnosis and divert their trajectory at the front door can be very difficult. If they are to be diverted, the alternate location should ideally be located very close to the ED so that it is not an inconvenience to the patient (already paid parking, got dropped off) and they can be easily sent back if the diagnostic process identifies a more severe problem.

4.8 TRIAGE LIAISON PHYSICIAN

A dedicated physician at the triage area, who works with other staff such as nurses, physician assistants and paramedics, in a collaborative "liaison" role, can address a number of input and throughput concerns. A triage liaison physician (TLP) can:

- Treat and release uncomplicated cases that do not require additional resources such as blood tests, x-rays, or special treatments.
- Order tests early in the patient journey based on a brief clinical assessment.
- Reduce *Time to Initial Physician Assessment* (TIPA), as measured by the Emergency Department Information System (EDIS). The Canadian Institute for Health Information (CIHI) uses TIPA as one of its key metrics for ED wait times.

If reducing CIHI-reported waiting times is the actual goal, a TLP is the answer. However, in terms of best patient care, this is not necessarily the case. If the patients are mostly of medium to higher acuity, the TLP is best utilized in the patient care areas and not at the triage desk. In the right setting, however, streaming patients in this fashion can result in both improved and more timely patient care. We always must ensure that improving a number—in this case, time to first seeing a physician—is also meaningful in terms of overall quality of patient care.

A major advantage of a TLP is that it relieves the triage nurse of the role of being the barrier between patients and their care. Continually putting the triage nurses in this position in a crowded ED has led to burnout and compassion fatigue. However, as evidenced by the case examples earlier in this section, there is risk in any clinician determining problems as "minor" at the front desk without the luxury of observing the patient and getting a chance to collect more information. Furthermore, there is a tendency to make decisions that can be influenced by "production pressure"—a need to keep up with patient arrival surges by cutting corners and being less methodical.

4.9 AMBULATORY PATIENTS: "STREAMING" TO PRESERVE STRETCHER CAPACITY

Rapid Assessment Zones (RAZs) are present in several EDs in the WRHA. These are dedicated spaces, often just a small room and adjoining row of chairs (known as an internal waiting room) where patients are quickly assessed and sent to wait in chairs, pending test results and/or reassessment. Streaming patients in this manner is roughly

based on mathematical flow modelling (queuing theory), but was also a necessary adaptation, or “workaround” to the blockage of stretchers by boarded patients.

Research generally supports the use of streaming or RAZ in busy EDs, but there is considerable variation in their effectiveness in practice. Too often, they are dependent on the ability or willingness of clinicians to follow RAZ protocols and work interdependently (sharing responsibilities with others). Sometimes, high acuity or very complex low acuity patients are sent to the RAZ and the more extensive investigations and care required result in flow being impaired. Performance is highly dependent on selecting the right patient type and maintaining continuous flow in, through, and out of the RAZ. During the consultation visits, some ED staff felt RAZ was very effective, while others felt it was poorly managed and variable day to day. It is recommended that current RAZ unit function be reviewed, and that “best practice” protocols from effective units be established, and that staff be trained and managed to ensure RAZs are functioning optimally.

4.10 EMERGENCY DEPARTMENT AS A UNIVERSAL GATEWAY FOR COMPLEX Low ACUITY PATIENTS

Urban EDs are, in some ways, victims of their own success. They are generally well equipped, staffed around the clock by well-trained providers, and have access to advanced diagnostics and specialists, either on site or in close proximity. Patients know that and often go to the ED, despite long waits, because they believe they need these services quickly. Primary care providers and specialists also know that, and some use the ED to assist them with their patients when they are busy—to access diagnostics, provide treatments such as IV meds or blood transfusions, or as a “back door” route to get them admitted.



What we heard:

“My wife had ovarian cancer and went through a number of difficult cycles of chemotherapy. From time to time, she required hospitalization so that she could receive intravenous medications to address unmanageable pain or chemo side-effects. The first two times, the oncologist on call admitted her directly to a hospital bed. After that, though, we were told the admission policy had been changed and she would have to go through the emergency department. We were told to go there via ambulance, because my wife was highly vulnerable to infections and could not wait in the general waiting room. Each time, we experienced lengthy waits in the holding area for ambulance stretchers—up to eight hours before she was admitted to an ED examination room—during which time she had to be supervised by ambulance staff. She was held overnight in the ED, then admitted to a hospital bed in the gynecology unit in the morning. Aside from causing considerable anxiety and unnecessary pain for my wife, this process tied up an ambulance crew and an ED bed. We were never told why we had to go through the ED.”

This example highlights many problems associated with misuse of the ED:

- This was not an unexpected emergency. The patient, family, paramedics, ED staff were all used inappropriately while other patients with medical emergencies could not access the paramedics or the ED stretcher that was occupied.
- The patient was not “undifferentiated,” (i.e., suffering an unknown illness). She was well-known by her specialist, but in the ED was subjected to repetitive, unnecessary questions.
- It was not patient-centred, but provider-centred (convenient for the specialist, not the patient).
- Other patients, and providers, may have judged her as “abusing the ED” and blaming her instead of a general system failure and failure of her specialist(s) to provide appropriate access to care.

4.11 AMBULANCE DIVERSIONS

4.11.1 Unplanned/Episodic

When an ED is overcrowded and managers decide it is unsafe to accept any more sick patients (e.g. all resuscitation beds are full, all monitors taken, people in hallways) a call is sometimes made to the central ambulance dispatch centre to divert ambulances to other sites until the situation improves. Hospitals should rarely get to that point, but today it is common across the country and in a number of regions outside Winnipeg. It is a temporary coping strategy—an attempt to regain control—but it is far from a long-term solution and always has potential negative consequences.

On occasion, one of the tertiary (most highly specialized) Winnipeg EDs has been on a “red” diversion, as a consequence of all resuscitation beds being occupied. This means they cannot accept any more really sick patients *even though that is their core business!* In the case of trauma (Health Sciences Centre [HSC]) or those with unstable heart attacks (St. Boniface Hospital [SBH]) this can place patients in jeopardy, as those specialty centres are required for definitive care.

With future consolidation of EDs in Winnipeg, each with defined roles and supporting specialty services, reactive ambulance diversions cannot be justified other than in unexpected mass casualty circumstances.

4.11.2 Planned/Protocol Driven

A different type of diversion involves a “destination protocol,” based on best practice, where ambulances go directly to specialty centers, following stroke and heart attack protocols. These are effective and improve outcomes. They are particularly effective because they involve considerable planning with many different parts of the system. Here

is an example using “code stroke”—an unexpected blockage of a brain artery that is highly time dependent but if recognized and treated early can have remarkable results:

- Provide on-going far-reaching public campaign that teaches simple warning signs of possible stroke—displayed using multiple media channels—when to call 911.
- 911 entry—staff trained
- EMS provided stroke education; have quick assessment cards that help rule-in or rule-out possible stroke; decide on “code stroke” that triggers hospital readiness
- Patient arrival in ED bypasses usual triage and registration; rapid assessment for safety to go to computerized tomography (CT) scan; diagnostic imaging staff ready on their arrival; Neurology staff standing by to assess patient and respond immediately to CT scan results
- If positive for acute stroke, management algorithm activated and “clot busting drug” or radiology intervention done
- Quick admission to special stroke unit.

To make the “code stroke” function smoothly, many people from many different parts of the hospital must come together and agree to function on one team for the benefit of the patient.

4.12 THROUGHPUT

Delays in getting admitted patients out of the ED and into hospital beds (*access block*) has been the main focus of research and advocacy by doctors, nurses and their national organizations. But relatively little study has been on throughput—the processes of assessment, diagnosis, and treatment while in the ED.

4.12.1 The Journey Through Emergency Care

ED throughput is the time segment that starts after triage and initial waiting, at the very start of care. Here is an example:



EXAMPLE:

A 23 year old with a persistent dry cough for three days is assessed at triage. All vital signs are normal. CTAS 5 is assigned. The patient is asked to stay in the waiting room until called. It is not clear an x-ray is needed at that time. They are still in the **input** phase because no diagnosis or treatments are happening.

Three hours later, the patient is called into the ED and seen by a doctor. Further questioning, and some memory assistance from mother, determine that what seemed like a benign, probably viral cough, could possibly be a blood clot in the lung. A chest x-ray and computerized axial tomography (CAT) scan are ordered—throughput has begun.

While the evaluation of the above patient, and all others in the ED happens, people are outside the treatment area, in the waiting room. In most EDs, those waiting are not given any information. They wonder if the doctors and nurses inside even know they are there? The WRHA does provide people some basic information that is updated continuously:

Figure 4.5: Sample Screenshot (using EDIS data) from Waiting Room Display at HSC

IBM Cognos Viewer - Wait Times Display Board - HSC - Waiting Room Version

Welcome to the Health Sciences Centre Emergency Department

Waiting Room Information as of 10:04 AM

How many patients are in the waiting room?	12 patients
About how long have most patients been waiting?	30 mins
What is the longest that someone has been waiting?	1 hr 45 mins

Even if the wait-times above appear long, you will be seen quickly if your condition is an emergency.

Seriously ill patients are given priority for care.

A sudden increase in the number of very ill patients could mean that patients with less urgent conditions may wait longer.

This type of displayed information is being refined to address patient needs within the limits of data that is collected. It also supports a more patient-centred approach.

The throughput phase can be really simple—a few questions, a focused examination, some advice, and the patient is discharged in just a few minutes. Or it can be very

complex, requiring many diagnostic tests, specialist consultations, procedures, and many hours before a treatment plan can be reached. Far too often throughput occupies a lot of staff and stretcher time, due to inefficiencies such as:

- diagnostic test delays involving ordering, collection, transportation, test performance and communication of results
- inadequate staffing, poorly coordinated breaks and delays at shift change
- slow assessments or decisions by emergency physicians and consultants
- conflicting responsibilities (e.g. teaching duties, multiple phone calls by outside clinicians looking for advice or wanting to transfer a patient)

4.13 DIAGNOSTIC TESTING AND THE EMERGENCY DEPARTMENT

The core business of the ED is early assessment and diagnosis of patients who are undifferentiated—they may or may not be really sick. Diagnostic testing is an intrinsic part of that process. Obtaining tests is a remarkably complex process. Ordering the right test, ensuring it is associated with the right patient, involving technicians, and moving patients all take time and are potential hazards. Each segment contributes to ED flow and waiting. Each must be tightly monitored for quality and efficiency.

A full-service teaching hospital with 24/7 lab and imaging access, and on-call specialists will generally perform better than a less resourced community hospital with respect to wait times for complex patients. Staff at a Winnipeg community hospital indicated a lot of time and resources are expended transporting patients back and forth between facilities to have tests done if they are urgent and not available at the smaller site.

But a study by the Manitoba Centre for Health Policy found that waiting for diagnostic tests has a profound impact on overall waiting throughout the WRHA.⁴⁷

Why do clinicians order tests? There are more than the obvious reasons:

- “The test will help in diagnosis or treatment decision(s)” (this is the usual reason)
- “The patient waited a long time—I should do something!”
- “The patient expects it/demands it.”
- “What if I miss something? I will be sued. This test will protect me.”
- “I’ve always practiced this way.”
- “It’s better to do something than nothing.”

⁴⁷ (Doupe, et al., 2017)

4.14 CHOOSING WISELY AND DIAGNOSTIC TESTING IN THE EMERGENCY DEPARTMENT

In 2012 the American Board of Internal Medicine Foundation launched *Choosing Wisely*, with the goal of advancing a national dialogue on avoiding wasteful or unnecessary medical tests, treatments and procedures.⁴⁸ This movement has since spread widely, throughout North America and too many specialties. In the summer of 2013, Diagnostic Services Manitoba (DSM MB) undertook a review of Choosing Wisely recommendations and estimates that \$1-3 million dollars has already been reinvested back into the Manitoba health care system from proof-of-concept initiatives.⁴⁹ DSM MB has largely focused on non-ED testing, but in Canada, there are a number of decision rules related to diagnostic imaging that have been endorsed by the Canadian Association of Emergency Physicians (CAEP). In fact, of the top 10 Choosing Wisely recommendations endorsed by CAEP in partnership with the CMA, six concern avoidable x-rays and CT scans (the other 4 involve unnecessary antibiotics).⁵⁰

There are hundreds of lab and X-ray tests ordered in our EDs per day. While admitted patients in stretchers are the most obvious and egregious examples of obstructed flow, testing slows flow in the manner of *death by a thousand (CT scan) cuts*. Recent research comparing the impact of testing in the ED to output block suggests that the impact of testing on wait times has been underestimated and under-emphasized relative to that of boarded patients.⁵¹ This is not to question the fundamental importance of testing—it is an essential part of emergency department care, is by and large appropriate, and inadequate testing can lead to errors in diagnosis and repeat ED visits. Nevertheless, it is important to focus on the minority of tests that are unnecessary and especially on the time waiting for tests and test results in the ED, which, in Lean parlance, is wasted.

4.14.1 Nurse Initiated Testing

The enabling of staff such as nurses to work with some independence in the ordering of tests generally improves flow. Nurses at some facilities noted that they knew which physicians were comfortable with them ordering tests without waiting for their sign off, and which were not. The downside of nurse-initiated testing is that some unnecessary tests (in the retrospective judgment of the physician) will be ordered, but with proper protocols and a healthy relationship between nursing and medical staff, these risks can be mitigated. It is recommended that nurse-initiated testing protocols be developed and used in all regions.

⁴⁸ (*Choosing Wisely*, 2017)

⁴⁹ (*Choosing Wisely Manitoba*, 2017)

⁵⁰ (*Canadian Association of Emergency Physicians*, 2017)

⁵¹ (*Doupe, et al.*, 2017)

4.14.2 Reducing Lab Turnaround Time

“Turn around time” (TAT)—the time from test order to result available to decision-maker—is measured to evaluate service efficiency. The benchmark for lab testing turnaround is frequently set at 60 minutes, but real turnaround times are highly variable, some shorter, some up to several hours. EDs also often require “stat” (as quickly as possible) turnaround times for specific situations. Although the actual performance of the lab test is usually 20 minutes or less, the process involves multiple steps—paper or data entry, requisitions with accurate patient identifiers, sample acquisition and labelling, transport to lab, processing, result posting, clinician awareness, decision and action taken.

Large hospital labs must also service demands from all their critical care units, operating and recovery rooms as well as all the “routine” demands. The ED is one of many customers, all with perceived urgent demands. There are several solutions that provide some control to clinicians in the ED that can reduce TAT:

- Due to the complexity and volume of the process, large EDs with high demand for 24/7 diagnostics should have protocols and personnel in place to quickly obtain patient samples, accurately label and send to the lab. In many cases this will require dedicated technologists. In some cases it will be nursing or other paramedical personnel. Dedicated staff, if readily available, reduce TAT while decreasing errors.
- Local (ED-based) “stat labs,” with on-site technicians can perform a range of commonly ordered tests, while eliminating transport delays and avoiding the competition from other hospital areas. Stat labs require a critical volume of tests to justify, as well as the cost of local equipment and personnel, but this could potentially be done on a zero net cost basis as part of consolidation.
- Point of Care (PoC) Testing: PoC is basically performing a test at the patient’s bedside—instead of taking the patient’s sample to the lab, a “mini-lab” is brought to the patient. Examples can be as simple as performing a urine dip stick test for blood, infection, or pregnancy; a “strep throat” test; 12-lead electrocardiogram for chest pain; or bedside ultrasound. There are a growing number of such tests available. Specific PoC tests may be very useful for small EDs that do not have 24/7 lab services and large EDs that rely on commonly ordered tests that result in a lot of waiting time.

But like all good concepts, there are down sides:

- Formal laboratories have strict quality assurance (QA) processes while PoC can be performed by many people with variable training and QA awareness. Some results may be wrong due to user error or technical problems. Kits/small machines require regular calibration.
- Time is required to perform the tests—it can impact on already very busy clinicians—often nurses, and may take away from patient care time.

- Some PoC kits are expensive.
- Easy access to PoC may lead to over-testing and false test results that can lead to other investigations and increase ED throughput time.

However, PoC testing DOES have a role in ED care, when used selectively.

Some unique issues came up during consultations, particularly in the north:

- According to protocol, lab/imaging technologists must do 12-lead electrocardiogram tests (ECG) that are vital in diagnosing a heart attack. This can result in significant delays. For a potentially life threatening disease, any trained person must be able to obtain an ECG quickly when there is a suspicion of heart attack. In smaller EDs especially, that includes doctors, nurses, paramedics and others.
- In some busy hospitals, urine dip stick tests must be sent to the lab for analysis. In most of Canada, such tests are performed as a PoC by any clinical person. In addition, urine pregnancy tests should be PoC when needed.

PoC test availability at Nursing Stations in remote sites could reduce the need for many very expensive air medevacs. That would reduce ED visits and stretcher time waiting for return transports.

Such non-patient-centred protocols must be abandoned. Both quality of patient care and ED wait times are impacted. PoC testing has a role in ED care without compromising patient safety. A provincial approach to incorporating it into large and small EDs should be a priority.

4.15 USING THE EMERGENCY DEPARTMENT AS A GATEWAY TO DIAGNOSTIC TESTS

There is a difference between the wait time for diagnostic tests as a patient in the ED versus being seen in a clinic or office setting and scheduling a test. The urgency of diagnosis and treatment decision necessitates short wait times in the ED. But many patients and their caregivers do not want to wait for a test. It may be as simple as a single blood test, or as complicated as needing to rule out a terminal disease. The ED is seen as a place to go to get the tests done immediately.

One ED staff member reported that patients were frequently transferred to the ED for CT scans by specialists, because they were “easy to get quickly from the ER.” In another case, a stable cancer patient booked for a routine CT was sent to the busy teaching hospital ED by CancerCare and waited many hours for the test. This generated frustration on both sides, as it resulted in a prolonged wait for him and others in the ED. Some patients who are already scheduled try to use the ED route instead. All of this is understandable to each individual, but puts the ED in the difficult position of having to weigh actual clinical urgency with other non-clinical issues such as anxiety, being off work, etc. ED staff get forced into the larger complicated role of “healthcare system

“gatekeeper” when they are simply trying to manage ED throughput. All hospitals must establish accessible and timely diagnostic testing options for clinicians inside and outside the hospital and not use the ED for non-urgent or emergent investigations.

At some hospitals, there was a clear difference in perspective between Diagnostic Imaging (DI) staff who said they were meeting the needs of EDs well, whereas ED staff said there were significant delays getting emergency patients tested between DI. One hospital identified that the addition of an ultrasound tech in the ED significantly improved the patient flow and reduced wait times and total length of stay. This leads to the importance of having timely metrics to evaluate performance of all ED functions.

4.16 PERFORMANCE METRICS AND EFFICIENCY

Current remuneration models for ED physicians and nurses in Manitoba do not generally encourage or reward throughput efficiency. Physicians are generally paid per hour, not for patient number or complexity. Nurses and some physicians are paid through collective agreements, not tied to patient care.

At some of the front line staff consultations, it was noted that some physicians are reluctant to make decisions without multiple consultations and tests, while others are resistant to adopting technology in the ED, such as EDIS. Physician speed has been the subject of some research and it has been concluded that, while efficiency can be taught to some degree, it is largely innate. In any physician group, some will be faster than others; some make decisions more quickly, are more risk tolerant and rely on diagnostic testing less heavily; some consult more than others. Emergency Medicine training, experience and certification are also variable between different centers. An easy to collect and commonly-used metric is “patients seen per hour” for each physician. It is sometimes the only metric used to evaluate physician performance. Despite the many nuances of complex patient care, it is a constant reminder to them that speed matters. Long wait times correlate with poor patient outcomes, so physician throughput is absolutely important. It must be balanced however with compassionate, knowledgeable, and skilled care. That is far more difficult to define or measure.

4.16.1 Responsibility for Patients

There is variable understanding among emergency staff that they are responsible for the welfare of all patients in the ED, including those in the waiting room and on ambulance stretchers. This lack of awareness was mentioned several times during the staff consultations. Many doctors believe that their responsibility is restricted to patients they have actually seen. However, all patients who have been triaged, and are waiting to be seen are ultimately dependent on the staff in the ED. This responsibility extends to the entire hospital, as all staff, directly or indirectly, impact the continuum of flow. Several authors have noted the following:

“The most dangerous place in the hospital is the ED waiting room. There, the potentially sickest patient in the entire hospital may not yet have been identified.”

4.16.2 Emergency Physician “Extenders”

There are other healthcare professionals who can work with Emergency Physicians (EP) to leverage their time, knowledge, and skills where they are most needed. Somewhat like a quarterback in football uses other team mates to advance the ball down the field, extenders can share and collaborate on the tasks required when assessing and treating many patients at the same time.

Physician extenders may be particularly useful in departments where there is a staffing/patient demand mismatch. In larger urban settings, especially EDs that have a teaching role, recruiting qualified physicians can take a long time, and it is a very limited resource. Complementing physician staffing with collaborative “extenders” can address the clinical needs of a department.

4.16.3 Physician Assistants and Nurse Practitioners

Nurse Practitioners (NP) are independent practitioners who can assess, diagnose, treat and discharge patients without EP involvement. NPs may consult EPs and other clinical specialists, but maintain responsibility for their patients. In some instances and exclusively in Winnipeg, NPs do co-manage patients with the EP and in these instances they share responsibility for care. There have been very few studies measuring the efficiency of NPs, but patient satisfaction with their care is generally high.⁵²

Physician Assistants (PA) do not operate independently, but work in close consultation with the EP. Nevertheless, PAs are well trained, often have had extensive experience in other acute care settings, and are an extremely valuable addition to the ED staff.

4.16.4 Hospitalists

A hospitalist is a dedicated generalist physician specializing in treating admitted patients.⁵³ Hospitalists are important to the coordination and quality of inpatient care, particularly when patients are being treated by multiple specialists. In a collaborative system, they work hand-in-glove with the emergency physician to provide seamless flow from the ED to the ward. Patients who are too unstable to be looked after by the hospitalist will be referred to a specialist service, but hospitalists are able to accommodate the

⁵² (Carter & Chochinov, 2009)

⁵³ (Pantilat, 2006)

majority of ED admissions, including the frail elderly, who so often experience admission delays. Hospitalists can therefore be a key component of improved ED flow in the future.

4.16.5 Scribes

The term “scribe” conjures an image of an assistant, writing table, candle light and quill pen. A modern scribe can play a wide range of roles, often tailored to the emergency physician work flow. Some are tasked with transcribing clinical details during a patient assessment and general paperwork. Others may complete test ordering, follow-up results, request consultations, complete follow-up plans, etc. They are a “multi-task” assistant to the physician. There is some very positive research on the use of scribes to reduce EP documentation and admin time while increasing productivity. The effectiveness of the role, however, is dependent on the ability of individual physicians and scribes to work out a dynamic, flexible, collaborative relationship.

4.16.6 Pharmacists

Pharmacists have a substantial role to play in ED patient care. Key to the success of the anticipated ED consolidation will be the ability to transition patients effectively through the system. Pharmacists have a key role in facilitating medication management through the continuums of care and have a key part to play in ensuring the success of Manitoba’s new care structure. This cannot be accomplished if pharmacy services are in place less than a quarter of the working hours in a limited handful of facilities. Pharmacists must be recognized as a necessary member of the team. Appropriate pharmacist staffing needs to be considered which would both improve patient care within the Urgent Care (UC) and ED and functionally support the flow of patients from UC/ED into hospitals, from UC/ED back into the community, and between UC and ED.

4.16.7 Specialist Consults

In the ED, most presentations initially require the broad skill set of a “generalist” who, after stabilizing the patient’s condition, considers a wide range of possible problems and narrows those down to one or a few possible diagnoses. Further definition of the underlying disease process and ongoing treatment may require assistance from specialists. It is a care continuum, which should be available 24/7.

At many consultations, ED staff noted that despite the demand for 24/7 emergency care, specialist consults were difficult to get during evening and nights. Teaching hospitals, that have residents and medical students, may have ‘surrogate’ consultants available to see patients 24/7. However, they have highly variable knowledge, skills, and capacity to make final decisions, including admit or discharge. Although they may facilitate patient processing (detailed history, physical, more tests), they may in fact prolong patient throughput, waiting for the staff consultant to assist or make decisions.

This is a function of the teaching hierarchy: many medical students, fewer specialty residents, and very few staff consultants. The patient volume, complexity and demand on EDs has increased over time while the legacy of an antiquated vocational education system persists. Realistically, there are many other demands on consultants' time: busy clinics, procedures, other consultations, teaching, research, and administration—the ED on-call is just another demand. It can be particularly onerous because consultations are unscheduled—so they interrupt an otherwise organized day.

In a “patient-centred” system the providers need to plan and schedule around the needs of patients. Hospitals therefore need to align ALL staff scheduling and availability around the historical and projected demands of patient care. That includes ensuring consultants are available quickly, in person or using technology, that decisions can be made 24/7 and patient flow is continuous, not dependent on time of day. One of the ways that has successfully changed hospital-wide culture in British Columbia and Ontario is pay-for-performance (pay-for-results.)

4.16.8 Quality Improvement

A document governing consultations in the ED is currently being developed by the WRHA. There will be responsibilities incumbent on all parties to ensure benchmarks are met for initiation of consults, response times, assignment to appropriate service and admission times. Response times to consultation requests in the ED should be audited as a continuous quality improvement initiative.

4.16.9 Pay for Performance

ED leadership at one WRHA hospital described how they made improvements in their wait times after much hard work and without additional funding. In the subsequent budget, however, instead of recognition or increased funding earmarked to help further advance their gains, it was the underperforming hospitals who were given additional resources, to bolster their efforts to improve.

Other provinces have done the opposite—allocated increased funding to incentivize improved performance. An example is the pay-for-performance approach in Ontario, summarized by Dr. Alan Hudson, one of its architects as, “data, money and shame.”⁵⁴

1. Collect meaningful, reliable data
2. Provide money to promote improvement

⁵⁴ (Ovens, 2011)

3. Publicly post results—good and bad (the shame part)⁵⁵

While ‘shame’ is not desirable or recommended, Manitoba should strongly consider a pay-for-performance model for all hospitals that have 24/7 EDs where continuous flow from the “front door and out the back door” is important. Rewards should be shared by the entire hospital, to reflect the breadth of the effort required.

4.17 OUTPUT



When asked why wait times are so long in the ED...

“Too many people with paper cuts and runny noses.”

- Friend of a Patient Attending an ED

“The ED is full of admitted patients—almost all the stretchers and chairs are used. There is no space.”

-Nurse

In this chapter, the input-throughput-output paradigm has been used to describe and analyze the flow of patients through the ED. It is a mechanistic, engineering-based approach that generally works well. Problems encountered with input are the least complicated of the three and do not meaningfully affect the flow of the sickest patients into the ED. Throughput problems are more complex and encompass many parts of the hospital system—they are increasingly understood as having a major impact on flow. However, they at least involve a number of variables that are fully or partially within the EDs control. Output problems, however tend to be wicked problems, as described in Chapter 3—seemingly unsolvable, at least since overcrowding, access-block, and long wait times began over 20 years ago. They are also largely out of the control of the Emergency Department. However, some hospitals and regions in Canada manage output far more effectively than is currently the case in Winnipeg—so there is hope.

The CAEP Position Statement on overcrowding and access block provides a definitive review of the national situation and contains excellent recommendations.⁵⁶ The introduction includes the following (emphasis ours):

⁵⁵ (Ovens, 2011)

⁵⁶ (Affleck, Parks, Drummond, & Rowe, 2013)

“While media attention has highlighted input factors and inappropriate use of the ED across Canada, the primary and definitive cause of ED overcrowding is hospital overcrowding....Over time there has been a growing appreciation of the multi-factorial causes of ED overcrowding and the system-wide approach to addressing Access Block has now been generally accepted....”⁵⁷

In other words, the greatest flow block is still at the output level because there are so many moving parts that can interfere with smooth, continuous flow.

Of every 100 adult patients who go to Winnipeg’s EDs, only 13-14 require admission to hospital for continued or more advanced treatment (about half that number at Children’s Hospital.) The rest return home after treatment and/or observation in the ED. About three of the patients are admitted to Surgery units, nine to Medical units and the remaining one or two go to Psychiatry and other services. Surgery patients usually are seen, admitted, and leave the ED quite quickly, whereas medical and psychiatry patients can sometimes stay in the ED a long time. Ultimately, it is fewer than 10 out of every 100 ED visits whose trajectories are blocked, but that block affects the wait times and care of countless others.

There is a unique population of patients, whose emergency care phase is complete and are waiting for hospital beds to be available referred to as “boarders.” A related group of patients are those who are too frail to stay at home but are not sick enough, according to hospital admission criteria, to be admitted. In the absence of a dedicated doctor or service to care for them, they become “orphans” of the system and can occupy ED stretchers for days while their complex social circumstances are worked through.

Boarders and orphans, a patient population discussed in detail in Chapter 7: Vulnerable Populations, represent only 6% of the ED patients in Winnipeg and yet they occupy 30% or more of ED patient hours. Acute care hospitals must develop interdisciplinary protocols to minimize patient boarding, using effective bed utilization management. All patients unable to be safely discharged within 16 hours, must be assigned to a dedicated service that can assess their medical and social needs. Clinical Assessment Units (CAUs) under the care of hospitalists are currently being implemented to facilitate this at St. Boniface, Health Sciences Centre and Grace Hospital. Disposition decisions and transfer out of the CAU should take no longer than 36 hours, to ensure forward patient flow in the system.

⁵⁷ (Affleck, Parks, Drummond, & Rowe, 2013)



The CAEP Position Statement on ED Overcrowding provided some essential output recommendations.¹ Key areas of focus identified by CAEP and other national experts include:

- **Implement overcapacity protocols (OCP).** The WRHA does have an overcapacity protocol, as does each site, but these are variably enforced and accountability is often vague. An effective region-wide OCP provides clear accountability for the identification and management of flow issues. It requires all hospital departments, to be transparent about their capacity on a real time basis (using a facility dashboard) and share responsibility for all admitted patients in the ED, according to set protocols, without fixed patient “caps.”
- **Strive to meet national benchmarks** of less than four hours total ED time for patients who are discharged, and less than 12 hours (90% percentile) for admitted patients.
- **Use all available inpatient capacity.** Assess value of allowing specific programs, such as surgery, medicine, psychiatry, obstetrics etc. to “own” beds if this just serves to create gates that impede flow. If beds are not being shared, eliminate this ownership, or create a bed-sharing policy. ED access block, viewed as “total boarded patient hours,” is relatively small compared to total hospital bed capacity. If ED boarding were viewed as a “whole hospital” problem, efficiency improvements in the range of 1-3% could profoundly mitigate emergency access block,¹ whereas restricting it to the ED can reduce stretcher capacity by 40% or more, effectively obstructing forward flow.
- **Forward-flowing consultations.** If a patient needs admission but a different consultant or service is more appropriate, the (first) consultant, who has the most current knowledge of the patient, would be the most appropriate to contact the service identified as best suited to provide care. A concerted effort to streamline admission-oriented consultations is essential to meet national benchmarks.
- **Acute hospital care and continuing care** (home and long term care) should be under a seamless governance structure to enable continuous uninterrupted patient flow, when needed, between care areas. Current administrative silos result in poor communication and cooperation between hospitals and these services. Approximately 30% of the region’s beds are occupied by patients who would be better served in long term care. “Boarded” and “orphan” patients who stay in the ED longer than 24 hours occupy the equivalent of 55-60 inpatient beds (the equivalent of two EDs 100% occupied by admitted patients) every day in Winnipeg’s EDs. This could be reduced if a truly integrated system could manage the flow continuum both within and beyond the acute care facilities.

4.18 BRANDON REGIONAL HEALTH CENTRE - EFFECTIVE EMERGENCY DEPARTMENT OUTPUT

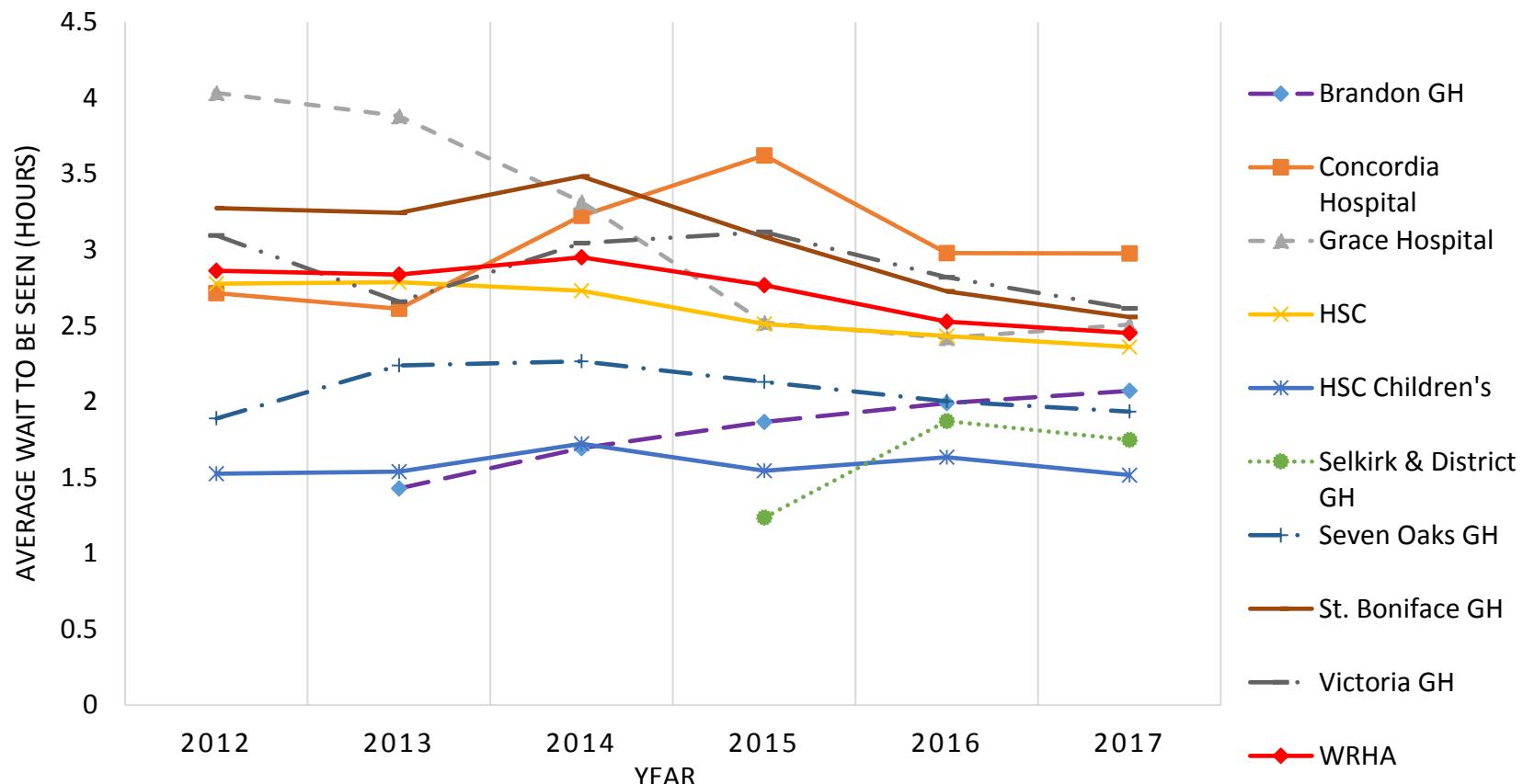
Brandon is Manitoba's second largest city, and home to Brandon Regional Health Centre (BRHC), which functions as both a large regional hub, an urban community hospital and a teaching hospital. BRHC has 315 beds, and provides multiple acute care services: Emergency, Intensive Care, multiple surgical services, gastroenterology, obstetrics, pediatrics and neonatology, psychiatry, nephrology, cardiac, lung, stroke and others. It also has a university satellite program for the training of Family Medicine residents in Emergency Medicine.

In our consultations with Brandon front line staff and leadership, a variety of throughput challenges faced by urban and rural EDs were raised: difficulty accessing specialists, specialists using the ED for clinic space, and limited hours for some diagnostics. As well, output bed block for geriatric and mental health populations is a problem. Specific challenges shared by other rural hubs include receiving patients from smaller sites that could reasonably have cared for the patient, long EMS transport times and repatriation issues. Despite these challenges, wait times in Brandon are better than Winnipeg, and the reason is very simple: **absence of significant access block**.

The *average wait to be seen* time for Brandon ED was two hours in 2017, approximately 20% better than the WRHA's average of 2.4 hours. Its average length of stay (ALOS) for admitted patients (Graph 4.6) is less than half of the WRHA's, at under 7 hours, compared to the WRHA average of 19 hours. (Keep in mind these are average times, as opposed to the 90th percentile times shown in earlier graphs. This is due to differences between the way Canadian Institute for Health Information (CIHI) and Manitoba Health, Seniors and Active Living collect data).

Graph 4.5: Average Wait to be seen in the Emergency Department from 2012-2017

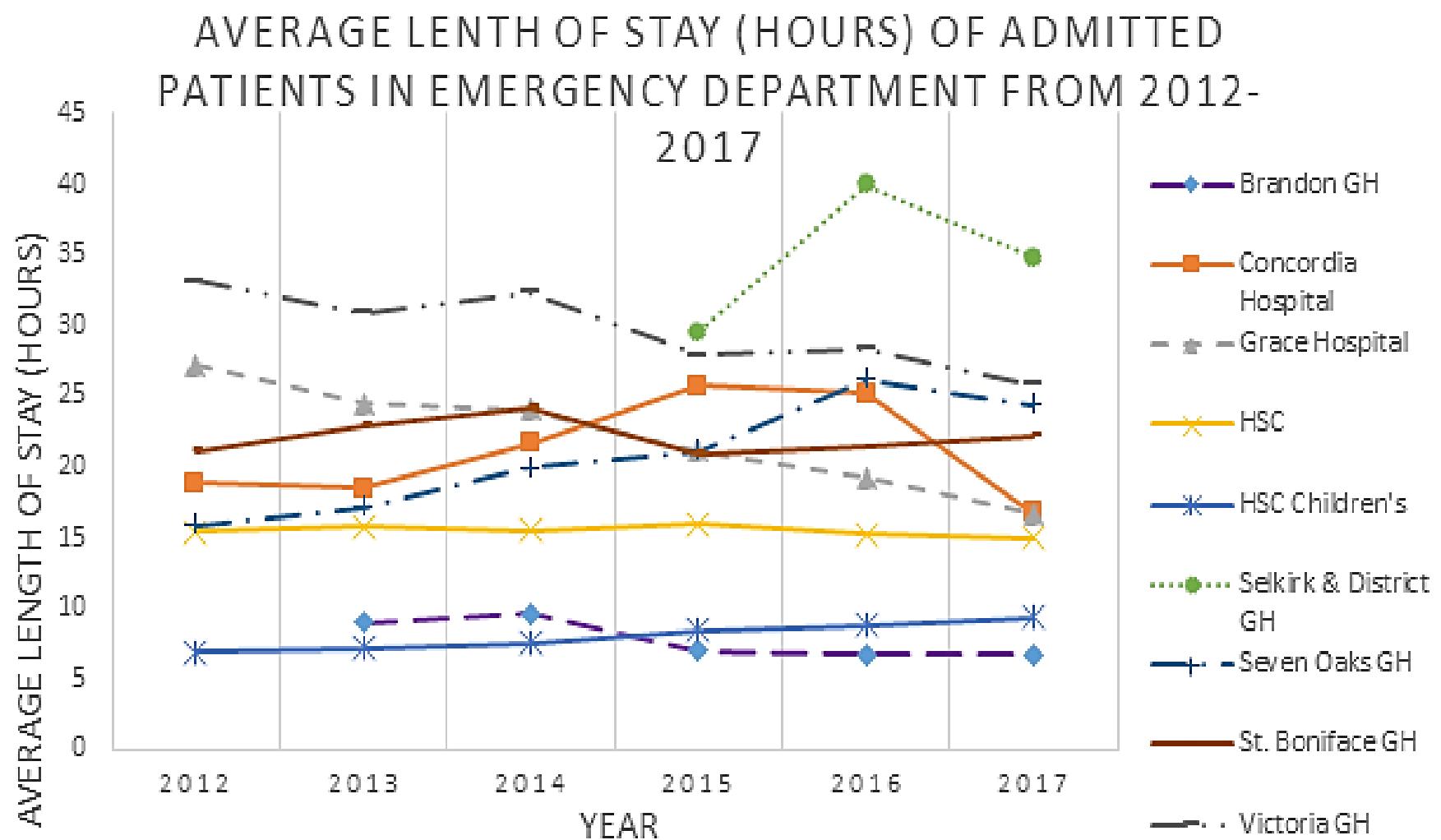
**AVERAGE WAIT TO BE SEEN (HOURS) IN THE EMERGENCY DEPARTMENT
FROM 2012-2017**



*Brandon GH first submitted ED data for the month of December 2013

*Selkirk GH first submitted ED data for the month of April 2015

Graph 4.6: Average Length of Stay of Admitted Patients in EDs from 2012-2017



Several factors contribute to the lower ALOS at this site. The average capacity for Brandon was 94% for 2015-16, meaning it is over-capacity much less often than all WRHA facilities. Brandon has a relatively large bed base, as well as multiple “exit routes” for patients in acute medical beds, thereby reducing bed block and enabling output. While a paneled patient in a WRHA facility would likely remain there until receiving a Personal Care Home (PCH) placement, a paneled patient waiting for a PCH bed at Brandon would likely be transferred to a transitional bed in a smaller rural facility. Prairie Mountain Health has an interim placement policy to place patients in smaller sites where appropriate, designed to preclude lower acuity patients remaining in acute care beds. Brandon also has special patient placement wards, with designated beds for rehab patients, chronic care and palliative care patients. Prairie Mountain Health also has 2000 PCH beds across the region, with 600 of these in the city of Brandon.

There is a lesson in Brandon’s ED metrics, and also hope. When sufficient downstream capacity exists for admitted patients, flow metrics in Manitoba’s EDs can be better than the Canadian average of four hours for wait to be seen and 14.3 hours for admitted patients.

The many issues covered in this chapter have generated multiple recommendations that will be necessary to improve ED access and reduce wait times, while undertaking the process of ED consolidation that the WRHA is about to embark on. The following recommendations have been separated by General, Input, Throughput, Output, Staffing and Training, and Performance Metrics. Further recommendations related specifically to consolidation can be found in Chapter 9.

4.19 RECOMMENDATIONS⁵⁸

4.19.1 General

1. It is recommended that all 24/7 EDs be equipped with a fully functioning EDIS that is integrated as a network with other EDs and EMS.

4.19.2 Input Recommendations

2. **Key Recommendation:** Diversions for Trauma, Burns, Neurosurgery (HSC) and ST Segment Elevation Myocardial Infarction (STEMI) [St. Boniface Hospital (SBH)] should be prohibited. ED physician and nursing staffing levels at SBH and HSC must be sufficient to accommodate “red” tertiary patients, even when the ED is at maximum capacity. This will necessitate baseline staffing well above the mean (50th percentile), and ‘surge staffing’ protocols.

⁵⁸ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

3. That models of intervention be supported in selected medical populations with chronic disease (e.g., IBD, heart failure), to decrease ED presentations for exacerbations of chronic disease. Those with previously diagnosed problems should have systems and processes in place, 24/7, that enable access to the care providers who know them best.
4. All EDs that see greater than 30,000 visits per year should consider establishing RAZ protocols with dedicated space and staff. It is recommended that current RAZ unit function be reviewed, and that “best practice” protocols from effective RAZ units be established and monitored.

4.19.3 Throughput Recommendations

-  5. **Key Recommendation:** Specialty services should not use the ED for access to diagnostics unless a patient requires specific urgent or emergency care in addition to the test(s). All hospitals must establish accessible and timely diagnostic testing options for clinicians inside and outside the hospital to preclude use of the ED for non-urgent or emergent investigations.
-  6. **Key Recommendation:** That consultation guidelines be developed by the WRHA medical executive, with the goal of meeting national benchmarks. Time to initial consult, response times, assignment to appropriate service and admission times should be recorded in EDIS, regularly reported and shared with all programs, as part of a continuous quality improvement initiative.
-  7. **Key Recommendation:** Small EDs that do not have 24/7 lab and large EDs that require specific tests urgently or frequently should use PoC tests for the ED.
-  8. **Key Recommendation:** That nurse-initiated testing protocols be developed in all regions.
- 9. WHRA explore the possibility of housing local stat labs, laboratory medicine staff and phlebotomists in Winnipeg's permanent ED's, using consolidation of personnel and equipment to reduce or eliminate additional costs.
-  10. **Key Recommendation:** That pharmacist staffing within Winnipeg's EDs should be increased, using savings from consolidation to provide 24/7 access to clinical pharmacists.
- 11. That the Emergency Program Quality and Standards Committee work with the University of Manitoba Department of Medicine, Diagnostic Services Manitoba and other national organizations, such as CAEP and Choosing Wisely Canada, to promote education and further study the appropriateness of diagnostics, procedures and therapies in the ED.

4.19.4 Output Recommendations

Note: Refer back to page 72 for additional Output recommendations by CAEP, which the task force considers essential.

- 
- 12. Key Recommendation:** All ED patients who are unable to be safely discharged within 16 hours, including those who do not meet medical admission criteria, must be assigned to an admitting service that can assess their medical and social needs.⁵⁹ CAUs under the care of a Hospitalist should be implemented to facilitate this. Disposition decisions and transfer out of the CAU should take no longer than 36 hours, to ensure forward patient flow in the system.

- 
- 13. Key Recommendation:** Early, multidisciplinary discharge planning.

4.19.5 Staffing and Training Recommendations

- 
- 14. Key Recommendation:** All hospital staff should be educated about their collective responsibility for all patients who come through the ED doors, including those not yet seen, and the impact of flow on the ED waiting room.

- 
- 15. Key Recommendation:** Patient flow principles should be taught in undergraduate and postgraduate training so that doctors, nurses, and other health professionals understand their roles in patient flow, the morbidity and mortality associated with access block, and the patient risk associated with long wait times.

16. All large EDs should consider physician extender roles to increase staffing flexibility and Emergency Physician effectiveness.
17. Large urban EDs should implement a flexible staffing and funding formula that can be used by unit managers to respond to surges when patient demand overwhelms care provider capacity.
18. WRHA should support a uniform “preference-based” scheduling system for all its EDs/UCs.
19. Consideration should be given to using a TLP in Winnipeg as part of a flexible staffing model that can respond to patient volume, acuity, and time of day. (A TLP would rarely be efficient in non-urban EDs.)

⁵⁹ (The Provincial Court of Manitoba, 2015)

4.19.6 Performance Metrics Recommendations

-  20. **Key Recommendation:** Hospitals must be held accountable to predict output and respond to output variations such that no patient in Emergency stays greater than 24 hours and that national standards for flow are met or exceeded.
-  21. **Key Recommendation:** That EDs be funded, to cover predictable and unpredictable fluctuations in demand, such that greater than 80% of the time staffing is adequate to meet demand. Funding should come with clear deliverables related to wait times.
-  22. **Key Recommendation:** That EDs be given incentives for improved performance and that this cost savings be shared with the hospital. Consider a pay-for-performance model for all hospitals that have 24/7 EDs where continuous flow from the “front door and out the back door” is important.
23. Consider blended physician remuneration models that reward throughput efficiency.
24. Develop province-wide physician, NP and PA performance metrics that can be used in any urban ED, acknowledging local adjustments where appropriate. There should be best practices that can be shared across Manitoba. Performance metrics should take into account the time required to look after boarded patients in the ED
25. All ED physicians should have performance appraisals conducted by their Clinical Lead, that assess patients per hour, diagnostic utilization, consultation rates,⁶⁰ consult to admit rates,⁶¹ and unexpected ED returns (at any site) in less than 72 hours.⁶² Outcome metrics (departmental and individual) should be collected quarterly and be fed back to all physicians.

⁶⁰ Consultation rates are useful because 1) high outlier rate may indicate lack of confidence or decision-making 2) increase patient waiting for specialist assessment 3) can falsely increase physician patients per hour metric because following a rapid superficial assessment a consult hand-off is made—many patients per hour are seen but little real care is delivered.

⁶¹ Consult/admit rate is related to the consult rate: Emergency Physicians (EP) most often involve specialists when an admission to hospital is needed (not always, but often). If the rate of consult/admit is higher than the group norm, it may indicate that the EP is deferring decisions to others.

⁶² Unexpected return to the ED in less than 72 hours, sometimes called “bounce-backs” is a quality metric. Some patients are asked to return for a test (e.g. ultrasound the next morning) whereas others develop complications and must return. It is important to review all revisits less than 72 h to determine if it was preventable or unavoidable. A physician with higher than norm returns may have quality of care issues, poor communication, other problems.

5 RURAL AND REMOTE ED ACCESS

5.1 INTRODUCTION

The mandate of this task force is to produce recommendations around reducing wait times and improving access to Emergency Department (ED) services for all Manitobans. However, in a province with such vast differences in geography and population density, both the challenges and potential solutions are highly variable. While ED services in the urban context are fraught with challenges around long wait times to initial assessment, diagnostics and inpatient beds if required, rural challenges are related to availability of clinicians, distance to care, scope of practice, volume-dependent clinical competencies⁶³, especially at smaller sites, and significant distances from diagnostic facilities and specialists. In order to understand these challenges, descriptions of the variety of levels of ED care available in rural and remote (including remote Northern communities) Manitoba are provided below.

Figure 5.1: Hospital Sign



5.2 CHARACTERISTICS OF RURAL AND REMOTE CARE

There are currently 63 facilities that are technically classified as having EDs in rural and northern Manitoba, however 17 of these EDs have long term service suspensions (5 years or more), resulting in effectively 46 EDs in rural and remote regions. For the purpose of this report, Brandon is considered an urban site and included in other relevant chapters and analysis. All other facilities in Interlake Eastern Health Authority (IERHA), Southern Health-Santé Sud (SHSS), Northern Regional Health Authority (NRHA) and Prairie Mountain Health (PMH) are considered rural or remote. ED care in rural and remote Manitoba can vary greatly from the urban context, depending on the community and size of the facility. A number of smaller EDs intermittently suspend operations and divert

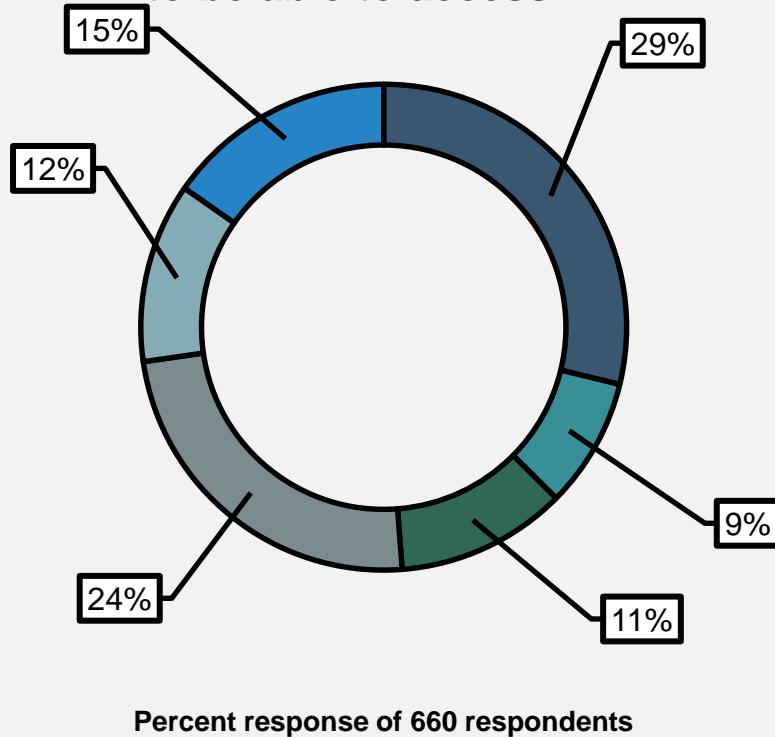
⁶³ Clinical competency is defined as “the ability to integrate and apply the knowledge, skills, judgments and personal attributes required to practice safely and ethically in a designated role and setting.” (Canadian Nurses Association, 2015)

patients due to ongoing challenges with recruitment and retention of medical and nursing staff. Even more than urban EDs, patients in rural and remote facilities were found to arrive at the ED almost entirely undifferentiated (not yet diagnosed)—many coming from miles around to the local ED for nearly every aspect of their healthcare.

Rural and remote facilities of all sizes across Manitoba tend to have a critical lack of options for redirecting stable patients from EDs to more appropriate care sites. Few facilities have specialty outpatient clinics, there are no alternate/offsite diagnostic testing centres in these communities, and Minor Treatment Areas and Rapid Assessment Zones are generally not utilized due to lack of capacity, physical space and patient volumes. There are also unique challenges related to the staffing of local primary care clinics, which are discussed in detail below. In most communities it was reported that catchment areas are very large, with portions of the patient populations tending toward increasing complexity and acuity. With these significant needs, and limits on the availability of skilled providers and sophisticated diagnostics (e.g. Magnetic Resonance Imaging [MRI]), it is clear the current model is not ideal or sustainable.

Figure 5.2: Top Ranked Health Services According to Ability to Access

What health services are most important for you to be able to access?



Percent response of 660 respondents

- Same-day primary care (seeing a family doctor or a nurse practitioner) and access to highly trained emergency medical services (EMS), e.g. ambulance or paramedics, rapidly in the event of an emergency [29%]
- Primary care within 30 minutes driving time and access to highly-trained EMS rapidly in the event of an emergency [9%]
- Access to primary care within a few days, and the ability to access highly-trained emergency medical services rapidly in the event of an emergency [11%]
- Same-day primary care and access to ED care 24 hours a day, seven days a week [24%]
- Access to ED care 24 hours a day, seven days a week [12%]
- Access to highly-trained emergency medical services rapidly in the event of an emergency, but I am comfortable travelling for non-urgent or primary care [15%]

5.3 REGIONAL HUBS

There are currently ten larger EDs in rural and remote Manitoba, which see between 10,000 and 35,000 patients a year and are open with on-site ED physicians 24 hours per day, seven days per week (24/7). These facilities serve as Regional Hubs, providing ED care generally comparable to that available in an urban community ED. Regional Hub EDs can respond to high acuity patients with emergent conditions, but may still lack the resources to deal with certain conditions, necessitating transfer to an urban more specialized centre. These limitations were noted to include competencies in pediatrics, neonatal and critical care, specialist consultation, and lack of sophisticated diagnostic testing.

Table 5.1: Summary of Rural EDs and their Service Type

Region	Facility	Service Type
Prairie Mountain Health	Brandon Hospital	open 24/7
Prairie Mountain Health	Dauphin Hospital	open 24/7
Prairie Mountain Health	Swan River Hospital	open 24/7
Interlake Eastern Health	Selkirk Hospital	open 24/7
Northern Regional Health	The Pas Hospital	open 24/7
Northern Regional Health	Thompson Hospital	open 24/7
Northern Regional Health	Flin Flon Hospital	open 24/7
Southern Health-Santé Sud	Boundary Trails (Winkler)	open 24/7
Southern Health-Santé Sud	Portage La Prairie	open 24/7
Southern Health-Santé Sud	Steinbach Hospital	open 24/7

5.4 SMALL RURAL/REMOTE SITES

There are 53 EDs in rural Manitoba which see fewer than 10,000 visits annually, that are technically classified as having EDs in rural and northern Manitoba, however 17 of these EDs have long term service suspensions (5 years or more), resulting in effectively 46 EDs in rural and remote regions. For the majority of these sites, emergency care is inextricably tied to primary care because it is largely the same staff providing the spectrum of health care services. For example, at many sites the local family physicians are responsible for covering the ED, inpatient ward, dialysis unit, cancer care program and adjacent Personal Care Home, all while retaining their primary care practices at a clinic, often located in the hospital. Maintaining a small rural ED is considered to require, at minimum, four community physicians willing to share the on-call rotation, as well as two nurses, one of which must be a Registered Nurse (RN) or Licensed Practical Nurse (LPN), and diagnostic staff on site or on call. As noted in Chapter 4, reducing input of minor ambulatory visits is not generally considered to be of primary importance in improving ED

wait times for sicker patients. However, in rural and northern Manitoba it is the input (supply) of physicians that directly impacts access for all patients who may be presenting to the ED—including those who are very ill. Even more than urban EDs, patients in rural and remote facilities were found to arrive at the ED almost entirely undifferentiated (not yet diagnosed)—many coming from miles around to the local ED for nearly every aspect of their healthcare.

Conversely, when the same physicians are responsible for both community primary care and the ED, primary care services are often displaced to provide urgent care (UC) in the ED—clinic appointments are cancelled or run late, and clinic hours are cut. This results in patients being forced to visit the ED to receive primary care. These sites reported a frequent “build up” of ED patients waiting on site until the clinic closes. The family physician then goes from the clinic to the ED and continues to work for many hours, sometimes overnight, while being responsible for staffing the clinic the next day. This is clearly not sustainable. Also, it is very difficult to attract and retain nurses and doctors to these demands. It is not a patient-centred arrangement. All “overflow” primary care patients who are forced to use the ED have a Canadian Triage Acuity Scale (CTAS) 1–5 generated, which of course is not done at the Family Doctor’s clinic. This skews CTAS data from the site resulting in more apparent ED visits, but of low acuity. From a reporting perspective and the need to compare performance to other similar sites, the limited basic data such as CTAS is not useful.

Being pulled in so many directions results in physician burn out, increased nursing responsibility to help fill gaps that can impact patient safety, morale, recruitment and retention. In this environment, family physician and nursing vacancies or refusals to provide ED services, directly impacts the ability of rural facilities to provide ED services. Without sufficient staffing, many of these EDs operate with limited hours and services may be shared between multiple sites. These facilities are at continual risk of temporary closure or patient redirections, sometimes without adequate advance notice. Some Regional Hubs noted they find this system of intermittent ED closures has taught the public not to rely on certain sites. As a result, they find many patients from surrounding communities bypass their local ED, even when that site is open, and instead travel to the Regional Hub for emergency care.

What we heard...



“A more efficient, well-staffed facility with access to equipment centrally located for trauma, would be better than having 10 small facilities with inexperienced doctors, nurses, and understaffed.”

— Public Survey Respondent

Small EDs with frequent suspensions or closures, that serve as *de facto* primary care sites, are also limited in their ability to maintain volume dependent physician and nursing competencies. Staff have inconsistently received additional training in critical care, and access to equipment and supports considered essential to meet the emergency needs of critically ill or injured patients—such as portable ventilators and computerized tomography (CT) scan's—are rarely available on-site.

It is the opinion of the Emergency Department Wait Times Reduction Committee (EDWTRC) that it is unreasonable to expect rural residents to have to memorize, post, or look up the open and closing times of the ED when they experience an unexpected health problem that requires urgent attention. By definition, an ED is a 24/7 service.

5.5 ACCESS TO PRIMARY AND LONG-TERM CARE

Although the mandate of this report is ostensibly restricted to ED wait times, access to emergency care and primary care in Manitoba—particularly in rural areas—are inextricably intertwined.

Unsurprisingly, given current staffing numbers and structures, in consultations with the public, facility staff and leadership across Manitoba, it was repeatedly voiced that there is a significant lack of primary care in rural communities of all sizes. Patients reported having to schedule doctors' appointments months in advance; in the meantime, conditions worsen and prescriptions run out. When finally able to see a family physician after waiting for four to eight weeks, they are at times limited to one issue per visit. Patients saw this as another disincentive to seek care for low acuity issues in a clinic setting.

What we heard...



“The regional health authorities are out of control, they pull your primary family physician from seeing their patients to work an emergency department in another community and then they cancel all your appointments and you can't see anyone for weeks and those physicians have been up straight 24 plus hours—how can they give proper care in an emergency.”

— Public Survey Respondent

In many communities their only other option is to visit an ED for non-urgent issues, such as follow ups for ongoing conditions, medication refills and diagnostics. The public often noted that they would visit their local ED, only to access the same family doctor they would otherwise see in their primary care clinic. At times, sites reported that the public seemed to perceive ED care to be superior and sought out that care environment, even though, in many cases the physicians they see in the ED are the same individuals

providing primary care and there were no additional resources available to the physician in the ED.

At one site, consultations revealed that the local clinic physicians had negotiated a salaried contract where there is a patient cap per physician per day, regardless of the time of day these appointments are completed. This meant the clinic had sometimes seen their “quota” of patients by mid-morning, resulting in an influx to the ED through the remainder of the day. This type of salaried, capped-volume agreement is not in the best interests of patients and results in lack of trust in the clinic from the community. Alternative incentive structures for physicians to provide additional services would be a solution to improve care at these sites. A combination of salaried/contract and fee for services (FFS) was seen by many sites to be a potential solution and a “*basket of services*”⁶⁴ approach has been put in place at certain sites with considerable success. However, other sites have encountered challenges reclassifying positions and implementing their desired changes. Requiring clinics to leave a few appointments open daily for urgent visits would improve access and divert patients from the ED.

For many Indigenous patients living on reserves, the care available at both federal and provincial nursing stations was considered inconsistent and unreliable; therefore, they are poorly utilized. Unfortunately, for these patients, the only other option for primary care may be attending the ED when they occasionally have the opportunity to travel to a community with a health care facility. The unscheduled, episodic care inherent in an ED, is not only inconvenient for the patient, who often experiences a long wait, but can result in poorer patient outcomes and turn the ED into an inefficient walk in clinic. An effort to standardize care in nursing stations, through enhanced training and increased use of Telehealth to connect them to hubs, may improve outcomes and reduce the use of EDs as a catch-all service for this population.

What we heard...



“Video conferencing for appointments, this could reduce the need for those wishing to seek medical advice at an ER when a simple three-minute conversation with a doctor over video conference could indicate whether your condition warrants a visit to an urgent care or emergency care clinic or could be solved with some rest at home.”

– Public Survey Respondent

⁶⁴ An agreement with a group of providers to deliver a “basket” of services across the continuum e.g. primary care, emergency services, acute care, clinical oversight in long term care and specialty services such as hemodialysis, cancer care, etc. within a geographic area of which the specific needs may vary depending on the geographic area.

It was also noted by some sites that there is an inherent Catch 22 in redirection processes. Staff perceived that facilities required minimum ED volumes to justify staying open. If CTAS is the only available metric of clinical activity, while timely effective access to primary care is not measured or reported, funding and decisions regarding local EDs will be misrepresented. Local human resource mix, catchment areas, demographics, proximity to larger centres, community priorities and preferences must all be considered when making difficult system-wide decisions when determining the pan-provincial emergency care network.

As with urban EDs, there is a large number of seniors going to EDs with a broad range and mix of acute, chronic, and social problems. Some, possibly many, could be better managed at home with additional supports. These patients often spend considerable time in the ED before being admitted to an inpatient bed. They are then wait-listed, or “panelled” and can further occupy an inpatient bed for many days, weeks, or months waiting for a Personal Care Home bed. With additional supports and other preventative care, staff at some sites suggested that these patients could remain in the community longer and avoid using the ED as a gateway to long-term care.

5.6 STAFFING, RECRUITMENT, AND RETENTION, AND COMPETENCY



What we heard...

“There should be 2 ER [emergency room] docs in a busy regional centre 24/7 to make sure trauma patients and critically ill patients are seen quickly and with two doctors they can stabilize the patients instead of one struggling and then they should be expected to move patients through quickly when there no critically ill patients. Perhaps look at closing smaller ER’s especially within 30-40 min if the doctors in that town agree they can’t provide consistent service and don’t have the diagnostics there? That money could go to the larger regional centres.”

- Practitioner Survey Respondent

In rural and remote Manitoba, large and small facilities alike stated they face significant challenges staffing a variety of positions—physicians, nursing, Emergency Medical Services (EMS) personnel (paramedics) and diagnostic technologists.

Success in recruitment and retention of physicians to provide both primary care and ED services is highly variable across regions. Some facilities were close enough to Winnipeg to be staffed predominantly by physicians living in the city. This arrangement brings its own challenges: distance to the facility means on call ability is limited, and ties to the community were seen by members of the public to be reduced. However, it can ensure

sufficient physician coverage for facilities within a certain commute of Winnipeg. For example, of the approximately 40 physicians providing primary care to a cluster of communities in one region, 36 also work in the ED. In this case, with robust staffing volumes and significant financial incentives for covering the ED, it has not been a challenge recruiting physicians to the ED. However, this situation is rare. The majority of communities in rural and remote Manitoba outside a certain commute radius to Winnipeg, have had great difficulty recruiting permanent physicians in recent years.

Rural and remote communities with physician recruitment issues instead rely largely on International Medical Graduates (IMGs), locums, agency staff and new graduates. These various staffing solutions all come with a host of additional challenges, primarily high turnover, lack of specific training for the care to be provided, and added system cost to pay incentives and travel expenses. It is not sustainable.



What we heard...

“We get new doctors up here that only want to spend six months to learn and leave us. They don’t care about the people they serve. They are not invested in our community at all.”

– Public Survey Respondent

IMGs are generally (but not exclusively) general practitioners trained outside Canada, who sign a return of service agreement and remain in the community for two to four years. These physicians frequently face cultural differences and family challenges, including lack of housing, childcare and employment opportunities for spouses, which can limit their ability to integrate more fully into the community. One site also noted the frustration IMGs feel when they spend large amounts of time on the phone with referral sites, trying to get someone to take a very sick patient. In these situations, communication skills and lack of familiarity with “the system” can be limiting factors. In addition, it was noted that IMG contracts reward the physicians primarily for working in the clinic, rather than the ED. Balancing ED coverage with clinic work results in a taxing schedule that was cited as an impediment to professional satisfaction. While they understood why, the public expressed frustration at IMGs predictably moving on after the contract, often to large urban centres, or out of province.

A recent study of Manitoba’s IMG retention over 10 years found that long-term retention remains a concern, and recommended looking more closely at certain strategies.⁶⁵ This included requiring physicians trained abroad to live in Manitoba when they apply to the

⁶⁵ (Mowat, Reslerova, & Sisler, 2017)

IMG program, and a greater focus on mentorship programs that encourage community integration.⁶⁶

Locums are generally urban-based physicians who will temporarily fill positions at rural sites. Locums have a minimal long-term stake in the community, will not be there to follow health outcomes, and lack critical local knowledge about systems and individuals. There is no continuity of care over weeks and months, which staff noted can impact patient care, resulting, for example, in giving inappropriate prescriptions to patients with histories of substance abuse.

Agency nurses are analogous to physician locums and can fill scheduling gaps. Many sites noted they were attempting to reduce their reliance on agency staff, instead prioritizing casual staff or overtime, due to the aforementioned issues regarding lack of local knowledge and continuity of care. There are certain sites where no first sick call is currently being replaced, due to financial sustainability efforts and occupancy rates. Staff flagged that this will lead to burn out, decrease access, impact patient safety and lead to issues with morale and recruitment. In larger facilities, staff noted that while nurses from other units may help cover the ED, they are not familiar with the space or processes, and are generally less effective.

Physician efficiency overall varies greatly from site to site, particularly with new graduates, locums and IMGs coming into a rural setting for which they may not be prepared. It is generally accepted in Emergency Medicine that it takes five years or more of practice to become maximally efficient. The inexperience of a rotating cadre of new physicians can thus directly affect throughput.

Many sites noted it was largely new graduates who responded to rural vacancies for physicians and nurses. These young professionals are often seeking to gain employment out of school and initial experience, before quickly moving onto more robust facilities or larger centers. Some new graduates may be resistant to providing ED coverage, as they may not have the capacity or experience to respond appropriately to the infrequent high acuity patient, and feel they are being exposed to professional risk. Nursing and physician training programs are almost always located in urban tertiary centres, with minimal to no exposure to rural practice. Many of these young professionals go from working with a large inter-professional team and significant specialized support, to working with a very small team and minimal broader support system, sometimes unsure about the decisions they are making about critical patients. Implementing additional supports for physicians and nurses at smaller sites through Provincial Emergency Consultation Service (PECS) detailed in Chapter 8: Emergency Medical Services and Transportation, may improve the confidence of staff and care of patients.

At most smaller sites it was felt that the majority of the lower-acuity work being done in the ED underutilizes skill sets, leading to patient safety risks and professional

⁶⁶ (Mowat, Reslerova, & Sisler, 2017)

dissatisfaction when unstable patients do show up. More than one site also noted the volume of paperwork now required at triage was felt unreasonable, given the consistent understaffing and numerous responsibilities being faced by many sites. Staff presumed information gathering was important for accreditation efforts and standardization, but raised concerns that the volume of these types of tasks can conflict with care responsibilities.

In contrast, in some of the most remote sites it was noted that the EDs operated in conditions reminiscent of a MASH unit [Mobile Army Surgical Hospital], given the minimal supports available compared to urban sites. They suggested they could use the most experienced staff in the region, rather than the least. Given that the undifferentiated, acute patient population presenting to rural and remote EDs would be best served by a multidisciplinary team of Emergency providers with specific training and volume-driven maintenance of competency, and that such support cannot physically be provided at all sites, virtual access to emergency specialty consultation is essential. This is a potent argument for PECS, as discussed further in Chapter 8: Emergency Medical Services and Transportation.

While strategies for physician retention in rural and remote areas have focused on financial compensation and return of service agreements, there is evidence that these are two less effective measures in the long term.⁶⁷ It has been demonstrated that health care providers who were raised in or spend practicum/residency in rural communities are much more likely to return when they graduate, and to stay beyond a few initial years.⁶⁸ Other incentives included increased supports for physicians and their families, facility infrastructure and team-based approaches with other rural generalists.⁶⁹ Many individual communities and facilities are working hard to open up opportunities for placements in rural settings; however, more could be done to encourage this. For example, some sites planned to work more closely with local high schools, to expose young adults to the employment possibilities that exist in health care, and thereby increase the number of rural youth who train for these positions.

Figure 5.3: Sign on Rural ED Door During Unplanned Closure



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⁶⁷ (Bosco & Oandasan, 2016)

⁶⁸ (Visconti, Larkins, & Sen Gupta, 2013)

⁶⁹ (Bosco & Oandasan, 2016)

⁷⁰ (CBC News, 2014)

These issues are exacerbated by trends echoed in every corner of the province regarding changing demands for work-life balance. New graduates, including physicians, are generally not as willing as previous generations to settle down early and make themselves available 24/7 to a local population for the remainder of their career. It was consistently noted in consultations that it takes two to three new hires to replace retiring local family physicians. In small communities it was noted that if the ED is closed and the physicians are seen around town, people will approach and ask them why they are not at the hospital, or call them at home and visit for care. Some clinicians noted that it can be hard to say “no” to a small town neighbour, but incessant demand for physician services in rural settings increases burnout and deters young physicians from choosing small towns.

Overall, rural communities consistently expressed a devotion to securing a physician—any physician—above all else. This attitude is pervasive, and is the same Canada-wide. The problem is that ALL provinces are recruiting for primary care providers. A new doctor moving to a community may be a win for them, but a loss for another. While demand far exceeds supply, it is clear that different care models, team mixes and technology is needed.

Small communities that have been successful in securing a group of physicians with a long term interest in and commitment to the community are fortunate indeed. However, this is the exception rather than the rule and may be a tenuous relationship. Most others live in fear of what the loss of physicians will do to their communities and to their health, but are tied to relatively expensive and ineffective traditional models that have not worked in their interest for many years. However, when alternatives to the status quo were explained during rural consultations, most individuals at the consultations were interested in exploring options.

With a smaller staff cohort and physical footprint, lack of surge capacity was a major concern at rural EDs. Only two nurses cover the ED, inpatient ward and Personal Care Home (PCH) overnight, so an acute patient can overwhelm the already stretched staff. As noted in Chapter 4, having the ability to compensate for variance is important to ensuring ED flow—however some small rural EDs have minimal to no ability to respond to surges in patient arrivals, particularly when physicians and nursing staff do not live in the community and EMS may be an hour away, or more. Lack of electronic health records and Emergency Department Information System (EDIS) make data capture and analysis difficult. Requests to Regional Health Authorities (RHA) for improved staff funding to better match demand with qualified providers are more difficult to justify in the absence of data.

5.7 DIAGNOSTICS, SPECIALISTS AND OUTPATIENT CARE IN THE EMERGENCY DEPARTMENT

In many facilities in rural and remote Manitoba there are few or no specialists on site. Complex cases are often referred to Winnipeg or Brandon for care and transported via

ground or air ambulance. This takes significant time and resources to arrange, is incredibly expensive, and generates long waits and interruptions for other patients. EDs are generally required to have diagnostic staff on call, however many sites lack reliable access to after-hours diagnostic testing or the specialists required to interpret the results, leaving sites unable to meet time sensitive protocols. There was hesitation at most sites to call in lab technicians and radiologists after hours. This was based on a variety of factors, depending on the facility—past responsiveness, cost to the region, how overworked their colleagues consider them to be, inclement weather and distance to the hospital. Some facilities will board patients in the ED over entire weekends rather than push for specialists or diagnostic technologists to come in, occupying a much needed bed and delaying the treatment plan.

The underlying problem of course is the expression “after-hours.” Human illness is a 24/7 possibility. The ED MUST be available 24/7 because of that. However, many other parts of the healthcare system work usual “business hours.” If that is 9:00am to 5:00pm, then 128 of the 168 hours per week are not being serviced by the people and technology that an ED needs to function.

Access to diagnostics and consultation is even more challenging for remote Indigenous communities. Out-of-service diagnostic imaging (DI) equipment not being replaced; a lack of secure connections for remote physicians to consult with specialists in urban areas; a lack of cross-training for nursing station staff on DI equipment, and insufficient staff given volumes were among the chief complaints. When equipment is absent or out of service, transport to Winnipeg is required for non-acute conditions such as sprains or viral respiratory infections, with associated costs that quickly surpass the financial investment of maintaining and replacing DI equipment. Access to these services, like specialist consultations, could be improved with more easily accessible on-call specialists, and telemedicine options. It would likely significantly reduce the number of inter-facility transfers while improving patient satisfaction and producer confidence and morale.

In Regional Hubs, there continue to be challenges with recruitment and retention of existing specialists, relative to the demand from outlying areas. At the same time, there are also problems related to the number of non-emergency (e.g. surgical or endoscopic) procedures performed by specialists in the ED. The elective (pre-booked) procedures use limited ED space, staff and ED supplies from limited budgets. Many are “legacy practices” that have persisted for years even if they are not consistent with the role of a modern ED. However, some sites fear that specialists will move elsewhere if they are refused. Outside of Regional Hubs it was also noted that some ED physicians choose to perform non-emergency procedures in the ED, as opposed to scheduling them during clinic hours. In these sites the situation is complicated, in that the ED physician is likely also the Family Physician who manages the clinic. The “fine line” of what is acceptable, what works best for a community therefore needs to be defined by each site—collaboratively. “one size fits all” rules are inappropriate for rural and remote sites. Best practices however should be widely shared.

In rural and remote sites of all sizes, specific types of outpatient care are delivered through the ED. They include intravenous (IV) therapy, cast clinics, dressing changes, stress testing and Telehealth appointments, among other services. With no additional resources allocated for these services, emergency patients often wait for many hours, while ED beds and staff are utilized for non-emergent care. In one community, where a Monday to Friday ambulatory care clinic is in place, it was anticipated that, if that service were to cease, volumes at the ED would go up by 10,000 annually. While the outpatient clinic was seen as integral, it is, in fact, staffed by the ED physician and disrupts access for patients presenting to the ED requiring emergency care. Implementing outpatient clinics in proximity to the ED with separate, designated staff to provide IV therapy and other services would alleviate this problem in a number of communities. Payment schemes and incentives also influence practices and behaviours that may not be in the best interest of the majority. Innovative funding for physicians, nurses and other health professions needs to be considered.

When it comes to allied health services, while Monday to Friday coverage may be insufficient for urban EDs and Regional Hubs, most rural and remote facilities rarely have access more than once a week. Physiotherapy and Occupational Therapy staff are often shared amongst numerous facilities, with staff travelling large distances between sites for consultations. This lack of frequency and flexibility in treatment was identified as a barrier to discharge, optimal patient outcomes and especially to repatriation. In addition, a lack of Social Work staff means clinicians spend significant time working out of scope and navigating services, particularly in remote communities with multiple jurisdictions involved in care, housing and transport. This poses additional barriers to timely discharge and can impact patient waits in the ED.

5.8 GEOGRAPHY, REPATRIATION AND ROLE OF PARAMEDICS

Lack of specialists and limited critical care competencies lead to numerous, sometimes unnecessary transfers, by ground and air. Patients are often transferred to Regional Hubs by referring physicians who are unsure about their ability to manage the situation. This can also be a function of the accepting physicians' concerns about liability, when they are unfamiliar with the acute care assessment skills of family physicians or nurses at nursing stations. Some larger sites have instituted more consistent consultation relationships with staff in outlying facilities; however, it is still the ED physician who must take the call and spend time managing the situation—removing them from the patients at their own facility and impacting flow. Some physicians are comfortable helping to manage patients they cannot see and examine over the phone, many are not.

Nearly every site discussed the potential benefits of a provincial on-call consultation service (PECS). Implementing PECS would allow rural sites to confer with dedicated emergency specialists in Winnipeg, ideally resulting in less time and fewer resources expended and more conditions managed safely at smaller sites. PECS can be a “win” for remote patients, their care providers, EMS who can be more available for emergency

calls and other community roles, and patients at already busy referral hospitals. These efficiencies would lead to shorter waits in busy EDs.

In a province as vast as Manitoba, distance clearly is an important factor in structuring health care services and considering access. In consultations, nearly every facility and health care provider noted the challenge they face with IFT's and the role of paramedics. In rural Manitoba there is no existing alternative to an ambulance for transporting even the most stable of patients who needs to be lying down. When a facility lacks a necessary service, or a patient is to be returned to their home RHA, it falls to the rural EMS to transport them between facilities. Paramedics can spend the majority of their day driving for hours, sometimes utilizing the only ambulance available to a geographic area. This was seen as inefficient and expensive, impairing emergency services and a disincentive to recruit and retain rural paramedics as it underutilizes their skills and reduces job satisfaction. Manitoba must explore alternative options, other than EMS, to transport stable patients between facilities, to clinics or home.

Many staff noted limitations related to RHA boundaries and regional policies regarding transportation. EMS protocol is to send to the closest facility, but this can result in transporting patients in one direction to the closest facility to be stabilized, only to head back in the direction they came from to a Regional Hub or urban ED for more specialized care. Implementing a province-wide EMS system that transcends regional boundaries, stabilizes patients en route and goes directly to the most appropriate center, was cited as a potential solution to avoid inefficient inter-facility transfers and shorten overall wait times. Specific policies related to stroke care, for example, are already in place, allowing EMS to by-pass the closest facility and transport patients to more appropriate care. Further discussion and recommendations on EMS services can be found in Chapter 8: Emergency Medical Services and Transportation. Note that the EMS chapter has been mentioned multiple times and highlights that rural/remote emergency care and EMS are interdependent.

STARS helicopter service was generally seen as beneficial, in particular by providing educational resources to regions and bridging certain gaps in knowledge. However, there are issues with refueling distances, impact of inclement weather, and with only one unit at their disposal, many sites felt it was rarely available to them for use.

Rural and remote Indigenous communities feel the challenges around access to emergency care most acutely. There is enormous demand, and an overwhelming lack of consistency and resources in the care available to Indigenous populations close to their home communities. Rural and urban Indigenous residents, both on-reserve and off, were noted to be less likely to be attached to consistent primary care. The combined effect is an enormous volume of patient transports, at great cost to the patient, their family and the system. Each air medevac is estimated to cost between \$5,000–\$15,000.



What we heard...

“There are also thousands of dollars spent on these medevacs for people that don’t necessarily need them but don’t have the proper blood test to rule out (Myocardial infarction) etc. There is only one CT scan...in Thompson. People are flown every day to access services in the south that could be saved for residents of Winnipeg and reduce the wait times.”

– Practitioner Survey Respondent.

It was noted by many clinicians and leadership that many transfers are challenging to coordinate, potentially unnecessary, and avoidable if there was a more robust emergency consultation system such as PECS for nursing stations to contact if there is any question about a patient’s acuity. Thompson ED physicians are currently operating as an on-call resource for outlying nursing stations when they have questions about the next steps in a patient’s care and/or are requesting a medevac. However, the Thompson ED is often staffed by visiting physicians who have limited experience with remote calls and may not be comfortable providing remote advice. Their default is to recommend an expensive and sometimes unnecessary medevac.

When patients can be managed remotely with assistance from Thompson, it has reduced the volume of transports coming into Thompson, however with each call the physician is taken off the ED floor and the care of patients who have presented in person is delayed. Formalizing the consulting relationship between sites and providing dedicated staff at the site receiving consult requests would improve access to care for these communities.



What we heard...

“When ED cannot be fully staffed by physicians, have an on-call contact that nursing staff can call to access necessary services as they do for northern nursing stations. This way the ED will not have to be “closed” and nursing will be able to provide appropriate, if limited, care.”

– Practitioner Survey Respondent.

The comment above may in some cases be a solution. However, there are many nurses who prefer to work *with* physicians and not instead of them. Many nurses said it “is not what I signed up for” or “I am not comfortable with that role.” Staffing problems, patient

care expectations, and administrator decisions may result in nurses having to practice outside their scopes of training and comfort. That is not sustainable or safe—for them or patients.

Ongomiizwin, the Indigenous Institute of Health and Healing out of the Rady Faculty of Health Sciences including the former J.A. Hildes Medical Unit, serves to provide medical care to remote fly-in Indigenous reserves. In consulting with this group, they noted experiencing the same tension as they must respond when the calls come in. However, prioritizing incoming requests and responding promptly, coordinating services among various RHA facilities and federal services, was nearly impossible in the current system. For these populations and clinicians, wait times begin from when the patient presents at the nursing station, and ends only when they have been transported to the appropriate care setting.

In consultations, the call for a more consistent, supportive patient transfer system that takes into account the overlap and gaps in service to remote First Nations, was considered fundamental to improving access to emergency care and appropriate use of EDs in Manitoba.



What we heard...

“We have to travel eight hours to get real medical care. And in that time we lose days from work we lose pay, we lose time with our family. It’s like you expect people that live in the north not to get sick.”

– *Northern Public Survey Respondent*

Physicians serving rural and remote Indigenous communities noted that the best way to reduce wait times is to eliminate the excessive time spent finding a receiving site for these patients. When patient transport to an ED is required, physicians must themselves secure a bed, while simultaneously arranging transport for the patient in conjunction with ensuring the patient is stabilized and ready for travel. Remote physicians noted that they may spend hours on the phone calling around to find an ED that will accept their patient. These physicians stated that the implementation of a system that will find a bed in an ED so they can avoid this arduous process would allow them to spend their time caring for patients and stabilizing patients needing transport. Identifying an available receiving site, receiving physician/clinician, and arranging transportation are purely administrative roles and should NOT be the responsibility of clinicians whose time should be focused on patient care only.

5.9 DISCHARGE AND REPATRIATION

Lack of available beds is an output issue found in many rural hospitals. The few inpatient beds available are often filled with patients waiting long-term and community care, or waiting transfer back to their home community across the RHA. This impedes the access of admitted patients from the ED, and new patients in the ED waiting room. Some of those discharges are complicated by the access to rehabilitation supports or lack of necessary services closer to their homes. There is often minimal to no home care available due to staffing and geography challenges, or a single PCH in the area (often attached or close to the ED) which has a long waiting list and very low turnover. Long-term care patients end up in acute care hospital beds, which is not the appropriate environment for the care required. Options include transferring patients to transitional facilities, or a PCH within the region that may not be their first choice. All rural regions reported challenges from family when those efforts are attempted, although there is generally satisfaction in care received following such transfers. In the WRHA, once a patient is paneled (wait listed) for PCH they are required to go to the first available nursing home until their first choice is available; if a family refuses, they are charged a daily fee. It is unclear whether there are similar policies in place in rural regions.

Some patients remain in hospital because they cannot drive, but are otherwise healthy. If they live far from health care services and require regular access for a chronic condition, lack of transportation may impede discharge home. Some sites also cited a lack of understanding among Winnipeg physicians and nurses on the supports and services that exist outside the city and the barriers rural facilities face in repatriating. The previously noted lack of allied health support impacts repatriation efforts. For many post-op patients in recovery, rehabilitation supports are crucial if their condition is to improve to the point they can be discharged. When there is minimal to no rehabilitation resources available a patient cannot be repatriated to a facility closer to their home community.

At Regional Hubs, it was noted that ED staff need to spend time and effort convincing wards to admit patients. In small sites, minimal staff responsible for both the inpatient ward and ED limits a facility's surge capacity. In recent years there has been a push to put in place a provincial process to encourage timely and appropriate repatriation; however, in consultations this issue remains top of mind for clinicians and the public, and requires continued attention.

5.10 SMALL RURAL/REMOTE EDs vs UCs – DEFINITIONS

The many challenges described above conspire to undermine rural emergency health care and lead us to ask—are these smaller sites truly EDs? Or should some be formally re-defined, based on their limited capacity to safely and consistently deliver care to patients who are seriously ill or injured?

As noted in the Chapter 3, CAEP defines emergency medicine as "...a field of medical practice comprised of a unique set of competencies required for the timely evaluation,

diagnosis, treatment and disposition of all patients with injury, illness and/or behavioural disorders requiring expeditious care.”⁷¹ A key defining factor in emergency care is the presence of clinical competencies and resources to provide this level of care. UC is the provision of immediate medical service offering non-scheduled outpatient care for the treatment of non-life threatening but acute and chronic illness and injury, which would be triaged in an ED as lower acuity (some CTAS 3, most 4 and all 5). UC should not be accessed in place of primary care. Although there is overlap in the type of care provided, Urgent Care Centres can often do some limited diagnostic testing (lab, imaging) and perform select procedures which is different than more fundamental Family Medicine and chronic care. The most notable difference between Urgent Care Centres and EDs, is the EDs are best staffed and equipped to manage critically ill patients. Based on these definitions, there may be alternate ways to consider and structure access to emergency care at smaller sites that already experience frequent closures, to ensure a given level of services are standardized and consistently available.

5.11 POTENTIAL FUTURE STATE AND STAFFING MODELS

Certainly, new solutions around recruitment and retention are necessary, but so is a different look at what rural communities need in order to improve access to care. Do we continue to search for ways to staff up small EDs in every existing community facility or should we consider providing robust ED care at Regional Hubs and re-classifying small sites? The hubs would be staffed adequately 24/7 with physicians, nurses and other allied health professionals, and have adequate volumes to maintain volume-dependent competencies. The smaller sites could employ an alternate staffing and HR funding models, focusing on reliable access to primary care and utilizing remote access to specialists and diagnostics through technological solutions such as telephone calls, Telehealth or secure video chats. Further information and recommendations on these models can be found in this report’s discussions on EMS.

What we heard...



“Several EDs in rural Manitoba have closed or are closed on a regular basis, which results in EMS to have long transport times and minimal resources to aid in the event of an emergency. We need walk in clinics in rural Manitoba to allow patients to go to, avoiding the need of an ED.”

– Public Survey Respondent

⁷¹ (Canadian Institute for Health Information, 2017)

There are a number of alternatives to the traditional model of a physician staffed 24/7 ED. The Canadian Medical Association (CMA) recommends advancing collective care models including nurse practitioners and physician assistants.⁷² For example, few sites utilize Nurse Practitioners (NP) or Physician Assistants (PA). Theoretically a smaller facility could transition to an Urgent Care Centre, where NPs or PAs work with the on-site nurses, paramedics and perhaps a Telehealth physician consultation service to triage, stabilize and transfer any high-acuity in-person presentations. The majority of current care would be maintained with more appropriate and consistent staff and patient understanding of what is available. Limiting factors include a shortage of NP's and PA's in Manitoba and challenges recruiting NP's to rural communities.



What we heard...

"If you ensure EDs are open 24-7—it would be good to staff them with care providers who are current on ED techniques/recent expertise and continually learning. It doesn't bother me if I don't see a physician - as long as I see someone who can address my care needs appropriately at the time."

— Public Survey Respondent

5.12 WHAT IS A COLLABORATIVE EMERGENCY CENTRE?

In 2011, the first Collaborative Emergency Centre (CEC) opened in Nova Scotia. It was the result of recommendations from a review of emergency care in the province.⁷³ Long standing problems with poor access to primary care (up to seven week waits in some locations) and frequent rural Emergency Department (ED) closures due to staffing problems led to the unique solution. Over 18 months, a total of eight rural, EDs were converted to CECs and are still functioning. The CEC model has also been used successfully in rural Saskatchewan.

Traditionally, Family Physicians who were expected to provide primary care during the day were also on-call for the local ED during the day and night. Night call often meant that they did not offer clinic services the following day. However it was noted that there were very few night visits at small EDs.

The local health professionals were reorganized to: 1) improve access to primary care; 2) reduce ED closures; 3) improve patient satisfaction; and 4) improve provider satisfaction

⁷² (Bosco & Oandasan, 2016)

⁷³ (Ross, 2010)

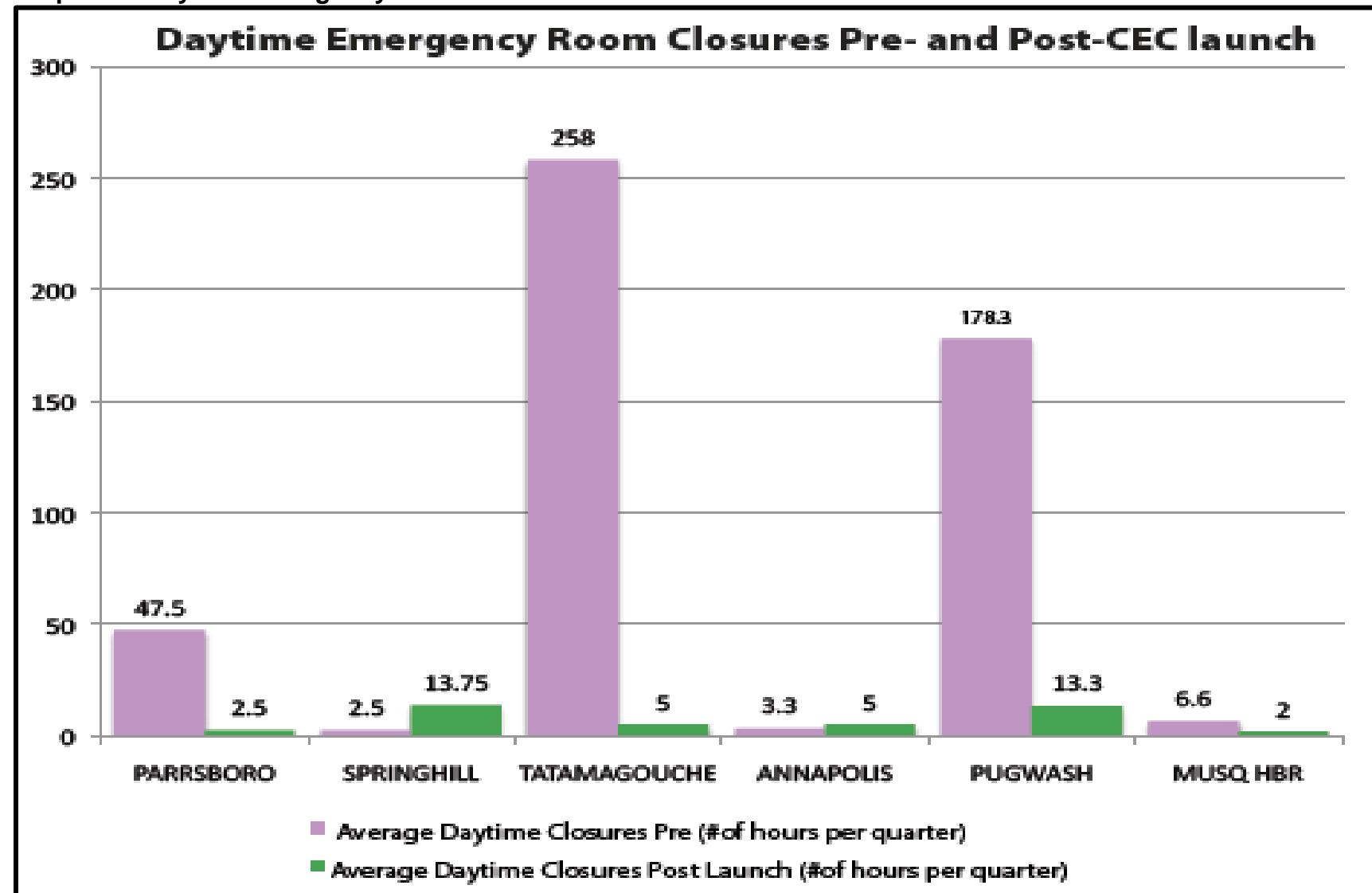
(in some cases doctors on their day off felt harassed by residents if the ED was closed). During the day more hours of primary care are provided, including evenings and weekends. Unexpected urgent and emergent patients, brought by relatives or friends, are seen in the small hospital. EMS CTAS 1, 2, and most 3 level patients bypass the CEC and are taken to the regional ED. When each CEC opened, the designation of "Emergency Department" was removed. The scope of on-site assessment and care was limited and ambulance bypass protocols were used.

The waits for primary and chronic care went from weeks to same day/next day. Unscheduled ED visits for low acuity problems decreased. Between 8:00 p.m. and the following 8:00 a.m., the Family Doctor clinic is closed. A paramedic (either Primary Care Paramedic or Advanced Care Paramedic depending on community resources) teams up with a nurse and an on-line (via telephone) Emergency Physician (EP). The EP is a member of a select group who rotate the on-call responsibility and have become expert at helping to assess patients as a collaborative team with the on-site medic and nurse. A paramedic/nurse model was selected because each brings a different perspective and skill set to the patient's bedside.

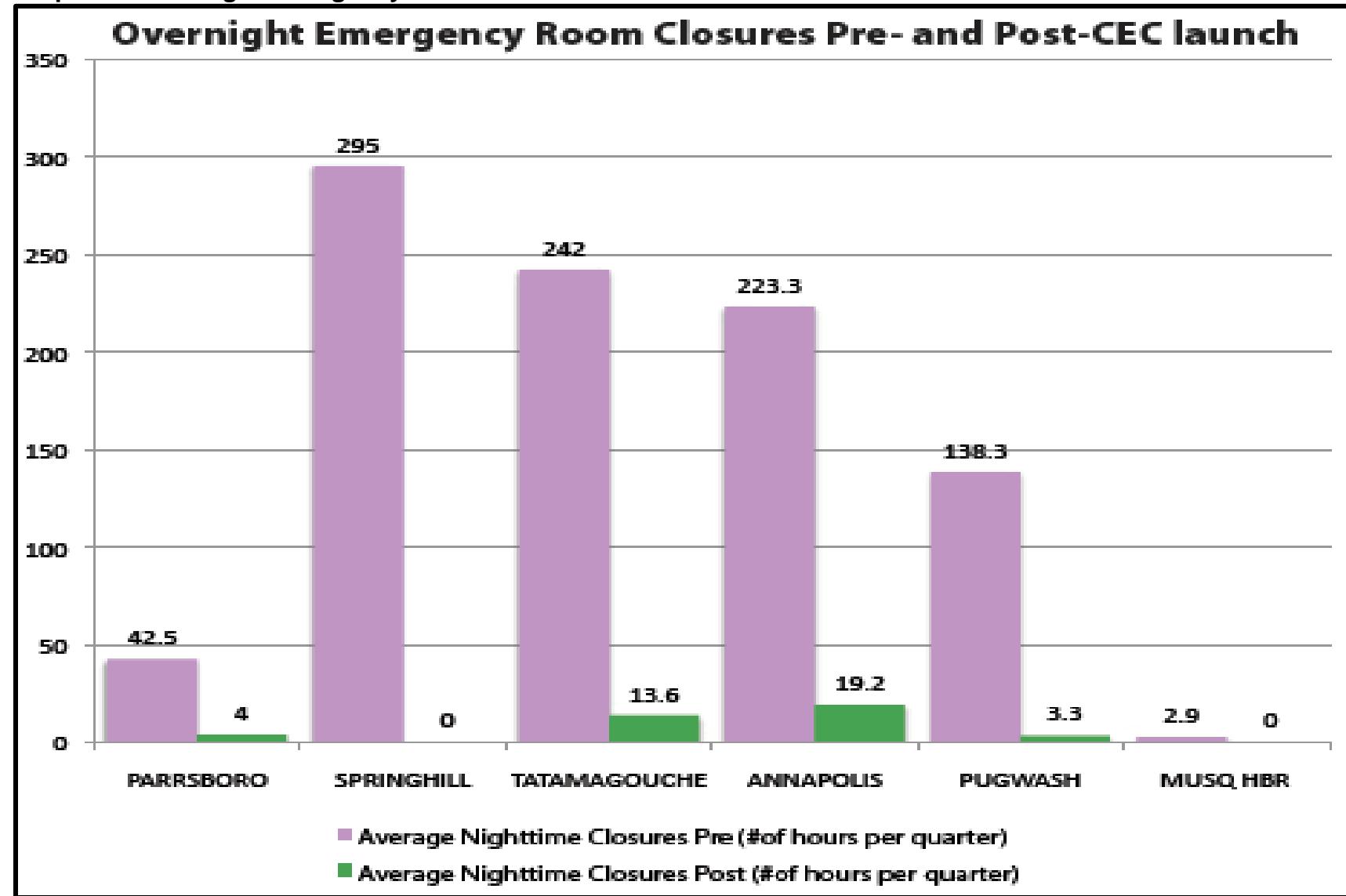
In 2014 a review was conducted to evaluate the CEC effectiveness.⁷⁴ The reduction in unplanned ED closures and improvement in primary care access was profound. The following two figures show pre- and post-CEC ED closure hours per three months during the day and during the night. The green bars show the number of closures after CECs were implemented—very few.

⁷⁴ (Government of Nova Scotia, 2014)

Graph 5.1: Daytime Emergency Room Closure Pre- and Post- CEC Launch



Graph 5.2: Overnight Emergency Room Closure Pre- and Post- CEC Launch



In the review of CECs, all were performing similarly.⁷⁵ Patients who are assessed in the CEC between 8 pm and 8 am by the paramedic, nurse, and on-line doctor had three general outcomes:

- 30% were treated on site and provided advice regarding further self-care
- 54% were treated and follow-up was arranged for the next or following day
- 16% were transferred by EMS to a regional hospital for further evaluation

Summary: CECs have leveraged local human resources to provide better access to fundamental continuity in primary care, while providing access to essential urgent and emergent care at the local hospital and using the EMS network of well-trained paramedics to bring the sickest patients to the regional ED.

In consultation in Manitoba, some smaller facilities noted the possibilities of maintaining a small ED during the day, in addition to a primary care clinic. This could be an iteration of the CEC model, where an on-site paramedic and nurse would staff the ED overnight, booking into the clinic the next day with a small percentage of ED patients transported to regional hospitals for immediate service.

Some smaller facilities noted the possibilities of maintaining a small ED during the day, in addition to a primary care clinic. An on-site paramedic and nurse would staff the ED overnight, booking into the clinic the next day with a small percentage of ED patients transported to regional hospitals for immediate service.

What we heard...



“In very small hospitals with Emergency Departments being run by family physicians who also hold clinics during the day, it is necessary to staff hospital with, for example, nurse practitioners, Doctors office assistants, as well as fully trained EMS who can administer treatments in order to have the physicians at home resting so that they can provide better care and see more non-emergent patients during the day to prevent ER visits.”

– Practitioner Survey Respondent

A 2014 review of CECs in Nova Scotia found that the public and practitioners surveyed overwhelming felt the model improved access to primary health care, with reliable and extended hours.⁷⁶ CEC providers also noted that the model would make recruitment of

⁷⁵ (Government of Nova Scotia, 2014)

⁷⁶ (Government of Nova Scotia, 2014)

practitioners to the community easier, with a collaborative work environment and better work life balance made possible by the funding and clinical model.⁷⁷ The model was also found to improve access to high-quality emergency care appropriate for the needs of the community, with all participating communities seeing a 90-100% reduction in the number of hours of unplanned overnight closures.⁷⁸ Evidence around CECs has shown improved outcomes for certain chronic diseases, however overall more evidence is needed to demonstrate the effectiveness and value of this model.

5.13 RECOMMENDATIONS⁷⁹

Note: See Chapter 8: Emergency Medical Services and Transportation for additional recommendations impacting rural and remote emergency care.

-  1. **Key Recommendation:** Establish a definition, with criteria, for EDs, encompassing 24/7 access to a physician with necessary (volume-driven) competencies in order provide a high standard of practice in response to high acuity conditions. The absence of these would suggest that a site should be reclassified as a health centre or urgent care centre with an alternate model of staffing, such as a CEC. This analysis should be conducted on a site by site basis across province, and be communicated to the public accordingly. Cost reallocation to occur at sites where reclassification results in changes to costs to maintain services.
-  2. **Key Recommendation:** Implement the CEC model in Rural Manitoba, with an on-site paramedic and nurse to provide overnight staffing, and booking into the clinic the next day, with a small percentage of ED patients transported to regional hospitals for immediate service.
-  3. **Key Recommendation:** Innovate on and enhance use of technology, including videoconferencing, phone contact, PECS and telehealth to access consultations with Emergency Physician specialists, other specialists and follow ups. Leverage the resources in larger centres and avoid costly transport and in person visits with associated long waits. This applies to all rural/remote sites in Manitoba

⁷⁷ (Government of Nova Scotia, 2014)

⁷⁸ (Government of Nova Scotia, 2014)

⁷⁹ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

-  4. **Key Recommendation:** A more consistent, supportive patient transfer system that takes into account the overlap and gaps in service to remote First Nations. Create a system, such as a dedicated phone line connected to a bed coordinator, to manage the process of finding an available bed, receiving care provider, and arrange transport. Physicians should focus on what they are trained to do: assess, stabilize patients and when needed, refer to larger centres and prepare for safe transport.
-  5. **Key Recommendation:** Invest in basic diagnostic equipment at remote sites, such as X-rays, PoC, ultrasound, and lab equipment, with quality control and cross-training to allow general staff to utilize it. Ensure it is maintained and operated by trained staff. Funding may be redirected from savings from avoided trips to larger centres.
-  6. **Key Recommendation:**
 - a) Redirect non-urgent scheduled procedures to primary care physician offices or scheduled surgery clinics instead of using limited ED resources (staff, equipment, space.)
 - b) Critically evaluate the appropriateness of scheduled outpatient appointments that use ED resources such as dressing changes and IV therapies. Consider using limited clinics elsewhere with dedicated staff.
 - c) Renegotiate physician contracts that have a limited number of clinic visits/day. Consider blended funding models that mix salary or sessional rates with productivity to improve throughput, reduce waiting but allow flexibility regarding time needed per patient.
-  7. **Key Recommendation:** Develop a rural staffing strategy: implement alternative staffing models and incentive structures for physicians providing a variety of services at multiple sites, such as a combination of salaried/contract and FFS; hire high EFT permanent nursing staff rather than contract staff, and invest in casual and overtime, rather agency nurses or understaffing practices. These practices will support safe staffing levels, morale and staff familiarity with community and site; enhance training/orientation for new physicians and nurses in small sites, and support placements for PAs and NPs.
8. Implement a province-wide policy that ensures once a treating site has deemed a patient appropriate for repatriation, the “home site” must accept the patient, unless there is a clear safety concern related to required resources. If there are no beds in the “home site,” it is the responsibility of that site to find an available bed within the region.

6 INDIGENOUS POPULATION

The Emergency Department Wait Times Reduction Task Force (EDWTRC) struggled with this section—how could we possibly do justice to all the challenges of health care access encountered by the Indigenous Manitoban population within the time and scope afforded by our mandate? We could not. What follows is a summary of what we heard and learned in the time we had available.

Emergency Department (ED) visits by Indigenous peoples for general health care is significant. Communities currently supported by groups/services such as Ongomiizwin have greater access to health care services and can be efficient and effective in coordinating care. For rural populations that do not receive this care, remoteness and geographical distance can limit their access to care. For urban communities, poverty and social determinants of health will have a major influence on access.

The death of Brian Sinclair in an ED waiting room was a sentinel event, underlining not only the dangers of ED overcrowding, but the vulnerability of marginalized patients in our healthcare system. Along with details on the barriers to flow, the Brian Sinclair Inquest heard extensive testimony related to the implicit associations and assumptions Indigenous populations tend to encounter in the health care system, which result in different treatment.⁸⁰ There are groups and individuals both within and outside of the healthcare system that suggest the Inquest did not emphasize entrenched racism as a contributing factor in Brian Sinclair's death, instead suggesting that there could have been a greater focus on systemic attitudes and barriers.⁸¹ More broadly, the Truth and Reconciliation Commission (TRC) report clearly said there are longstanding gaps in health outcomes between Indigenous and non-Indigenous Canadians.⁸² If we do not improve our access to primary, preventative and emergency care, those gaps will widen.

What we heard...



"We [Indigenous Manitobans] spend a lot of time speaking with consultants, providers and others over quite a period of time. We have talked about our needs. What we need is access; we need movement; we need connectivity. There is a learning curve that needs to happen among our health care providers."

– *Consultation Participant*

⁸⁰ (Provincial Court of Manitoba, 2014)

⁸¹ (Brian Sinclair Working Group, 2017)

⁸² (Truth and Reconciliation Canada, 2015)

The Indigenous population of Manitoba is growing faster and tends to be younger than the general population. The Provincial Clinical and Services Planning for Manitoba report notes that Indigenous peoples utilize hospitals and medical services at a rate two to three times greater than other Manitobans.⁸³ Statistics Canada reports that 17% of the population of Manitoba self-identifies as Indigenous, the highest percentage among Canadian provinces.⁸⁴ The Canadian Indigenous population is expected to grow between 1.1% and 2.3% annually between 2011 and 2036, compared to 0.9% for the general Canadian population.⁸⁵ That population growth can create two possible futures for Canada: if we maintain the status quo, the socio-economic barriers Indigenous Canadians currently face will lead to more profound challenges. Or, we can embrace the opportunities that productive youth bring, by ensuring Indigenous youth are supported, barriers removed, and health maintained by addressing deficits in the social determinants of health, to provide a very different trajectory. A side benefit—it will ease pressure on the healthcare system.

A relatively small number of the Indigenous population in Winnipeg use EDs as their only healthcare provider. But that small number visit often, with complex issues that might be prevented if care specific to their needs could be reliably provided. Up to 40% of the Health Sciences Centre (HSC) ED visits are Indigenous patients—including transfers from other parts of the province.⁸⁶ There is a high incidence of diabetes, heart and kidney disease, and chronic lung disorders. Also, this patient population is at a much higher risk of trauma from violence. Some ED users are displaced from rural areas, such as those who were living in Winnipeg hotels since a major flood in 2011—many unable to attain gainful employment, with few healthy, fresh food choices. How could anyone maintain health in such circumstances—mentally or physically? Furthermore, people judge outward appearances. The vulnerable are too often blamed for making poor choices and “lifestyle” decisions. But no one chooses to live homeless, poor, and with chronic diseases.

Segments of the Indigenous population in Manitoba have higher rates of suicide, alcohol and drug related deaths, infant mortality and prevalence of diabetes than the general population. The interaction of poor health, addictions, and social problems creates demands that the current system cannot meet. Health, Justice, and Social Services are simply not resourced to respond to the problems rooted in colonization and trauma including poverty, lack of employment, marginal housing, child development, social isolation and others. In other words, complex circumstances are damaging our fellow Manitobans at far greater rates than non-Indigenous—but once damaged, our repair options are limited and inadequate. We have to reduce the damage in the first place.

Originally, the federal government assumed some level of responsibility for health care and health services for First Nations Peoples. However, in the years since legislation

⁸³ (Peachey, 2017)

⁸⁴ (Statistics Canada, 2016)

⁸⁵ (Statistics Canada, 2015)

⁸⁶ (Peachey, 2017)

specific to the Canada Health Act passed and health care became universally available, there has never been an adequate or appropriate discussion to clarify the federal/provincial role in the delivery of health care and health services. Concurrently, having other federal departments responsible for many other social determinants – housing, water, education etc., has created a fragmented approach to population level health care planning and service delivery. This has resulted in many barriers and challenges. These so called “upstream” inadequacies and failure to coordinate and address the health determinants —all potentially preventable or avoidable—directly cause the “wicked problems” that in a truly equitable country would occur less often. There are sadly no quick fixes. We are on a long journey to bend our historical path.

6.1 THE ROLE OF PRIMARY CARE

Winnipeg has the largest Indigenous population of all major Canadian cities, and there are a disproportionately high number of Indigenous peoples represented in Winnipeg’s homeless population. Indigenous persons are also disproportionately represented in the ED patient population in Winnipeg, particularly at HSC Adult and Children’s.⁸⁷ This includes patients who have been transported to HSC from remote communities, as well as residents of Winnipeg.

Healthcare services for Indigenous rural and northern communities are too often unavailable, far away, or inconsistent. Physicians serving rural and remote Indigenous communities noted that the best way to reduce wait times is to eliminate the excessive time on the phone, calling many hospitals, looking for advanced care for their patients if special investigations or specialist care is required. Health professionals should be caring for patients and not spending hours on the phone advocating for their patients and negotiating with urban colleagues in the south about available hospitals for transfer.

As was discussed in Chapter 5: Rural and Remote ED Access, and Chapter 8: Emergency Medical Services and Transportation, there are major opportunities to use technology far more effectively to support rural and northern healthcare professionals. Rapid access to expert advice via phone or teleconferencing can help manage care close to home and prevent some expensive air and ground medevacs. Fewer medevacs improves local care and reduces waiting time in the hubs and Winnipeg hospitals. When a patient is taken long distances, from rural/remote communities to urban hospitals, it is disruptive and often terrifying for patients and families. It may in some cases be for the convenience of urban healthcare providers, or because they do not feel comfortable offering advice to another clinician they do not know and a patient they have not personally assessed. Whatever the reason, removing people from their home communities should not be decided lightly. It can have a profound impact on their overall welfare. It is also, unfortunately, another example of forcing Indigenous peoples into a

⁸⁷ (Peachey, 2017)

healthcare system that they have had little to no input creating. That is another reason why non-medevac options must be available.

Money currently spent on transport can be instead used to improve services closer to home. More investment in supporting prevention, health surveillance, early treatment, diagnostic services in home communities, accessible expert consultations, and select referral to specialist care should improve quality of life while being cost effective and high value.

6.2 CULTURAL AWARENESS

Concerns were raised regarding lack of Indigenous staff in many communities where a significant percentage of the population are Indigenous—care providers are not representative of the population they are serving. Each region does have a policy around recruiting Indigenous staff as well as providing culturally appropriate services such as including Elders and healers among their healthcare teams. Nevertheless, there is a need to revise historical hiring practices and outreach to qualified Indigenous health care providers to enhance recruitment opportunities.

It was heard in consultations that there is an overall lack of education for incoming physicians on Indigenous history and context. Lack of familiarity with Indigenous individuals and communities was noted to lead to a lack of willingness to travel to outlying communities, trends in prescriptions, and incompatible physician approaches, where cultural norms may require longer periods of relationship building. Understanding the unique needs and access challenges among clinicians is also necessary.

Ongomiizwin physicians recommended that patients should not leave an ED without being attached to a culturally aware primary care clinician. That implies that a roster of primary care providers for the Indigenous population of Manitoba should be available. The expected savings in fewer repeat ED visits, less delayed or incorrect treatment, medical error etc. makes this a reasonable request.

It was also noted that patients may fail to receive appointments with specialists due to lacking the literacy skills, not having a fixed address, no access to phone/email that are required to reply to correspondence about upcoming appointments. Support for patients who lack literacy skills to complete documents for accessing specialist care was identified as necessary.

The Indigenous population of Manitoba is a significant and growing population, which faces additional hurdles and prejudice in accessing appropriate health care. Every effort must be made to undertake all recommendations in this report with an eye to reduce ED presentations, hospital readmission, incidence of mental illness and preventable chronic disease among the Indigenous population, and improve Indigenous patient outcomes in the long-term. This requires investments in prevention programming outside of the ED

context that attempt to address inequities. These can be relatively small “upstream” investments that produce large benefits.

6.3 LIMITATIONS OF THE PROCESS

There were, unfortunately, significant limitations in the EDWTRC’s discussions with Indigenous communities. The consultations relevant to this group included visits to rural and remote sites where large Indigenous communities reside, as well as consultations with the First Nations Health and Social Secretariat of Manitoba and physicians and staff of Ongomiizwin. While some health providers were Indigenous, and there were a handful of Indigenous peoples at public consultations, the EDWTRC was limited by time, scope, and geography, in its ability to consult directly with Indigenous peoples. There was, for good reason, some suspicion around what the EDWTRC was attempting to do. Indigenous Manitoban stakeholder groups identified that they have been spoken with multiple times in the past, but that very little has improved.

The EDWTRC has communicated with several health care providers, with extensive experience serving both urban and rural populations. They have a broad range of patients, with a broad range of exposure to the negative social determinants of health—some heavily impacted, some minimally so. Indigenous Manitobans, as experts in their own experiences, and health care providers who serve Indigenous Manitobans, should be asked to provide perspectives and recommendations, under separate cover, to further inform the complex challenges presented in this report.

6.4 RECOMMENDATIONS⁸⁸

-  1. **Key Recommendation:** The EDWTRC has been in contact with health care providers with extensive experience serving both urban and rural Indigenous peoples. The EDWTRC suggests Indigenous Manitobans, as experts in their own experiences, and health care providers who serve Indigenous Manitobans, be asked to provide perspectives and recommendations, under separate cover, to further inform this aspect of emergency department care.

-  2. **Key Recommendation:** The Truth and Reconciliation Recommendations and the recommendations around health care provision should be consulted when planning services for Indigenous peoples, which call for nursing and physician residency programs to provide opportunities for Indigenous youth, and providing education on Indigenous history and context to physicians and staff.⁸⁹

⁸⁸ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

⁸⁹ (Truth and Reconciliation Canada, 2015)

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3. **Key Recommendation:** Priority should be given to use technology and organize timely access to specialists on-call who are experts at supporting primary care clinicians in rural and remote Manitoba. The prime goal is to treat people in their home communities whenever possible.
 4. **Key Recommendation:** Recommendations in the chapter on rural and remote ED access on serving remote communities addresses challenges also faced by remote Indigenous communities, should be referred to.
 5. A high priority should be made to ensure that vulnerable Indigenous patients who are assessed in an ED have a culturally competent primary care provider to provide follow-up care.

7 VULNERABLE POPULATIONS

7.1 OVERVIEW

The “vulnerable” population in a developed country like Canada is a diverse group that includes, but is not limited to, people who are economically disadvantaged, have a disability, are older, homeless, members of racial and ethnic minorities and those with mental illness. Many people live with a mix of these challenges.

Inadequacies in society’s support systems or inability to cope with social and intrinsic determinants of health (as explained in the report Introduction) can result in poor health. Childhood experiences have a significant impact on health outcomes, and childhood trauma has been linked to future risk-taking behaviours, acute and chronic medical illness and involvement with violence⁹⁰. When preventative efforts fail or do not exist, the long-term results can often be seen in the Emergency Department (ED), in repeated visits for trauma, alcohol and substance abuse and a host of other diseases. The personal and societal costs of these are enormous.

Vulnerable patient groups require additional study with respect to their utilization of EDs, what impact, if any, their use of EDs has on overall wait times, and the specific challenges they face in accessing care. By identifying and addressing the root causes, it may be possible to reduce the total burden of illness in EDs and provide those affected with a better patient care experience.

The Manitoba Centre for Health Policy (MCHP) 2008 report on ED use in Winnipeg found that frequent ED users, while making up only 2.2% of all ED patients, accounted for 13.5% of all ED visits.⁹¹ It was also noted that frequent ED users tend to live in the lowest income areas of Winnipeg. Frequent users disproportionately belong to one of the above listed vulnerable patient groups, and often belong to more than one group—for example an economically disadvantaged senior citizen who has a physical disability, or an individual with severe mental illness who is homeless. Those ED users are less likely to experience the financial and social advantages tied to positive health outcomes.



What we heard...

“I think it’s important to filter out the “frequent visitors” that don’t necessarily require urgent care.”

– *Public Survey Respondent*

⁹⁰ (Felitti, et al., 1998)

⁹¹ (Doupe, An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg, 2008)

As expressed by the above quote, the physical and social complexity of frequent presenters is often poorly understood. This vulnerable population utilize EDs frequently because: a) they are open 24/7 and can respond to people who may have unplanned, chaotic lives; b) EDs purport to be able to assess and manage the entire spectrum of acute care problems; and c) EDs are perceived to be well resourced and provide access to multi-disciplinary care options.

Higher volumes of low acuity patients (Canadian Triage Acuity Scale (CTAS) 4, 5) have been demonstrated to have a negligible impact on the wait times experienced by high acuity patients (see Chapter 4: Fundamentals of Flow in Urban Emergency Departments). However, given the profile of frequent ED users, even with low acuity presentations they tend to require additional time and resources from the ED staff once they are brought in from the waiting room, and may have complex and concurrent physical and mental health issues.

While the scope of this report cannot provide a detailed analysis of all vulnerable patient populations, recommendations that would benefit many of these patient groups will be provided.

7.1.1 Peer Support Model

There is growing interest in the peer support model for vulnerable patients in the ED. In this model, a person with lived experience meets the patient early in their ED visit and supports them throughout their visit, using a trauma-informed approach. They help to ensure appropriate follow-up on discharge and maintain contact with the patient after discharge to ensure successful connection to community resources. This model has been used in Toronto for the homeless population and Ottawa for mental health patients.

7.1.2 Emergency Department Violence Intervention Program

The Emergency Department Violence Intervention Program (EDVIP) utilizes a peer support model in a particularly vulnerable population. This program is aimed at youth presenting to the ED with violent injuries, demonstrating that peer support can decrease length of stay in Emergency and, more importantly, decrease repeat visits for violence within the following year. According to a 2009 report prepared by SmartRisk, an Injury Prevention Advocacy group, in 2009, the health care system as a whole spent \$62 million in Manitoba on the treatment of violent injury, which was \$10,195 per treated injury.⁹² In addition, this economic research paper imputed additional costs to society as a whole at another \$109 million.

⁹² (SMARTRISK, 2009)

Health Sciences Centre (HSC) (Adults and Children) EDs treat over 1000 youth, aged 14-24 years old, for injuries caused by violence each year. It is estimated that greater than 20% will return within one year with another violent injury.⁹³ Youth who are admitted or die from a violent injury have more than a three times chance of having been in the emergency department at least once in the prior year. EDVIP, employing primary Indigenous support workers, enrolls youth treated at HSC ED for injuries due to violence, who are impacted by mental health and addiction issues, sexual exploitation, marginal housing, food insecurity, gang involvement, child welfare care and other social determinants of health. The EDVIP support worker works with the youth for approximately one year in the community to address the issues that the youth feels put them at risk of violence.

Figure 7.1: EDVIP Impact on ED Visits

EDVIP Outcomes and Cost Savings

Investment:

- EDVIP annual operating funding: \$640,000
- Approximately \$6000 per participant

Outcomes:

- Fewer repeat ED visits for violent injuries, substance abuse and mental health crises (than non-participants)
- All EDVIP youth became housed and most re-engaged with school/labour force
- Shorter stays in the ED (40 min/visit) were demonstrated for the EDVIP group

Savings:

- Approximately \$8,000-\$10,000 per avoided ED visit. Based on current patterns, annual investment would be recaptured within 2-3 years.

Violently injured youth occupy ED staff time and resources while increasing wait times for other patients. The EDVIP program has demonstrated success in reducing youth-on-youth violence, decreasing repeated ED visits for injury, improving cost outcomes and improving life trajectories for highly vulnerable youth. This model could be adapted to serve other vulnerable patient populations, such as those with opioid intoxication and certain mental health presentations.

⁹³ (Snider, Jiang, Logsetty, Strome, & Klassen, 2015)

7.2 “ORPHAN” PATIENTS, WHO NO ONE WILL ADOPT (ADMIT)

Orphaned patients are often elderly, occasionally homeless, may be cognitively impaired by dementia or chronic diseases, frequently have no primary care doctor, and almost always are unable to care for themselves. Either they have no relatives or friends who can help, or those care providers can no longer cope. After assessment in the ED, there is usually no identifiable, treatable medical problem that fits the relatively narrow spectra of care provided by specialty services. Each “orphan” requires considerable (HUGE) time and resources to resolve, involving multiple disciplines, specialist consultations and social services. Despite the relatively common theme of these patients, there is no agreed upon care pathway, and all medical and surgical services resist involvement because these people do not fit current clinical paradigms. And yet they keep ending up in the ED, our universal social safety net.

There is a subset of orphaned patients who do not fit the above description. They are patients who simply require one to three days of subspecialist investigation, but the subspecialist does not have (or want) admitting privileges and no one else will agree to be responsible for what is, in fact, a short admission. As a result, these patients stay in the ED for days, nominally under the care of the EP, blocking access for other patients.

The number of displaced patients is low—approximately 2.5% of our total ED patients—but they take up 10% of total patient hours in the ED. If one includes all boarded patients whose stay is greater than 24 hours (admitted, but displaced in ER, and non-admitted orphans), they constitute approximately 6% of the total ER population but take up almost 30% of total patient hours in the ED. Imagine—three out of every 10 ED hours is taken up by a tiny percent of patients, who are not best served there, and who prevent other sick patients in the waiting room from accessing care.



EXAMPLE – “Orphaned” Patient:

An 86 year-old female slipped in the shower. Her friend, who lives in a neighbouring apartment, calls an ambulance because the woman cannot walk due to pain, and she is brought to the ED. She is chronically confused but pleasant. The emergency physician discovers a small pelvic fracture and consults Orthopedics, the specialists who treat fractures. Later that day, the orthopedic surgeon completes the consult, concluding that since the pelvic injury does not require any surgical treatment Orthopedics will not admit—their beds are needed for patients requiring operations.

The referring ED doctor completes her shift and a new ED doctor, who has never seen the patient, is now the most responsible physician. He tries getting the patient walking, but she cannot weight bear. He calls Internal Medicine as a back-up plan. Although the patient is not medically ill, she does have other co-morbidities that will get worse if she cannot care for herself. Eight hours have passed since ED arrival. Medicine is backed up consult-wise and will not see until the next day. The stretcher remains occupied. The patient is placed in a hallway, under 24 hour fluorescent lights and overhead paging speaker. She almost climbs out of bed multiple times during the night due to increasing confusion, but is stopped by relatives of other patients.

Internal Medicine finally complete their assessment at 2:00pm the following day. They conclude there is no acute medical problem requiring their further care and that the inability to weight bear is a mechanical problem that Family Medicine or Physiotherapy can deal with. But Family Medicine has no beds. The not-so-merry go round continues.....

The financial cost of these multiple consults is high, but the true cost is in the lack of accountability for these patients and their impact on flow through the ED. Furthermore, it affects their dignity and risks poor care delivery. A Hospitalist service specifically designed to meet patient needs and the hospital mission should replace the current model, which places the medical programs at the center of the equation. Whatever new model is adopted must be a patient-centric consult system, rather than a program-centric one, and ensure that an admitting physician is quickly and easily assigned to all patients who cannot go home.

7.3 MENTAL HEALTH



EXAMPLE- Case Study [based on real events]:

A 42 year-old patient with a history of schizophrenia is brought to a rural ED on a Friday evening by his parents, who feel he is “deteriorating.” After a brief assessment by the emergency physician (EP), a determination is made that he is acutely psychotic and likely requires admission to hospital. The EP contacts the psychiatrist on call, who makes some suggestions over the phone and states she will see him the next morning. Overnight, the patient becomes increasingly agitated and hits the nurse who is trying to settle him down. He is then given drugs to sedate him, but requires constant monitoring. The next day, a psychiatrist sees the patient and agrees he needs admission, leaving this task to the ED physician. The regional psychiatric hospital refuses to admit the patient because he is potentially violent and they have inadequate security services. The ED in Winnipeg is overwhelmed with patients waiting for beds and asks that the rural ED liaise with the psychiatry program to look for another alternative. Meanwhile, the patient’s parents, both in their 70s, refuse to leave him, but are exhausted. The rural doctor in emergency is still calling around to obtain access to a psychiatric bed between seeing other patients; the nurses are spending a great deal of time with the patient, while worried about their own safety. 24 hours have passed, with no resolution in sight....

The consultations for this report included discussions with mental health (MH) service provider groups, Winnipeg Police Services, and hospital staff across Manitoba regarding the many challenges in providing appropriate care in the ED to mental health patients. There is a current, separate review, announced in February that is developing strategies to improve access to mental health and addictions services. This report will not attempt to duplicate that work here. What can be discussed though, are the challenges around serving this population in the ED, gaps noted by care providers, and areas for improvement.

During consultations with front line staff, leadership, and other stakeholders it was noted that this statistically small ED patient group constitutes a major problem that requires novel solutions. There is a multiplicity of factors that contribute to delays in assessment of MH patients, especially involuntary patients requiring restraint, which occupies considerable time, personnel, expertise and a secure environment. None of these are available in many small EDs and most are a challenge in a busy ED of any size. MH patients may also require additional resources (social worker, crisis worker, psychiatrist, physiotherapist, pharmacist, etc.) during a stay in the ED. Organic mental illness such as

schizophrenia or bipolar disorder require significant intervention and management plans. Psychiatric patients may wait in the ED for up to 80 hours and be transferred multiple times, all while experiencing a mental health crisis.

Throughout consultations with hospital staff and management, WRHA home care and community service representatives, and others, psychiatric consults in the ED were repeatedly and consistently described as challenging to access. Part of the psychiatric service shortage was felt to be related to the many psychiatrists operating in private practice, outside the hospital system. Facilities across many regions noted that this resulted in time-consuming efforts on the part of ED staff, when mental health patients in the ED were in need of urgent consultation.

The presence and scheduling of Psychiatric emergency nurses (PEN) was variable across facilities and regions. Some PENs were limited in effectiveness due to variable psychiatrist support. The result is frequent boarding overnight of patients experiencing an acute mental health crisis. In many cases a transfer to another site the next day for consultation is necessary. One community hospital recommended using Telehealth for psychiatric consults. Allied health services (rehabilitation, occupational therapy, physiotherapy and social work) also vary in availability. Front line staff noted they may be consulted, if available at all, for a few hours during the day, five to seven days per week. In the 2008 MCHP study alluded to above, mental illness was the strongest determinant of frequent ED use. Indeed, over half (54%) of frequent ED users have been diagnosed at some point as having two or more mental illnesses, and most (85%) of highly frequent users (those with 18 or more visits in a year) had two or more of these conditions.⁹⁴ Frequent individual use multiplied by complex, multi-disciplinary care results in long ED stays, impact on the care of other patients, dissatisfaction and frustration. These findings reinforce the concerns voiced in almost all consultations held with staff, leadership and the public across the province: mental illness presentations to EDs are complex, time consuming and rarely result in appropriate, patient-centered care. They epitomize the observation that, too often “the system” is created for the convenience of health care providers (long waits; clinics that are difficult to access; limited hours; barriers to admission; poor follow-up; etc.) rather than accommodating the real-life challenges that people face.

Overall, the MH system in Manitoba was felt by stakeholders to have traditionally focused on being reactive, not proactive. This may stem, in part, from chronic underfunding and lack of community care options for redirection for patients in crisis.

In consultations, many staff noted that, despite their low overall percentage of total visits, a single very ill mental health patient can “paralyze” the ED, when the Emergency Physician is stuck on the phone trying to find a psychiatrist who will provide a consultation or hospital admission, while interacting with the patient and family members. This

⁹⁴ (Doupe, An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg, 2008)

prevents them from seeing new patients, which is an enormous challenge in smaller facilities where there is frequently only one physician available.

MH inpatient beds in the Winnipeg Regional Health Authority (WRHA) are managed manually through a regional bed base, which some hospitals found leads to longer waits and increased errors. When held in the ED for many hours at a time these patients can be left in distress, blocking ED beds and impeding flow, leading to a negative ED experience for the patient and increased waits for other patients.

Overall, staff at most hospitals felt they had seen a significant increase in MH presentations in recent years, with one regional MH program noting a five-fold increase in demand over 15 years. A number of factors were cited as influencing these trends, including decreasing stigma leading patients to seek care where they may previously have refused, the opioid crisis, increasing volume of forensic requests, prevalence of Fetal Alcohol Spectrum Disorder (FASD), and an increasing geriatric population.

Other clinicians cited an increase in presentations related to stress, adjustment disorders and anxiety in both adult and child populations. They noted that MH patients suffering situational/social anxiety and depression may not require admission, and could be suitably managed by having a trained staff member diffuse their crisis and set them up with resources. However, there has not been a corresponding increase in appropriate resources for these patients, or alternative models to long waits for psychiatric assessments. It was also noted that training nursing staff in long term care facilities would help to keep geriatric patients experiencing mental health episodes out of the ED and acute beds, which has been successful in Prairie Mountain Health (PMH) Hospitals, where Registered Nurses (RN) with this training are classified as MH resource nurses.

"Doctors have a huge role, including promoting awareness that social inequity and unresolved trauma are often at the root of high-risk drug use. This includes homelessness, poverty, violence and sexual abuse....Addiction is not a crime, nor a mark of moral failure. It is a health issue ... people who use drugs are people who do not need judgment. They need what all Canadians expect from health systems—that is, compassionate care."

- Jane Philpott, federal Health Minister



What we heard...

"We need a collaboration of complex health care needs for the population that suffers from addiction and homelessness within close proximity of core areas. They need a place that addresses social issues, addiction issues, mental health, homelessness, soup kitchen and access to health needs. If these services could be accessed under one roof, it could free up a large amount of visits to ER that are not medical."

– Practitioner Survey Respondent

7.4 ADDICTIONS

It was noted by addictions stakeholders that while MH has become more urgent and high profile, addictions has not received the same attention, and the addictions model in Manitoba still based on cocaine and alcohol, not modified to respond to prescription drug crisis. ED services were noted to be responsive at a tertiary site around withdrawal or crisis intervention addiction issues, but patients with complex social needs can return several times a month, and there is no mechanism to engage these patients with community care and redirect them to alternate services.

7.4.1 Police Involvement

When there is an individual in distress, friends, family and bystanders may be unsure where to turn and call the local police or RCMP detachment in hopes of diffusing a situation. There are alternatives, for example the WRHA Mobile Crisis Service and Klinik Crisis Line. However, the public may be unaware of these resources, hours may be limited or patients may be experiencing a MH and medical incident simultaneously and require that medical response, particularly when related to addiction and consumption of certain substances.

When the Winnipeg Police Service (WPS) or Royal Canadian Mounted Police (RCMP) bring an individual with MH issues to a hospital for assessment, the officer(s) must wait with the patient until they are assessed by a clinician and can be transferred officially to the hospitals, resulting in lengthy waits for patients, and placing a large burden on the police service. In Winnipeg there have been improvements in handoffs of MH patients in EDs following a joint committee (WPS-WRHA) looking at the issue to reduce the time those patients wait before being seen and transferred. Outside of Winnipeg this issue is exacerbated, with RCMP spending entire weekends at rural facilities before formed patients (patients held under the *Mental Health Act*) can be transported to an appropriate facility.

7.4.2 Waiting Safely

PENs (Psychiatric Emergency Nurses) typically work limited hours relative to the 24/7 operation of their EDs, are not present at all hospitals, and may sit idle waiting for cases on days when the MH presentations are low. In the absence of a PEN, it was noted that ED staff are untrained in responding to mental health patients in crisis. At one facility, it was reported that MH patients present only to sit alone in the crowded waiting room, leading to crisis escalation and high rates of patients leaving without being seen.

Training such as ASIST (Applied Suicide Intervention Skills Training)⁹⁵ is available but not required for staff as well as the general public on areas of mental health first aid, and suicide prevention training. The InterRAI Mental Health screening tool is used by the WPS and has been provided to health care professionals.⁹⁶ When staff are properly trained to use the tool, it can be valuable in assessing and determining appropriate care paths, however, staff noted not being comfortable using the tool due to inadequate training.

Across the province, a consistent concern was inadequate or lack of physical space to conduct MH assessments, and to allow patients to wait in a space that is safe for them and for ED staff. Safety is a concern for patients and staff as most hospitals have a limited security presence. Health care providers are creative in trying to find the best space to safely keep a patient who is in distress, however most solutions were acknowledged to be insufficient and reduce patient satisfaction. This includes temporary placement in locked medical units intended for vulnerable geriatric patients with behavioural issues, transferring potentially violent patients from their community hospital to another RHA, or even temporary placement in a local jail cell.

7.4.3 Rural and Remoteness

As with rural and remote access to healthcare in general, MH access is similarly challenging and impacted by travel time and often significant associated travel costs. Multiple trips between sites by ambulance taking several hours, and lack of trained staff and psychiatric services in the community all contribute to challenges in accessing care, and for communities that can have significant MH and addictions issues. If resources were accessible through Telehealth, the implementation of PECS and enhanced staff training was put in place, patient transport could be significantly reduced. Thompson youth MH beds was cited as a step towards improvement in this area.

⁹⁵ (LivingWorks Education, 2016)

⁹⁶ (interRAI, 2017)

7.4.4 Psychiatric Access

Another frequently cited frustration was prompt access to psychiatrists. One third of MH presentations in Winnipeg require a psychiatrist, yet many sites found psychiatrists were hard to reach and engage and did not operate effectively as part of the ED care team, especially in non-teaching sites. Psychiatry recruitment and retention are long-standing issues in Manitoba. Psychiatric nurses were noted to be filling a critical need due to this psychiatrist shortage, but are also in high demand. Patients are frequently waiting overnight and right through the weekend due to lack of access to intake, assessments and beds outside of normal hours. In most EDs, there is an unwritten rule that psychiatrists won't conduct assessments after the late evening.

Private-practice psychiatrists are not bound by hospital deliverables, and can choose their patients, thereby limiting their contribution to the care of acutely ill MH patients in Emergency. The absence of fee differentials, more demanding patients and disruptive hours that are inherent in the hospital system are a disincentive. It was suggested that financial incentives for psychiatry graduates may increase the number of psychiatrists working in the hospital system. Psychiatry is one of many specialist groups that must adapt to the unrelenting demands of a 24/7 acute care system. Fortunately there are efficiencies and technologies available to make this transition easier. Telehealth communication with psychiatrists (and/or PENs) was recommended to respond to this shortage.

7.4.5 Prevention and Diversion from Emergency Departments

The Crisis Response Centre (CRC) is a 24-7 facility providing walk in assessments for adults experiencing mental health concerns or crises. The CRC was created to alleviate the pressure of MH patients on the ED by redirecting them to the CRC. Unfortunately, the CRC ultimately identified a large unmet need among people suffering from MH conditions, and the patient volume at EDs remained largely unchanged despite a flow of patients attending the CRC.

Long wait times for community programs was repeatedly cited as a challenge. For example the wait for services at Klinik is two years. With a focus on assessment rather than long term treatment, and long wait times for services, patient wind up back in the ED. Programs like PACT (Program for Assertive Community Treatment) help MH patients in the community, manage at home, preventing ED visits, but in consultations one site noted that the program needs to be doubled in capacity. Central intake was also recommended and connecting all the currently disconnected models of MH care. Main Street Project diverts approximately 1,000 patients with addictions issues per month from Winnipeg EDs. This was repeated identified as a valuable service that could be duplicated in other regions where there is need.

7.5 PEDIATRIC PATIENTS

Children's Hospital at Health Sciences Centre serves a large catchment that includes all of Manitoba, as well as Northwestern Ontario and Nunavut. Sick children who require critical care or specialty care, but live outside of Winnipeg (or Brandon, for non-tertiary pediatrics) have no option other than to travel great distances for treatment, and also face challenges in accessing follow up care. Because of the inherent vulnerability of children, and because of the unique challenges they face in accessing emergency care, we have included them in this chapter.

Table 7.1: Annual Inpatient Volumes at Children's Hospital

Annual Inpatient Volumes at Children's Hospital		
Residence	2014/2015	2015/2016
Winnipeg	2,589	2,528
Non-Winnipeg	2,114	2,056
Out of Province	596	500

HSC-Children's ED does not experience the same long wait times and average length of stay (ALOS) as other WRHA Emergency Departments, but LOS for admitted patients has been trending in the wrong direction over the past 5 years. The patient population largely accounts for their better relative metrics, as Children's ED sees a high proportion of more minor complaints and has a lower admission rate. However, their wait times are still longer than many other Children's hospitals in Canada, which would be a better comparator.

Because Children's ED is the single access point for specialty pediatric services, and given the relative lack of confidence in emergency pediatrics in many rural hospitals, there can be significant delays in obtaining specialist consultation and arranging transfer. Many of these patients will also be directed to attend the ED for reassessments. Leadership noted that Children's ED sees follow ups for problems as minor as changing wound dressings, and these patients contribute to the CTAS data entered in EDIS, resulting in low acuity CTAS levels being overrepresented in EDIS, and non-acute patients tying up registration and triage time. This points to the need for an alternative to referring patients back to Children's ED for follow ups, but staff understood that walk-ins and other primary care clinics often did not have the comfort level or familiarity with treating small children, especially infants, and not all labs are equipped to draw blood from infants.

Children's ED shares several specialty consult services with HSC-Adults, which impacts the timeliness of assessments. Children who present with mental health issues can spend considerable time in the ED waiting for assessment, and are also a source of outflow access block, as they occupy non-MH medical beds on hospital wards. Waiting for DI and testing is more challenging, as HSC Children's lacks an internal waiting room, so patients waiting for tests results can occupy ED stretchers unnecessarily.

Overall, pediatric patients tend to be less complex so throughput is faster, and the facility has been able to function in a relatively small space. However, recent viral epidemics requiring isolation have led to longer treatment times, which impacted waits and LOS, due to lack of treatment spaces. This limitation in capacity will be problematic in the event of surges or a sustained increased volume of patients (which is possible with WRHA consolidation). Long waits for housekeeping to turnover rooms were reported, especially during seasonal surges, which also contribute to output block.

The new SHSM structure recognizes that HSC does not just serve the WRHA, but is 'Manitoba's Hospital'. This is certainly true at Children's Hospital where out of town patients are over represented in their patient population. There are challenges around repatriation, as physicians and hospitals outside Winnipeg are increasingly unfamiliar and unconfident with sick children, contributing to an increasing ALOS. It was suggested that providing a greater level of support for rural EDs to handle pediatric cases through telehealth or a physician consultation system would reduce unnecessary travel for children and infants, and enable local clinicians to more comfortably treat this patient group.

7.6 OLDER POPULATION

What we heard...



"The boomers are aging. It's a greying population. We need more... affordable nursing homes. Without nursing homes, we're looking at disaster - more people falling and needing hip surgery and living in the hospital hallways, taking up space. Reducing old people's reliance on ERs will go a long way to fixing the problem. Having doctors available at nursing homes will help. An ounce of prevention is better than a pound of cure."

– Public Survey Respondent

In Manitoba, older patients access EDs in greater numbers, and typically require more complex care. Common concerns among older patients included a lack of coordination between the ED and their primary care providers, duplication of tests, and the ED not investigating their medications regarding efficacy and possible interactions. Older patients with low acuity conditions may also access EDs more often than other age groups due to a lack of awareness, or availability, of other care options.⁹⁷ When consulted, some older people voiced a desire to have access to prevention information sessions at seniors' homes and assistance in accessing primary care.

⁹⁷ (Doupe, An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg, 2008)



What we heard...

"I hear about seniors going to EDs because of something and end up being put on medications that they are already taking, under a different name. I think there ought to be a Pharmacy Team that reviews medications of the elderly to prevent duplication and interactions that could send seniors to EDs unnecessarily."

– Public Survey Respondent



What we heard...

"Pharmacists are ideal additions to EDs in order to manage medication related reasons for presentation and admission as well as decreasing medication errors in the department... By addressing medication related needs, pharmacists are able to decrease [Adverse Drug Events], decrease hospital admissions, and decrease re-admissions/return visits to hospital. This will ease pressure on the acute care system as a whole in addition specifically to the EDs in the province."

– Practitioner Survey Respondent

In some EDs, the initial impression of lower acuity older patients is often "failure to cope." Such early labelling can be a dangerous set-up to miss serious illnesses or injuries that can manifest very differently in older patients. In some studies the vast majority with innocuous symptoms and signs and those labelled as "failure to cope" were found to have serious, often treatable illnesses.

To ensure patients are accurately diagnosed, treated and are provided a continuity of care, primary care providers should be contacted early when a senior goes to the ED and those clinicians must be able to contribute and participate in the patient's care. Coordination with primary care providers ensures the ED clinicians and on-site ED pharmacists are aware of the patients pre-existing conditions and medications.



What we heard...

[The ED is] not an ideal or dignified way to care for people's basic access to care needs. Need more places where non-emergency care can be appropriately accessed safely, quickly and respectfully. Nursing homes and seniors residences need onsite physician services during evenings and weekends to stop parade to ER."

– Public Survey Respondent

There are also, however, many cases where families experience care-provider burnout, with gradually worsening chronic conditions, and they perceive the ED is the only place to go. They show up, bags packed, and refuse to take the senior home, putting more pressure on the need for Home Care and alternate, non-hospital and ED based health care.

All of these factors culminate in the inevitability of EDs being used by older and geriatric patients disproportionately, and as such ED clinicians should be prepared and enabled to respond to this patient group's needs. There are opportunities to enhance ED staff awareness regarding "ageism" for older patients who do use the ED, to reduce stigma, and heighten awareness to the more subtle presentations of seniors who are harboring significant illnesses and injuries. An example is the six module free on-line course for emergency clinicians at Geri-EM.com. Geri-EM.com is used across Canada as an excellent educational resource for ED personnel.⁹⁸ All ED staff should access the site and review the modules to increase care-provider awareness and share evidence-based care principles. Staff trained under this model have been shown to reduce LOS, returns to the ED, and improve quality of care.

7.7 CONCLUSION

The root causes of adverse health outcomes for vulnerable populations must be addressed to significantly impact these patients, which is beyond the mandate of our work. However, by addressing access inequity and implementing models of care proven to improve outcomes for these patient groups, it may be possible to reduce the burden of illness in EDs. Below are recommendations that will improve access to care and outcomes for one or more of these patient groups.

⁹⁸ (Melady, 2013)

7.8 RECOMMENDATIONS⁹⁹

1. **Key Recommendation:** Invest in prevention: support EDVIP and other peer support services that assist vulnerable patients in the ED. The EDVIP model can potentially be applied to other targeted patient populations as well, such as those with opioid/overdose and suicidal ideation, resulting in cost avoidance for each one “diverted” from the ED, significant long-term cost savings and multiple other individual and societal benefits.
2. **Key Recommendation:** Due to the medical and social complexity of vulnerable patients, a multidisciplinary team should be present in the ED. The physical presence of pharmacists in large EDs, and shared on-call access to pharmacist from all EDs, is recommended to improve flow and quality of care, particularly for the increasing elderly population.
3. **Key recommendation:** Address the unique needs of populations who may require tailored assistance in navigating the healthcare system, such as those who lack literacy skills to complete documents for accessing specialist care, clarifying issues around medication, assisting with upcoming appointments and travel, etc.
4. **Key Recommendation:** Standardize the use of Telehealth for mental health nursing assessments, psychiatric consults and follow up appointments. Implement a telephone consult model using Psychiatric nurses for rural and remote mental health patients, within the context of a new provincial network. If and when PECS is implemented (see Chapter 8: Emergency Medical Services and Transportation), this model could be integrated within that service.
5. **Key Recommendation:** Restructure the psychiatric model, with remuneration changes and other incentives to recruit and retain psychiatrists to the hospital system. Include family physicians with additional expertise in mental health, nurse practitioners, and psychologists in the spectrum of mental health care providers, within and beyond the ED. Alter the culture to be patient-focused, by ensuring a 24/7 response to psychiatric emergencies.
6. **Key Recommendation:** “Orphan patients” in the ED, who are unable to be safely discharged within 16 hours, including those who do not meet medical admission criteria, must be assigned to an admitting service (and physician) that can assess their medical and social needs. CAUs, with Hospitalists, should be implemented to facilitate this. Disposition decisions and transfer out of the CAU should take no longer than 48 hours, to ensure forward patient flow in the system

⁹⁹ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

7. Create more designated space in the ED for mental health and addictions patients to be assessed and to safely wait in the ED.
 8. Provide training for staff who don't feel well equipped to provide care to patients with mental health and addictions issues in the ED. Enhance training for the application of the InterRAI Mental Health screening tool.
-  9. **Key Recommendation:** Improve access to specialists and consults for Indigenous Patients in remote locations and on reserve: Use Skype and Telehealth wherever possible for rapid access to consults with specialists; identify dedicated staff at large sites to facilitate the communication with more remote sites.
-  10. **Key Recommendation:** A dedicated assessment of Children's Hospital ED should be performed with respect to performance and processes compared to other Childrens' EDs, and the adequacy of their physical capacity relative to projected volume, acuity and output.
11. Services that assist and support rural practitioners in the acute and follow-up care of infants and children should be developed. Telehealth options and a dedicated Provincial Emergency Consultation service should be pursued.
 12. Enhancement of child and adolescent acute mental health services should be a priority.
 13. Outpatient pediatric clinics to address non-urgent follow-ups and consultation should be enhanced, to preclude the need for using the ED for those services.
-  14. **Key Recommendation:** Develop of a responsive model of care for older patients, based on available educational resources. Have a multidisciplinary team, including pharmacists and geriatrics-trained nurses in the ED, and collaborate with primary care and geriatric clinicians to ensure continuity of care after discharge.

8 EMERGENCY MEDICAL SERVICES AND TRANSPORTATION

8.1 OVERVIEW

Access to Emergency Department (ED) services is inextricably tied to pre-hospital emergency medical services (EMS). In Manitoba, EMS is delivered regionally, with approximately 650 licensed paramedics currently working in the Winnipeg regional Health Authority (WRHA) and approximately 800 licensed paramedics working in the other four Manitoba regions. In addition to regionally provided EMS, contracts with STARS, LifeFlight and other transport services provide emergency air transportation services to rural and remote communities.

Over the past two decades, EMS has evolved considerably on many fronts. From its origins as primarily a system for transporting patients to the ED, it has grown into an integral part of the health care system, taking emergency care from the ED directly to the patient, with or without subsequent transport to the ED itself. The pre-hospital and inter-facility transport (IFT) needs of patients have become increasingly complex and the expectations of patients around the services EMS provides are greater than before.

While EMS provision in Manitoba's urban centres has its challenges, mainly around prolonged offload times, the level of training, response times and delivery of service are very good. In contrast, administering EMS in rural and remote regions is affected by multiple challenges around training, retention, significant travel time and frequent inter-facility transfers, as well as lengthy offload times at sites sometimes far from home communities. The impact of these challenges on rural ED access and wait times is significant, particularly in communities where paramedics may be the only access to emergency care.

What we heard...



"Train more EMS with high skills and pay them equally or more for working remotely as opposed to working in the well trained, close proximity of services in Winnipeg."

– Practitioner Survey Response

Well-trained, equipped and available EMS is critical for rural and remote (including Northern) populations. Rural EMS providers must obtain and maintain as broad and robust a scope of practice as can reasonably and safely be supported. Paramedics also need to be enabled to decide, with the help of on-line medical support, the most appropriate destination for the patient. In some cases, that will not be the closest hospital or even in the same health region.

8.2 EMERGENCY MEDICAL SERVICES SYSTEM REVIEW AND GOVERNANCE

In 2013, a Manitoba EMS System Review was conducted “to create a pre-hospital patient care and inter-facility transport system that offers a more integrated, responsive, reliable and sustainable service.”¹⁰⁰ The Review came to the following conclusions:

- The Manitoba EMS system is fragmented with minimal provincial coordination.
- Data is not routinely available to support clinical and operational decisions.
- Operational processes vary widely.
- Standards of clinical care and scopes of practice vary widely between services
- Paramedic portability is difficult.
- There are no consistent quality assurance or improvement activities.
- Wide variability exists in costs and efficiencies.

Over the ensuing four years, some recommendations from the review have been implemented, while others remain in the developmental stage. Several have been deemed impractical and not pursued further.

At the time of the release of the review, there were approximately two dozen separately run EMS services in Manitoba, each with its own unique organizational structure. Ten of the eleven regional health authorities (RHA) ran their own EMS service. To this day, the WRHA holds a service purchase agreement (SPA) with the Winnipeg Fire Paramedic Service (WFPS) to provide primary and advanced medical response, inter-facility transport (IFT) and dispatch services (large sites in other regions hold similar SPAs). Of note, just prior to the release of the EMS review, the eleven RHAs were reduced to five, where we remain today.

Nine municipalities—First Nation or Métis communities—continue to provide EMS services to their constituents. Some are “governed” by formal SPAs, while several remain non-devolved. This decentralized system not only results in highly variable clinical and operational practices (at one point there were actually 24 different medical directors), but the lack of any central governance structure makes it challenging to enforce even regulatory requirements.

On June 29th of this year [2017] the Minister of Health announced the creation of the Provincial Shared Health Services Manitoba that will provide for centralization of multiple health services that are pan-provincial in scope, including EMS.¹⁰¹ This centralization of clinical and operational oversight may better enable standardization of clinical practices,

¹⁰⁰ (Toews, 2013)

¹⁰¹ (Government of Manitoba, 2017)

harmonization of operational procedures and more effective recruitment for sites that have been historically challenging to staff.

8.3 PARAMEDIC TRAINING AND RETENTION

Over the past several decades, paramedicine has rapidly evolved, with volunteer paramedics slowly disappearing, replaced by professionals who are trained and licensed. There are two distinct categories of paramedics across provincial regions, Primary Care Paramedics (PCPs) and Advanced Care Paramedics (ACPs). PCPs are entry-level of paramedics, whose scope of practice includes performing cardiac monitoring and defibrillation, oxygen administration, establishing IVs and administering some symptom relief medications. In addition to the PCP scope of practice, ACPs are licenced for many other interventions, including advanced airway management, performance and interpretation of 12-lead electrocardiograms (ECG), obstetrical assessments, and provision of a wider spectrum of medication than PCPs. Intermediate care paramedics (ICPs)¹⁰² are also present in some regions in Manitoba, although this is not a nationally recognized accreditation.

The 2013 EMS review recommended the transition of all EMS providers to full-time paramedics, with the PCP competencies and scope of practice as the entry-level requirement, province-wide.¹⁰³ The review also recommended the standardization, expansion and indefinite maintenance of an intermediate scope of work for PCPs with appropriate experience and additional training (the rural ICP program). While there is clearly a need for an intermediate scope of work in rural and remote Manitoba, it is unlikely that there will ever be an ICP license category in Manitoba.

Training opportunities for rural providers to attain the ACP scope of practice have been realized over the last few years. However, multiple factors, including budgetary challenges, labour relations and limited exposure to high-acuity cases have impeded the widespread availability of providers with a more advanced scope training. In consultations, front line ED staff suggested that the patient exposure in rural EMS can sometimes feel limited to being a glorified taxi service, when in fact they are acute care providers. As such, rural communities remain challenged in their access to and retention of advanced care paramedics, with the exception of air ambulances, which are staffed with ACPs.

¹⁰² In addition to the PCP skill set, ICPs perform additional interventions including cardiopulmonary resuscitation, patient immobilization and extrication, basic trauma life support and blood glucose testing.

¹⁰³ (Toews, 2013)



What we heard...

"In the rural and remote areas the best case scenario is a fully competent 'Nurses Station' with top EMS people and dependable, well-equipped ambulances or [Shock Trauma Air Rescue Service (STARS)] units to get patients to the larger centers for treatment by the appropriate staff required. Create policy and communication that allows the trained EMS to provide reasonable healthcare during these transports."

– Public Survey Respondent

One of the major challenges to rural paramedic practice is skills maintenance. There is ample evidence from other health care disciplines that frequent and regular performance of clinical skills results in maintenance of competency and better clinical outcomes. It follows that paramedics working in higher volume services will have an easier time maintaining competency and have better patient outcomes.

8.4 RURAL AND REMOTE EMS CHALLENGES

Physicians and nurses working in rural EDs must have a broad knowledge and skill set to assess, stabilize, and care for all age groups and medical conditions. Failure to do so puts patients at risk, but also places care-providers at medico-legal risk if there are poor outcomes. That equally applies to rural paramedics, who face potentially long transport times in the back of an ambulance, with sick patients that they rarely encounter.



What we heard...

"The EMS paramedics must have the training and experience to get me (by ambulance if necessary) to the ED where I will get help appropriate for whatever my health emergency seems to be."

– Public Survey Respondent

In addition to long initial transport times, after arrival at the receiving site, the clinical care required may not be available for a variety of reasons, necessitating additional transport to another center. Often, additional trips are a result of a "redirect," when the closest ED suddenly stops accepting new patients, or when a smaller ED cannot manage the patient. At rural consultations, the public expressed concern about ambulance wait times that can sometimes be long and unpredictable, although not surprising, given the huge catchment areas. There have been times when out-of-area paramedics who were covering a large,

unfamiliar geographic area got lost. Overall, the message at consultations was that there are not enough available ambulances to serve acute emergencies in rural communities. Part of the reason is related to Inter-facility Transfers (IFTs), as will be explained next.

8.5 INTERFACILITY TRANSFERS

IFTs are a significant drain on EMS resources. While this occurs in both urban and rural areas, the impact is greatest rurally. Also, the planned consolidation of Winnipeg EDs will reduce the burden of urban IFTs. As such, the focus of this discussion will be mainly around rural IFTs.

In rural and remote regions, about 50% of total calls are IFTs. These transfers are necessary when patients present to a smaller, rural ED with serious or complex conditions requiring interventions that are only available at a larger center. In the absence of ACPs, IFTs may necessitate physicians and/or nurses leaving their home site to accompany EMS on the transport, leaving hospitals short staffed for hours. A small site noted that some physicians may lack the clinical confidence or skills required to manage even commonly seen emergencies, and use IFT frequently. In some of these cases experienced advice and guidance from an academic centre (or PECS, as discussed later in this chapter) might support patient care in home communities and prevent transfers.

Some transfers are poorly coordinated. Finding a receiving hospital can consume a lot of physician phone time, if larger hospitals are busy and refusing transfers. The result is long wait for care, lost productivity and often exasperation on the part of the transferring physician.

Some IFTs are for access to diagnostic imaging or specialist consultations. Front line staff noted that patients are frequently transferred to one site for stabilization, then transported via EMS for diagnostics to the nearest site with DI, and then returned to the first site again via EMS. This is a reasonable practice if it is used occasionally; however if it is required multiple times per day and transport distances are far, hospital resource allocation and ED location need to be refined to meet patient needs. Other, even less acute reasons for IFTs, include booked appointments for patients who require a stretcher, and discharge from a larger centre to a hospital closer to home, once the acute phase of treatment is over.

Outside of Winnipeg, which uses a less expensive stretcher service, all of the above IFTs require at least two paramedics, and sometimes additional staff, such as a physician, nurse, or respiratory therapist in a well equipped ambulance. Some trips can be many hours long and can involve long waits at the receiving hospital. There is no screening of IFT appropriateness, consideration (or availability) of other options, and funding mechanisms are antiquated. In some cases it was felt that EMS is over-used as a safety net by small EDs. Further, regions are funded per EMS trip without a cap, so there is a perverse incentive to use EMS liberally. The result is an inefficient use of a valuable and expensive resource, relegating paramedics to the role of transporting stable patients and

giving unfortunate legitimacy to the outdated title of “ambulance driver.” Not only does this lead to job dissatisfaction, it can also jeopardize response times to true emergencies, as the remaining paramedics are forced to cover huge geographic areas. It was acknowledged in consultations that centralized IFT planning would improve flow and use of EMS, but would require regional agreement and coordination.

ED closures and diversions have resulted in longer travel time to open EDs, with ambulances from adjacent communities forced to back up sites whose only ambulance is out on a call or waiting in a distant ED for a patient to be assessed or receive diagnostic testing. A more consistent, supportive patient transfer system that takes into account service gaps for remote communities, and a system to simplify the process of finding an available bed to avoid time expended by the physician would result in reduced wait times for rural emergency patients requiring transfers.

8.6 ALTERNATE METHODS OF TRAVEL

Not all patients living remotely have a means to get to the hospital, so in some cases EMS is called for non-emergency transport. This was identified in public, EMS, and ED staff consultations as a clear misuse of a limited resource. However, they also described the challenges around accessing handi-vans, taxis, public transport or other alternatives.

What we heard...

“The public needs to be educated on the correct use of ER [emergency room] services. People who come by ambulance should be screened by the paramedics.”

– Public Survey Respondent

What we heard...

“The province allows community ERs to close because the physician doesn’t want to work the ER and then you have either travel an hour or hope you can get an ambulance because the ambulance system is abused and is used for taxi service.”

– Public Survey Respondent

General education programs about “the proper use of ER services” through advertisements in newspapers and television have not worked in other jurisdictions. Alternatively, there is an opportunity for well-trained paramedics to perform an initial assessment and, with on-line medical support, arrange transport, if needed, by a non-EMS provider. It was similarly noted throughout staff consultations and in consultation with the Paramedics Association of Manitoba (PAM) that regions would benefit from a stretcher service for non-emergency transport for scheduled procedures and diagnostic tests, currently only present in Winnipeg. This would further free up EMS to respond to more appropriate calls. Challenges cited around this were that, as a private service, the business might only be feasible in urban centres, but not in rural and remote areas. A contract model with the region or province may be a solution if it can be proven less costly than EMS transport.

8.6.1 Dynamic EMS Positioning

Traditionally, EMS stations have been located within municipalities and often in proximity to the local hospital. The recent announcement around closing some EMS stations is a response to the EMS Review recommendation low volume stations be consolidated into higher volume stations. Geo-posting (short for geographic posting) allows positioning of an optimal number of units strategically in a broad area of high call volume, rather than having one ambulance per hospital, often sitting within an area of low call volume. Dynamic deployment involves moving ambulances into an area where the need is variable or where other units are temporarily indisposed. Both of these methodologies allow for better allocation of resources according to need. One down side to this practice is that paramedics will sit idle waiting for a call, rather than maintaining their clinical competencies by engaging in other work or training. There is, nevertheless, a need for this practice in some situations. These recommended changes are unique to rural and remote areas of the province, and would not have the same benefits if applied to an urban centre.

Graph 8.1: Top Ranked Preference for Not Being Able to Access an ED in One's Home Community

If there was not an ED close to your home, what would concern you most about not having access to an ED in your home community? (Rank from most to least important)

Most Important

Least Important



I am concerned EMS will not be able to get to me in time

I am concerned about my ability to get to an ED in another town, especially during bad weather

I am concerned EMS will not be able to provide me the care I need in an emergency

I am concerned I cannot afford EMS fees

I am concerned I will not know or trust the people providing me care

I am concerned my family/friends will have to travel to visit me if I am admitted to hospital

8.7 BYPASS

8.7.1 Bypass Protocols to Access Advanced Care

Rural and urban paramedics currently conduct bypass of local facilities for conditions such as trauma, acute stroke or obstetrical emergencies. In 2008, the WRHA and Winnipeg Fire and Paramedics Service (WFPS), established a CODE-STEMI program (where STEMI means, ST segment Elevation Myocardial Infarction, which is medical jargon for a serious heart attack we might be able to treat, but where time = heart muscle damage) that takes the patient directly to the angiography department and then into a coronary care bed, bypassing the local ED where there is no value added for the patient. This program has been extremely successful, treating thousands of STEMI patients and resulting in a reduction in death (for pre-hospital STEMI patients) from 10.4% in 2008 to 3.5% in 2016.

A wide body of evidence suggests that centralized care of trauma, hyper-acute stroke, STEMI, pediatric or obstetrical emergencies improves clinical outcomes. It is recommended that bypass protocols be expanded to include the above conditions, through an integrated pan-provincial destination strategy utilizing coordinated dispatch between land and air ambulance. This would not only improve clinical outcomes, but reduce ED wait times and provider stress in rural facilities that are not equipped to manage those conditions.

8.7.2 Bypass due to Closed EDs

Beyond those specific conditions, paramedics are currently bound by provincial and regional directives to take all patients to the closest, OPEN ED in that region. The whole issue of “redirects” is one that must be addressed, as it places patients at jeopardy and makes a mockery of the concept of an Emergency Department. A facility that cannot reliably and consistently deliver emergency care 24/7 is not an emergency department, although it could serve the public well in a different role. Front line staff also reported concern for families when a patient is transferred to the other side of the region rather than to Winnipeg due to an adherence to regional boundaries. A pan-provincial policy around destination was cited as necessary, which may be facilitated by the centralized governance of EMS services. This would enable paramedics to take patients to the most appropriate hospital and not the next closest, less appropriate site.

8.8 COMMUNITY PARAMEDIC PROGRAMS

Paramedics Association of Manitoba (PAM) suggested that most paramedics would prefer to provide community paramedicine than do so many IFTs. Several provinces, including Nova Scotia, Ontario, and more recently BC have been using paramedics to provide non-emergency care in communities, personal care homes, palliative care

facilities and in private residences, in addition to their traditional role of responding to emergency calls.¹⁰⁴

What we heard...



“Increasing rural community paramedicine may help to alleviate the implications of (unnecessary calls) on the rural population.”

– Practitioner Survey Respondent

It is a misconception that EMS must transport patients to a facility for all calls. In fact, regulations do not mandate transport to an ED: these have been historically administrative and risk management decisions. With appropriate training around treatment of minor conditions and injuries, EMS providers could provide treatment without transport, provide treatment and advise self-referral for continuing care, or provide transport of non-emergent patients to non-emergency settings. Standardizing this practice and ensuring paramedics are enabled to provide minor treatment is a patient-centred change that would significantly enhance health care access in rural and remote communities while reducing wait times in EDs through visit avoidance (i.e. decreasing *input*) and freeing up ambulances for other calls.

8.8.1 Main Street Project (Winnipeg)

In 2009, the WFPS partnered with WRHA to create a program that placed a paramedic on staff at the Main Street Project (MSP), a shelter and detox site in the north end of Winnipeg. The initial goal of this program was to provide medical clearance for every individual being detained under the Intoxicated Person Detention Act (IPTA) to ensure patient safety, and to avoid ED visits for this population. The role and scope of these paramedics has expanded based on identified needs and they now assist in policy development, provide medical assessments, and emergency care for the entire facility. The project has been successful in providing early assessment and response to actual or potential health problems and health promotion needs, as well as planning appropriate interventions with a client centered focus. This program has proven to be a cost effective way to deliver healthcare with a greater than 50% reduction in ambulance transports from the Main Street Project since the inception of the program.

In 2012, the Community Paramedics at MSP conducted 11,201 patient care assessments. In 2016, they conducted 15,097 assessments, an increase of 34.8% over the previous five years. Despite this significant rise in the number of assessments, the number of

¹⁰⁴ (On The Island, CBC News, 2017)

patients requiring transport to a hospital ED has remained low with only 312/15097 (2.06%) transports in 2016. This program is an example of a *pre-intake* initiative (see Chapter 4: Fundamentals of Flow in Urban Emergency Departments; where waits are short, access is rapid, but the numbers are not included in CIHI data, as the ED presentations are pre-empted).

8.8.2 Emergency Paramedic in the Community (Winnipeg)

The Emergency Paramedic in the Community (EPIC) program focuses on identifying gaps in current service provision, through collaboration with community organizations, social service agencies, and allied health professionals. It focuses on top users of EMS and ED services, calls originating from specific addresses that frequently access EMS services, patients who have received critical or abnormal lab or diagnostic results, and at risk individuals. WFPS emergency crews identify individuals who, in addition to their current medical needs, have other needs that may interfere with their ability receive timely medical care. Outcomes of this program show a 33% reduction in 911 calls for this group and 54% reduction in ambulance transports.

There are no community paramedic programs currently functioning outside of Winnipeg, however other regions have voiced their interest in developing similar programs.

8.9 WINNIPEG EMERGENCY MEDICAL SERVICES ISSUES

During consultations, the public within Winnipeg was often confused by ED destination policies. An example was a senior who did not understand why they could not be taken to an ED that they most frequently visited, and was instead sent to a different ED he was not used to. At times there is a conflict between a patient's specific care expectations and ED crowding, the need for rapid EMS turn-around times (patient delivery and readiness for another call), and ED/hospital diversions. There are policies that include specific catchment areas such that ambulances are discouraged from crossing arbitrary boundaries.

To some extent the above concern will be mitigated by consolidation of ED services to fewer hospitals. On the other hand, the public expressed concern that the planned closure of WRHA EDs will result in longer EMS travel to the closest ED, suggesting that the suburban population will have inferior access to ambulance services.

The public also observed ambulances waiting too long in the ED, viewing this as a waste of resources. There is currently an off-load target time of less than 60 minutes in WRHA, but it is often not achieved despite the presence of specific financial penalties, which are charged to the hospital by the WFPS, based on how many minutes over the 60 minute maximum.



What we heard...

"The paramedics were wonderful. The assessment and care provided in the ambulance was excellent. Once we arrived in the hospital we waited for a long time on a stretcher in the hall with our paramedics until we were seen."

– Public Survey Respondent

8.10 GOVERNANCE

Paramedics in Manitoba do not yet have an independent scope of practice or a self regulated profession, like the Colleges that regulate doctors, nurses, pharmacists and other health professions. All reserved acts (medical functions) that they perform require delegation from a medical director. Current Manitoba Health, Seniors and Active Living policy requires that medical directors be available for supervision of all medical functions including on-line 24/7.

As of May 2017, select experienced Emergency Physicians started providing 24/7 telephone support for all paramedics outside Winnipeg who are affiliated with the provincial medical director. The WFPS has its own well-established medical oversight system. Continuous, immediately available medical oversight and support for front-line paramedics is the critical first step in moving to adopt the practice of treating and releasing people with minor conditions and injuries and the development of more community paramedicine initiatives.

8.11 TECHNOLOGY AND COMMUNICATION

8.11.1 Provincial Emergency Consultation Service

As discussed earlier in this chapter, thousands of patients every year are transferred by ground and air from rural and remote Manitoba health care facilities to hospitals in Winnipeg. The majority are transported to the Health Sciences Centre (HSC) due to the availability of advanced specialty and sub-specialty care for adults, pediatrics, and maternal problems. A smaller number are transported to St. Boniface Hospital (SBH) to access cardiac services, and to other facilities and services within the WRHA. Ground transports usually originate from southern Manitoba and air transports from northern Manitoba. Along with the financial impact, these can negatively impact ambulance resource availability in the referring region. A single referred patient can tie up a paramedic unit and, on occasion, accompanying staff from the referring facility, for an extended period of time.

The patients transferred generally fall into one of three categories:

- **Category 1:** Emergent life or limb threatening complaints that require immediate care and transfer to a higher level of care facility.
- **Category 2:** Less urgent complaints that may require transfer to a higher level of care facility on a delayed or scheduled basis.
- **Category 3:** A wide range of complaints (emergent to less urgent) that can be appropriately and safely managed by existing resources at the referring site with external support.

Currently, many patients that fall into Categories 2 and 3 are transferred inappropriately on an emergent, Category 1, basis. The reasons for these transfers stem from both the lack of a standardized approach to facilitate referrals and also from limitations on providing unsupported care for patients in rural and remote communities. Health care providers practicing in these communities have few resources to draw on, may have limited expertise (scope of practice), have to consider weather conditions, must anticipate the course of an illness, and face pressure from the patient or relatives about an early transfer to a higher level of care. They often have difficulty getting timely, knowledgeable assistance from experts in the south and they may be concerned about professional liability.

The goal of the proposed Provincial Emergency Consultation Service (PECS) is to implement a consultation service with a single point of contact for all Regional Health Authorities in Manitoba (RHA), and in the longer term for Nunavut and Northwestern Ontario. This process would ensure the appropriateness of patient transfer to a higher level of care facility as well as provide ongoing/real-time clinical support to rural and remote physicians, nurse practitioners, nurses and other healthcare staff, including paramedics in the WFPS (Winnipeg Fire Paramedic Service) and other regions.

8.11.1.1 Current State, without PECS

The following is a typical case presentation in a remote northern nursing station:



EXAMPLE:

43 year old male with diabetes has developed a painful, red, swollen lump near the bottom of his back. After completing his assessment, a nurse calls a regional ED that is mandated to accept nursing centre calls. After waiting on the phone for almost 15 minutes, a physician listens to the nurse's assessment and request to transfer the patient for treatment. The physician is interrupted several times during the call by issues at her regional ED. She is a locum doctor there for two weeks and has no experience with nursing stations and limited experience with such calls. Her response is, "Ok, thank you, sounds good, send the patient and we'll have a look." The nurse then arranges a "Medevac."

The patient arrives by dedicated airplane early the next day due to weather delay. The abscess is slightly worse but the doctor easily drains the abscess and dresses the wound—total time 20 minutes. There is no need to admit the patient, but he stays in the regional ED for an extra day while a hotel is arranged, and in the hotel for two days waiting for return air transportation.

Total time consumed for the patient: four days from first call

Total cost: \$9000 medevac + \$400 commercial airline + \$200 hotel + \$100 meals = \$9700.

8.11.1.2 Potential Future State, with PECS



EXAMPLE:

43 year old male with diabetes has developed a painful, red, swollen lump near the bottom of his back. After completing his assessment, the nurse calls PECS because this patient has had a history of poor healing as well as a history of other co-morbidities. PECS is staffed by an experienced Emergency Physician who works there regularly in addition to working in a busy, advanced level urban ED. PECS physicians work dedicated shifts in the call centre where they only respond to such calls. They are specially selected and trained to understand the resources and environmental realities of where the health professional is calling from. Within 30 seconds, a PECS physician takes the call. The nurse describes the problem and sends a still image of the affected area to the doctor's viewing screen. A decision is made to incise the abscess at the nursing station. Following incision and drainage the nurse sends another still image to the physician and they agree the patient is safe to go home and is to return for a follow up assessment the next day.

Total Time Required: 80 minutes for the patient.

Total Cost: considerably less than both \$9700 and the daily cost of a PECS program. In other words, one such avoided unnecessary transport per day in a PECS program pays for the program itself and allows patients to stay comfortably in their community of origin.

Extensive anecdotal experience from tertiary clinicians suggests a significant subset of the over 3000 medevac charter flights occurring in 2012/13 and 2013/14 could have been deferred to scheduled flights or avoided altogether with proper support. Medevac charter flights from centres in the north to Winnipeg averaged \$9k to \$14k per flight, whereas scheduled flights are available at a contracted rate of \$400. In the northern region alone, if one emergency transfer per day were avoided or deferred to a scheduled flights, the potential savings range from \$3.2 to \$5M, a savings well in excess of the cost to implement and deliver PECS annually.

PECS has been estimated to require the following investments (based on 2015 estimates):

- \$324K in one-time costs.
- Year 1:
 - \$472K
 - Program development and implementation planning phase.
- Year 2:
 - \$2.79M
 - Completion of program development and implementation planning.
 - Hiring, training and orientation of Communications Operators
- Year 3 and going forward:
 - \$2.99M
 - Full operations

Savings or avoided expenditures to fund PECS: Diversion of 1 emergency transfer per day, or approximately 300 per year.

PECS would provide support to referring practitioners from referral centres in Manitoba, and improve recruitment and retention of health professionals throughout Manitoba, by ensuring one central point of contact for care providers requiring assistance and support in managing urgent/emergent patient care situations. Additionally, this service would provide relief to referral EDs in Manitoba by diverting patient visits where appropriate, particularly at HSC and SBH, who most often respond to calls from care providers seeking advice or access to a Winnipeg ED or specialty service.

8.11.2 Electronic Patient Care Record (ePCR)

With some exceptions, most of the available data from all rural EMS encounters is paper-based and any data collection must be done manually, making it difficult to look at patient outcomes and obtain the information that should be driving clinical and operational objectives.

The EMS review recommended the implementation of an electronic patient care record (ePCR) to allow for better documentation of clinical care, easier storage and access for recall, greater confidentiality, quality assurance monitoring and enhanced ability to analyze the data necessary to drive our decisions (quality improvement). The WFPS has been effectively using an ePCR system for approximately 12 years and the province could benefit from adoption of the Winnipeg system, expertise and infrastructure. The Winnipeg system has the network/server capacity to expand and accommodate the whole province, with only minimal regional investment in hardware and license fees being required.

An ePCR system also provides a robust mechanism for tracking of individual skills, which in turn is essential for any meaningful maintenance of competency program. Based on the Winnipeg experience, the ePCR system allows for real-time access to up-to-date patient care maps and protocols, real time data transfer for critical patients and allows for provider support in the pre-hospital application of the Canadian Triage and Acuity Scale (CTAS).

8.12 RECOMMENDATIONS¹⁰⁵

1. **Key Recommendation:** Establish a PECS. This is integral to the successful implementation of a number of changes and recommendations to EMS and rural ED access. The net savings from this program will more than offset its costs.
2. **Key Recommendation:** Under the Shared Health Services Manitoba (SHSM) umbrella, develop a single governance structure for provincial EMS. An effective and unified governance structure will allow for pan-provincial policies around recruitment, staffing, training, quality and standards. It will further allow coordinated dynamic deployment and destination protocols, to enable paramedics to more rapidly respond to calls and take patients to the most appropriate site, regardless of region.
3. **Key Recommendation:** Explore alternatives to using EMS for IFTs, by identifying low cost transportation methods across regions. To this end, a request for proposals (RFP) should be undertaken by SHSM, to allow a fair, transparent and competitive process.
4. Remove incentives that encourage inappropriate use of EMS for IFTs.
5. **Key Recommendation:** Provide provincially run paramedic training (could be through the RFHS and DEM—see Chapter 9), with a central curriculum, supplemented by specialized foci for specific regional needs, governed by a vision and mission by SHSM. The goal is to provide PCP training to all rural paramedics and ensure an adequate supply of ACPs to provide support and education to the corps of PCPs.
6. **Key recommendation:** Implement pre-hospital information and communication systems, including e-PCR and tracking technology for ambulances. This will align communication ability with current standards in WRHA EMS services.

¹⁰⁵ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

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- 7. Key Recommendation:** Expand community paramedicine. Work with regions and communities to identify gaps in community care, and implement programs such as those currently available in Winnipeg (EPIC), as appropriate, to address access issues, transportation issues, and provide quality care closer to home in a timely manner. Utilize community paramedics in places with frequent ED users, such as personal care homes, to reduce (intake) ED visits and provide preventative care to these populations, with treat and release protocols. Fund and expand EPIC and other community paramedic programs with established value, offsetting costs with savings from reduced ED visits and improved outcomes.¹⁰⁶
 8. Expand bypass protocols to include trauma, pediatric and obstetrical emergencies, through an integrated pan-provincial destination strategy, utilizing coordinated dispatch between land and air ambulance.

¹⁰⁶ (Porter, 2010)

9 A NEW WAY FORWARD – THE FUTURE OF EMERGENCY CARE IN MANITOBA

9.1 SHARED HEALTH SERVICES MANITOBA

On June 28, 2017, the Minister of Health announced the creation of a new provincial health organization, called Shared Health Services Manitoba (SHSM), to provide centralized clinical and business services in collaboration with Manitoba's regional health authorities (RHAs). SHSM's mandate will include, among other things, strategic planning and governance, the development of consistent clinical standards and health human resources. It is anticipated that the governance of provincial emergency services will be contained within SHSM.¹⁰⁷

It is somewhat ironic that the final chapter of the Emergency Department (ED) section of the report addresses governance, because everything starts with it, and depends on it. A robust, unified and effective system of governance and accountability is a necessary first step for the provision of emergency care provincially, and has been lacking on a number of levels—in Emergency Medical Services (EMS), within regions and between programs. As SHSM is anticipated to be up and running by April, 2018, it would have been ideal to leave important decisions regarding the consolidation of ED services to the strategic planners within SHSM in collaboration with the regions, who would by then have this report as a reference, in addition to RHA annual plans, the Provincial Clinical and Preventive Services Plan, the fiscal status report by KPMG, and other reviews. However, a number of changes have already been announced that will impact provincial emergency services delivery, some to be effected concurrent with, or shortly after, the submission of this report.

9.1.1 Winnipeg Regional Health Authority Emergency Department Consolidation

Hasten Slowly:

Many years ago, a respected mentor gave the following advice to one the authors of this report:

“In a resuscitation situation, you will always be tempted to act hastily, thinking the consequences of inaction could be dire. Don’t. There is always time to survey the scene, anticipate the risks and benefits of your interventions, and ensure all the players on your team are acting in concert. Hasten slowly.”



¹⁰⁷ (Government of Manitoba, 2017)

On April 7, 2017, the provincial government and Winnipeg Regional Health Authority (WRHA) announced a monumental change in the delivery of health care in Winnipeg, under the banner of “Healing our Health System.” Emergency services are not the only, or even primary, focus of Winnipeg hospital consolidation, but rather follow the consolidation of inpatient (especially surgical and internal medicine) services. In the public’s eye, however, this is largely about closing EDs—they are most visible to the public and, in many ways, act as their proxy for the entire health care system.

Consolidation of hospital and emergency services is sensible in concept, as it aims to bring together specialty, diagnostic and consultative services in a limited number of well-resourced centers, eliminating the dilution inherent in multiple acute care facilities. This will address some of the key *throughput* barriers that were discussed in Chapter 4: Fundamentals of Flow in Urban Emergency Departments. In addition, the plan envisions segregating ‘subacute’ patients from acute care hospitals in dedicated wards in the non-ED hospitals. This would free inpatient beds at the acute-care hospitals, removing the access *block* that has been identified as the primary impediment to ED flow. This focus on *throughput* and *output* is much more consistent with the recommendations we have provided in this report than previous attempts to decrease *input*. Still, there is a lot of confusion and apprehension amongst the public regarding these changes and their potential impact on emergency access. Ultimately, the number of Winnipeg’s EDs does need to be reduced, but concerns remain as to how many and how soon. The timing and proper planning of these changes can spell the difference between success and failure.

Winnipeg hospital consolidation was being contemplated following the recommendations of the Provincial Clinical and Preventative Services Planning (PCPSP) Report by Dr. David Peachey. In the meantime, government was engaged in seeking efficiencies to improve its financial imperatives. The impact of this exercise prompted them to also direct WRHA to manage its own budget. It became apparent that not only would consolidation be beneficial for the health care system, but it would also assist the WRHA in achieving its financial targets. In terms of ED access, the rapid implementation of consolidation will place a major stress on current resources, especially physical resources at Health Sciences Centre (HSC) and St. Boniface Hospital (SBH). The net effect is that necessary changes to the organization of the system (consolidation) were initiated on a very ambitious time line, and before provincial alignment through an overarching governance structure (SHSM) and clinical services plan is in place. Clearly planned and strong interconnectivity of Winnipeg facilities and services with those throughout the rest of the province is critical to ensure that local solutions do not create unanticipated problems. This hearkens back to the discussions in Chapter 3 on complex adaptive systems, wicked problems and “your innovation is my aggravation.”¹⁰⁸

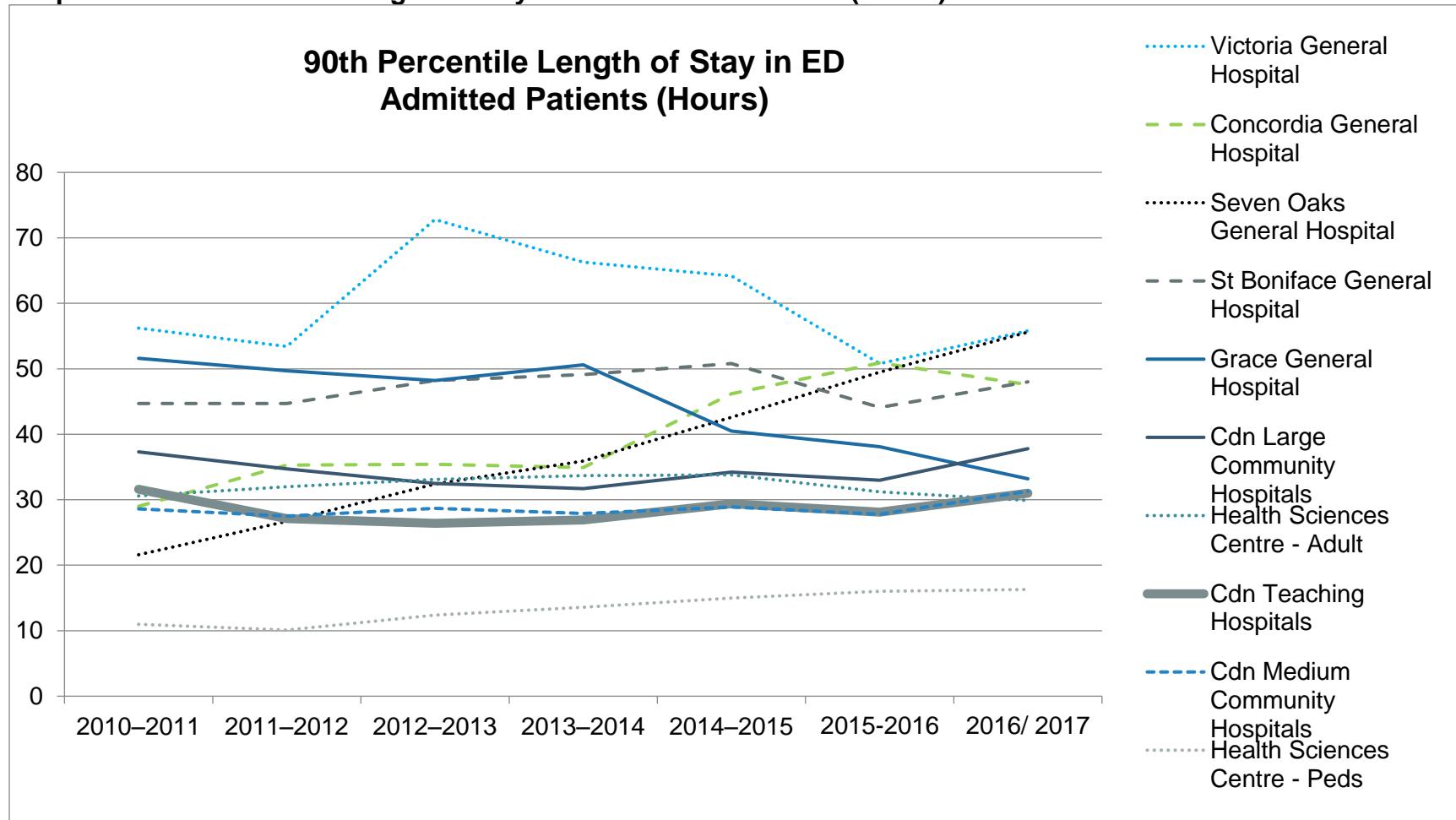
¹⁰⁸ (Kreindler, 2017)

To focus the discussion to follow, we should reiterate a key message of this report: the number of EDs is not the primary determinant of ED wait times, so comparing Winnipeg to other Canadian cities on this measure alone is an oversimplification and distraction. The key determinant of urban ED efficacy is downstream capacity: inpatient, long-term care and community, along with the physical capacity of the EDs themselves. Other key factors are diagnostic testing and consultative processes, clinician buy-in and behaviour (culture) change. Unless and until these are addressed, patients requiring ED care—especially those sick enough to require a stretcher, but not sick enough to be at the front of the queue—will not have prompt access, regardless of the number of EDs.

Phase 1 of WRHA ED consolidation is projected to commence October 3, 2017, and will consist of the closure of Misericordia Urgent Care (MUC) and transformation of Victoria ED to Victoria Urgent Care (VUC). The net effect will be the equivalent of the closure of one full-service ED. Physician resources within the ED system will not be reduced, but there will still be a significant impact on paramedic transport and on the remaining EDs. The Emergency Department Wait Times Reduction Committee (EDWTRC) believes Winnipeg's emergency system can withstand this stress test, but recommends that a comprehensive evaluation and modification period of Phase 1 is warranted, in the broader context of SHSM governance, before proceeding with Phase 2 of consolidation. (Phase 2 envisions Concordia ED closing completely and Seven Oaks ED transforming into an Urgent Care [UC].) Within a functioning SHSM, existing silos within and beyond the city perimeter will be removed and a systematic provincial plan can be developed to ensure provincial ED resources and services are organized to provide the best possible patient care and access.

Discussion of the site-specific roles of each of each Winnipeg ED/UC with respect to consolidation, along with additional recommendations to allow a phased transition to be successful can be found below.

Graph 9.1: 90th Percentile Length of Stay in ED Admitted Patients (Hours)



Note: After assessment, tests, and initial treatment, a decision is made to a) admit a patient for further treatment, or b) discharge home. The time between making admission request and actually leaving the ED for 90% of those admitted patients is displayed above for Winnipeg hospitals compared to the rest of Canada. The Canadian 90th percentile performance in community and teaching hospitals is about 30 hours (yellow solid line, green short-dashed line). Relative to all other developed countries, that is poor performance. It means the sickest patients must endure the continuous chaos of the ED for 1.25 days! Unfortunately, Winnipeg Hospitals have even worse performance.

9.2 HEALTH SCIENCES CENTRE EMERGENCY DEPARTMENT

Note: The discussion that follows is primarily oriented around HSC-Adult ED, as WFPS pediatric patients, rural ED transfers and the majority of ambulatory pediatric visits are already consolidated there. Recommendations on HSC—Children’s ED flow can be found in Chapter 7: Vulnerable Populations.

As Manitoba’s largest ED, HSC is the exclusive referral center for trauma, neurosurgery and burns, along with many other specialty services. It also serves as the main referral site for emergency psychiatric consultation services. Even prior to the announcement of hospital consolidation, HSC ED had been making major improvements in safety and access to care in their ED. Changes to waiting room safety, registration and triage processes, and intake innovations have resulted in continuous reductions in their waiting time and *length of stay* metrics. In fact, HSC/Adult’s Emergency received *The Most Improved ED* award at the Western Emergency Department Operations Conference (WEDOC),¹⁰⁹ a major Canadian ED operations conference, in both 2016 and 2017. It is vital that the HSC be given sufficient human and physical resources to allow them to continue their progress. Their patient volume in 2016/17 was 62,200 and the projected volumes with implementation of phases 1 and 2 of consolidation are projected to be approximately 75,000 and 86,000 respectively (see Table 9.1).

All Winnipeg EDs have been hampered by inefficiencies in specialist consultation processes and admission, leading to throughput and output block. This cannot continue if consolidation is to be successful. “Orphan patients” must be a thing of the past and stable, straightforward admissions should leave the ED quickly, without having to wait for intermediary steps. As Winnipeg’s largest ED and an academic center, HSC will stand to benefit most from the removal of these constraints, but the necessary changes must be enacted in all Winnipeg EDs.

9.2.1 Recommendations for Health Sciences Centre Emergency Department

- Sufficient 24/7 physician and nursing resources to safely staff the resuscitation area, as well as high, mid, and low acuity patient streams and preclude the need to divert major trauma away from the HSC. Staffing should account for variance in daily volume and acuity, rather than for average volumes/acute, as discussed in Chapter 4.
- A provincial accredited Level 1 Trauma System should be established within the next five years, based at HSC. Rapid assessment, coordination and throughput of trauma patients is essential for quality of care and ED efficiency. This could be done by way of a dedicated trauma team leader, or, preferentially, by embedding these additional hours within the physician schedule.

¹⁰⁹ (The University of British Columbia, 2017)

- A robust Emergency Psychiatry unit within the HSC Adult ED to enable timely, dignified and professional care of involuntary patients who have been referred from other sites and require mandatory assessment and complex psychiatry consultations from across the province.

9.3 ST. BONIFACE HOSPITAL EMERGENCY DEPARTMENT

SBH is Manitoba's cardiac center of excellence and, along with HSC, is a WRHA acute stroke referral center. The prevalence of cardiovascular disease is growing with an aging population and, along with it, will ED presentations for cardiac and vascular emergencies. In the year preceding consolidation, with the introduction of a *Rapid Assessment Zone*, St. Boniface's wait times for initial physician assessment were showing substantial improvement, but waits for admitted patients continued to be very poor (see Graph 9.1). St. Boniface has the highest number of total admitted (boarded) patient hours of any ED in MB. Many specialists and services still adhere to old practices of keeping patients in the ED for tests or observation. As with HSC and Grace, there are plans to create a Clinical Assessment Unit (CAU), under the care of a Hospitalist, to move some of the "orphan patients" who would otherwise consume valuable ED stretcher space. This, along with the "subacute" inpatient capacity created at Victoria and planned opening of 65 transitional care beds in late 2017, will assist in expanding capacity at SBH and hopefully reduce the number of boarded patients that occupy stretchers for hours to days.

SBH ED's patient volume with implementation of Phase 2 of consolidation is projected to rise by 55%, to 65,657. With the planned closure or conversion of three out of four community EDs, the burden of serious illness will have a major impact on SBH ED, which will lack the physical infrastructure, does not currently have inpatient capacity and may not have the flow metrics or culture necessary to safely accommodate these increased numbers. The physical space in the existing ED is old and inadequate even for current volumes of patients. With the current space and patient flow, a 55% increase is not possible. A new or completely renovated ED is urgently required, but, realistically, no meaningful renovation will occur for 24 months.

9.3.1 Recommendations for St. Boniface Hospital Emergency Department

- A new ED for SBH is a high priority, as its current capacity is a major constraint to a fully consolidated system. The recently announced \$3M "renovation" should be merely the first phase of an integrated ED redevelopment plan. Piecemeal renovations to accommodate an accelerated consolidation timetable, without development of a new functional plan and ED design, would not meet the long-term needs of the system.
- Key recommendations from Chapter 4 include compliance with new consultation/admission benchmarks, an effective over-capacity protocol with shared accountability, and use of Hospitalists to expedite outflow. These are of particular importance at St Boniface, given that site's access (output) block.

9.4 GRACE HOSPITAL EMERGENCY DEPARTMENT

There has been remarkable improvement in Grace ED's wait time metrics over the past four years, which reflects well on both the ED leadership and senior management at the site. It is expected that the new ED will open sometime in the coming year, increasing its physical capacity. With the transformation of Victoria ED to an UC, most of the inter-facility transfers from south west Winnipeg that do not require subspecialist care—along with many ambulatory emergencies—will present to Grace.

Later, in Phase 2 of consolidation, total visits are projected to rise by about 50%, ambulance presentations are projected to rise well over 100%, and hospital admissions could double. This will be an enormous challenge to the resources of Grace at all levels. When its capacity is exceeded, it will have to rely on two remaining EDs to absorb its patient load. In order for this to happen seamlessly, both tertiary sites must be operating with flow metrics closer to the Canadian average.

In a consolidated ED system, Grace ED will function as both a referral center and an academic ED. With fewer EDs available for medical trainees, Grace's role as a teaching hospital will necessarily be expanded.

9.4.1 Recommendations for Grace Emergency Department

- Grace ED must be given sufficient medical and nursing resources to serve its expanded physical footprint and the projected increases in volume and acuity.
- Grace should expand its role as an academic center and become the designated community ED for the CCFP-EM training program (one of two streams for Emergency Physician residency training).
- The impact of Winnipeg Fire and Paramedics Service (WFPS) volumes, particularly those from the Victoria catchment area, must be carefully evaluated and modified as necessary.

9.5 VICTORIA GENERAL HOSPITAL EMERGENCY DEPARTMENT/URGENT CARE

Victoria ED's lengths of stay for admitted patients have been amongst the longest in Canada (as seen in Graph 9.1), demonstrating, among other things, severe inpatient capacity constraints at that site. These waits should be alleviated by prompt referral of Victoria Urgent Care (VUC) patients requiring admission to an acute-care hospital, while sub-acute patients are kept at Victoria.

Victoria ED's medical and nursing staff are well qualified to provide urgent ambulatory care as well as treatment of selected patients arriving by ambulance. The growing population in Winnipeg's southwest quadrant will be served well by the new UC, as greater than 85% of cases previously treated there will still be able to receive care at the

UC. Even prior to consolidation, Victoria ED's patients with major heart attacks (ST Segment Elevation Myocardial Infarction [STEMIs]), acute stroke, trauma and other serious conditions would have been transferred to one of the specialist hospitals (HSC or SBH) for care. With adequate patient education and new ambulance destination policies, the sickest patients will now bypass Victoria, and go directly to the most appropriate specialist hospital. That will reduce time to definitive care, so the earliest beneficiaries of consolidation may well be those in Victoria's catchment area.

With the loss of acute inpatient medical services at Victoria, there is a risk that the Emergency Physician on duty, as the only acute care physician, will be expected to care for all incoming ED patients as well as respond to any emergencies anywhere in the hospital. That would negatively impact the urgent care function and increase wait times.

9.5.1 Recommendations for Victoria General Hospital Urgent Care

- All patients requiring admission or specialty consultation from Victoria be transferred without delay, based upon modified policies originally developed for MUC.
- EMS and WRHA, under the governance of SHSM, develop ambulance destination policies using pre-hospital CTAS to allow EMS to bring selected Canadian Triage Acuity Score (CTAS) 2 to 5 patients with a high likelihood of discharge to Victoria.
- Stable patients with low acuity conditions be directly admitted to Victoria, when inpatient beds and an admitting physician can be readily accessed.
- The WRHA develop a plan to cover inpatient urgencies, precluding the need for the UC Physician to leave the department to attend to these.

9.6 MISERICORDIA URGENT CARE PATIENT POPULATION

It is anticipated that a significant portion of MUC patient population will be absorbed in the primary care system. A plan is being developed to maintain 24-hr physician coverage at Misericordia, which will allow urgent eye problems to continue to be seen there. The latter category comprised 15-20% of Misericordia UC visits. The remaining patients will present to their local ED/UC. Approximately 70% of Misericordia UC visits were from areas outside the local catchment area, so these visits will impact all remaining sites, but primarily HSC, St. Boniface and Victoria.

With effective *streaming*, augmented physical capacity and sufficient staffing, the CTAS 4 and 5 ambulatory patients who would have presented to Misericordia UC can be treated quickly at these other sites, avoiding the long queues for stretchers and access block that beset patients who need to be lying down. Ideally, this could improve overall Winnipeg ED metrics, as Misericordia UC's relatively efficient processing of low acuity patients was never reported by CIHI.

Addressing the complex health needs of the core population served by Misericordia UC is beyond the scope of this report, but the reader is referred to in Chapters 3 and 7, for further discussion. The province, WRHA and SHSM, along with other agencies, should acknowledge and endeavor to address the social determinants of health that underlie the acute and chronic health problems in these “vulnerable populations.” Improved seven days/week access to basic primary care where people live is the most glaring need in terms of prevention, risk reduction, and early treatment. That will invariably reduce episodic ED use and improve wait times.

9.6.1 Recommendations for Misericordia Urgent Care Patient Population

- That all EDs and Victoria UC develop processes for the efficient streaming of low-mid acuity patients.
- That WRHA develop innovative programs, in collaboration with other provincial departments and community services, directed to the complex social and healthcare needs of its local “vulnerable populations,” such as accessible primary care and addictions services, seven days per week.

9.7 CONCORDIA EMERGENCY DEPARTMENT

Concordia ED is scheduled to close in Phase 2 of the WRHA Consolidation process. Over the years, Concordia ED suffered progressive losses of specialty consultation services and advanced diagnostics—*throughput* factors which are essential to patient flow. In addition, it has been beset by *access block* and long waits for ED patients to be seen, although there have been improvements in the last year. There have been intermittent proposals for the possible closure or modification of Concordia ED for over a decade, but not within the context of such a sweeping plan as is currently being rolled out.

When Concordia ED closes, the natural destinations for its patients are Seven Oaks, SBH and HSC, with SBH being the preferred site for most. When (and if) the Chief Peguis Trail extension is completed, the drive to Seven Oaks ED will be quite short for many in the Concordia catchment area. In the interim, SBH will not have either the capacity to accommodate these patients until, a) a new, larger ED is built, and b) all patients in its ED flow through at rates close to the Canadian average—3.9 hours for discharges and 14.3 hours for admitted patients (recognizing that this does not meet the CAEP benchmark of less than 8 hours for admitted patients). This will require improvements in patient flow unseen in Winnipeg in the past 20 to 30 years.

When and if the recommendations with respect to physical capacity, flow and culture change have been made across the region, and when Phase 1 changes have been properly evaluated, problems addressed, new plans tested, and metrics improve substantially, then it would be logical to close Concordia ED. Even then, the role of Seven Oaks will be pivotal in absorbing the impact, as discussed below.

9.7.1 Recommendations for Concordia Hospital

- That the full closure of Concordia ED be delayed until Phase 1 of WRHA consolidation has been properly evaluated, modified and demonstrated to be successful, by which we mean lengths of stay for admitted and discharged ED patients across the region are approaching the Canadian average.
- Due to EMS and hospital interdependencies, the respective roles of Concordia and Seven Oaks be de-coupled in Phase 2 of consolidation, and that sufficient physical capacity in Winnipeg's remaining EDs be created/maintained.

9.8 SEVEN OAKS GENERAL HOSPITAL EMERGENCY DEPARTMENT

Seven Oaks is the busiest community ED in Winnipeg, with numbers rivaling those of SBH. It receives more ambulances than any ED other than HSC. It serves a growing population base in Winnipeg's northwest quadrant and also sees overflow from Winnipeg's core (and so has been called 'HSC lite'). As well, it has a relationship with the Interlake Eastern Regional Health Authority (IERHA) and sees a significant number of patients from north of Winnipeg's city limits. There is a large dialysis program at Seven Oaks that serves a complex and socially vulnerable group with coexisting medical illness. Historically, the latter population has been cared for by nephrologists and family doctors based at Seven Oaks, with minimal help from General Internal Medicine. Since the trauma orthopedics program was moved to Seven Oaks, eliminating its *output* buffer, its ED wait times have deteriorated significantly, but prior to that they were close to the Canadian average and the best in Winnipeg. This is an objective lesson in *ED access block* and a compelling reason to free inpatient capacity at that site while the ED remains open. If the ED is converted to an UC, inpatient capacity would be dedicated to subacute patients, thus freeing up capacity and lessening access block at other sites.

If the ED at Seven Oaks were to close at the same time as the full closure of Concordia ED, it would put a monumental burden on the remainder of Winnipeg's EDs. Regional *throughput* and *output* would need to improve drastically, with flow metrics much closer to the Canadian average to absorb the impact. At the same time SHSM will presumably be examining cross-regional synergies and inter-dependencies. Given Seven Oaks' current proximity and services provided to IERHA, as the provincial clinical services plan is being developed, consideration should be given to the role of Seven Oaks as a hub or referral centre working in collaboration with IERHA (see further discussion below).

9.8.1 Recommendations for Seven Oaks General Hospital Emergency Department

- That the conversion of Seven Oaks ED be delayed until SHSM has had the opportunity to fully evaluate WRHA Phase 1 consolidation, strategically plan Phase 2 of consolidation (particularly, the impacts of Concordia closure and limits of St.

Boniface's physical capacity) and ensure formal modes of service integration between Seven Oaks and IERHA.

- That transformation of Seven Oaks ED to an UC be reconsidered in light of the above, as well as the socially and medically complex patient population that it serves.

9.8.2 Recommendations for all WRHA Emergency Departments

- Clear processes for consultation and admission, which will allow EDs to meet accepted Canadian benchmarks for flow. Shared goals should be championed and enforced by senior site and regional management; accountability for admitted patients should be shared throughout the hospital and metrics fed back to all involved programs.
- Leadership must engage and achieve buy-in from physicians and direct-care nurses. These culture changes are difficult to enact quickly, but are essential to the success of consolidation.
- That the physical (ED capacity), operational, behavioural and cultural improvements outlined in all preceding recommendations be substantially completed prior to proceeding with Phase 2 of consolidation.

9.9 COMPLEX ADAPTIVE SYSTEMS REDUX



From an Emergency Physician...

When I was a doctor in training I saw a 48 year-old in the ED resuscitation room. She was really pale, semi-conscious and had abnormal vital signs. There was a concern from her story that maybe she was bleeding from her bowel. Her blood count was hemoglobin 23 g/L, almost too low to be alive. My reflex response was to quickly provide a rapid blood transfusion—the same as we do for trauma patients. But she got worse, not better, because the rapid transfusion caused heart failure. What did I learn from this?

- a) *To get to a 'should-be-dead' blood count of 23, had to happen over many months. It was a CHRONIC problem, not ACUTE, and required a different intervention.*
- b) *To survive, her body's 'complex adaptive system' (explained in Chapter 3) had to gradually compensate, involving many different body systems slowly changing to keep her alive.*
- c) *Trying to fix a chronic problem too quickly risks harming a patient because complex adaptive systems need time to adjust.*

Over 20 years of ED overcrowding, long wait times, long-standing practices and embedded cultures cannot be fixed with acute surgery. It is a complex adaptive system and will adjust, perhaps thrive, with the right plan over the right time.

Table 9.1: Anticipated ED Patient Volume Changes by Site

Anticipated ED Patient Volume Changes ¹¹⁰									
Original Site	Current			After Phase 2			Percentage Change after Phase 2		
	Total Visits	EMS	Number of Admitted Patients	Total Of Visits	EMS	Admit	Total Visits	EMS	Number of Admitted Patients
Concordia	30,515	5,610	3,568	0	0	0	-100%	-100%	-100 %
Grace	30,072	7,417	3,381	44,882	17,331	7,303	49%	134%	116%
HSC	62,201	1,783	9,405	86,396	12,853	11,189	39%	1%	19%
HSC Peds	52,724	n/a	3,878	56,241	n/a	3,878	7%	n/a	0%
Misericordia	38,614	265	3	0	0	0	-100%	-100%	-100%
St. Boniface	42,239	7,250	6,748	65,657	10,873	10,300	55%	50%	53%
Seven Oaks	41,472	8,768	3,945	41,702	4,646	468	1%	-47%	-88%
Victoria	32,056	6,205	3,144	35,015	2,595	935	9%	-58%	-70%
TOTAL	329,893	48,298	34,072	329,893	48,298	34,072	0%	0%	0%

¹¹⁰ Projected volume changes based on information from WRHA Emergency Program and are subject to ongoing modification.

9.10 SHARED HEALTH SERVICES AND REINVENTED RURAL EMERGENCY CARE

Across the province, access to ED care outside urban areas has become increasingly patchy. There are some well-functioning EDs, but many others are unreliable and lack consistency. As was discussed in Chapter 3, the expectation for emergency care is that it competently addresses the entire spectrum of illness—including life-threatening emergencies—in a timely fashion, 24/7. To accomplish this in rural areas requires models of care that are innovative, interdependent and inter-regional. Consider the following case:



CASE STUDY:

- Sonya is a 72 year old, living in a small town. She develops chest pain, vomits, and is sweaty. Her husband calls 911 and speaks with a trained ambulance communications officer who provides immediate care advice and dispatches a paramedic crew (1)
- Two paramedics arrive in 15 minutes, from their EMS station, which was strategically positioned, geographically. They assess Sonya, and begin treatment (2).
- Prior to the call they had assessed five patients in the local area: two patients who recently returned home after surgery, as planned follow-ups; two patients who had called Health Links—the nurse had some concerns and felt an in-person assessment would be helpful to ensure they were OK; one patient in a personal care home was also assessed, the family doctor contacted, and IV treatment provided (3).
- A special electrocardiogram is performed on Sonya and sent to the nearest regional hospital ED. The Emergency Physician on duty reads the ECG, listens to the paramedic's summary, and recommends going directly to the regional ED (4).
- The physician also alerts the referral hospital's heart specialist to organize care as soon as the patient arrives (5).

In the above example, there are at least **five** linked people and processes that need to work flawlessly in order to ensure the standard of care is met, in terms of timeliness and quality. Also note that while the emergency care system was standing by, the paramedics were providing care to other types of patients, from other parts of the system, to keep everyone working to their full scope of practice and get the “best bang for the buck.”

Emergency care in rural Manitoba, and across Canada, must function as a seamless network of multiple dynamic parts—connected, and interdependent. As of today, it is not.

The EDWTRC feels strongly that this emergency care review is not about just “consolidation” (which people fear is a euphemism for closing EDs). It requires a completely new vision and set of standards, based on population distribution, geography, current infrastructure, health human resources availability, and evolving technology. We must be bold, willing to challenge old beliefs and behaviours, and be open to re-evaluate and adjust over time.

In Chapter 5: Rural and Remote ED Access, we cited the availability of clinicians, maintenance of volume-dependent clinical competencies, geography, and proximity to diagnostics and specialists as major challenges in rural Manitoba EDs. Definitions of an ED and emergency physician may vary, but there can be no question that an ED needs to be there for patients in times of crisis, reliably and consistently, 24/7. No matter what the credentials of the provider, physicians and nurses must be competent in evaluating the undiagnosed and/or unstable patient, providing life and limb preserving care, and recognizing when to (and when not to) transfer to a higher level of care. While it may seem straightforward to apply these clear criteria to each facility in Manitoba, and cross off those that do not meet the standard, there are other issues to consider. For example, in the absence of another 24/7 ED within 60-70 minutes, the absence of local ED services would require significant enhancement of EMS services. This is where provincial coordination comes in to play.

What are the chances that qualified doctors will be available to staff all our EDs in the foreseeable future? A collaborative study by a diverse group of experts concluded the shortage of trained and qualified emergency physicians in Canada will worsen by over 300% by 2025.¹¹¹ This will impact urban EDs, but also prevent the dispersion of doctors to rural areas. It has already created an unhealthy situation, where communities are competing within and between provincial borders for a finite supply of doctors. Offering incentives for a doctor to move from one community to another is a zero-sum game where the number of losers equal the number of winners. As a result, across the country, ED consolidation is taking place, in order to a) best utilize the scarce number of providers with needed competencies; b) provide the best possible care for patients; and c) reduce administrative costs. Manitoba must do the same.

The recommendations that follow are based on the first two factors, and not on saving money. We conclude that consolidation of rural and remote EDs is something that must happen for reasons that were clearly laid out in Chapter 5 and are further delineated here. Pan-provincial coordination of planning for urban and rural ED facilities, and reorganization of EMS services under the SHSM umbrella must occur.

The relationship between rural EDs and Winnipeg’s EDs may not be obvious, but many rural patients are sent to Winnipeg EDs every day. One example cited earlier is Interlake East RHA (IERHA). Selkirk Hospital is this region’s only hub, but it is the most crowded

¹¹¹ (Collaborative Working Group on the Future of Emergency Medicine in Canada, 2016)

ED outside of Winnipeg, often operating at over 100% capacity, with output greatly impeded by the region's limited PCH bed base and with a history of ambulance diversions. Selkirk is in close proximity to Seven Oaks, whose ED has been earmarked for conversion to an Urgent Care Centre in 2018. At that same time, Phase 2 of Winnipeg's ED consolidation plan will require 30,000 patients from Concordia's catchment area to be accommodated, many of whom would be closest to Seven Oaks ED. Grace hospital could be experiencing a doubling in EMS volumes from Victoria's catchment area, so the overflow from IERHA will either be sent to HSC, or remain at Selkirk, causing additional crowding there.

A similar relationship existed vis a vis Winnipeg's Victoria Hospital ED and patients in Southern Health-Santé Sud (SHSS). While this region has four facilities that serve as regional hubs (in contrast to Selkirk, which is the lone hub in IERHA), the population of communities in SHSS is growing rapidly and they had come to rely on Victoria ED. SHSS will now be required to send patients to one of the remaining Winnipeg EDs, most likely SBH. For its part, SBH has the longest total "boarded" patient hours in Manitoba. It will be required to greatly improve its patient flow performance and metrics—something that has not been seen to date, in order to serve the region and whole province as an effective referral centre.

We have talked about *patient flow* throughout this report. The preceding paragraphs almost look like a description of a new highway and road system—a complex but manageable engineering project. But this does not account for human nature, fear of change, long history, deep seated cultural biases and other influences that collectively are powerful forces resisting change.

The superimposition of rural and remote consolidation must not be arbitrary, but part of a well-orchestrated provincial plan, which is based on provincially standardized services and accessibility standards, and well supported by robust primary care systems and EMS. If it is not, access to emergency care from those regions will be further limited, waits will increase and, with them, patient risk.

9.11 A FEW WORDS ON PHYSICIAN FUNDING

To support and encourage new ways of thinking, problem solving, patient flow, and human behaviours, Manitoba requires a major "rethink" on how we measure and reward human performance and participation in the larger system. Traditionally, doctors have been paid separately from other health professionals, based on "doing things" (fee for service) and having freedom to pick and choose. While that might possibly work for specialists and sub-specialists who have very narrow (but very detailed) expertise and provide a well-defined segment of care, it does not work well for "generalists"—doctors in primary care, or most rural-based physicians. Rural doctors are expected to provide timely acute and chronic care (primary care); supervise long term care (personal care home (PCH), transitional care); provide cancer and other special therapies; cover EDs; do home visits; other care responsibilities. It is virtually impossible to articulate every

detail and assign a time and monetary value to the myriad of expected activities in a contract—and yet that is what is often in place. It can lead to dissatisfaction from doctors, hospitals, clinics, the government, and most significantly—patients who are directly affected.

There is a different funding philosophy—the concept of a “basket” of services that need to be provided in rural Manitoba. It includes some, all, or even more of the services listed above that a doctor will do in a day, week, or month. It will vary on the community or region and needs to be responsive to local needs—one size does not fit all.

How it works: essentially a collaborative group of doctors accepts and contracts to provide the full range of medical services needed in their geographic and referral catchment area. The group is paid “X” per year to deliver comprehensive care to all the patients. Within the group, responsibilities are shared based on expertise, interest, time, etc. Some members may obtain additional special training if needed. Within the group, doctors will be performing different mixes of medical care BUT when added together, they cover the needs of the community. Another term for this assignment of responsibilities is a “group practice plan” that internally manages the required deliverables and decides on physician remuneration. A successful example of the “basket of services” care service exists in Swan River, Manitoba and is a model that is worth evaluating in more detail to assess its use in rural areas as hubs of service delivery are established.

Some further discussion on physician funding is included in Chapter 14, along with recommendations.

9.12 RURAL EMERGENCY DEPARTMENT PRINCIPLES

It is beyond our purview to delineate specifically which rural EDs would best be served by transitioning to other purposes. Many of the following bullets are based on expert and experienced opinions and observations. The EDWTRC did not have access to sufficiently detailed data (some of which may not exist) regarding all current ED sites, nor was it asked for specific site-by-site recommendations. There are, however, basic facts that were evident in our analysis and could inform further data collection and/or decision-making by SHSM and the regions.

- Rural Emergency Departments fall into four general categories of size ED and coverage, as follows:
 - Regional Hubs: physician present 24/7, 10 to 35 thousand patient volume
 - 24-7 physician on-call, facilities with patient volumes under 10 thousand
 - Small facilities with shared ED physician coverage and limited, often unpredictable hours
 - Facilities with long term ED suspension (effectively closed)

- Below a census of about 8,000-10,000 patients per year it becomes difficult to provide dedicated 24/7 coverage. However, absolute numbers can be misleading—many rural EDs are used mostly for primary care, so it is the acuity, rather than the absolute number of patients that determines whether an ED in name is an ED in function. Seasonal variability in patient volumes (for sites that see tourists or other seasonal populations—(e.g., Dauphin) can also distort the total patient census.
- There are approximately 40 rural EDs that see fewer than one CTAS 1 (very high acuity) patient per month and approximately the same number see fewer than 200 CTAS 2 patients per year. Acknowledging that there is some variability in how sites apply the acuity scale, a high functioning ED sees multiple (high acuity) CTAS 2 patients every day, numbers that are necessary to maintain competencies in emergency care by physicians and nurses.
- A small number of EDs in Manitoba are truly remote, in that they are greater than 60 minutes from the nearest ED with a 24/7 physician on site. That must be taken into consideration in determining their future state, and enhancement of rural EMS would have to occur prior to repurposing or closing these sites.
- Frequent *redirects* reflects an inability to guarantee care on a 24/7 basis and is inconsistent with the definition of an ED. There are EDs in Manitoba with larger numbers of CTAS 2 patients, but frequent *redirects*. It would be better for consistent patient care to transform such sites to UC, particularly if there are higher-functioning EDs in close proximity.
- Provincial planning of ED transformation must take place collaboratively within a unified governance system. RHA borders are in some areas arbitrary lines that may separate natural patient flow and referrals. Regional Hubs should be networked to other regions to support overflow and higher acuity than can be managed locally. If there are limits to the number of available services within, or access to hub(s) within a region, it should be possible to use another region's ED as the local hub. Seven Oaks ED and Interlake Eastern is a prime example.
- Most emergency care in rural Manitoba EDs is actually primary care. It should be possible to transform many EDs to collaborative emergency centers (CECs) or UC centers in order to provide the majority of care currently available in those EDs, while using EMS to transport the most seriously ill and injured patients to a Regional Hub with clearly defined and reliable hours of access and service available.

For the remaining EDs to take on the increased patient volume, resources must be aligned accordingly. As previously mentioned, an ED needs more than just a 24/7 physician on site; it must be able to provide access to diagnostics, ideally 24/7, and to specialist consultation, either in person or by other means. A pan-provincial recruitment and staffing strategy, presumably coordinated by SHSM, is required, considering the health human resources challenges. Pre-hospital support must also be improved and standardized, with a focus on adding Advanced Care Paramedics (ACPs) to larger communities, and paramedics working collaboratively with local physicians and nurses

providing follow-up and preventative care, so that more ED visits can be avoided. Fewer sites with more distance means more technology use, including videoconferencing and a PECS-like system for coordination and planning between EMS and receiving facilities, and bed coordination between facilities.

The EDWTRC feels that public communication is paramount to successfully implementing these changes. SHSM and the regions are encouraged to engage all communities where the current service model is felt not to be sustainable (based on the criteria we have suggested) to discuss what services or service model can best support their current and future needs, be it enhanced primary care, more robust EMS, a reliable urgent care or CEC, or improved access to personal care home services. As part of this task force's work, the co-chairs and support staff were hosted by many communities across the province, and received invaluable information that would not otherwise have been accessible.

9.12.1 Recommendations for Rural Emergency Department Transformation

- Through SHSM and with input from RHAs, establish a provincially coordinated ED service plan which integrates Regional Hubs, EDs, urgent care centers, primary care and EMS. This plan must be provincially coordinated and managed, ensuring any impacts or challenges are managed across regions and sites collaboratively.
- All rural EDs with less than 12 CTAS 1 or less than 200 CTAS 2 visits per annum should be considered as potential candidates for transformation to a non-ED function, in order to optimally utilize resources and ensure patients receive care by providers with volume-dependent competencies. Distance from full 24/7 EDs also need to be considered.
- In determining the future function of existing EDs, consideration should also be given to proximity to other 24/7 EDs—both within and beyond regional boundaries—and demonstrated ability of sites to consistently deliver 24/7 care. In the absence of another ED within 60 minutes, reorganization should not occur without necessary enhancement of EMS services.
- That there be well-advertised, transparent communications with staff and local communities about planned changes, and that in-person visits include an informative and effective communication strategy that details how and why their services are changing, and what to expect as an alternative.
- Implementation of PECS, consistent use of Telehealth for timely access to specialists, and secure but simple communication technologies must be supported to allow communication with specialists, EMS, and other staff over long distances. In a consolidated environment, investing in technology at facilities where it is absent is paramount.
- The Rady Faculty of Health Sciences (RFHS) should increase post-graduate training positions in Emergency Medicine and associated disciplines (Physician

Assistants (PA), Nurse Practitioners (NP), rural Bachelors of Nursing etc.), in order to match the supply of well-trained providers with provincial needs.

- Distributive training programs for paramedicine should be offered at select sites around the province. Ideally it would include a maintenance of competencies program for graduates (simulation, webinars) and affiliation with the academic Department of Emergency Medicine at the RFHS.
- Implementation of the “basket of services” model for communities that may lose their ED needs to be strongly considered. Group of physicians signing on to the basket of services model accept responsibility for providing care for all medical services (ED, hemodialysis, PCH, primary care) in a defined geographical area.
- Delay the conversion of Seven Oaks ED until SHSM has had the opportunity to evaluate the potential collateral impact on patients in IERHA and WRHA. (The full rationale for delaying the transformation of Seven Oaks was explained earlier in this chapter.)

9.13 RECOMMENDATIONS [COMPILED]¹¹²

Recommendations for Health Sciences Centre Emergency Department

1. Sufficient 24/7 physician and nursing resources to safely staff the resuscitation area, as well as high, mid, and low acuity patient streams and preclude the need to divert major trauma away from the HSC. Staffing should account for variance in daily volume and acuity, rather than for average volumes/acute, as discussed in Chapter 4.
2. A provincial accredited Level 1 Trauma System should be established within the next five years, based at HSC. Rapid assessment, coordination and throughput of trauma patients is essential for quality of care and ED efficiency. This could be done by way of a dedicated trauma team leader, or, preferentially, by embedding these additional hours within the physician schedule.
3. A robust Emergency Psychiatry unit within the HSC Adult ED to enable timely, dignified and professional care of involuntary patients who have been referred from other sites and require mandatory assessment and complex psychiatry consultations from across the province.

Recommendations for St. Boniface General Hospital Emergency Department

¹¹² Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

4. A new ED for St. Boniface Hospital is a high priority, as its current capacity is a major constraint to a fully consolidated system. The recently announced \$3M “renovation” should be merely the first phase of an integrated ED redevelopment plan. Piecemeal renovations to accommodate an accelerated consolidation timetable, without development of a new functional plan and ED design, would not meet the long-term needs of the system.

Key recommendations from Chapter 4 include compliance with new consultation/admission benchmarks, an effective over-capacity protocol with shared accountability, and use of Hospitalists to expedite outflow. These are of particular importance at St. Boniface, given that site’s access (output) block.

Recommendations for Grace Emergency Department

5. Grace ED must be given sufficient medical and nursing resources to serve its expanded physical footprint and the projected increases in volume and acuity.
6. Grace should expand its role as an academic center and become the designated community ED for the CCFP-EM training program (one of two streams for Emergency Physician residency training).
7. The impact of Winnipeg Fire and Paramedics Service (WFPS) volumes, particularly those from the Victoria catchment area, must be carefully evaluated and modified as necessary.

Recommendations for Victoria General Hospital Urgent Care

8. All patients requiring admission or specialty consultation from Victoria be transferred without delay, based upon modified policies originally developed for MUC.
9. EMS and WRHA, under the governance of SHSM, develop ambulance destination policies using pre-hospital CTAS to allow EMS to bring selected CTAS 2 to 5 patients with a high likelihood of discharge to Victoria.
10. Stable patients with low acuity conditions be directly admitted to Victoria, when inpatient beds and an admitting physician can be readily accessed.
11. The WRHA develop a plan to cover inpatient urgencies, precluding the need for the UC Physician to leave the department to attend to these.

Recommendations for Misericordia Urgent Care Patient Population

12. That all EDs and VUC develop processes for the efficient streaming of low-mid acuity patients.

13. That WRHA develop innovative programs, in collaboration with other provincial departments and community services, directed to the complex social and healthcare needs of its local “vulnerable populations,” such as accessible primary care and addictions services, 7 days per week.

Recommendations for Concordia Hospital

14. That the full closure of Concordia ED be delayed until Phase 1 of WRHA consolidation has been properly evaluated, modified and demonstrated to be successful, by which we mean lengths of stay for admitted and discharged ED patients across the region are approaching the Canadian average.
15. Due to EMS and hospital interdependencies, the respective roles of Concordia and Seven Oaks be de-coupled in Phase 2 of consolidation, and that sufficient physical capacity in Winnipeg’s remaining EDs be created/maintained.

Recommendations for Seven Oaks General Hospital Emergency Department

16. That the conversion of Seven Oaks ED be delayed until SHSM has had the opportunity to fully evaluate WRHA Phase 1 consolidation, strategically plan Phase 2 of consolidation (particularly, the impacts of Concordia closure and limits of St. Boniface’s physical capacity) and ensure formal modes of service integration between Seven Oaks and IERHA.
17. That transformation of Seven Oaks ED to an UC be reconsidered in light of the above, as well as the socially and medically complex patient population that it serves.

Recommendations for all WRHA Emergency Departments

18. Clear processes for consultation and admission, which will allow EDs to meet accepted Canadian benchmarks for flow. Shared goals should be championed and enforced by senior site and regional management; accountability for admitted patients should be shared throughout the hospital and metrics fed back to all involved programs.
19. Leadership must engage and achieve buy-in from physicians and direct-care nurses. These culture changes are difficult to enact quickly, but are essential to the success of consolidation.
20. That the physical (ED capacity), operational, behavioural and cultural improvements (as described in recommendation 19) outlined in all preceding recommendations be substantially completed prior to proceeding with Phase 2 of consolidation.

Recommendations for Rural Emergency Department Transformation

21. Through SHSM and with input from RHAs, establish a provincially coordinated ED service plan which integrates Regional Hubs, EDs, urgent care centers, primary care and EMS. This plan must be provincially coordinated and managed, ensuring any impacts or challenges are managed across regions and sites collaboratively.
22. All rural EDs with less than 12 CTAS 1 or less than 200 CTAS 2 visits per annum should be considered as potential candidates for transformation to a non-ED function, in order to optimally utilize resources and ensure patients receive care by providers with volume-dependent competencies. Distance from full 24/7 EDs also need to be considered.
23. In determining the future function of existing EDs, consideration should also be given to proximity to other 24/7 EDs—both within and beyond regional boundaries—and demonstrated ability of sites to consistently deliver 24/7 care. In the absence of another ED within 60 minutes, reorganization should not occur without necessary enhancement of EMS services.
24. That there be well-advertised, transparent communications with staff and local communities about planned changes, and that in-person visits include an informative and effective communication strategy that details how and why their services are changing, and what to expect as an alternative.
25. Implementation of PECS, consistent use of Telehealth for timely access to specialists, and secure but simple communication technologies must be supported to allow communication with specialists, EMS, and other staff over long distances. In a consolidated environment, investing in technology at facilities where it is absent is paramount.
26. The RFHS should increase post-graduate training positions in Emergency Medicine and associated disciplines (PAs, NPs, rural Bachelors of Nursing etc.), in order to match the supply of well-trained providers with provincial needs.
27. Distributive training programs for paramedicine should be offered at select sites around the province. Ideally it would include a maintenance of competencies program for graduates (simulation, webinars) and affiliation with the academic Department of Emergency Medicine at the RFHS.
28. Implementation of the “basket of services” model for communities that may lose their ED needs to be strongly considered. Group of physicians signing on to the basket of services model accept responsibility for providing care for all medical services (ED, hemodialysis, PCH, primary care) in a defined geographical area.
29. Delay the conversion of Seven Oaks ED until SHSM has had the opportunity to evaluate the potential collateral impact on patients in IERHA and WRHA. (The full rationale for delaying the transformation of Seven Oaks was explained earlier in this chapter.)

PRIORITY PROCEDURES

10 INTRODUCTION TO PRIORITY PROCEDURES

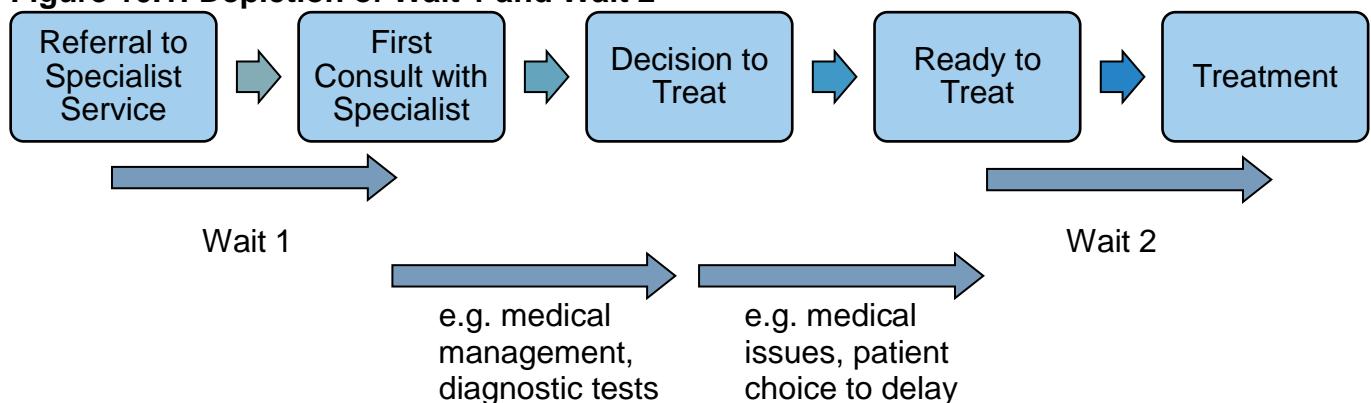
10.1 BACKGROUND

Concerns regarding access to medical care have been ongoing in Canada for many years, with different initiatives implemented over the years to help address these concerns at both the federal and provincial levels. Following the 2004 First Ministers' meeting, governments have paid particular attention to five priority areas: cancer, cardiac care, diagnostic imaging, joint replacement and sight restoration, with all provinces publicly reporting their wait times. While wait times for some services have improved, many provinces still struggle to consistently provide service within the national benchmarks.

Much attention has been focused on wait times for specialty services. The patient's health care journey begins with suspicion of a problem, and ends either with treatment or determination that treatment is not necessary. Depending on the health issue, the pathway may have many steps and/or treatment may be ongoing, or the pathway may be short with a defined end. Mapping the process can help illustrate where the bottlenecks may be, so they can be addressed. Wait time trends can also show whether access to services is improving, or getting worse, and what services are the most challenging.

Wait times for treatment-based specialty services in Canada are generally measured in two standard segments, Wait 1 and Wait 2:

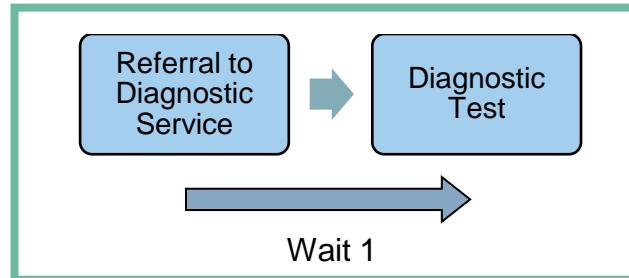
Figure 10.1: Depiction of Wait 1 and Wait 2



Time waited between the first consult and the patient being physically, emotionally, and socially ready to receive service ("ready to treat") is not generally reported, because it can be affected by many factors other than the health care system's ability to provide the specific service. For example, before a decision is made to proceed with surgery the patient may need to be scheduled for additional tests to confirm whether surgery is an appropriate option, or it may be more appropriate to first attempt to treat the patient's condition by other means (e.g., medication, allied health—physiotherapy) rather than performing surgery. Once a decision is made that surgery is the appropriate option, the patient may still not be ready. This could be because there are other medical issues that

must be addressed first, or because the patient is not available for social reasons, such as the need to arrange for time off work.

Figure 10.2: Depiction of Wait 1 for Diagnostic Services



This section of the report generally follows the standard national methodology for collecting and reporting on wait times. However, it also recognizes that there are some challenges measuring these consistently across Canada. Further, it recognizes that wait times are not the only, and in some cases not the best, indicator of access to quality services.

10.2 METHODOLOGY

The Priority Procedures Wait Times Reduction Committee (PPWTRC) has taken three main approaches in addressing the issues related to wait times for these three services:

- **Analyze the patient's journey**, starting with the suspicion of a medical concern, through to treatment.
Examine the barriers which may delay a patient's diagnosis or treatment. Often excessive waits are due to one step in a process that takes much longer than the others, delaying the overall outcome. For example, consider the long lines of people waiting to enter a stadium before a sporting event. There are enough seats for everyone, but the entrance is a bottleneck that can result in people waiting a long time to get in.
- **Analyze the demand for the service.**
Many wait lists are long partly because not everyone on the wait list needs the service at that time. For example, consider the situation of walking into an unfamiliar store to buy an item, and seeing two lines. You join one line and wait, but when you get to the front of the line the clerk tells you that the line you are in is for people who are returning items, and you should be in the other line which is for people buying items. As a result, you have spent a long time waiting in the wrong line and you need to go back and start over, making your wait even longer. In addition, the time the clerk spent telling you to change lines could have been used by the person who was in line behind you waiting to return something. This also extends their wait time, and the wait times of everyone behind them in line. If

everyone was directed to the right line the first time, then everyone's wait would be reduced.

- **Analyze the true capacity** within the system to meet the needs of patients.

In many cases there are opportunities for more services to be provided within the same amount of time, by using the existing people and resources more efficiently. For example, consider the machinery in a vehicle assembly line: many cars can be built in a day if every one is the same, so that the same machinery and process is used for every car. In contrast, if a car is built, followed by a truck, followed by a minivan, this would really slow the process down because the machines need to be re-set each time to accommodate the different sizes and shapes of the vehicles.

The three approaches described above are based on key elements of queuing theory, which is a mathematical analysis of waiting lines. Knowing demand, capacity and the variability of each step in the care process can help us predict how long people will wait for services. Queueing theory also helps us pinpoint where new resources can be used most effectively to reduce wait times.¹¹³

The three specialty services analyzed in this section of the report are representative of a variety of the types of health care services which are available in Manitoba: day surgery or minor surgery (cataract surgery), inpatient surgery requiring a stay in hospital (hip and knee replacement), and diagnostic imaging (MRI). Therefore, many of the recommendations included in this report could be applied to other services as well, making them more efficient and accessible for all Manitobans.

Further, because these three specific services have had a lot of attention devoted to them since 2004, they have already found and implemented many efficiencies and cost savings. Lessons learned from these accomplishments can help other service areas, which have not historically had the same attention on them, to find significant efficiencies and savings which can in turn benefit the whole health care system.

Although most of the recommendations in this report are specific to a particular service, it is important not to focus too closely on the service to the detriment of the rest of the health care system. For example, while one recommendation is an increase in hip and knee replacement surgeries to accommodate increasing demand, this should not be done by cutting operating room time for another service, without assessing the impact. Cutting time for another service could have the unintended result of increasing wait times and making it more difficult for people to access that other service. In addition, the more time an orthopedic surgeon spends in the operating room performing hip or knee replacement surgery, the less time he or she has available to see patients in clinic. An increase in the number of hip and knee replacement surgeries performed does not improve access if it

¹¹³ For an introduction to queueing theory see: https://en.wikipedia.org/wiki/Queueing_theory or University of Windsor Mathematics professor's Dr. Myron Hlynka's website: <http://web2.uwindsor.ca/math/hlynka/queue.html>.

means that newly referred patients have to wait twice as long to see an orthopedic surgeon for their consultation.

10.3 PROVINCIAL PROGRAMS APPROACH

The PPWTRC approached its work from a provincial perspective, recognizing that more effective provincial coordination is key in identifying further efficiencies. Much work has already been done in many service areas to standardize processes and improve efficiencies. Small scale changes may continue to improve access, but they will not have enough impact to solve the problems with which the Wait Times Reduction Task Force (WTRTF) was tasked. Coordination at a provincial scale is the next necessary step. One example is the use of provincial contracts for procurement, since prices tend to go down as volumes purchased go up.

A provincial central intake process for certain services can also significantly improve access and reduce wait times. Having all requests go through a single intake can allow referrals to be directed to the correct health care provider the first time. A central intake process can look very different depending on the needs of the population; it does not necessarily mean all patients will be directed to the next available specialist no matter where they are in the province. Criteria can be established so the central intake facilitates the service the patient needs, and incorporates patient choice. Examples of some decision criteria are below:

- How urgent is the patient's need?
- Does the patient need a particular surgeon or sub-specialty service?
- Does the patient prefer a particular surgeon?
- What criteria are most important to the patient (e.g., shortest travel distance, shortest wait time)? If the patient indicates they can travel, how far are they willing to go?

For example, one patient may want service as close to home as possible and be willing to wait a bit longer, another may want the shortest wait time and be willing to travel a couple hours in order to be seen more quickly. By knowing these patient preferences, knowing the wait times for individual specialists, and knowing what services each specialist provides as part of their practice, central intake staff can balance these criteria when directing a referral. Currently information about each specialist's wait times and practice are not available to most primary care providers. As a result patients can be unintentionally referred to a specialist with a very long wait time, or to a specialist who does not deal with the patient's specific health problem.

These are only some examples of ways looking at the needs and services from a provincial perspective can help address current access issues. Other examples are addressed in more detail in the report.

10.4 REPORT CONTEXT

The recommendations in this report are intended to be taken together, as they address the issues of access and wait times from different perspectives. Choosing to implement only certain recommendations should be done with caution, as they may not achieve the desired effect.

The PPWTRC recognizes that it is not possible, within the mandate of the WTRTF, to address the full scope of issues that influence access to and wait times for medical services. Some of these issues are common across the health care system, such as those identified in the overall report introduction, and some are more specific to individual services, such as those identified earlier in this chapter. To begin to address some of these challenges, throughout its report the PPWTRC has identified further issues which impact access, but which are out of the scope of the WTRTF, and recommends further work be done to find potential solutions.

11 MAGNETIC RESONANCE IMAGING

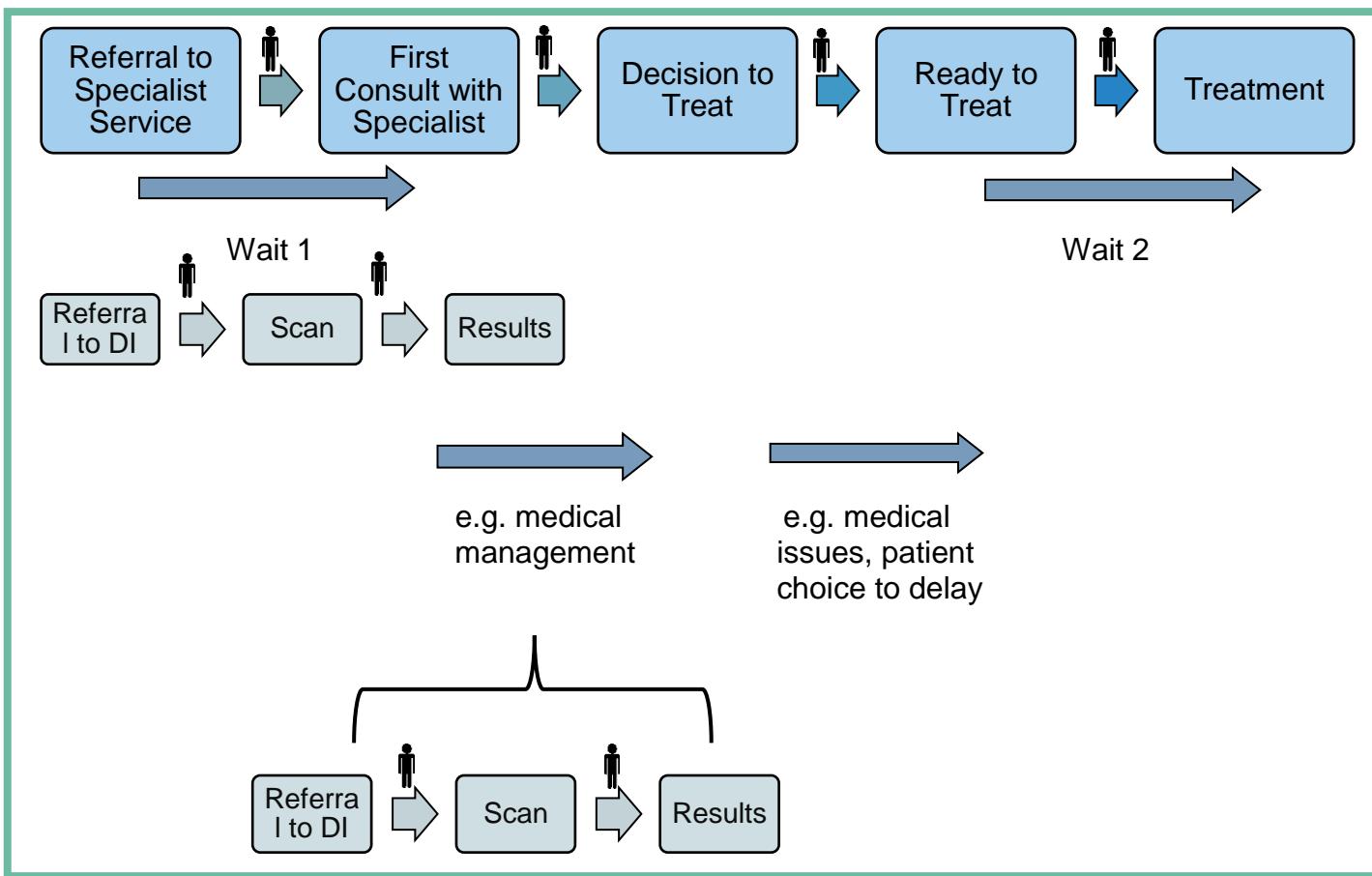
11.1 OVERVIEW OF MAGNETIC RESONANCE IMAGING

Magnetic resonance imaging (MRI) is a non-invasive and painless procedure which uses a strong magnetic field, and pulses of radio wave energy, to make pictures of organs and structures inside the body. MRI is now part of standard practice in cancer diagnosis and treatment planning, and is a first line screening or diagnostic test for some other medical problems. For many patients, MRI has replaced other older procedures because of better image quality, faster results, safety including lack of exposure to radiation, and improved patient comfort.

A patient may be referred for an MRI by a physician specialist, a family physician, or a nurse practitioner. Prior to 2007 only specialists were permitted to order MRIs. Family physicians were permitted to order MRIs beginning in 2007; nurse practitioners were permitted to order MRIs beginning in 2013.

The journey a patient takes from the time a need for an MRI is identified, to the time the scan is completed, is less complex than some other services. However, the path can still be quite long, delaying diagnosis and treatment plans. These delays can cause anxiety for patients waiting for a diagnosis, and have a negative impact on the patient's outcomes. It is also important to remember that, for many, the MRI is only a single step in their overall journey—in many cases an MRI may be followed by additional tests, surgery, or other treatment. An example of this journey is below.

Figure 11.1: Patient Pathway for an MRI



11.2 WHO NEEDS AN MRI?

There is no standard profile for a patient who is having an MRI. However, the majority of scans are performed on the head, spine, or extremities. Unfortunately, current information systems do not always identify the indications for scanning, or even the exact part of the body scanned. However, it can be surmised that many, if not most, scans of these body areas are related to either acute or past injury.

There are well-known behavioural risk factors for injuries, including the use of alcohol and other intoxicants, and mental health issues. Young males are at greater risk to be involved in traffic accidents and to have injuries related to risky behaviours.¹¹⁴ Older persons are more likely to suffer injuries because of: acute events (e.g. falls); the failure to adjust to increasing frailty; or the side-effects of medication.^{115,116}

¹¹⁴ (Cassidy, et al., 2004)

¹¹⁵ (World Health Organization, 2017)

¹¹⁶ (Public Health Agency of Canada, 2014)

These risk factors are also linked to the contexts of people's lives, sometimes referred to as the social determinants of health. We know a lot about creating safer environments these days even when people are at high risk of injury.

Figure 11.2: Definitions of Key Terms [1]

Social Determinants of Health	Incidence	Prevalence
<ul style="list-style-type: none"> Factors which influence the health of the population, including: income and social status, social support networks, education, employment/working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender and culture. 	<ul style="list-style-type: none"> The number of new cases of a disease, within a specified period of time. Example(s): The number of Manitobans newly diagnosed with diabetes in 2016. 	<ul style="list-style-type: none"> The number of new and existing cases of a disease, within a specified period of time. Example(s): The total number of Manitobans alive with a diabetes diagnosis in 2016.

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In Canada and internationally, injuries are more common in persons with lower income¹¹⁸ and education.¹¹⁹ Similarly, in Manitoba, lower income residents are at greater risk for hospitalization due to an injury, either intentional or unintentional, than higher income residents (e.g. 11.4 hospitalizations for unintentional injuries per 1,000 persons for the lowest income quintile, versus 3.7 hospitalizations for unintentional injuries per 1,000 for the highest income quintile).¹²⁰ However, more MRI scans are performed on higher income Manitobans than on those with lower income.¹²¹ For example, throughout the 2011/12 fiscal year, in urban areas the rates of MRI scans were 51.5 per 1,000 persons of the lowest income quintile and 61.6 per 1,000 persons of the highest income quintile.¹²² In rural areas there was a comparable trend, with rates for MRI scans estimated at 43.2 per 1,000 persons of the lowest income quintile and 54.7 per 1,000 persons of the highest income quintile.¹²³ From this data it is evident that there are inequities between

¹¹⁷ (Public Health Agency of Canada, 2017)

¹¹⁸ (Birken, Parkin, To, & Macarthur, 2006)

¹¹⁹ (Mackenbach, et al., 2015)

¹²⁰ (Manitoba Health, Seniors and Active Living, 2000-2012)

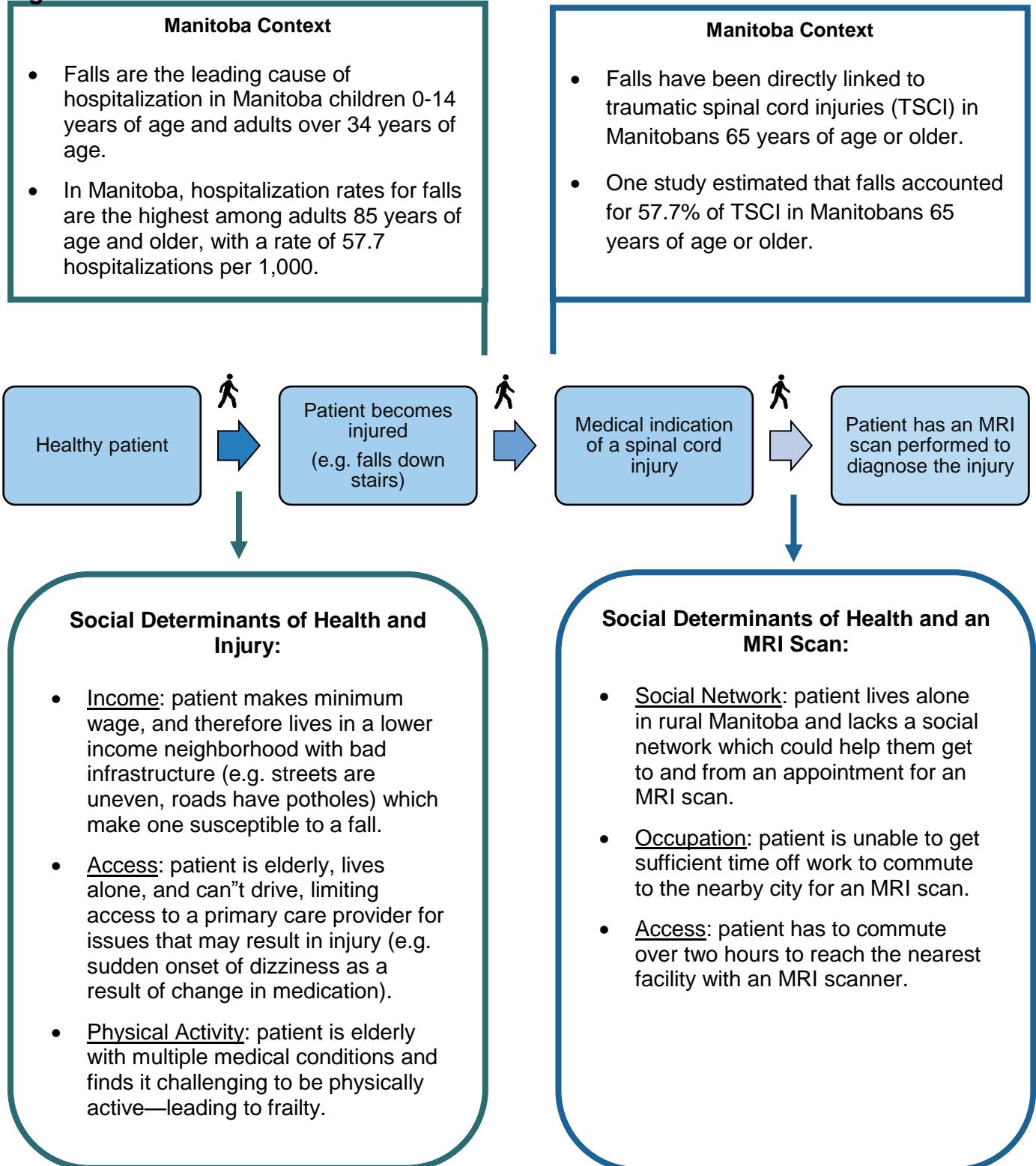
¹²¹ (Manitoba Centre for Health Policy, 2013)

¹²² (Manitoba Centre for Health Policy, 2013)

¹²³ (Manitoba Centre for Health Policy, 2013)

Manitobans by income in accessing MRI diagnostics. Of note, Manitobans who fall into a lower income quintile often include the elderly, those of Indigenous descent, and immigrants to the province.

Figure 11.3: Association between the Social Determinants of Health and MRIs

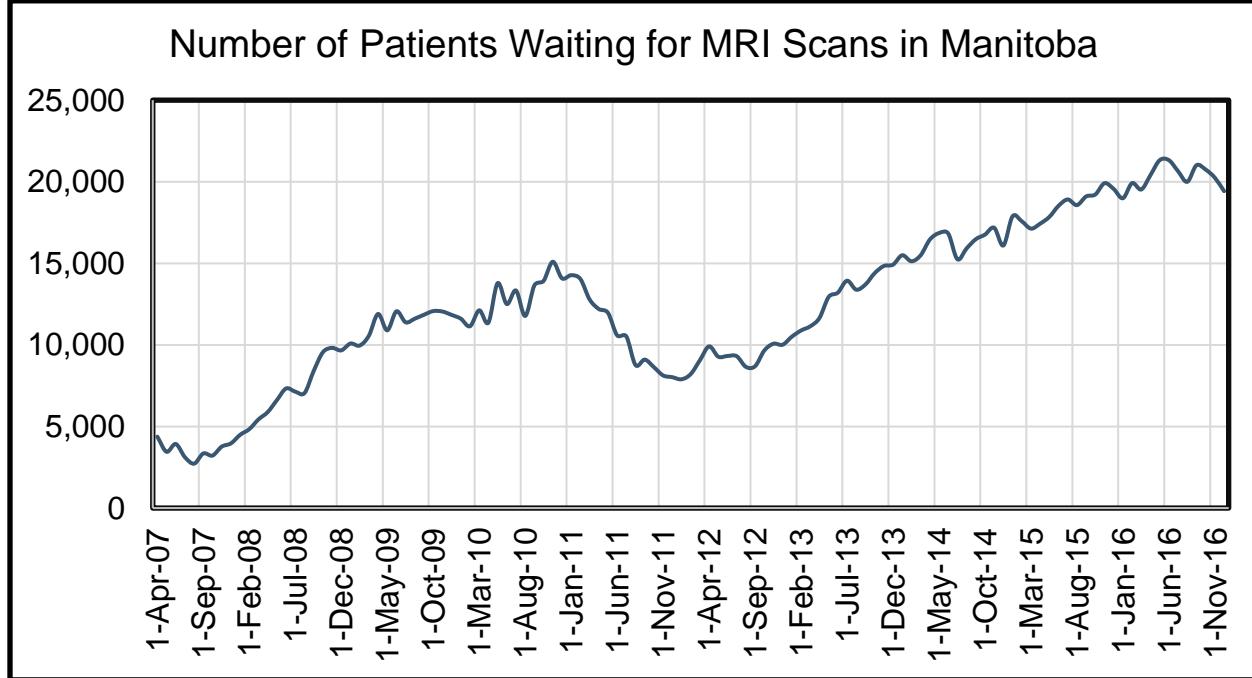


11.3 DEMAND FOR SERVICES

The demand for MRI services in Manitoba, as measured through the number of referrals received, has steadily increased. This can be seen in the wait list, which has grown despite the increasing numbers of scans being done over the past decade.

Since April 2007, the earliest date for which data is available, the number of patients on the wait list has increased by over 340%. The figure below shows how the wait list has varied over this time, which is due to a variety of factors. For example, as new MRI machines are added, the wait list will usually decrease for a time as more scans are done, but then builds up again. Another factor that affects the wait list is the number of providers able to order scans. Accordingly the wait list increased after family physicians and nurse practitioners were permitted to order MRIs (2007 and 2013, respectively), in addition to specialists.

Graph 11.1: Number of Patients Waiting for MRI Scans in Manitoba



It is difficult to predict future demand for MRI services in the same way as can be done for some other services which are used to treat very specific conditions, such as cataract surgery or hip and knee replacements. Due in part to technological advances, MRI is used for diagnosing or monitoring an increasing number of illnesses. On the other side there are illnesses where MRI has been shown to be unnecessary, or where other cheaper or more accessible imaging techniques work just as well (e.g. knee pain in older persons, low back pain and headache). Therefore, there is not necessarily a direct relationship between the need for MRI, and the frequency with which any particular condition appears in the population.

While it appears the demand has been steadily growing, it is not clear how many of the referrals are for MRIs which are useful in order to diagnose or determine a treatment plan for a patient, and how many would be considered “inappropriate.” An inappropriate MRI does not change the patient’s course of treatment, or does not provide new information. For example, this could be because the patient has already had a recent MRI so a second scan doesn’t provide additional value; an MRI is not the right test to help diagnose the patient; or an MRI provides the same information that was already known from another method of diagnosis, such as a physical examination or X-ray.

A review of several Canadian studies has shown that between 2% and 28.5% of MRIs are inappropriate.¹²⁴ The variation is partly due to different methodology in the studies, and partly due to the types of MRIs being examined. For example, MRI is not generally recommended as a diagnostic tool for low back pain,¹²⁵ therefore studies examining MRI scans performed for patients with low back pain will likely find a relatively high percentage of inappropriate scans. Anecdotally, the committee also heard a number of comments during consultations that there are many MRIs ordered in Manitoba which are inappropriate. There were three main reasons given for this: some health care providers do not know the most appropriate test to order to help diagnose their patients; some specialists refuse to see a patient for referral without an MRI, even if it is not appropriate; some patients will insist on being referred for an MRI, even if it is not appropriate. Further, survey feedback from health care practitioners showed that the top identified barrier to patients receiving an MRI was insufficient access to equipment, followed by patients being referred inappropriately. The top three solutions identified, representing nearly 75% of the responses, were to improve referring clinicians’ knowledge of appropriate referrals or appropriate imaging type, centralize all referrals to the service, and have the ability to redirect referrals to another MRI with a shorter wait list. These results can be seen in the figures below.

¹²⁴ (Vanderby, Pena-Sanches, Kalra, & Babyn, 2015)

¹²⁵ (Choosing Wisely Canada, 2014)

Figure 11.4: Top Ranked Barriers to Patients Receiving MRIs, as identified by Practitioners

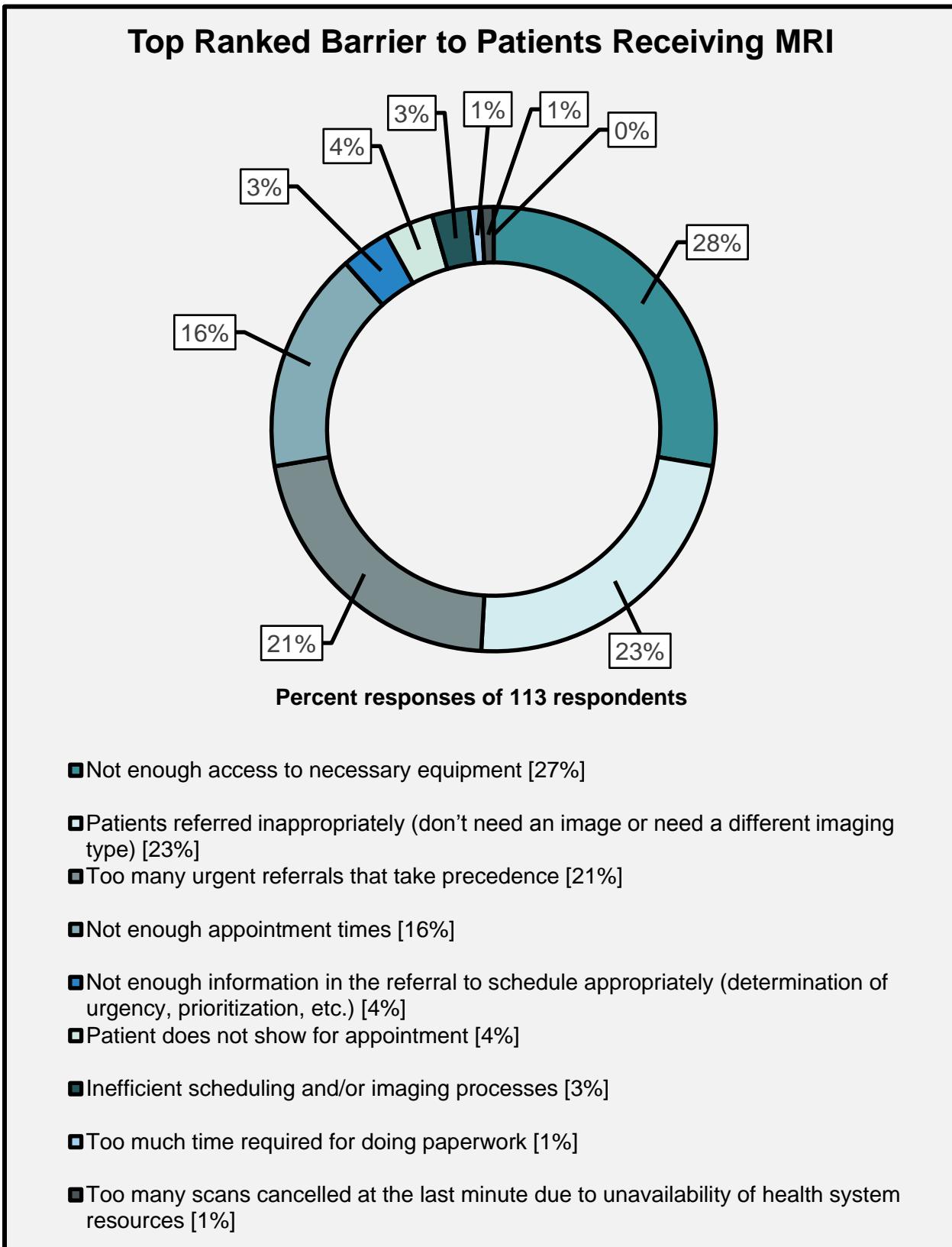
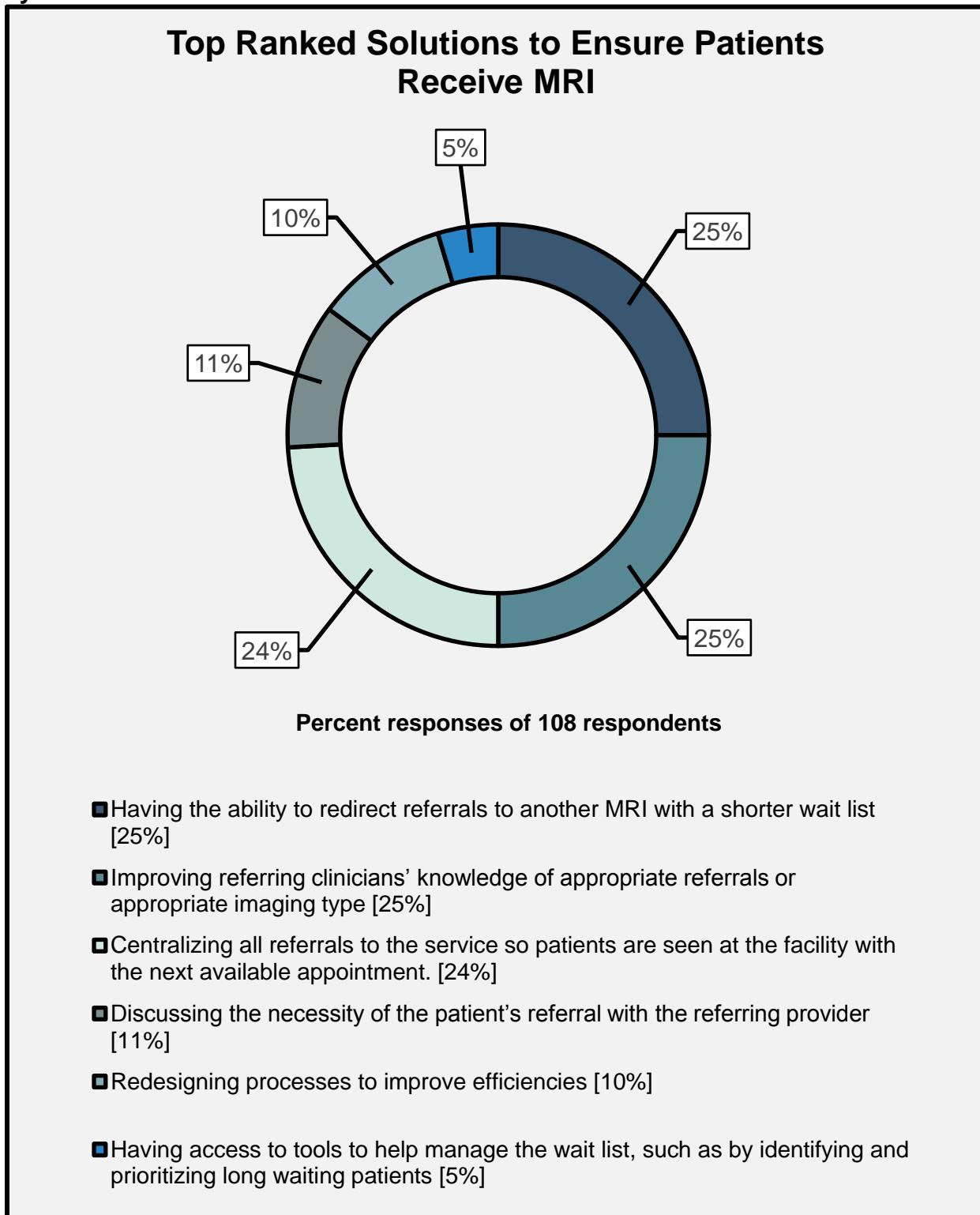


Figure 11.5: Top Ranked Solutions to Ensure Patients Receive MRIs, as identified by Practitioners



Based on the available information, the committee believes that the actual demand for MRI in Manitoba is lower than it appears. Therefore, while an increase in MRI volumes may be necessary to meet demand, further work must be done to assess the actual need for MRI in Manitoba. Until this work is complete there should not be further investment in installing new MRI machines in Manitoba.

11.4 CAPACITY

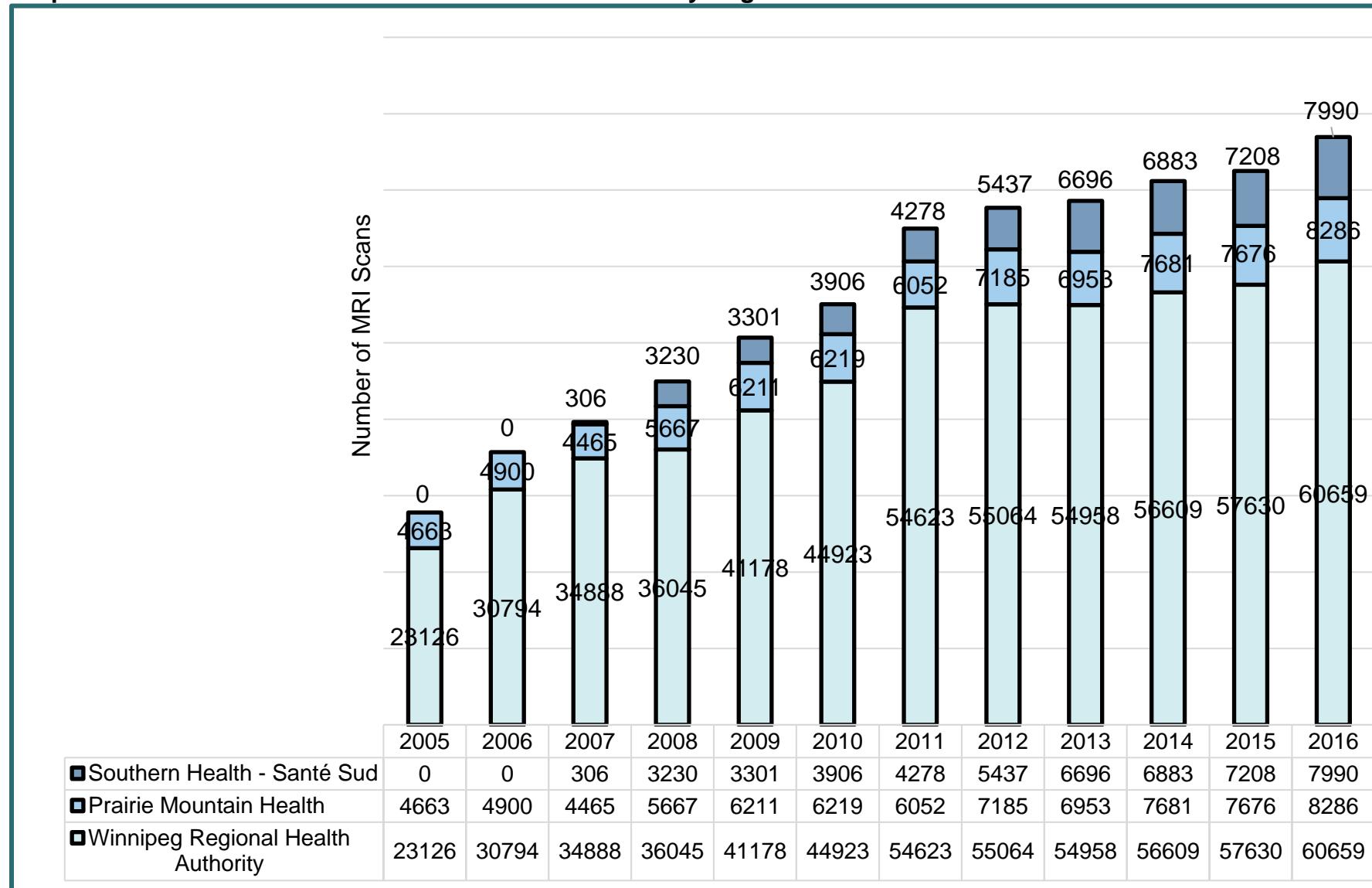
Manitoba currently has 13 MRI scanners in operation. Most are located in the Winnipeg Regional Health Authority (WRHA), with one each in the Interlake-Eastern (IERHA), Prairie Mountain Health (PMH), and Southern Health-Santé Sud (SHSS) regions:

- IERHA: Selkirk Hospital (1)
- PMH: Brandon Regional Health Centre (1)
- SHSS: Boundary Trails Health Centre (1)
- WRHA: Health Sciences Centre (HSC) (3 + 1 specifically for pediatrics), St. Boniface Hospital (3), Pan Am Clinic (1), Grace Hospital (1), National Research Council Canada (1)

It is important to note that the Selkirk and HSC pediatric scanners are quite new, beginning operation in summer 2017, and are not yet working at their full capacity. Therefore, within the past few months Manitoba has increased its number of MRI machines from 11 to 13, giving the province 180.5 additional hours of scanner time per week. This is an increase of approximately 18% over the previous capacity.

The figure below shows the volume of scans done, by year and by region, from 2005 to 2016. In this time the volume of scans done in Manitoba increased by 177%:

Graph 11.2: The Volume of MRI Scans Done in Manitoba by Region and Year



The MRI scanners operate on different schedules, generally running between seven and sixteen hours per day, though some scanners do not operate on weekends or holidays:

Table 11.1: Operational Hours of MRI Scanners across the Province by Site

		Weekday		Hours of	Weekend		Hours of	Stat Holiday		Hours of
Facility	Scanner	Start	End	Operation	Start	End	Operation	Start	End	Operation
St. B.	1	7:30	23:30	16.0	7:30	22:00	14.5	7:30	22:00	14.5
	2	7:00	23:30	16.5	7:30	15:00	7.5	7:30	15:00	7.5
	3	7:30	23:30	16.0	7:30	22:00	14.5	7:30	22:00	14.5
HSC	1	7:00	23:30	16.5	8:00	23:00	15.0	8:00	23:00	15.0
	2	7:00	23:00	16.0	8:00	23:00	15.0	8:00	23:00	15.0
	IMRIS**	16:00	23:00	7.0	n/a	n/a	n/a	n/a	n/a	n/a
	NRC	7:30	23:00	15.5	n/a	n/a	n/a	n/a	n/a	n/a
	Pediatric*	7:30	23:00	15.5	7:30	15:45	8.3	7:30	15:45	8.3
Pan Am	1	7:20	23:00	15.6	8:00	16:00	8.0	8:00	16:00	8.0
Grace	1	7:00	16:30	9.5	n/a	n/a	n/a	n/a	n/a	n/a
Brandon	1	6:45	23:00	16.3	8:00	15:45	7.8	8:00	15:45	7.8
BTHC	1	7:00	23:15	16.3	8:00	23:15	15.3	n/a	n/a	n/a
Selkirk*	1	7:30	23:59	16.5	8:00	16:15	8.3	8:00	16:15	8.3

* Note: the hours listed above for the HSC Pediatric and Selkirk scanners are their full operating hours, which will begin in fall 2017 after all staff have been trained. Current hours are:

Selkirk: 7:30-17:00 Monday-Friday, no operation weekends or holidays

HSC Pediatric: 7:30-17:00 Monday-Friday, no operation weekends or holidays

** Note: the HSC IMRIS scanner is only available in the evening. It is used for research during the day.

Therefore, there is capacity within the existing infrastructure to provide more MRI services, without adding additional MRI scanners, by expanding the hours of operation. It was noted in consultations that it can be difficult to run an MRI at full efficiency beyond midnight, since patients often do not want to come that late at night, particularly when the scanner is located in an area of town that feels unsafe. Overnight hours would also be challenging for patients who would need to travel in from out of town for their scan. In addition, it is difficult to fill last-minute cancellations between midnight and 8:00am, as most patients do not want to be called during those hours. However, running all scanners for 16 hours per day, including on weekends and statutory holidays, would add nearly 200 hours per week, without the need for overnight shifts.



What we heard...

"I am ok having to do this after hours or on the weekend if it can be done sooner."

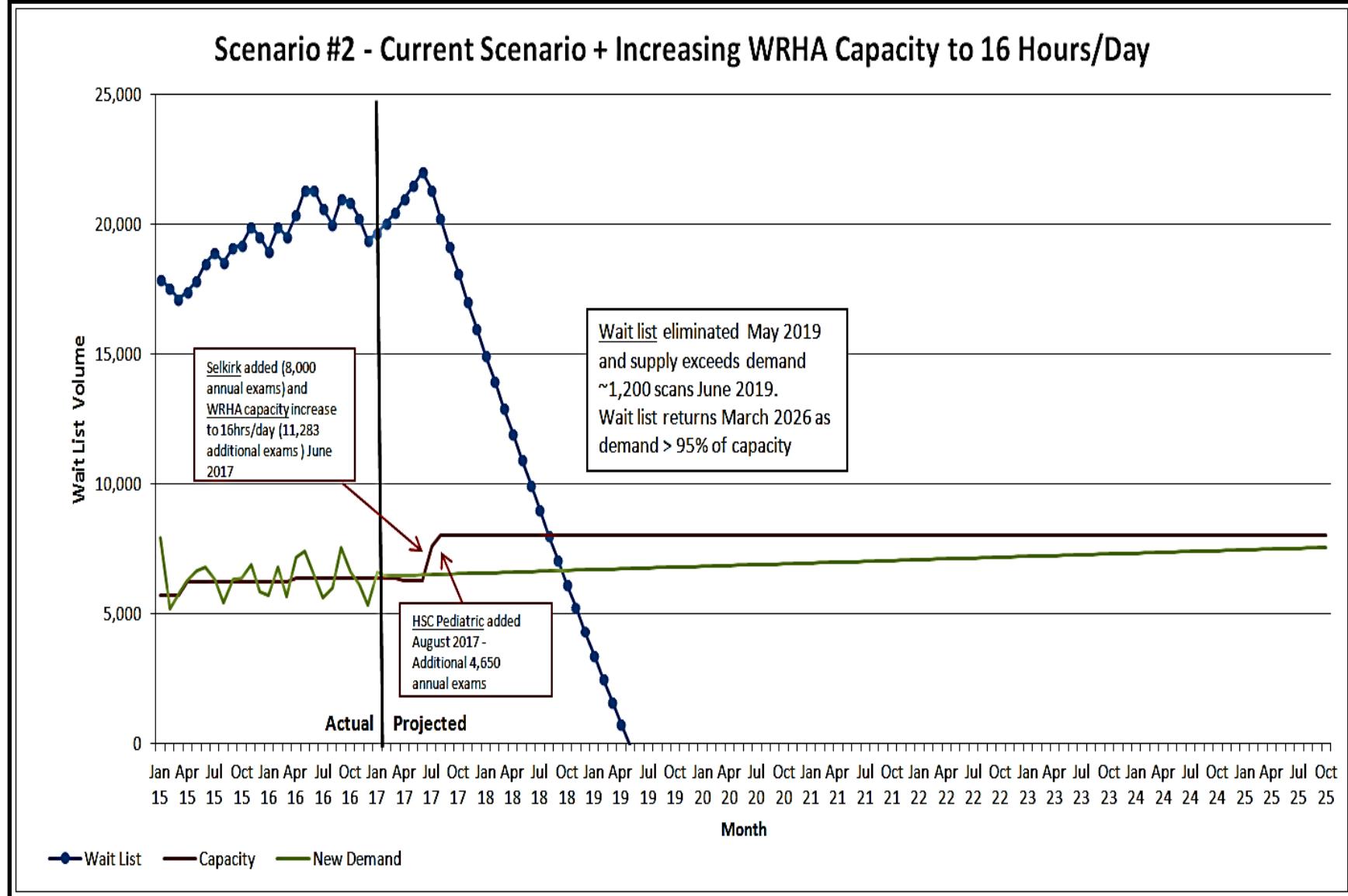
- *Public Survey Respondent*

"More after 5:00 pm appointments. (i.e. evening and weekends) to prevent work loss, especially if travel is also an issue."

- *Public Survey Respondent*

According to analysis done in January 2017 by Manitoba Health, Seniors and Active Living, the current wait list could be eliminated in just under two years, even if only the WRHA MRIs were to increase their capacity to 16 hours per day. In this model, which assumes WRHA MRIs would expand their hours in June 2017, the wait list would be eliminated by May 2019:

Graph 11.3: Depiction of Wait List Elimination with MRI Scanners being Operational 16 hours per day



This model assumes the demand continues to increase as it has, and does not take into account a potential reduction in referral volumes by assessing and addressing inappropriate referrals. It also assumes the actual number of MRI scans performed is only 95% of the planned number of scans. In fact, since January 2012, the numbers of scans done have been closer to 100% of the planned volume. Therefore, it may take less time for the wait list to be eliminated than was estimated.

Existing capacity could also be improved by implementing and monitoring strategies to reduce the number of appointment slots which are unfilled because patients cancel or do not show for their appointment. A recent report from the Office of the Auditor General (OAG) Manitoba estimated there are approximately 3,400 no-shows annually in Manitoba.¹²⁶ Recognizing that it is not possible to eliminate cancellations and no-shows entirely, all patients should be offered the opportunity to be added to a cancellation list, and to identify how much notice they would need to be able to come in to fill an empty appointment slot. This will help staff ensure all slots are used, as they will have a list of patients who are interested in coming in on short notice, and they can prioritize who to call based on availability. For example, one patient may say they only need 15 minutes notice, so could come in in place of a patient who did not show for their appointment. Another patient may need a day's notice, so could fill an appointment where a patient called ahead to cancel. This will also help improve equity of access to services, since although many sites do have a cancellation list, the option is not offered to all patients. Often patients need to ask in order to be added to the list.

Protocols for scans are not currently the same across the province. The same procedure may take different amounts of time at different sites. Regions are currently working together to harmonize their protocols, so that the same type of procedure takes approximately the same amount of time and is of the same quality no matter where in the province it is done. This will help improve efficiencies from site to site.

Finally, there are currently challenges with efficient use of human resources, such as MRI technologists, as collective agreements often mean staff cannot be transferred between sites or regions. It was noted in one consultation that this can lead to a situation where MRI technologists from one site, which is down for repairs, cannot fill in at another site in the same city, which is short-staffed due to illness. This results in appointments at both sites being cancelled. It was also noted in consultation that the human resource planning at many sites is done for short periods of time, such as a year or less. Having short employment terms, without the ability to create long-term employment opportunities, makes it difficult to recruit and retain staff.

¹²⁶ (Office of the Auditor General Manitoba, 2017)

11.5 APPROPRIATENESS AND QUALITY ASSURANCE/QUALITY IMPROVEMENT

As was noted above, it is likely that not all MRI referrals are appropriate or necessary. However, it is not known what percentage of referrals in Manitoba are inappropriate. This is in large part because referral forms are not standardized, and many referrals received are incomplete, which makes it challenging to determine whether or not the request is appropriate.

MRI and other diagnostic technology is becoming more complex. Despite ongoing education, it will likely be increasingly difficult for primary care providers to ensure they are ordering the correct tests. Therefore, it may be necessary to look at other strategies to support referring clinicians in choosing the correct test, and to monitor and ensure appropriate ordering.

Anecdotally some radiologists noted that they will sometimes contact a referring clinician to recommend a different or more appropriate test, with varying success. One reason that was identified as a barrier to changing a test, after it has been ordered, is the patient feeling that the decision had been made [to get an MRI] and thus, is expecting an MRI. They may, therefore, lose some confidence in their referring clinician if they are then told that an MRI is not appropriate. Another challenge radiologists face is not having enough information on a referral to determine whether the test is appropriate, as it has not been filled out completely.

In consultations, some referring clinicians noted they would appreciate assistance from a radiologist in determining the best test. Some have existing collaborative relationships with radiologists who will provide advice, while others have found they are unable to get advice from some radiologists and so order what they think best.

What we heard...



"Figuring out how to assist providers to determine the most appropriate test for the patients, including MRIs is a good idea...it is quite often determined by public demand. Right now if [you] have a sore knee right now the test should be an MRI."

– Practitioner Participant during Consultation

What we heard...



"Physicians feel very unsupported if [they] don't do what their patients want."

- Practitioner Participant during Consultation

As can be seen in the above quotations, one challenge identified by referring clinicians is in handling the expectations of their patients, and having the evidence to show the patients to back up a recommendation for one test over another. Several identified that having access to a tool, such as a poster or pamphlet, that they could use with their patients to make an informed, mutual decision, would be very helpful.

Another important aspect of service quality, in addition to ensuring patients are not given tests they don't need, is ensuring the scans themselves are of good quality, and that the interpretation of the results is accurate, consistent, and timely. This requires a monitoring and feedback mechanism for the radiologists who are coding and reading the scans. There are a number of existing quality improvement initiatives within Manitoba, as each site has its own quality program. There is also a Provincial Quality Committee, which consists of representatives of each of the organizations responsible for providing MRI services in Manitoba.¹²⁷ This work should be continued and coordinated provincially, with feedback provided to radiologists similar to the report cards which the orthopedic surgery program uses to monitor key performance indicators for hip and knee replacement surgeons. These performance indicators should be determined by the provincial program.

11.6 ACCESS

There is currently a central intake process for MRI within Winnipeg. However, until a pilot project beginning in mid-September 2017, referring clinicians had a choice to either send the referral through the central intake or to send it directly to a specific site. Outside Winnipeg, all referrals are sent directly to a specific site. Therefore, the central intake's ability to even out wait times across Winnipeg or the province has been limited. It was noted in one consultation that the time it takes the central intake office to process referrals has discouraged primary care providers from sending referrals there. The pilot project requiring all Winnipeg MRI referrals be sent through central intake may improve the distribution of MRI requests throughout Winnipeg, but will not address disparities in wait times at other sites in the province.

It has been suggested that restricting ordering to specialists could help reduce the volume of referrals and address appropriateness. However, this would also have the effect of reducing access to MRIs and increasing the wait time, as patients would first need to wait to see a specialist for consultation before waiting for their MRI. It could also reduce access for Manitobans with low socioeconomic status, who traditionally have more challenges accessing specialist care. In addition, there is no guarantee that this policy change would improve the appropriateness of ordered MRIs. A better approach would be to address the appropriateness of all MRIs, not just those ordered by primary care providers.

MRI services are only available in the southern part of the province, with most machines located in Winnipeg. This can pose access challenges for people who live some distance

¹²⁷ (Essig & McGhee, 2017)

from an MRI machine. In addition, since time is required for a radiologist to read the scan and provide a report to the referring clinician, patients may have to travel twice—once for the scan, and once for a follow-up visit with a specialist, if needed. This can be difficult, not only for people who live far from an MRI machine, but also for people with mobility challenges, or who do not have good access to transportation. In some cases a follow-up in-person visit with a specialist to discuss the test results provides significant value to the patient, for example if the test results lead to a discussion of next steps for treatment. In other cases there may be little the patient and the specialist need to discuss, for example if the test results are straightforward or the next steps were already decided. Some patients may prefer to find out the results in person, while others may prefer to get the results and have a discussion of next steps by distance (for example by phone or Telehealth), regardless of the outcome of the test. These preferences should be taken into consideration when determining the need for an in-person follow-up appointment. If a patient has multiple follow-up appointments, coordinating these appointments so people only need to travel once would also help address some of these barriers.



What we heard...

"This is a prime example of where proper utilization of the Telehealth and PACS [Picture Archiving and Communication System, a technology used for storing and sharing MRI scans] would work perfectly. Being able to review imaging completed prior to patient contact via Telehealth is an excellent use of the infrastructure in place for many follow-up appointments. Allowing full physician billing over this system would help to reduce costs with transportation via EMS to and from redundant appointments which could have been managed without the patient having to leave their home community."

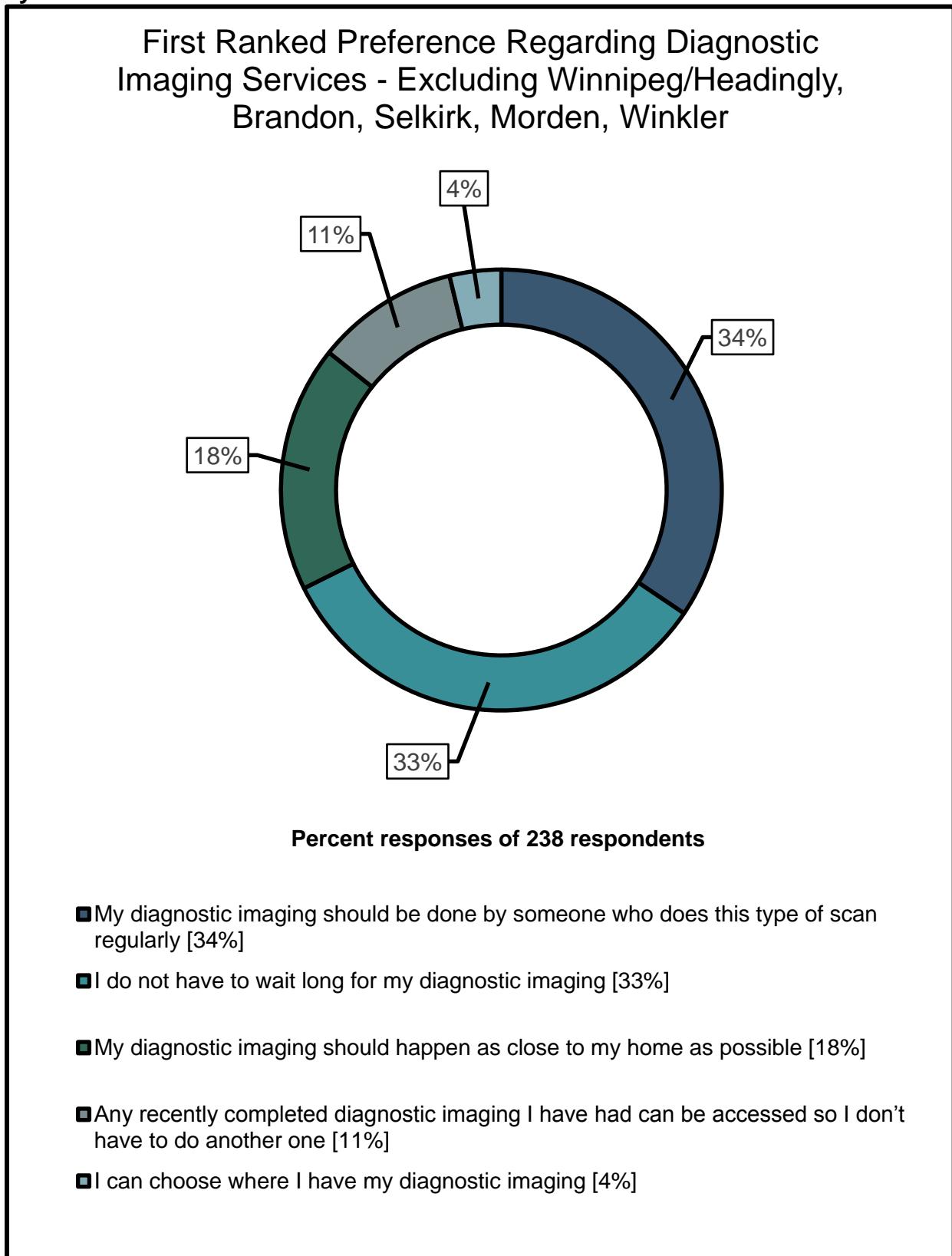
- *Public Survey Respondent*

A number of existing barriers to access could be addressed by providing patients with the opportunity to choose approximately when their MRI occurs. This would also allow the system to better match the capacity to the demand. If patients were able to choose the date of their MRI, from a list of available days, they would be able to choose a time that best works for them and their families, and make any necessary travel arrangements ahead of time. This should also help reduce cancellation and no-show rates. Further, this could allow maintenance time or staff holidays to be arranged to better align with times where demand is lower.

While there currently appears to be no need to install an additional MRI in Manitoba, at some point in the future it may become necessary. At that time further analysis should be done to assess the benefits and costs of placing an MRI machine in northern Manitoba. Having an MRI in the north could reduce the burden of travel for residents of northern

Manitoba. Considerations should include, but not be limited to, a minimum volume of services to be provided, to ensure there is enough experience and expertise to be able to provide high quality services. In the public survey, some rural respondents ranked “My diagnostic imaging should happen as close to my home as possible” as their top choice, indicating a desire to have easier access to services. However for the majority of respondents this was outweighed by the desire to have their diagnostic imaging scan performed by someone who does this type of scan regularly (34%), and to have short wait times for service (33%)—see figure below.

Figure 11.6: Top Ranked Preferences for Diagnostic Imaging Services, as Identified by the Public



11.7 FUNDING AND TRACKING MECHANISMS

In past years the Government of Manitoba has defined the minimum number of MRI scans which each region must perform, and provided funds to regions in order to achieve these minimum volumes. Regions are not restricted to this number, and can choose to do more scans. Below are the annual volume targets for MRI, by region, as well as the actual numbers done, for fiscal years 2015/16 and 2016/17:

Table 11.2: Target and Actual MRI Volumes by RHA

Region	2015/16 Target	2015/16 Actual	2016/17 Target	2016/17 Actual
WRHA	57,210	57,647	60,620	61,318
PMH	9,000	8,013	9,000	8,301
SHSS	6,800	7,280	7,200	8,116

One challenge, identified during consultations with health care providers, is that this funding and management method can be difficult for sites which do more complex scans, or scans on sicker patients, as these can take longer than less complex scans. Sites which deal with these more complex cases on a regular basis may need to run longer hours in order to perform the same number of scans. It was therefore suggested that other performance metrics, such as productivity or machine utilization, could be used instead of volume of scans.

A provincial reporting tool (Agfa Business Intelligence) is being implemented in phases throughout the province. This will allow for much more robust data mining, and will assist with both day-to-day and long-term operational decisions affecting patient care.¹²⁸ Having the ability to track operational data regarding scans done can help identify areas of inefficiency, or where more images are being taken than necessary during a scan.

As noted above, the patient populations at different sites with MRI are also different—for example St. Boniface and Health Sciences Centre see a lot of in-patients who can be very ill, whereas the Pan Am Clinic sees mostly elective patients. However, efficiencies found at one site can still potentially be applied at other sites to shorten their scan times. Having the ability to monitor this data provincially could help identify possible improvements

11.8 WAIT TIME AND ACCESS INDICATORS

While the patient path to diagnostic imaging is often not as complex as for other services, such as surgery, it is still important to track key performance indicators along the pathway.

¹²⁸ (Essig & McGhee, 2017)

While patients generally focus on the wait time for the scan, it was noted by several respondents to the public survey that the time it takes for a radiologist to read the scan and provide a report back to the referring clinician is a concern, and can impact the timeliness of their treatment. In addition, if the ordered test was not appropriate leading the patient to wait for another test, or the scan was not of good quality meaning the patient must be re-scanned, the patient's overall wait for diagnosis and treatment can be unnecessarily extended. Therefore key performance indicators, as determined by the provincial program, should be tracked and reported publicly. These may include the time required to read and report on a scan, the percentage of scans which provided the necessary information, the percentage of patients who had to be re-called, or the percentage of patients who had to be sent for another test after their MRI.

Performance and wait time indicators can be key to helping the system identify where the issues or bottlenecks are, and ensure patients get the right test the first time. Reporting indicators publicly can help ensure patients understand their options, and can support them in making informed decisions about their care.

11.9 How DOES MRI FIT INTO PROVINCIAL PROGRAMMING?

MRI services in Manitoba are currently managed by three bodies: Diagnostic Services Manitoba (DSM), which manages MRI machines outside Winnipeg and Brandon; WRHA, which manages MRI machines in Winnipeg; and PMH, which manages the MRI machine in Brandon. While the three organizations collaborate on various committees which review operational components such as technology, equipment, practice and accreditation,¹²⁹ there is no true provincial program responsible for operations. The Diagnostic Imaging Joint Council is a provincial radiology leadership group consisting of medical, administrative and technical leadership from WRHA, PMH and DSM. The Diagnostic Imaging Joint Council meets every two months, and reviews, at a high level, policies and directives as required.¹³⁰

It should be noted that a provincial program does not mean patients must travel to the next available MRI site even if there is a more accessible site. It does mean that the province can have a more accurate picture of both the demand for services and where capacity exists, through standardized and consistent data collection, and can more easily redirect or reinvest money or other resources where the needs are.

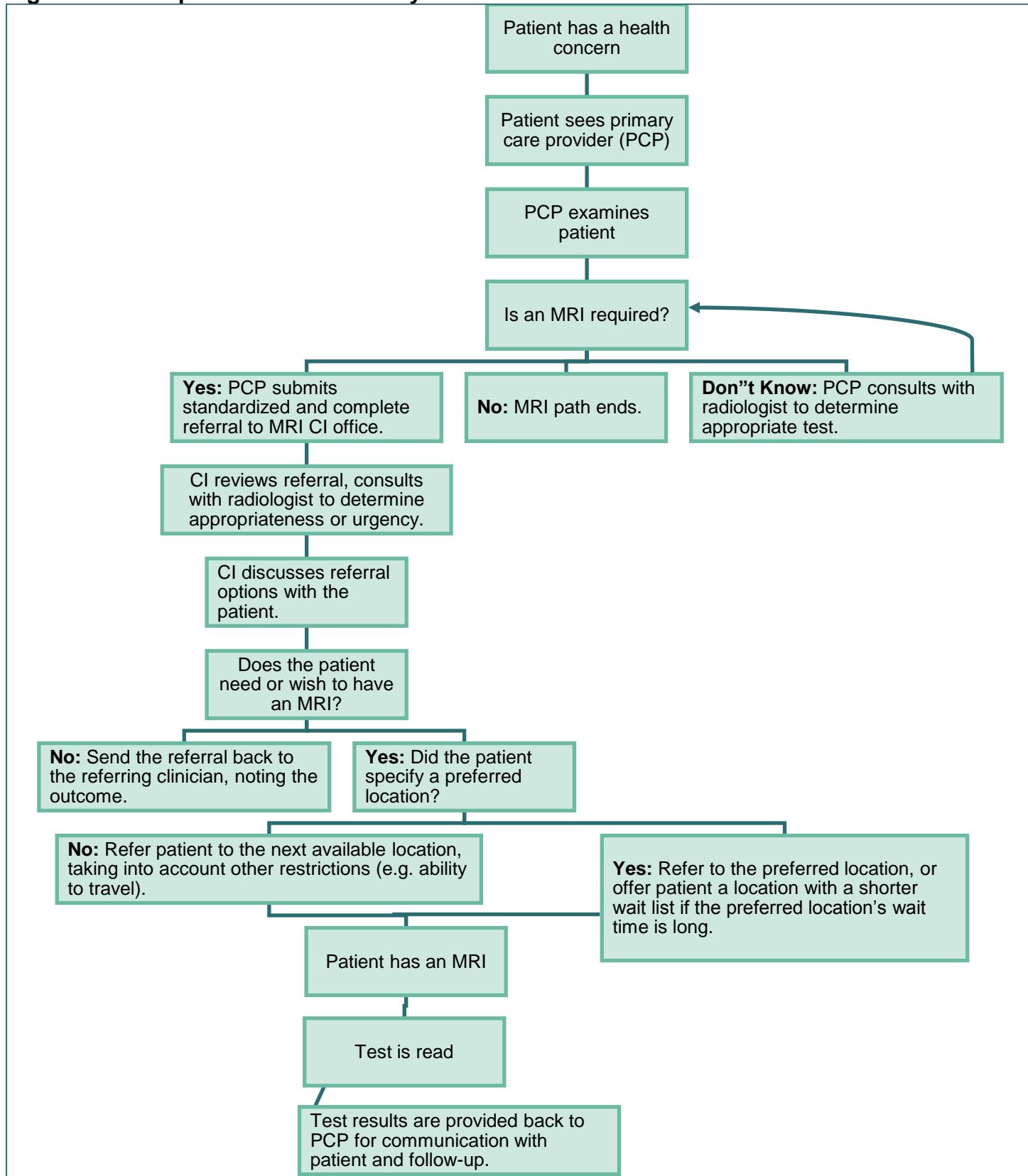
11.10 PROPOSED PATIENT JOURNEY PATHWAY

Following on the discussion above, the committee proposes a revised patient pathway for MRI in Manitoba, summarized below:

¹²⁹ (Essig & McGhee, 2017)

¹³⁰ (Essig & McGhee, 2017)

Figure 11.7: Proposed Patient Journey for MRIs



11.11 RECOMMENDATIONS¹³¹

1. Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient's preferences are honoured whenever possible.
2. Whenever appropriate, book follow-up appointments to discuss test results via Telehealth or another distance mechanism. Educate patients about distance communication options, such as Telehealth, and encourage them to request consultation by distance when appropriate.
3. Reduce the demand and wait times for MRI by improving appropriate ordering of tests. Tactics should include:
 - a. Standardize MRI referral forms, and include guidance on appropriate ordering. Require radiologists to consult referring clinicians to ensure imaging requests are appropriate.
 - b. Implement a mechanism to allow referring clinicians to identify the patient's signs and symptoms, and consult with the radiologist to choose the best imaging test.
 - c. Fund activities in recommendations 3a and 3b from within existing radiologist remuneration.
 - d. Implement further education and training strategies for primary care providers, residents, specialists, radiologists and staff regarding appropriate ordering. Provide decision support tools, such as through Choosing Wisely Manitoba, which clinicians can use in discussion with their patients to help determine the most appropriate test or treatment. Target strategies for ordering clinicians for those who order a large number of tests.
 - e. Implement monitoring and feedback mechanisms for referring clinicians, so they are aware of the appropriateness of their ordering.
4. Increase MRI capacity to address demand. Tactics should include:
 - a. Maximize the use of existing MRI machines by running machines 16 hours per day, 7 days per week, where appropriate. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, and whether further adjustments are required based on the updated demand data.
 - b. Implement and measure strategies to improve utilization of MRI machines, including offering all patients the opportunity to be on a cancellation list, and reducing no-show and cancellation rates.

¹³¹ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

- c. Continue to standardize and harmonize MRI protocols across Manitoba.
 - d. Ensure processes, training and collective agreements are in place to support MRI technologists working at any MRI site in Manitoba.
- 5. Do not purchase or install additional MRI machines in Manitoba until the demand warrants it. In 2017 Manitoba added approximately 18% more capacity through the installation of two new MRIs. Additional MRI demand in Manitoba needs to be analyzed, as it has in the past, before adding additional machines.
- 6. Establish a provincial program for diagnostic imaging, including MRIs, so funding and resources can be directed to where they are most needed. A provincial program should include:
 - a. Implement a provincial data reporting and standards review.
 - b. Standardize wait time and wait list definitions, data collection and reporting from all sites. This data should be used to model different options for wait list management based on the principles of queuing theory, to help determine how to most efficiently use the existing resources to meet the needs of Manitobans. The data should include, but not be limited to:
 - i. Complexity of scan (e.g. number of different views needed, whether perfusion is used)
 - ii. Exact part of body scanned
 - c. Track and report on key access indicators by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial program. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - d. Evaluate the demand and anticipated needed volume on a regular basis, so staffing volumes can be planned a significant time in advance.
 - e. Strengthen the existing WRHA central intake, placing it under Shared Health Services Manitoba as a provincial program:
 - i. Enforce participation in the central intake by all MRI sites, i.e. all MRI sites will receive referrals from central intake.
 - ii. Enforce referral to central intake of all patients requiring an MRI. Patients may still choose a specific site, but all referrals will be assessed and processed at the central intake office to ensure maximum patient choice and complete data collection.
 - iii. Ensure central intake processes are patient-centred. Central intake should be prepared to provide additional navigation and support services as needed, especially for patients with language and literacy issues.
 - iv. Provide a contact number for patients who have questions or who need assistance while they are waiting.

- v. Ensure the central intake has sufficient staff to process referrals in a timely way. Monitor turnaround times.

12 HIP AND KNEE REPLACEMENT SURGERY

12.1 OVERVIEW OF HIP AND KNEE REPLACEMENT SURGERY

Hip and knee joint replacements are one of the most effective ways to reduce joint pain and improve functioning for patients with advanced hip and knee problems, most commonly resulting from osteoarthritis.¹³² In hip or knee replacement surgery, the surgeon removes the damaged joint and replaces it with an artificial joint. Artificial joints generally have a lifespan of about 15-20 years,¹³³ although it can be significantly shorter if the joint becomes infected or if there are other complications after surgery. In these cases, the artificial joint is removed, and a new joint put in. This is called a revision, and accounts for fewer than 10% of all hip or knee replacement and revision surgeries performed in Canada.¹³⁴

The majority of hip or knee replacement surgeries are considered elective; in other words there is no risk to loss of life or limb if the surgery does not happen immediately. However, it is important to recognize that severe hip or knee pain can reduce peoples' ability to work, drive, or participate in activities they enjoy. Therefore, long wait times can have a significant negative impact on quality of life.

In some cases, replacements or revisions are done on an urgent basis. This could be because of a broken hip, or an infection in the joint; these cases are prioritized for surgery and are not waitlisted in the same way as elective cases.

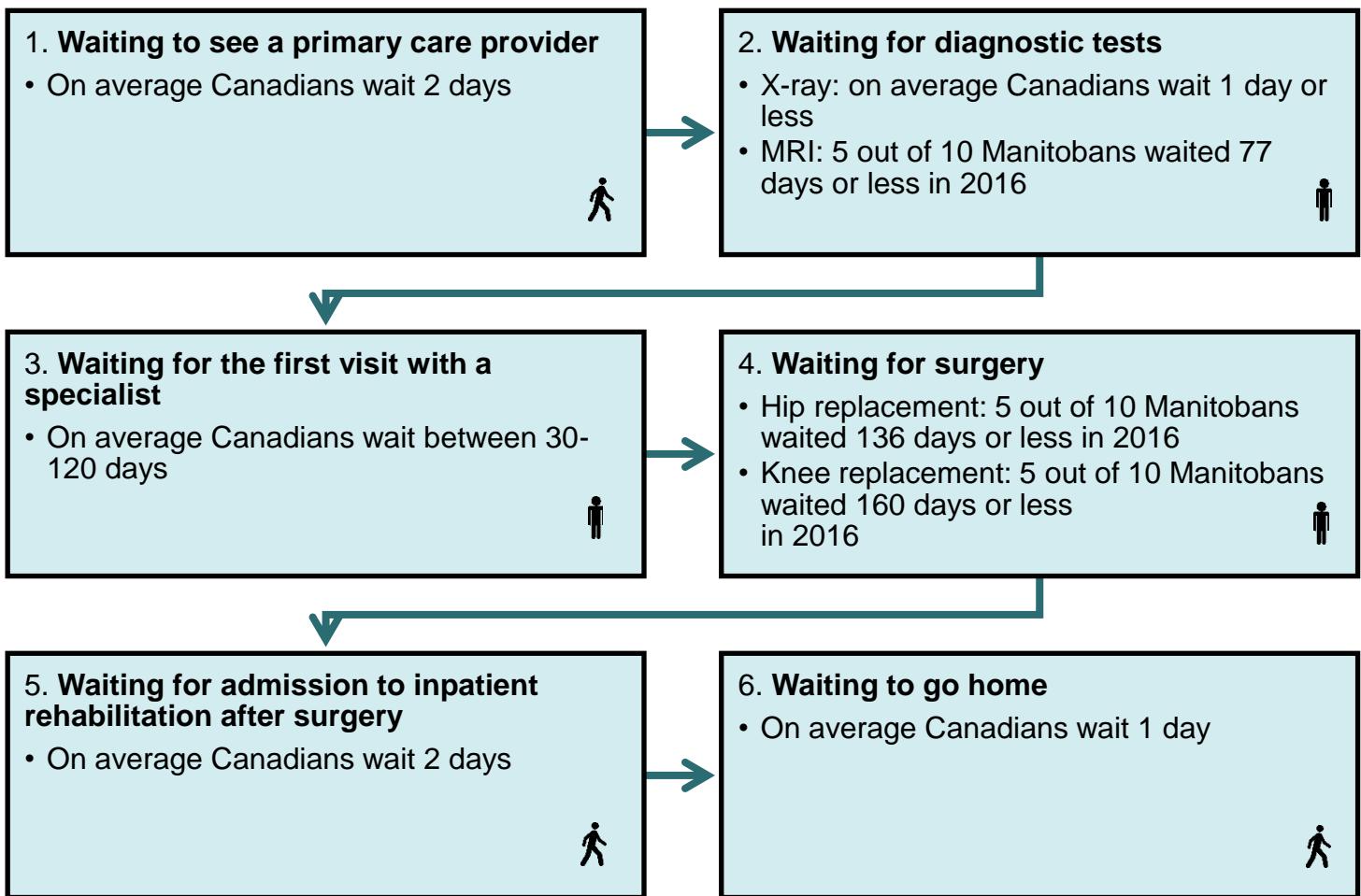
There are several steps a patient must go through before receiving a hip or knee replacement, many of which require waiting. A generic example is below, based on data from the Canadian Institute for Health Information (CIHI). Please note Manitoba does not offer inpatient rehabilitation.

¹³² (Canadian Institute for Health Information, 2015)

¹³³ (Canadian Institute for Health Information, 2015)

¹³⁴ (Government of Ontario, 2017)

Figure 12.1: Patient Journey for Hip/Knee Replacement Surgery



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Therefore, on average the time between when a patient decides to book an appointment with their family doctor, and when they are discharged from hospital after their surgery, takes approximately a year. However, the wait times shown above are either medians or averages, meaning while there are patients who wait less time, there are also patients who wait longer. The scenarios shown below are based on stories we heard when speaking to members of the public about their experiences:

¹³⁵ (Canadian Institute for Health Information, 2012)

¹³⁶ (Canadian Institute for Health Information, 2017)

Figure 12.2: Scenario #1 – Six Year Wait Time

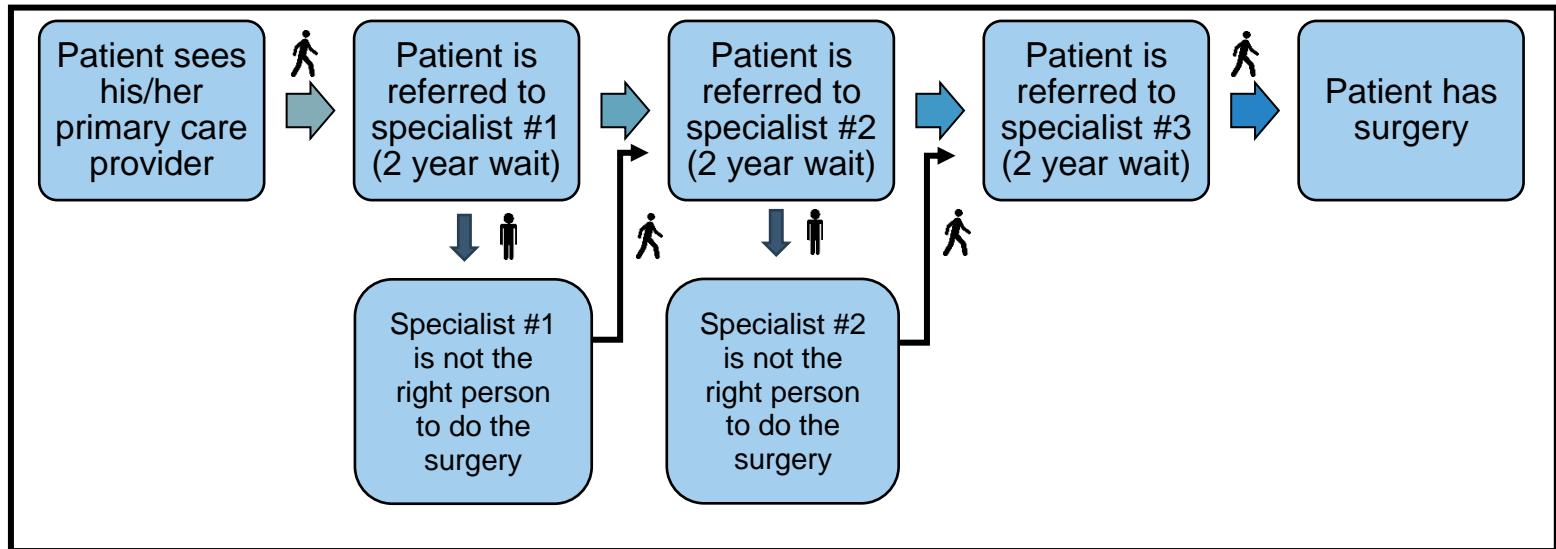
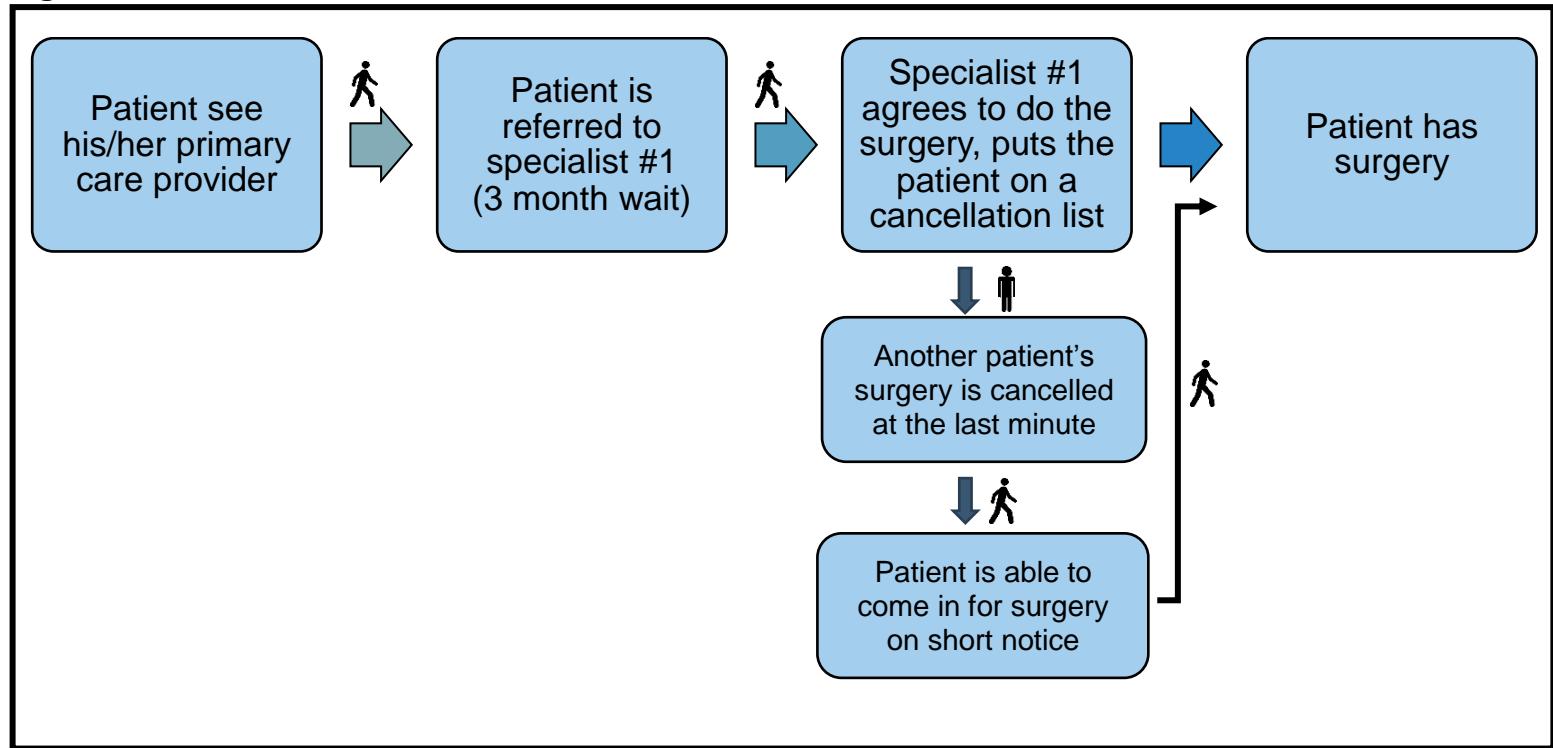


Figure 12.3: Scenario #2 – Four Month Wait Time



These examples not only show that waits for many patients are too long, but that the access is not equitable across different patients, because there are so many different experiences.

As illustrated above, for most patients the majority of the time is spent in steps two, three and four, i.e. waiting for diagnostic tests, for a first visit with a surgeon, and for the surgery. Sometimes patients wait longer than necessary because they have inappropriate tests or procedures. Two good examples are:



EXAMPLE – MRI:

Most osteoarthritis can be diagnosed with an X-ray, there is rarely a need for other imaging such as an MRI. Eliminating MRIs for the majority of patients could significantly decrease their overall wait time. It would also have the benefit of increasing the number of MRI appointments available for other patients who do require a scan.



EXAMPLE – Knee Arthroscopy:

This is surgery using a small instrument that is inserted through a small incision in the knee. A recent analysis of arthroscopy outcomes showed that, on average, it does not improve either pain or knee function in the long term. Therefore, for most people the benefits do not outweigh the risks.

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Due to challenges with data, it is difficult to determine the potential savings by reducing MRI and arthroscopy to diagnose or treat osteoarthritis. These challenges are identified in more detail in Chapter 14. However with respect to knee arthroscopy, assuming that the majority of the procedures done on people who are over the age of 60 are due to osteoarthritis, a minimum of \$275,000 in physician fee-for-service billings could be saved per year.

12.2 WHO NEEDS HIP OR KNEE REPLACEMENT SURGERY?

The typical surgical candidate for a hip replacement in Canada is a male between the ages of 65 and 84, or a female between the ages of 55 and 74, with a pre-existing degenerative arthritis (e.g.,osteoarthritis) condition.¹³⁸ For knee replacements it is a male

¹³⁷ (Siemieniuk, et al., 2017)

¹³⁸ (Canadian Institute for Health Information, 2015)

or female between the ages 65 and 74 with a pre-existing degenerative arthritis diagnosis.¹³⁹

In Manitoba there are two subpopulations at higher risk for a hip or knee replacement: patients who are obese, and patients who are of Indigenous descent. Obesity¹⁴⁰ is a known risk factor for arthritis development because extra weight increases the force exerted on joints. Manitoba women who are obese are three times more likely to have a joint replacement than their counterparts who are of normal weight or underweight. The same association was not identified for males.¹⁴¹ Manitobans of Indigenous descent are also at higher risk for a hip or knee replacement in contrast to other Manitobans, given their higher risk for an arthritis diagnosis, which may be attributed to their higher rates of obesity and other risk factors such as injury.¹⁴²

There are multiple social determinants of health at play that result in these subpopulations being at higher risk for the need for a hip or knee replacement. For instance, obesity is the result of many social determinants of health, including lifestyle behaviours (e.g., prevalence of obesity is higher among smokers and people who are inactive); geographic location (e.g., prevalence of obesity is higher among people who live in more northern and remote parts of the province), education (e.g., prevalence of obesity is higher among people with lower educational attainment), and employment (i.e. prevalence of obesity is higher among people who are not employed). Manitoba's vulnerable populations (e.g., people of lower socioeconomic status and/or of Indigenous descent) often fall into these categories that lead to higher rates of obesity, and later to arthritis and the need for a hip or knee replacement.

Despite some populations having a higher likelihood for a hip or knee arthritis diagnosis, they appear not to be receiving care according to need. In urban areas such as Winnipeg or Brandon, higher income patients are more likely to get a hip replacement than lower income patients (e.g. 2.2 hip replacements performed per 1,000 persons of the highest income quintile in urban areas versus 1.9 hip replacements performed per 1,000 persons of the lowest income quintile in urban areas).¹⁴³ This trend was not observed to be statistically significant for knee replacements in rural areas—all areas of Manitoba excluding Winnipeg and Brandon). Lack of statistical significance means that the estimated adjusted rates for knee replacements in rural areas could have been attributed to chance.

However, given that the need for a joint replacement is higher in those with low income, similar rates of actual surgery likely indicate under-treatment for the lower income

¹³⁹ (Canadian Institute for Health Information, 2015)

¹⁴⁰ Obesity is defined as a Body Mass Index (BMI) of over 30. BMI is calculated by dividing weight (in kilograms) by height (in metres) squared.

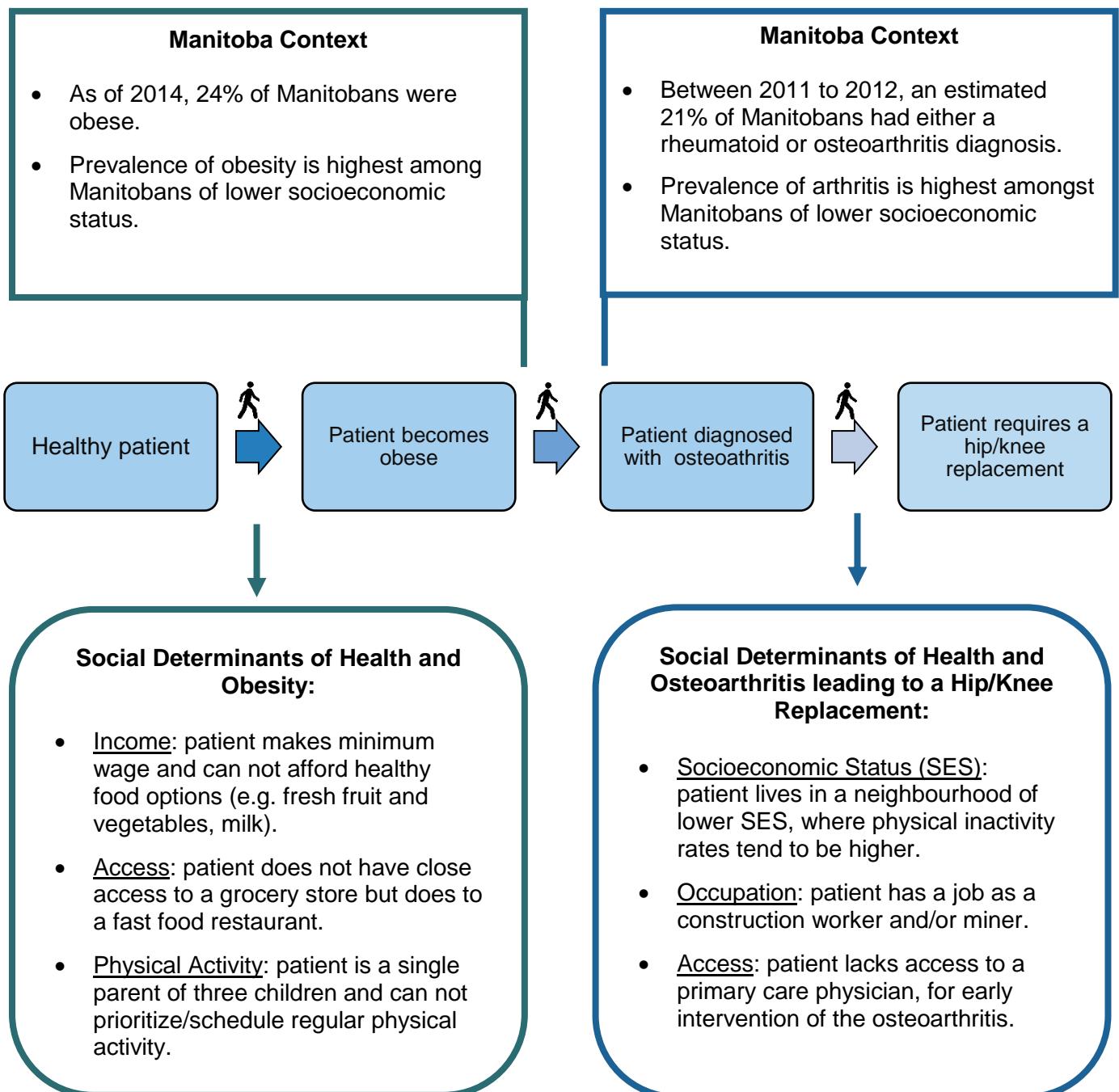
¹⁴¹ (Manitoba Centre for Health Policy, 2011)

¹⁴² (Barnabe, Elias, Bartlett, Roos, & Peschken, 2008)

¹⁴³ (Manitoba Centre for Health Policy, 2013)

group.¹⁴⁴ For example, in England, reported arthritis problems are more than five times more likely in low income persons than high income persons, but the lowest income persons were only twenty percent more likely to get hip or knee replacement surgery.¹⁴⁵

Figure 12.4: Association between the Social Determinants of Health and Hip/Knee Replacement Surgery



¹⁴⁴ (Manitoba Centre for Health Policy, 2013)

¹⁴⁵ (Steel, et al., 2014)

12.3 DEMAND FOR SERVICES

As noted above, one major risk factor for osteoarthritis is age. Therefore, as the overall population gets older, the number of people who will need a hip or knee replacement will likely increase.

- Since 2007/08, the average age of Manitobans who had hip or knee replacement surgery has consistently been between 66 and 68 years old.
- The majority of people in Manitoba who have had hip or knee replacement surgery are approximately between 58 and 76 years old.
- The number of people in Manitoba between the ages of 60 and 75 increased by 37% between 2006/07 and 2015/16, from 139,171 (12% of the total population) to 190,692 (14% of the total population).
- Population projections from the Manitoba Bureau of Statistics indicate that the Manitoba population aged 65 to 74 will continue to increase until approximately 2031, and then begin slowly to decline. The population aged 75 to 84 will continue to increase annually until at least 2036.¹⁴⁶

Therefore, even if no other factors change, it is reasonable to assume the demand for hip and knee replacements will continue to increase each year until at least 2031. In addition, increasing obesity rates will likely further increase the number of people requiring a hip or knee replacement each year.

It is challenging to use the existing Manitoba wait lists to accurately assess the change in demand. This is because wait lists for surgery are affected by other things, such as how often the wait list is checked to remove patients who are not interested in or available for surgery, or a change in the number of surgeons who are adding patients to the wait list. However, with the detailed data collected by the Winnipeg-based central intake, it is possible to estimate that the current annual demand for hip or knee replacements in Winnipeg is approximately 3,600 cases per year. This assumes that approximately 2,100 new patients are added to the wait list each year through the central intake, plus approximately 1,500 patients who will not go through the central intake process but who will have a second joint replacement done by the surgeon who performed their first joint replacement. This does not include the patients who are referred directly to Brandon Regional Health Centre or Boundary Trails Health Centre. However, assuming the demand at those sites is approximately proportionate to Winnipeg based on the relative volumes of surgery performed at each site, one can assume combined demand for the two sites is approximately 500 cases per year.¹⁴⁷ Examining a variety of Canadian and international sources, it can be projected that demand for hip and knee replacement surgery will increase by approximately 5% per year in future.¹⁴⁸

¹⁴⁶ (Manitoba Bureau of Statistics, 2008)

¹⁴⁷ (Bohm, 2017)

¹⁴⁸ (Bohm, 2017)

Given what is currently known about the wait lists for consultation and surgery in Manitoba, a yearly increase of 1,000 surgeries is predicted to reduce both the wait for consultation (to 2 months), and the wait for surgery (to 4.1 months), by 2021/22. If nothing further is done at that point, the wait list will then begin to increase again.¹⁴⁹ However, there are known gaps in the current data, and as noted in section two of this chapter, it may be that not everyone who needs a hip or knee replacement is getting one. Therefore, any recommended increase in volumes should be accompanied by an evaluation plan to determine whether the predictions are correct, and assess how the changes are affecting access for these services.

12.4 CAPACITY

Three Regional Health Authorities (RHAs) perform elective hip and knee replacements:

- Winnipeg Regional Health Authority (WRHA): Concordia Hospital and Grace Hospital
- Prairie Mountain Health (PMH): Brandon Regional Health Centre
- Southern Health-Santé Sud (SHSS): Boundary Trails Health Centre

The overall capacity to perform these surgeries has been increasing over the past number of years, with processes becoming more efficient and effective. This has resulted in, for example, shorter stays in hospital for patients after surgery (from 6.4 days for knee replacements and 7.3 days for hip replacements in 2008/09, to 5.0 days for both hip and knee replacements in 2015/16).

Both Concordia Hospital and Grace Hospital staff indicated in consultations that they would each be able to accommodate 250 additional cases per year, within existing bed, operating room and staff capacity. Further, both sites will soon begin doing outpatient hip replacement surgeries, removing the need for a hospital stay after surgery for some patients. With this change, it is estimated the two sites combined could accommodate an additional 200 cases per year. Boundary Trails Health Centre staff indicated they could accommodate 200 additional cases per year, while the Brandon Regional Health Centre staff indicated it would be difficult to increase volumes in their current environment.¹⁵⁰ This amounts to 900 additional cases per year.

Additional bed capacity could be made available if patients' stays in hospital after surgery are reduced further. During our consultations, health care staff made several suggestions that could reduce the length of stay. For example:

¹⁴⁹ (Bohm, 2017)

¹⁵⁰ (Bohm, 2017)

- Ensure physiotherapists are available to help hip and knee replacement patients get out of bed and begin walking on the day of their surgery. Currently physiotherapy shifts end at 3:00pm, therefore patients who have surgery later in the day have no support to get up and walking until the next day, which can extend their stay in hospital.
- Ensure each patient's home care needs are arranged in advance, so as soon as they are ready to leave the hospital everything is in place. For example, some patients' discharge may be delayed if their home has not been adequately prepared (for example if rails need to be installed on the stairs), or if there is no home care or home IV service arranged.
- Ensure the hospital has everything ready for the patient to take when they leave. For example, some patients' discharges are delayed, particularly on the weekend, if no doctor is available to fill out their prescriptions.

The capacity of a hospital to perform surgeries is not limited to total operating room time, number of beds, or number of staff. It is also related to the ability of the surgical team to safely and effectively perform more surgeries in a day. This can be achieved in part by improving processes to decrease the time between surgeries, such as by ensuring the next patient is ready and can be moved into the operating room as soon as it is cleaned. Experienced, high performing teams are also more productive than less experienced personnel who infrequently work together. In addition, there is variability between health care staff regarding their interest, experience and comfort in performing hip and knee replacements. For example, one surgeon noted that he can tell how long a surgery day will be by looking at the list of who is on staff that day. One suggestion offered was to create surgical teams, or "pods" of people who are interested and experienced in focusing on hip or knee replacements, and scheduling them together on a day focused on one type of surgery. This could allow more surgeries to be done in a day within the same operating room and staff time.

In addition to staff salaries, other surgical costs include the joints and other disposable tools and supplies used for each surgery, and the fees for the surgeons and anesthesiologists. Costs for joints and other supplies could be further reduced by having a coordinated provincial approach to procurement, as vendors will often provide discounts for buying in bulk. Further, the use of value-based procurement can result in lower overall costs as it is often possible to negotiate extra benefits. For example, a vendor who provides knee prostheses may add a certain number of braces at no cost. However, it is not recommended that a single provider be used for all equipment or other materials, even if that provides the best price. If the vendor had sudden trouble supplying all the needed equipment, there would be no back up available to ensure patients could still receive service.

Until recently, hip and knee replacement surgeries required an inpatient stay. As technology advances and outpatient surgery becomes available, it may be appropriate for Manitoba to consider the possibility of contracting private surgical facilities to perform some of these surgeries through a Request for Proposals (RFP), similar to what is

currently done with cataract surgery. It was noted in consultation that private surgical centres are interested in performing joint replacement surgeries.

Figure 12.5: Key Concept – Marginal Cost(s) versus Average Cost(s)

Marginal Cost(s) versus Average Cost(s)

It is recommended that marginal cost be included as cost estimate criteria, in place of average cost in the request for proposal, given that the marginal cost considers the change in total cost of delivering one additional service as opposed to simply the division of the total cost by the total number of services delivered. Marginal cost takes into consideration the costs that may be variable with the delivery of additional services.

Notably, there is a point at which marginal cost would not be preferential to average cost; such an instance would be when one additional unit of service delivery requires additional capacity.

Any assessment of the costs, risks and benefits should be done in the context of a provincial program for hip and knee replacement surgery, and include consideration of best practices from other jurisdictions. If services are contracted out to private facilities, as in the public system there should be ongoing assessment of capacity, demand, and quality.

12.5 APPROPRIATENESS AND QUALITY ASSURANCE/QUALITY IMPROVEMENT

The orthopedic surgery program in Manitoba has already put in place a number of processes to monitor and improve the quality of hip and knee replacements in Manitoba, and to ensure that those having surgery will be helped (i.e. that the patients are appropriate for the procedure).

Manitoba currently has a provincial orthopedic surgery standards and quality committee, which reviews the quality of work of orthopedic surgeons in Manitoba and addresses issues on an ongoing basis. The committee used to be responsible only for Winnipeg, but has since expanded to a provincial body.

Data has been captured through the regional joint replacement registry since 2004, tracking various metrics such as (but not limited to): the age, gender, and body mass index of the patient; other medical issues they may have which could complicate their care; diagnosis and assessment of how well they are able to function before receiving a hip or knee replacement; information about what artificial joint is used in the surgery; any complications from surgery; length of stay in hospital after surgery; whether a blood transfusion was required; and the patient's satisfaction after the surgery. These metrics are collated and sent to each surgeon annually, along with the data for all other surgeons who perform hip or knee replacements, so they can see how well they perform compared

with their peers. The provincial orthopedic standards committee also reviews the data, and follows up with surgeons whose statistics are poorer than their peers to ensure the issue is resolved. This process has several advantages:

- It helps ensure and validate that those patients who have surgery both need it and get benefit from it. This is done by comparing their ability to function before and after surgery, and by measuring their functioning and satisfaction with the outcomes of surgery.
- It allows the provincial orthopedic standards committee to identify and address issues with surgeons whose practice may not meet the necessary clinical standards, for example those [surgeons] whose patients have higher rates of infection after surgery.
- It helps identify when anticipated benefits are not realized, by tracking the short- and long-term outcomes for surgery. For example, the use of antibiotic loaded bone cement in knee replacement surgeries has decreased significantly, because the data showed there was no benefit to using it over bone cement that did not contain antibiotics. Because the regular bone cement costs approximately \$200 less per surgery, this has resulted in cost savings without affecting patient health or safety.

In 2012, the WRHA implemented a central intake system. This has since expanded to some surgeons in PMH and SHSS. A diagram of the central intake process is included in Appendix 16.14. Central intake has improved the system's ability to ensure patients who need to be seen are put on the wait list, and provided data to better track the demand for services. Further, the use of the central intake has meant that wait times for consultation are much more even across all the surgeons who are participating. Referring physicians and patients are offered the chance to be seen by the next available surgeon, rather than being referred directly to a specific surgeon who may have a very long wait list. While the central intake has played an important role in managing patients and wait times, it cannot replace the primary care provider's and surgeon's roles in working with the patient. The role of central intake is to collaborate with the primary care provider, surgeon, and their staff, to enhance the relationship between the patient and their care providers.

Once it is decided the patient will have surgery, pre-operative education classes are offered to educate patients on what to expect with their hip or knee replacement, before, during, and after surgery. In these classes, patients learn what they should have in place at home to help them recover, how to manage their pain, and other important factors that could affect their recovery. The program at Brandon Regional Health Centre also offers a teaching stream that is intended for patients with more moderate osteoarthritis who do not yet need surgery, and helps them manage their symptoms.

12.6 Access

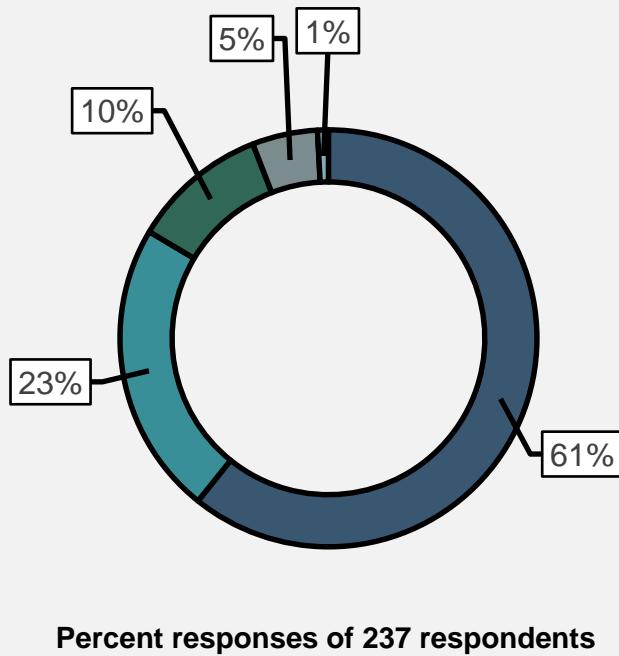
There are many different types of barriers that can prevent people from accessing the health services they need, such as geography, language, literacy, culture, or family or work commitments. While it is not efficient or effective to have specialty services spread out across the province in order to reduce the burden of travel, it is also not necessary to consolidate them all in one or two locations. The current programs at Boundary Trails Health Centre and Brandon Regional Health Centre appear to be robust, with engaged staff and surgeons, and of benefit to the communities they serve. In addition, they provide important capacity for surgery over what is available in Winnipeg. It appears that consolidating services only to Winnipeg, while performing the estimated number of procedures required to reduce the wait times to the national benchmark, would require either the addition of operating room space at significant cost, or the reduction of other types of surgeries.

Having hip and knee replacement surgery performed at Brandon Regional Health Centre and at Boundary Trails Health Centre reduces travel requirements for the majority of people in the Brandon, Morden and Winkler areas. However, there is still a significant population that needs to travel for these services, in some cases large distances.

Analysis of the public survey results showed that the most important aspects for most people were that their surgeon had significant experience performing the surgery, and that they did not need to wait long for their surgery. Even after excluding respondents from major cities like Winnipeg or Brandon, as well as respondents from areas with fairly close access to a major hospital, such as Winkler or Selkirk, the response pattern remained the same. Having access to surgery, as well as recovery from surgery, close to their community was still very important for some people. But most valued experience and short wait times over access close to home.

Figure 12.6: Top Ranked Preference Regarding Surgical Services – Excluding Winnipeg/Headingly, Brandon, Selkirk, Morden, Winkler

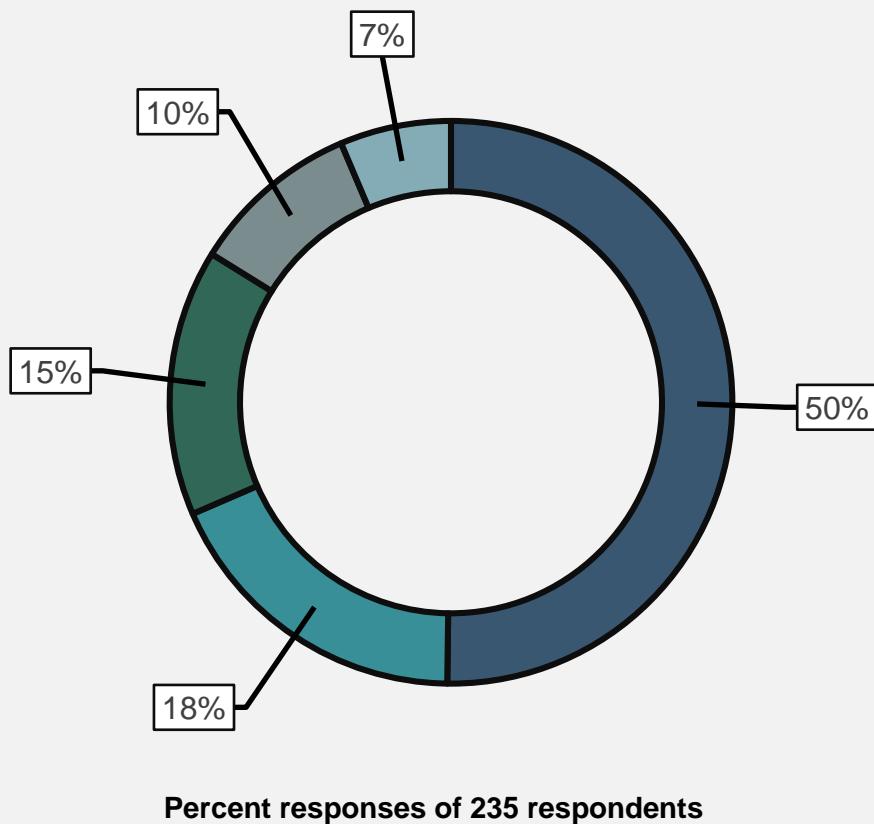
Top Ranked Preference Regarding Surgical Services - Excluding Winnipeg/Headingly, Brandon, Selkirk, Morden, Winkler



- My surgery should be done by a surgeon who does this type of surgery regularly [61%]
- I do not have to wait long for my surgery [23)%]
- My surgery should happen as close to my home as possible [11%]
- I can choose where I have my surgery [5%]
- My recovery from surgery should happen as close to my home as possible [1%]

Figure 12.7: Second Ranked Preference Regarding Surgical Services – Excluding Winnipeg/Headingly, Brandon, Selkirk, Morden, Winkler

Second Ranked Preference Regarding Surgical Services - Excluding Winnipeg/Headingly, Brandon, Selkirk, Morden, Winkler



- I do not have to wait long for my surgery [50%]
- My surgery should be done by a surgeon who does this type of surgery regularly [18%]
- My recovery from surgery should happen as close to my home as possible [15%]
- I can choose where I have my surgery [10%]
- My surgery should happen as close to my home as possible [6%]



What we heard...

"If attending another community for surgery, the pre-op blood tests, x-rays are done at home; anesthetic visit done through tele-health. I travelled to Winkler (520 km) many times for my bunion surgery - some procedures could have been completed by tele-health like the anesthetic appointment and x-rays to send the surgeon during healing instead of me travelling there every two to three weeks during recovery and the surgeon speaking with me about the healing process."

- *Public Survey Respondent*

As noted in the comment above, while many survey respondents did not rank access close to home as their first or even second most important consideration, travel is still a challenge and a concern. However, even without expanding the number of sites where surgery is performed there are other things that can be done to reduce the burden of travel on Manitobans, such as:

- Provide pre-operative education classes through mechanisms other than in person, such as online, or via Telehealth. This can be of benefit even for those who live within the city where classes take place, but have limited mobility or limited transportation options.
- Coordinate specialist appointments as much as possible on the same day.
- Conduct pre-anesthesia consultations before surgery by phone or Telehealth unless an in-person visit is necessary.
- If physiotherapy or rehabilitation is required after the patient leaves the hospital, refer them to the location closest to their home.
- Conduct follow-up visits with the surgeon, after surgery, via Telehealth unless an in-person visit is necessary.

It is important to note that not nearly all people with hip or knee pain should have surgery. Some need the support of another type of health care provider, such as a physiotherapist, in order to manage or improve their symptoms. Further, primary care providers have different levels of expertise in diagnosing or managing their patients' various health conditions. Therefore, there would be benefit to having a multi-disciplinary assessment clinic available for such patients. This would be similar to the existing spine assessment clinic in Winnipeg, which was put in place in April 2016 because there is a long wait to see a spine surgeon, and the vast majority of people with back pain are not candidates for surgery. The clinic employs a retired spine surgeon to screen patients, who are seen relatively quickly. Those who might be surgical candidates are referred to appropriate

surgeons, but most patients are given non-surgical therapies. Among other achievements, the clinic has reduced MRI scans by 90%.

It is envisaged that primary care providers or the central intake staff could refer patients with hip or knee pain to a Hip and Knee Assessment Clinic. Because the capacity of such a clinic can be significantly higher than that for a single surgeon, the patient could be assessed quickly and provided with a treatment plan, or referred to a surgeon if needed. The clinic could also provide information and advice back to the primary care provider, to help them support their patient, and help develop their expertise in dealing with similar situations in the future. It was recognized in multiple consultations that this could be an important capacity building function that increases the appropriate use of health care resources, and would be appreciated by both primary care providers and specialists. Ontario has had success implementing this sort of model which is intended to quickly triage and assess patients and direct them to the most appropriate service, whether that be consultation with a surgeon, or non-surgical treatment.

What we heard...



"My number one answer is: Patients need to be seen by a physiotherapist at much earlier stages than they currently are being seen. I believe many could avoid joint replacements altogether when you look at the current research."

- Practitioner Survey Respondent

For those patients who do need to see a surgeon, it would be beneficial to have a central phone number to provide advice or answer questions while they are waiting for consultation or for surgery. This could also help address barriers related to literacy and language. For example, it was noted in one consultation that some patients are unable to understand and properly fill out the forms necessary for them to be entered on the referral wait list, and as a result they are removed from the list. Their access is limited by their literacy or language. This change would also provide another mechanism to ensure each patient has contact with a coordinator prior to surgery, if they choose not to or cannot attend the pre-operative classes. It would also verify the patient has the necessary supports set up to allow them to return home safely and quickly after surgery.

A number of barriers to access could be addressed by providing patients with the opportunity to choose approximately when their consultation appointment or surgery occurs. This would also allow the system to better match the capacity to the demand. For example, it was noted in consultations with front line staff that patients are sometimes unable to be discharged when they are ready, because the family member who will be caring for them is unavailable. In another staff consultation, it was noted that it can be difficult to fill slates in the summer and over holidays, because many patients do not want to have surgery at these times. Further, it was noted by members of the public in

consultation that one of the challenging things about waiting for surgery is not knowing when it will occur, making it difficult to plan too far in the future. If patients were able to choose the date of their consultation or surgery from a list of available days, they would be able to choose a time that best works for them and their families, and make any necessary arrangements ahead of time. Further, the system would know when the demand would be higher so capacity could be adjusted.

12.7 FUNDING AND TRACKING MECHANISMS

In past years the Government of Manitoba has defined the minimum number of hip and knee replacements that each region must perform. However regions are not restricted to this number, and can choose to do more hip and knee replacement surgeries. In some cases, the Government has also provided targeted wait time funding to assist the regions in performing this minimum number of procedures, in order to reduce their wait times. This targeted funding is in addition to the global funding provided to each region. Below are the annual volume targets for hip and knee replacement surgery (including both primary and revision surgeries), by region, as well as the actual numbers done, for fiscal years 2015/16 and 2016/17:

Table 12.1: Target and Actual Volumes for Hip/Knee Replacement Surgery

Region	Target for 15/16 and 16/17	2015/16 Actual	2016/17 Actual
WRHA	3100 joints	3176 joints	3117 joints
PMH	250 joints	290 joints	325 joints
SHSS	400 joints	398 joints	392 joints

During consultations with both front line and administrative staff, it has become clear that there are different understandings of the way that hip and knee replacement surgeries are funded, how volumes are dictated, and what happens to savings that are realized by changing practices within the program.

For example, over the last number of years changing practices for hip and knee replacement surgeries have netted savings for the health care system, including:

- A decrease in the number of patients who receive a blood transfusion, saving the health system the cost of the units of blood, and improving patient safety. In 2008/09 the transfusion rate in the WRHA for knee replacements was 9.2%, and for hip replacements it was 20.9%; this decreased in 2015/16 to 4.3% and 5.2%, respectively. If transfusion rates in 2015/16 were the same as they were in 2008/09, the health system would have spent at minimum an additional \$136,723, assuming

only one unit was transfused for each patient, though more commonly two units are used.¹⁵¹

- A reduction in the use of high cost supplies over lower cost products when it has been shown that, contrary to the expectation, the higher cost products do not provide benefit to most patients. For example, reductions in the use of antibiotic loaded bone cement, which costs \$200 more per patient than regular bone cement; and in the use of a ceramicized metal component of an artificial knee, which costs \$2,400 more than a regular cobalt chrome component. The higher cost items are still used when appropriate, but not in the majority of cases when the patient will see no benefit. It is estimated the cost savings from this change are approximately \$432,000 per year in Winnipeg alone.¹⁵²
- A decrease in the number of revision surgeries required, from 375 cases in 2006/07 to 267 in 2015/16, a 29% reduction. It is estimated this has resulted in incremental savings of \$955,482.¹⁵³ This can be a significant savings, as costs associated with a revision surgery are approximately twice those associated with a primary knee or hip replacement. Further, since a revision surgery is by definition performed on someone who has already had a replacement surgery, a reduction in revisions means fewer patients have to have two surgeries instead of one, and more operating room slots are available for patients to receive their first replacement surgery.
- A decrease in the length of time patients stay in hospital after surgery. This does not have direct financial savings unless, as a result, beds can be closed and the associated staffing reduced. However, it does mean that more patients can have surgery for the same total cost of the hospital stay. Between 2008/09 and 2015/16, the average length of stay for knee replacement surgery was reduced from 6.4 days to 5.0 days, and for hip replacement surgery it was reduced from 7.3 days to 5.0 days. As a result, approximately 28% more knee replacement surgeries and 46% more hip replacement surgeries could be accommodated within the same number of beds in hospital.

However, most of the staff we consulted did not know what happened to these savings. The savings did not appear to be re-invested in performing more surgeries. The staff who were consulted expressed frustration as many felt they were working hard to improve efficiencies and services, without seeing the reward of being able to help more patients. It is therefore important that the funding model be clear and transparent to all parties. It would also be beneficial if the provincial program could maintain control of more of its budget, so resources could be reallocated where needed, and savings could be reinvested. This would also provide an incentive to continue improvement and innovation.

¹⁵¹ (Bohm, 2017)

¹⁵² (Bohm, 2017)

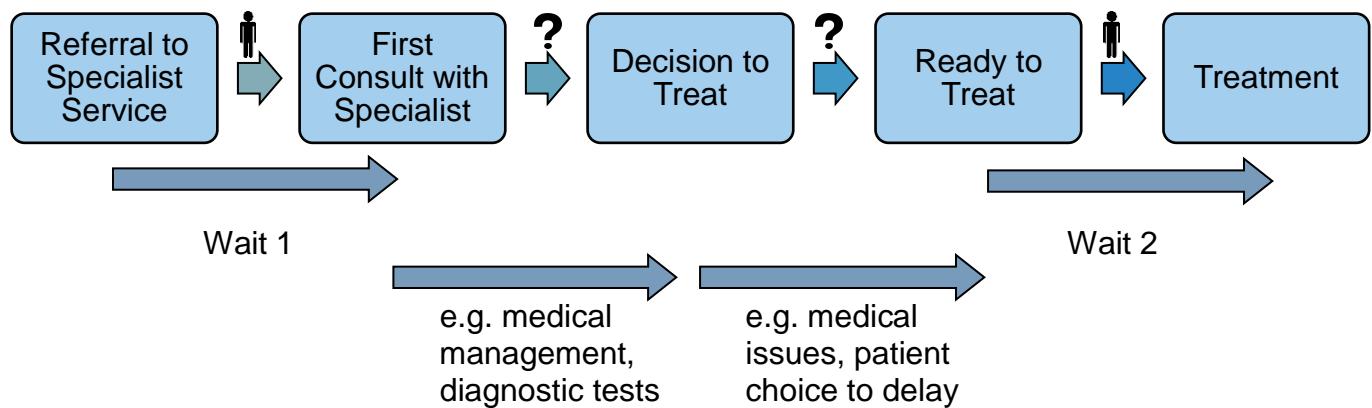
¹⁵³ (Bohm, 2017)

One of the recommendations being made is that 900 additional hip and knee replacements be done per year, in order to address increasing demand. This is estimated to cost between \$3.2 million and \$8.9 million. \$3.2 million assumes all infrastructure and human resources are already available, and surgeons and anesthesiologists are redirecting their efforts from other work so the physician remuneration costs remain approximately the same as they would otherwise. \$8.9 million assumes all new activity is in addition to what is already being done (i.e. addition of operating room time, addition of staff shifts, etc.), and the sites are unable to capitalize on the use of existing resources. The committee recognizes that significant work has been done in the past years by the orthopedic surgeons, other health care providers, and the regions to optimize the use of resources and reduce the costs while maintaining safe and effective clinical standards. Therefore, it is believed that the cost for the additional surgeries is likely to be closer to the lower estimate above. Further, the efficiencies and cost savings found over the past years it is believed would cover the majority of the costs for the additional cases if it were reinvested into the program.

12.8 WAIT TIME AND ACCESS INDICATORS

Wait times for treatment-based specialty services in Canada are generally measured in two standard segments, Wait 1 and Wait 2:

Figure 12.8: Depiction of Wait 1 and Wait 2



It can be seen in this diagram that there are gaps in the reported wait times when patients are not being tracked, namely the time waited between the first consult and the patient being physically, emotionally, and socially ready to receive service ("ready to treat"). This is because this time can be affected by many factors other than the health care system's ability to provide the specific service. For example, before a decision is made to proceed with surgery the patient may need to be scheduled for additional tests to confirm whether surgery is an appropriate option, or it may be more appropriate to first attempt to treat the patient's condition by other means (e.g., medication, allied health–physiotherapy) rather than performing surgery. Once a decision is made that surgery is the appropriate option, the patient may still not be ready if, for example, there are other medical issues that must be addressed first, or if the patient is not available for other reasons, such as a planned

vacation or the need to arrange for time off work. However, in order to understand the demand for services, as well as the province's ability to provide services, it is important to have accurate and comparable data across Manitoba on all parts of the patient's journey, not just small pieces. To this end, the provincial program should consider monitoring and reporting on indicators beyond those that are currently tracked. The specific indicators should be defined by the provincial program, and could go beyond wait time and volumes to, for example, the percentage of patients who were provided a consult or surgery date within their preferred time range.

As funders and users of the health care system, the public have a right to be kept informed of system performance indicators, and to know how long they can expect to wait if referred for health care services in Manitoba.

12.9 How DOES HIP AND KNEE REPLACEMENT SURGERY FIT INTO PROVINCIAL PROGRAMMING?

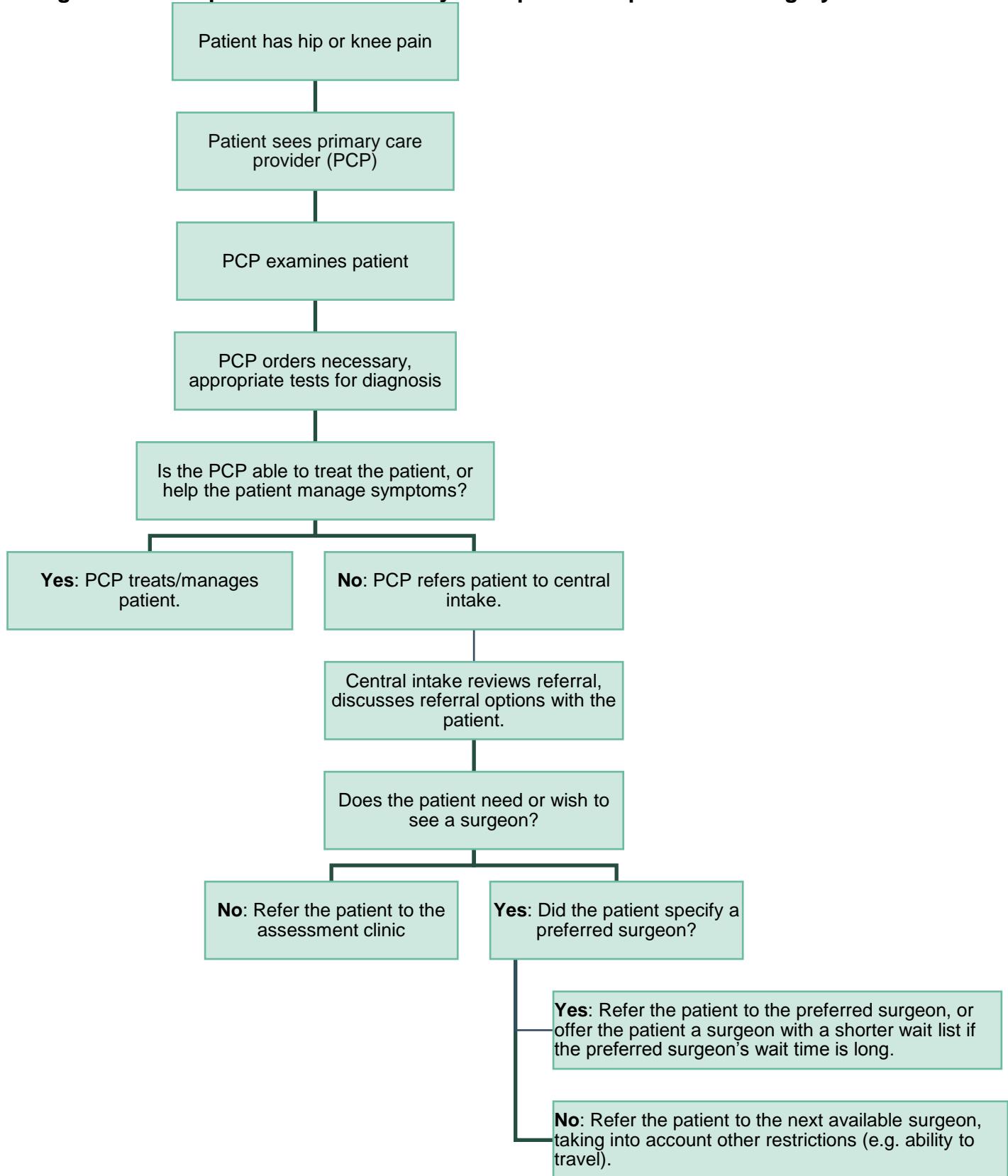
Hip and knee replacement surgery is already close to being a provincial program, as the provincial orthopedic standards committee already reviews data for all surgeons in Manitoba, and the central intake has expanded outside WRHA to some surgeons in PMH and SHSS. However, there are other factors that indicate that more could be done to support a truly provincial program. Some examples are allocating targeted funding by region, without the ability to reallocate to a different site based on the current needs of the population; different methods for wait time data collection; and the fact that not all surgeons participate in the central intake.

It should be noted that a provincial program does not mean patients must travel to the next available surgeon even if there is a more accessible surgeon. It does mean that the province can have a more accurate picture of both the demand for services and where capacity exists, through standardized and consistent data collection, and can more easily redirect or reinvest money or other resources where the needs are.

12.10 PROPOSED PATIENT JOURNEY PATHWAY

Following on the discussion above, the committee proposes a revised patient pathway for hip and knee replacement surgery in Manitoba, summarized below:

Figure 12.9: Proposed Patient Journey for Hip/Knee Replacement Surgery



12.11 RECOMMENDATIONS¹⁵⁴

1. Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient's preferences are honoured whenever possible.
2. As technology advances, consideration should be given to performing initial assessment and follow-up appointments via Telehealth or another distance mechanism where appropriate. Educate patients about distance communication options and encourage them to request consultation by distance when appropriate.
3. Reduce the demand and wait times for consultations and surgeries related to hip and knee replacements. Tactics should include:
 - a. Eliminate the use of pre-operative tests, such as MRI, when they do not provide value to the patient. Unnecessary testing can delay surgery.
 - b. Eliminate the use of interim procedures, such as arthroscopy, when they do not provide value to the patient. Unnecessary procedures can introduce additional risk, and delay surgery.
 - c. Establish regional multi-disciplinary assessment clinics, modeled after the existing spine clinic in Winnipeg, in appropriate locations.
4. Increase capacity for hip and knee replacement surgeries to address demand. Tactics should include:
 - a. Increase the number of hip and knee replacement surgeries by 900 per year, a 24% increase from the current target volume. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, whether the sites have been able to manage the full increased volume without compromising other services, and whether further adjustments are required based on the updated demand data.
 - i. It is suggested the 900 joints be distributed as follows, based on feedback from each site regarding how many additional joints could be done:
 1. Concordia Hospital: 350
 2. Grace Hospital: 350
 3. Boundary Trails Health Centre: 200

Note: If PMH later indicates additional joint replacement surgeries could be done, the total number could be increased to 1,000 and/or volumes re-allocated to PMH as appropriate.

¹⁵⁴ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

- ii. It is suggested that the additional volumes initially be concentrated on the longest waiting patients, while ensuring that as many patients as possible receive surgery within the national benchmark.
 - iii. As technology advances and outpatient surgery becomes an option, it is suggested consideration be given to putting out a call for a Request for Proposals (RFP) as a means to achieve the greatest value for money, without compromising quality, and to provide both the public and private sectors the opportunity to bid on the contract. Should this recommendation be pursued, it is advised that very specific evaluation criteria be detailed in the RFP for what is to be included and excluded in the cost-estimate:
 1. Those organizations bidding should offer their best price which should be based on marginal costs.
 2. The price should include all needed pre-procedure and post-procedure care.
 3. The price should reflect that the RFP does not include care for the sickest persons who will continue to have their surgery as hospital inpatients. In other words, the price should be less than the current average for hip and knee surgery.
 4. The contract should be for a long enough period of time to amortize any needed initial investments. It is important that any RFP process be developed within the context of a provincial program for orthopedic surgery with ongoing assessment of capacity, demand, and quality.
- b. Fund recommendation 4a from savings realized by the program. Significant past savings have already been realized, as demonstrated in section seven above, and this should be recognized and rewarded by reinvesting in the program. It is further anticipated that additional savings will be realized in future, given the ongoing quality improvement activities in the program.
- c. Optimize the use of existing operating room and hospital bed capacity, through establishing teams of specialized hip and knee replacement surgeons, anesthesiologists and operating room support staff.
- d. Consider 6- or 7-day operating room utilization for elective cases.
- e. Improve patient flow throughout the hospital stay by adjusting human resources and processes to match patients' needs. Examples include:
 - i. Adjust physiotherapy shifts to begin and end later in the day, and ensure staff are available to support patients who have surgery at non-standard times (such as on the weekend), to ensure patients are walking on the day of surgery.
 - ii. Ensure each patient's home and home care needs are arranged in advance, for example rails are installed on the stairs, home care or home IV service is arranged.

- iii. Ensure the hospital has everything ready for the patient to take when they leave, for example prescriptions have been ordered.
- 5. Establish a provincial program for hip and knee replacements, so funding and resources can be directed to where they are most needed. A provincial program should include:
 - a. Continue the existing joint replacement registry data reporting and standards review.
 - b. Standardize wait time and wait list definitions, data collection and reporting from all sites. This data should be used to model different options for wait list management based on the principles of queuing theory, to help determine how to most efficiently use the existing resources to meet the needs of Manitobans.
 - c. Track and report on key access indicators, by surgeon and by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial orthopedic standards committee. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - d. Enhance the current value-based procurement for joint prostheses and related supplies.
 - e. Establish a funding-based model of delivery, rather than a volume-based model. This would allow for serving more patients in the same amount of money; it would also allow for a significant percentage of the savings realized by the provincial program to be reinvested into improving or increasing services. The funding provided should be accompanied by measurable deliverables, such as the minimum number of joints to be done, on which the program would be required to report annually.
 - f. Strengthen the existing central intake, placing it under Shared Health Services Manitoba as a provincial program:
 - i. Enforce participation in the central intake by all surgeons who perform hip or knee replacements, i.e. all hip or knee surgeons will receive referrals from central intake.
 - ii. Enforce referral to central intake of all patients requiring a hip or knee replacement. Patients may still choose a specific surgeon, but their referral will be assessed and processed at the central intake office to ensure maximum patient choice and complete data collection.
 - iii. Ensure central intake processes are patient-centred. Central intake should be prepared to provide additional navigation and support services as needed especially for patients with language and literacy issues.
 - iv. Provide a contact number for patients who have questions or who need assistance while they are waiting for consultation or for surgery.

- v. Ensure the central intake has sufficient staff to process referrals in a timely way. Monitor turnaround times.
- vi. Direct patients to the most appropriate service, whether it be the first available surgeon, a specific surgeon the patient prefers, or an assessment clinic if the patient may not need surgery.
- vii. Coordinate patient navigation with the surgeons' offices.

13 CATARACT SURGERY

13.1 OVERVIEW OF CATARACT SURGERY

A cataract is a condition of the eye where the lens becomes cloudy because of protein build up. This condition can have significant impacts upon one's quality of vision and quality of life as it develops. There are four known types of cataracts: age-related, congenital, secondary (e.g. due to diabetes), and traumatic (e.g. due to eye injury). Aging is the most common cause of cataracts.¹⁵⁵

Optometrists perform a full exam, including a visual acuity test and pupil dilation, to detect a cataract. Cataracts are managed by non-surgical means (e.g. changes in lens prescription; magnification or other visual aids; strong bifocals) until the cataract starts to impair the patient's performance of daily activities.¹⁵⁶ At this point, the patient is referred to a surgeon (i.e. ophthalmologist) for consultation to determine if the patient is an appropriate candidate for surgery. If the patient is an appropriate candidate, they may elect to undergo cataract surgery to treat the cataract. Currently, surgical intervention occurs earlier as it is easier to break apart the protein build up in its initial stages of formation.¹⁵⁷

Cataract surgery involves the application of local topical anesthetic—a numbing agent—to the eye, then either the removal of the clouded lens, including the outer lens capsule, or the removal of the clouded lens and the implantation of a new artificial lens into the remaining outer lens capsule, with laser technology. The latter approach is the most popular.¹⁵⁸

The majority of procedures are performed on an outpatient basis (i.e. patient undergoes the procedure without being admitted to the hospital), taking 25 minutes on average. Delivery of post-operative care is the responsibility of the attending ophthalmologist, occurring on an outpatient basis. Complex cases, whereby the patient may be a high-risk anesthesia patient (i.e. needs to be sedated for the surgery); have more than one condition of the eye that requires surgical treatment (e.g. macular degeneration and a cataract); and/or have multiple comorbidities, may require the surgery to occur on an inpatient basis. In these cases, often the patient's other medical conditions become the rate-limiting step in their wait for surgery. Regardless, removal of the cataract is permanent, meaning that the cataract cannot later return.

Cataract surgery is a safe surgical procedure with low risk of complications. Evidence indicates improved visual function in over 95% of cases.¹⁵⁹ Frontline providers of cataract

¹⁵⁵ (Canadian Ophthalmological Society, 2017)

¹⁵⁶ (Government of British Columbia, 2007)

¹⁵⁷ (Hooper, 2005)

¹⁵⁸ (Hooper, 2005)

¹⁵⁹ (Hooper, 2005)

surgery at Misericordia Health Centre echoed complimentary sentiments to these findings as captured below.

What we heard...



“Patients are usually very happy and grateful... immediately post-op they are impressed...”

- Participant during Consultation at the Misericordia Health Centre

In most cases, a patient will require cataract surgery be performed on both eyes; two separate procedures are typically performed in these instances to reduce a patient's risk of complication. On rare occasions these cases will be performed in conjunction, if deemed appropriate by the ophthalmologist. Between 45 to 55% of all cataract surgeries performed in Manitoba are second eye procedures.¹⁶⁰

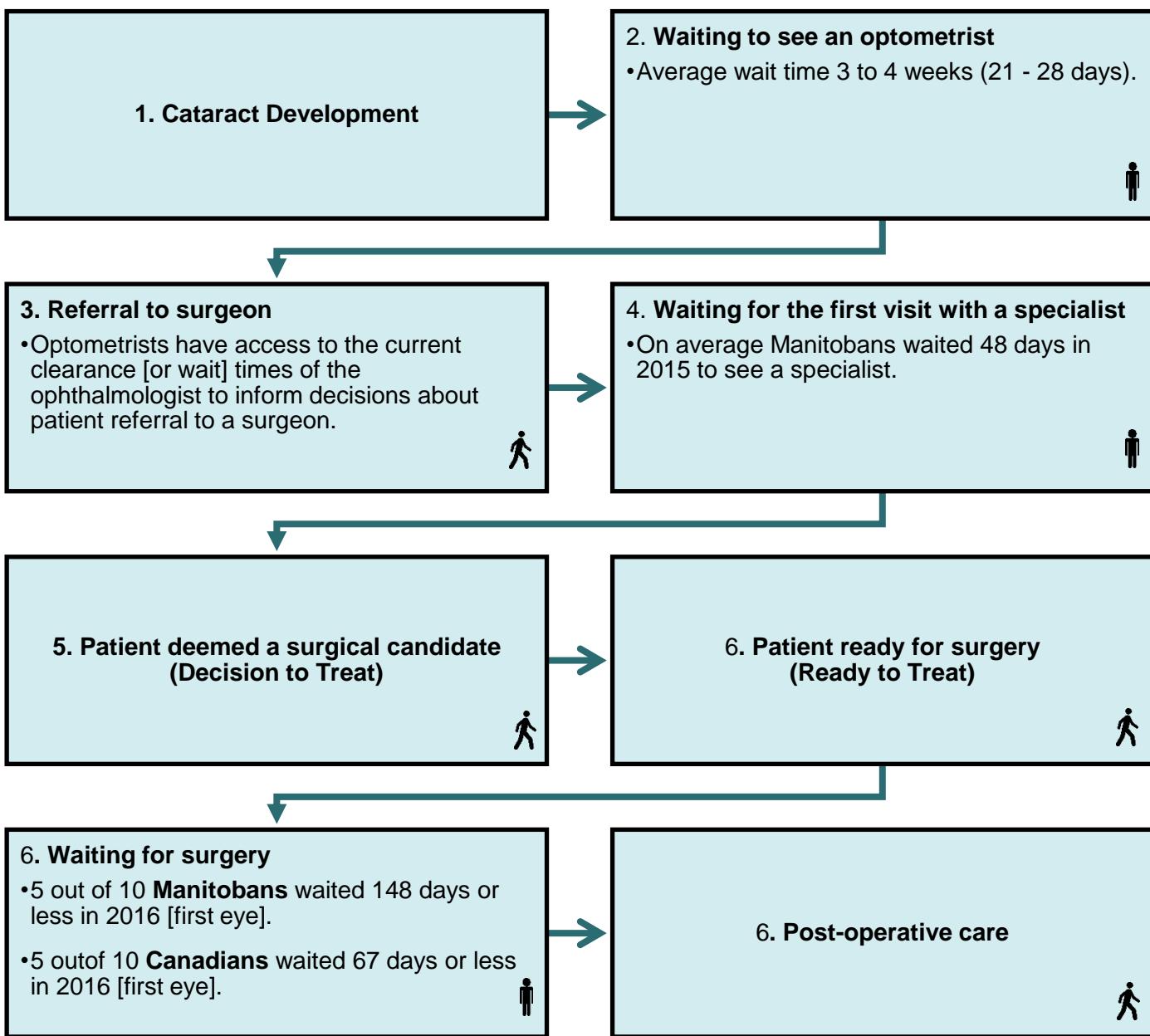
The majority of cataract surgeries are elective, meaning there is minimal to no risk of loss of life or eyesight if the surgery does not happen immediately. However, it is important to recognize that a cataract can have significantly negative impacts upon quality of vision and quality of life. For instance, it may affect a person's ability to retain employment, retain a driver's license, and/or to participate in social engagements. Long wait times contribute to such consequential outcomes by making treatment unattainable within the clinically desirable timeframe.

Rarely do cataracts require urgent or emergent surgery. If an urgent or emergent case presents, the case is prioritized for surgery and is not waitlisted in the same way as elective cases.

There are several steps a patient must go through before undergoing cataract surgery, many of which require waiting. A generic example is below.

¹⁶⁰ (George and Fay Yee Centre for Healthcare Innovation, 2014)

Figure 13.1: Patient Journey for Cataract Surgery



On average, the time between when a patient decides to book an appointment with an optometrist, to when they start receiving post-operative care, takes approximately 221 days. However, the wait times shown above are either medians or averages, meaning while there are patients who wait less time, there are also patients who wait longer. Of note, Manitobans experience significantly shorter wait times for their second eye, as this procedure is typically booked at the same time as the booking of the first eye.

Cataract surgery patients spend the majority of their time in the “waiting for surgery” stage. Many factors contribute to a patient’s wait at this state, some of which are patient-related. For example, a patient’s wait for surgery may be influenced by their availability for surgery

(e.g. away on vacation, unable to get time off work). The patient's wait may also relate to their assigned priority for cataract surgery, as determined by their responses to the standardized pre-operative patient questionnaire (see Appendix 16.15), or to surgeon availability.

The quote below captures the present-day experience of a Manitoban patient waiting for cataract surgery.



What we heard...

"In August of 2015 it was determined that I required cataract surgery. It is now September 2016 and I am still waiting to hear when I can have the surgery. My cataracts in the meantime have not been waiting. My vision is getting progressively worse with each day. This has had a serious impact in my life. My quality of life has been quite reduced.

I would expect I am not the only person in this situation. Given the increasing median age of the population this is a problem which can only get worse unless steps are taken to improve wait times. Are there any plans to correct this deficient [sic]? Or does the government simply intend to provide disability payments to people unable to work, people that could just as easily be contributing to the economy?"

– Patient waiting for cataract surgery

13.2 WHO NEEDS CATARACT SURGERY?

The typical surgical candidate for cataract surgery in Manitoba is someone between the ages of 65 and 80, with visual impairment that is impacting their everyday living. During the 2015/16 fiscal year, the average age of a Manitoban undergoing cataract surgery was 72. Factors that predispose a patient to cataract development include, but are not limited to, aging, diabetes, obesity, smoking, excessive drinking, and excessive exposure to sunlight.

In consideration of the risk factors just stated, Manitobans who are older, obese or of Indigenous descent are more likely to develop a cataract and thus, require cataract surgery.¹⁶¹ Manitobans of Indigenous descent are at particular risk because of their higher

¹⁶¹ (Fransoo, et al., 2013)

rates for obesity, smoking, and diabetes, as previously discussed in Chapter 12: Hip and Knee Replacement Surgery.¹⁶²

In Chapter 12 it was also identified how the social determinants of health may influence one's risk for developing behaviours that pre-dispose to obesity and arthritis and later need for a hip or knee replacement. A comparable analysis can be done for cataract surgery by considering those determinants which are correlated with diabetes. Determinants known to correlate to the prevalence of diabetes include income and geography, and more specifically rurality. Notably, Manitoba's vulnerable populations, especially those with Indigenous backgrounds and who are of lower income, are most likely to be predisposed to behaviours which lead to greater prevalence of diabetes.

There appears to be some economic inequity in access to cataract surgery in Manitoba but it is not as marked as for MRIs and hip and knee replacement surgery. A Manitoba Centre for Health Policy report, *The 2013 RHAs Indicator Atlas*, showed that there were slightly higher rates of cataract surgery for people living in lower income urban communities (Brandon and Winnipeg) than those living in higher income neighbourhoods (i.e. 33.3 cataract surgeries per 1,000 persons versus 29.3 cataract surgeries per 1,000 persons). The rates were similar in rural areas.¹⁶³

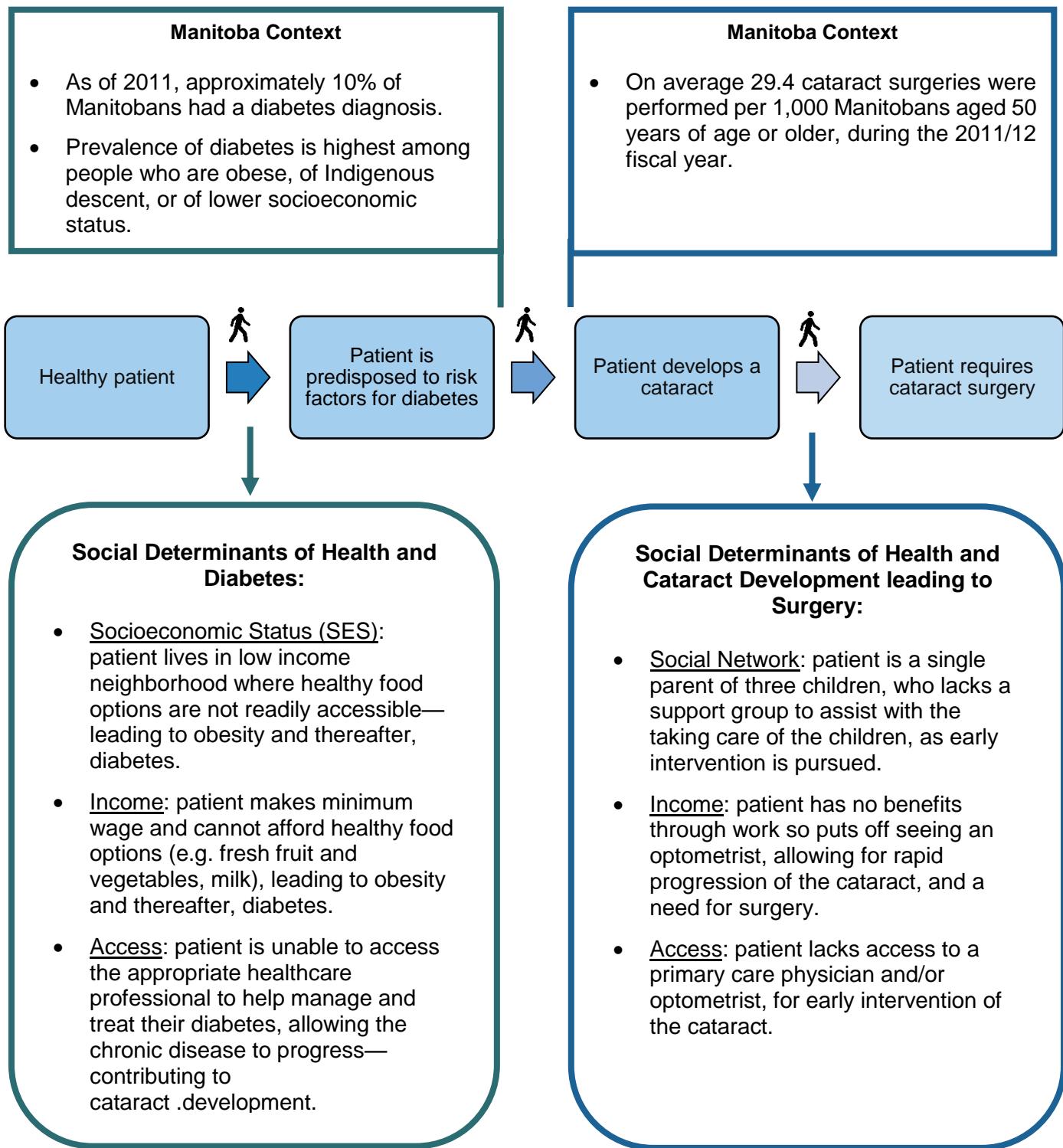
However, given that the need for cataract surgery is higher in those with low income, the similar rates between income quintiles for surgery likely indicates under treatment for the lower income quintile. For example, in England, reported vision deficiencies are more than five times more likely in low income persons than high income persons but the lowest income persons were only one and a half times as likely to get cataract surgery.¹⁶⁴

¹⁶² (Statistics Canada, 2015)

¹⁶³ (Fransoo, et al., 2013)

¹⁶⁴ (Steel, et al., 2014)

Figure 13.2: Association between the Social Determinants of Health and Cataract Surgery



Note: It is acknowledged that aging is the primary risk factor for cataract development. However, in the absence of a person being able to prevent aging, this figure is focused

on diabetes—another known risk factor for cataract development, which can be prevented—to a degree—via the social determinants of health.

13.3 DEMAND FOR SERVICES

As previously identified, aging is the most common risk factor associated with cataract development. Therefore, as the overall population gets older, the number of people who will need cataract surgery will likely increase.

- Each year since 2006/07 the average age of Manitobans who had cataract surgery has been either 72 or 73 years.
- The majority of Manitobans who have cataract surgery are between the ages of 65 and 80 years.
- The number of people in Manitoba between the ages of 65 and 80 years increased by 25.0% between 2006/07 and 2015/2016, from 116,599 (9.9% of the total population) to 145,659 (11.0% of the total population), an increase of 25.0%.
- Statistics Canada reports that 198,965 (15.6% of the total population) Manitobans were aged 65 years and older in 2016.¹⁶⁵
- Population projections from the Manitoba Bureau of Statistics indicate that the Manitoba population aged 65 to 74 will continue to increase until approximately 2031, and then begin slowly to decline. The population aged 75 to 84 will continue to increase annually until at least 2036.¹⁶⁶

Therefore, even if no other factors change, it is reasonable to assume the demand for cataract surgery will continue to increase each year until at least 2036. The growing prevalence of diabetes in the province is also likely to contribute to an increase in demand for cataract surgery given its association with cataract development; the prevalence of diabetes is expected to increase from 9.1% of the population in 2016 to 11.3% in 2026).^{167,168}

A provincial central intake does not exist for cataract surgery. The Winnipeg Regional Health Authority (WRHA) has established a central wait list for referrals in its region for queue management purposes, while ophthalmologists practicing in Southern Health-Santé Sud (SHSS) and Prairie Mountain Health (PMH) are individually managing their own wait lists. Individual wait list management creates significant challenges with predicting and quantifying current provincial demand for cataract surgery.

¹⁶⁵ (Statistics Canada, 2016)

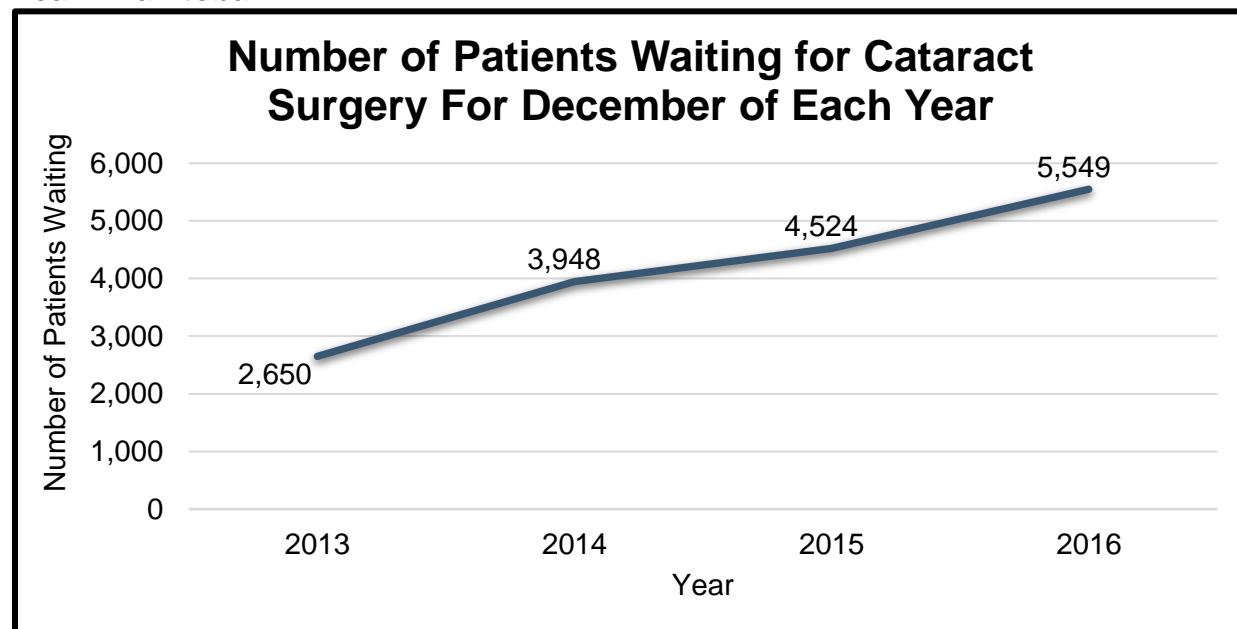
¹⁶⁶ (Manitoba Bureau of Statistics, 2008)

¹⁶⁷ (Canadian Diabetes Association, 2016)

¹⁶⁸ (Diabetes Canada, 2017)

Regionally, the WRHA's Cataract Surgery Program struggles with projecting demand for their program as their projection model is outdated and fails to include any sort of population assessment. In analyzing historical trends, the program advises that a continued increase in demand is anticipated, as demonstrated by the region's growing wait list for cataract surgery—see figure below.

Graph 13.1: Number of Patients Waiting for Cataract Surgery for December of Each Year - Manitoba



13.4 CAPACITY

Three regional health authorities in Manitoba perform elective cataract surgery: WRHA, SHSS, and PMH, with the WRHA performing the greatest number at an estimated 84% of the total elective cataract surgical volume.¹⁶⁹

The table below captures the number of cataract surgeries performed by each regional site for the 2016/17 fiscal year, and their associated slate allocations.

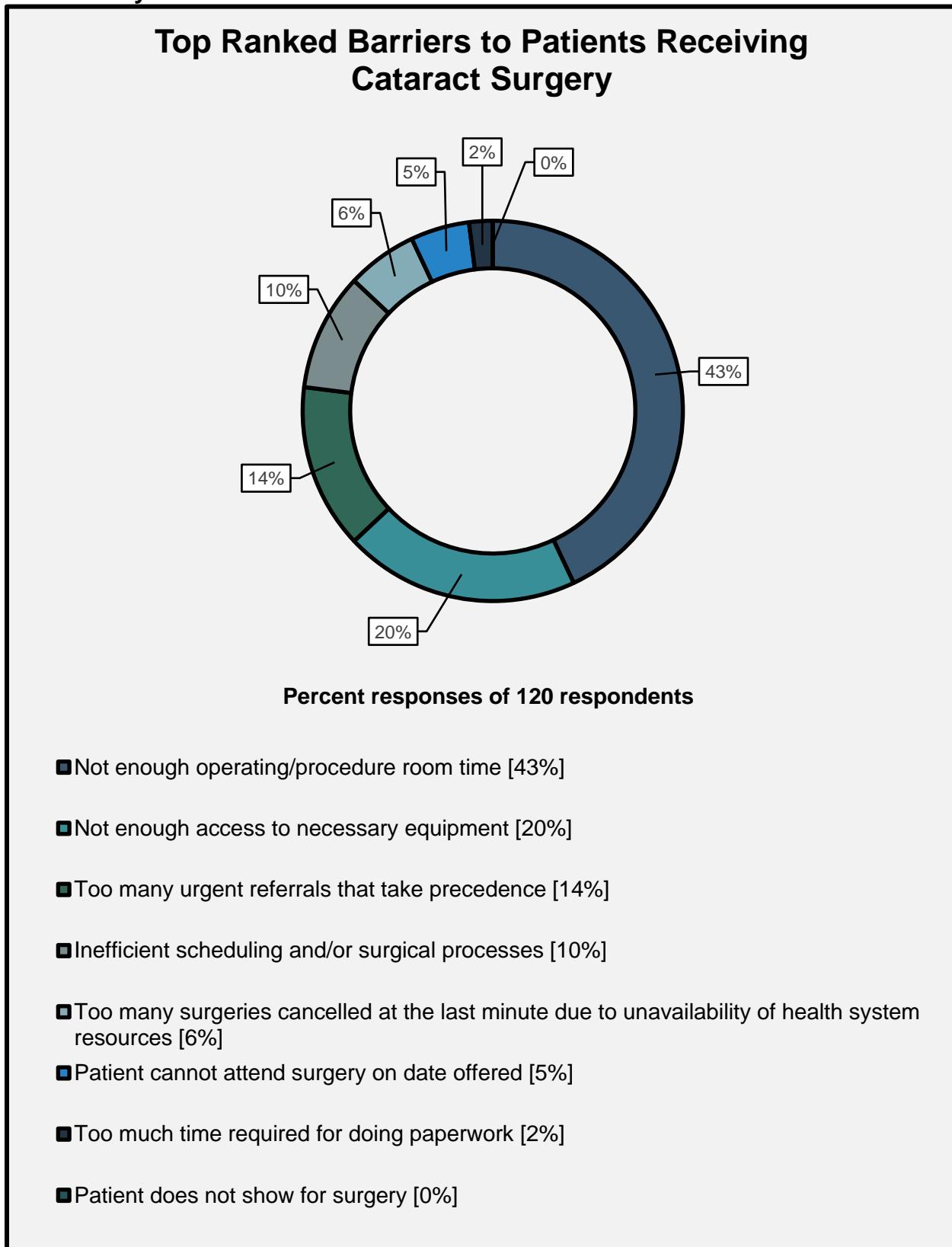
¹⁶⁹ (Mathen, 2017)

Table 13.1: Cataract Surgical Volumes by Site and Slate Allocation for the 2016/2017 Fiscal Year

Region/Site		2016/2017 Actual	Slate Allocation
WRHA	Misericordia Health Centre	8,996	<ul style="list-style-type: none"> 3 cataract slates per week; most surgeons have at least one slate per week, with a few having less. Up to 16 cases can be performed in a slate without compromising safety and quality.
	Western Surgery Centre	1,394	<ul style="list-style-type: none"> Unknown
SHSS	Portage District General Hospital	241	<ul style="list-style-type: none"> Slate time is allocated for the travelling ophthalmologist to perform ten cataract surgeries twice per month.
PMH	Brandon Regional Health Centre	1,143	<ul style="list-style-type: none"> Two cataract slates <u>per week</u> (Thursday and Friday).
	Minnedosa Health Centre	391	<ul style="list-style-type: none"> Three cataract slates <u>per month</u>.
	Swan Valley Health Centre	325	<ul style="list-style-type: none"> Slate allocation for cataract is variable as it is dependent upon the schedule of a Winnipeg ophthalmologist. In 2016, a total of 24 slates were allocated for cataract procedures.

Survey responses from health care providers identified that the main reasons for long wait times for cataract surgery were not enough operating room or procedure room time, followed by not enough access to the necessary equipment, indicating that more capacity may be required in order to address the wait times. The diagram below shows how many health care providers selected each option as either number one or number two on a list of barriers to providing cataract surgery in a timely way:

Figure 13.3: Top Ranked Barriers to Patients Receiving Cataract Surgery, as identified by Practitioners



Consultations with front line providers indicated that capacity of the WRHA's Cataract Surgery Program is at maximum and is unlikely to increase without further financial investment. Examples of past changes which have allowed the WRHA Cataract Surgery Program to improve its efficiency, and increase the number of surgeries done within its existing capacity, include:

- Procedures being performed on an outpatient basis instead of on an in-patient basis due to surgical (e.g. smaller incisions to remove the cataract and insert the artificial lens) and technological (e.g. adoption of laser technology to break apart the cataract) advancements.
- Maximization of supply contracts with vendors—optimizing surgical capacity and generating cost-savings.
- Consolidation of slates (e.g. grouping slates based on complexity and/or creating slate mixes which allow for both cataracts and other ocular diseases to be simultaneously addressed).
- Streamlining pre-operative practices (e.g. eliminating the pre-operative physical exam and history requirement for low risk anesthesia patients).
- Change in anesthesia practices (e.g. a local topical anesthetic is used to numb the ocular area, as opposed to complete sedation of the patient).

Currently, the "true" capacity of the rural sites is unknown, and therefore the existing and potential future capacity should be assessed.

Should funding be made available for additional staff and equipment, the WRHA's Cataract Surgery Program has identified that an additional 2,000 cataract surgeries could be performed jointly at Misericordia Health Centre and Western Surgery Centre. At peak optimization it is possible for upwards of 3,000 surgeries to be performed. Operating room availability is not currently a limiting factor at either site.

To achieve the greatest value for money, consideration may be given to putting out a Request for Proposals (RFP) for the delivery of an additional 2,000 cataract surgeries, as opposed to direct program/site allocation. An RFP would enable the identification of existing capacity and the most cost-efficient means for delivery of cataract surgeries, given that all who are interested would have to submit a bid with such details. Should an RFP be pursued, both the public (e.g. Misericordia Health Centre) and private (e.g. Western Surgical Centre) systems should have an opportunity to bid on the contract. If services are contracted out to private facilities, as in the public system there should be ongoing assessment of capacity, demand and quality. Within consultations, both public and private healthcare facilities expressed an interest in bidding for such a contract.

Figure 13.4: Definitions of Key Terms [2]

Public System	Private System	Request for Proposal (RFP)
<ul style="list-style-type: none"> The publicly funded healthcare system by which Canadians have access to medically necessary hospital and physician services without paying out-of-pocket. Example: Misericordia Health Centre 	<ul style="list-style-type: none"> Healthcare services beyond those that are deemed medically necessary hospital and physician services, for which Canadians pay out-of-pocket. Example: Western Surgery Centre 	<ul style="list-style-type: none"> A process by which organizations compete for a contract for the procurement of a good or service within a set evaluation criteria.

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13.5 APPROPRIATENESS AND QUALITY ASSURANCE/QUALITY IMPROVEMENT

The WRHA's Cataract Surgery Program has undertaken multiple initiatives to establish an efficient surgical program that delivers quality, patient-centred care. Internally the program has forged partnerships with the George and Fay Yee Centre for Healthcare Innovation, the Manitoba Optometrist Society and the WRHA's Anesthesia Program in efforts to standardize cataract wait list processes and reporting practices. Standardization of such practices has been critically important in the streamlining of program processes and the capturing of data for key indicators, necessary to inform funding allocations and to make comparisons between program wait times and established benchmarks.

Examples of how these collaborations have contributed to the standardization of program processes include:

- Adoption of an Ophthalmic Sedation Practitioner Model for low risk anesthesia patients (2008): a model by which healthcare professionals (e.g. physicians, nurses) with training in ophthalmic sedation may provide topical anesthetic in less complex ophthalmic cases, including certain cataract surgical procedures. This has produced significant cost-savings from not needing an anesthesiologist for

¹⁷⁰ (Government of Canada, 2016)

every case, and a reduction in the number of cancelled surgeries due to anesthesiology unavailability.

- Collaborative research project between the WRHA's Cataract Surgery Program and the WRHA's Anesthesia Program (2014): adoption of a simplified pre-operative patient questionnaire (see Appendix 16.15) for identifying patient anesthesia risk. The simplified patient questionnaire allows for identification of low risk anesthesia patients earlier on, eliminating the requirement of a post-operative physical exam and history for patients at the start of their surgical journey.
- Collaboration with Manitoba optometrists (ongoing): establishment of referral practices whereby a patient with more than one eye condition (e.g. a glaucoma patient with a cataract) is referred to an ophthalmologist with the appropriate subspecialty to treat both ocular conditions. This has maximized the patient experience and slate efficiency by reducing the number of surgical operations and appointments that must occur prior to surgery. It has also contributed to the optimization of surgical slates to treat high and low risk procedures.
- Collaborative research project between the WRHA's Cataract Surgery Program and Centre for Healthcare Innovation (2013): adoption of a slating distribution tool to better match "patient needs with provider availability and other special needs."¹⁷¹ The tool rewards surgeons via a point system for teaching, wait list management and committee responsibilities.¹⁷²

Initiatives undertaken to improve cataract service delivery in the rural regions of PMH and SHSS are unknown.

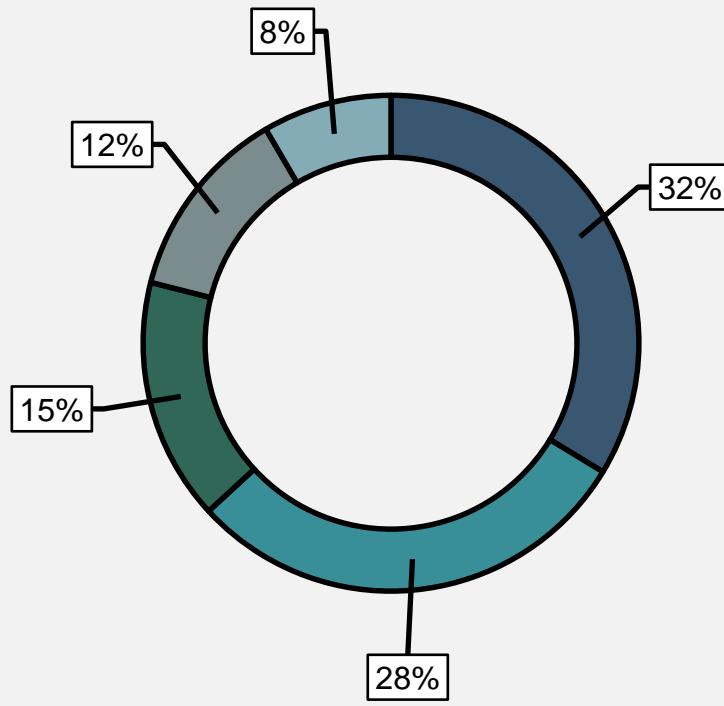
Survey responses from health care providers indicate that the top two solutions to cataract surgery access issues were centralizing all referrals to the service and having the patient see the specialist with the next available appointment, and having the ability to redirect referrals to another specialist with a shorter wait time. The figure below shows how many health care providers selected each option as either number one or number two on a list of solutions to improve wait times for cataract surgery.

¹⁷¹ (George and Fay Yee Centre for Healthcare Innovation, 2014)

¹⁷² (George and Fay Yee Centre for Healthcare Innovation, 2014)

Figure 13.5: Top Two Ranked Solutions to Ensure Patients Receive Cataract Surgery, as identified by Practitioners

Top Two Ranked Solutions to Ensure Patients Receive Cataract Surgery



Percent responses of 130 respondents

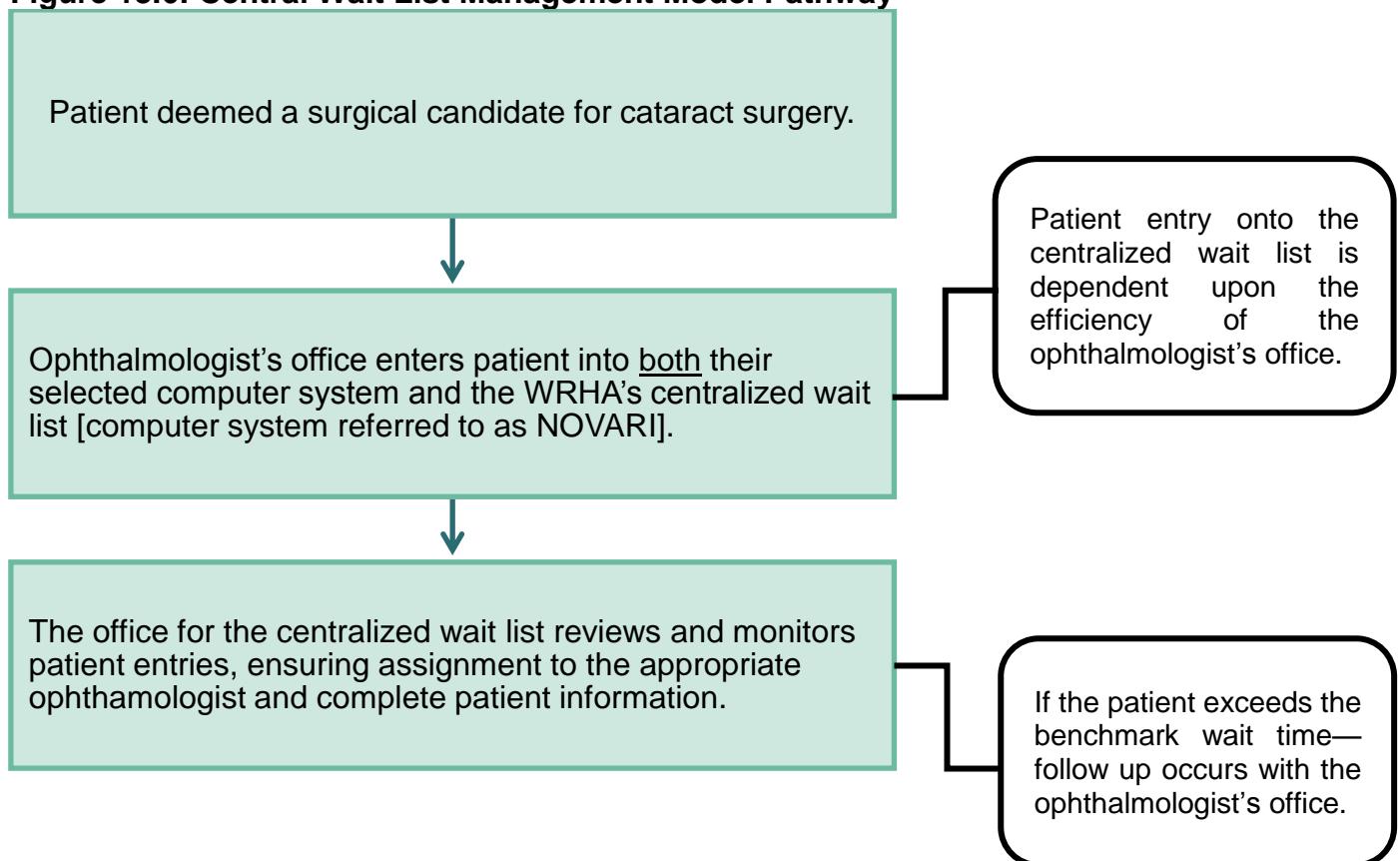
- Centralizing all referrals to the service and having the patient see the specialist with the next available appointment [32%]
- Having the ability to redirect referrals to another specialist with a shorter wait list [28%]
- Having access to tools to help manage the wait list, such as by identifying and prioritizing long waiting patients [15%]
- Redesigning processes to improve efficiencies [12%]
- Discussing the necessity of the patient's referral with the referring provider [8%]

The use of central intake to assist in wait list management has and continues to be considered by the WRHA's Cataract Surgery Program. The reasons which have been given by ophthalmologists and optometrists for not adopting central intake include, but are not limited to:

- the program not having funds to build, implement and manage central intake
- concerns regarding central intake's potential to be a barrier to relationship-building between the optometrists and ophthalmologists
- concerns that central intake infringes on patient choice
- elimination of optometrists' ability to refer directly to an ophthalmologist on the basis of the ophthalmologist's subspecialty
- concerns that the quality of wait list reporting will be compromised
- concerns around the implications of a central intake which allows surgeons to opt out

While many of these concerns can be addressed by designing the central intake processes to take them into account, it is true that central intake is not the best solution for all situations, and it does come with costs. In addition, concerns were raised in consultations that echo many of the reasons above, particularly related to the complex process that would be required in order to manage a central intake for cataracts. In place of central intake, the WRHA's Cataract Surgery Program chose to adopt a central wait list management model (see Figure 13.6). As part of the model, optometrists are provided with the clearance times for each WRHA ophthalmologist (i.e. the time it would take each surgeon to work through all surgeries on their wait list). This was intended to help optometrists decide where to refer their patients. This data is updated semi-monthly and is current within 14 days, but it is not available to the public. While this may work well for front line providers, as illustrated by the patient quote in section 1, some patients have difficulty navigating the system. Not all patients appear to be able to get the information they need, in order to make informed choices.

Figure 13.6: Central Wait List Management Model Pathway



Consultations with front line providers indicate this model of referral has generally been successful. However, it was admitted that the system recently “broke” as a result of a new ophthalmologist failing to manage their wait list accordingly (i.e. the ophthalmologist maintained a short wait time 1—referral to consult—but allowed for their wait time 2—consult to surgery—to grow significantly, without the surgical time to manage accordingly). This issue is currently being resolved. Furthermore, with less capacity than appears necessary to meet demand, wait lists have spiraled beyond where they can be managed effectively. Regardless, for the reasons above and the system’s ability to accurately assess need, maintain standards and conduct quality assurance activities, a central wait list management model remains the preferred choice to central intake by front line providers.

Related to wait list management, it appears that the appropriate surgical candidates are being captured and placed on the wait list. One area of improvement identified by the front line providers was the creation of standardized criteria. Specifically, in consideration of the apparent variability between how ophthalmologists prioritize their patients, it has been suggested that prioritization criteria be reviewed, standardized and enforced.

Prioritization of surgical candidates should consider the Ontario prioritization criteria¹⁷³ and such indicators as Snellen acuity, employment status, proximity to caregivers, if other ocular diseases have presented, and visual function of only one eye. Development of standardized priority criteria should fall to the role of a provincial standards committee.

Clinical and public support exists for the establishment of a provincial program for cataract surgery, which does not yet exist. One function of the provincial program should be to establish a provincial standards committee to assess and measure appropriateness of cataract surgery, via pre- and post-operative data collection. Outcomes of these assessments should enable individual review and evaluation of the ophthalmologists and their surgical practices. Thus improving quality assurance of ophthalmologists who perform cataract surgery, in a comparable way to the provincial standards committee for hip and knee replacement surgery.

13.6 Access

Access to cataract surgery has been an evolving project in the province. Determination of how best to improve access to cataract surgery continues to be a challenging issue given the many factors that may impact access, including travelling distances, language, literacy, culture, caregiver support, employment status, surgeon availability, slate availability, and surgical hours of operation.

From a geographical standpoint, access has increased in the province over the past few years, with cataract surgery now being delivered across three regions and six sites. Decentralizing surgical services may make care more accessible (i.e. reduce patient travel), but it may come at the expense of other things, such as cost containment and system efficiency. Alternative means to increase access without further decentralizing cataract surgical services may include:

- patient choice in selecting surgical site and date
- coordination of specialist appointments as much as possible on the same day
- pre-referral consultations between optometrists and ophthalmologist for rural and remote patients to ensure the patients meet all criteria to be considered a surgical candidate, prior to referral
- group scheduling of patients from the same or neighbouring communities for cataract surgeries, so as to make carpooling or group transport an option, where appropriate, reducing patient travelling costs

Technology has greatly improved access to cataract surgery. As previously noted, technological advancements have allowed for cataract surgery to be performed on an

¹⁷³ (Government of Ontario, 2017)

outpatient basis in under an average of 25 minutes. Previously it was performed as an inpatient procedure, requiring an overnight stay. Central intake may have the potential to increase access by reducing the wait time variance between ophthalmologists, but the ophthalmology program—in addition to the reasons discussed in section four—has little confidence that central intake would achieve this result, given that it has yet to do so with the wait times for surgeons who perform hip and knee replacement surgery.¹⁷⁴

Access to cataract surgery may be improved should ophthalmologists with long wait times be temporarily suspended from accepting new patients, as a means to clear their wait list backlog. Similarly, access may be improved should sufficient regular operating time be assigned to new ophthalmologists. Presently this does not happen.

Other ways in which access could be improved to cataract surgery, with simple investments, include greater use of optometrists in conducting post-operative assessments, in consultation with ophthalmologists, and the creation of a central phone number to provide advice or answer questions during the wait for consultation or surgery. Adoption of these practices would help address barriers related to access, literacy and language while increasing patient navigation and support. The provincial program for cataract surgery should lead to the establishment of a working group to create and implement the central telephone number. The working group would be responsible for identifying the appropriate staff to operationalize the telephone line, and ensuring they were appropriately educated to address patient concerns and questions. The working group should be composed of ophthalmologists, optometrists and WRHA representation.

With the advancements in technology, access could be further increased with the adoption of Telehealth, or another distance communication mechanism, for initial assessments and follow-up appointments pre- and post-cataract surgery, where appropriate. Adoption of technology for this purpose would require patient education on distance communication options and encouragement of patients to request consultation by distance when appropriate, particularly for rural and remote patients.

Efforts that have been undertaken to date to improve access to cataract surgery, which have not yet been mentioned, include slate optimization of high and low risk anesthesia patients, as well as optimization of case referral to the ophthalmologist with the appropriate subspecialty, should the cataract not be the only ocular disease presenting.

13.7 FUNDING AND TRACKING MECHANISMS

Consistent with the funding practices for other surgical procedures (e.g. hip and knee replacement surgery) the Government of Manitoba has defined the minimum number of cataract surgeries which each region must perform. However, regions are not restricted to this number and can choose to do more cataract surgeries. In some cases the

¹⁷⁴ (Mathen, 2017)

Government has also provided targeted wait time funding to assist the regions in performing this minimum number of procedures, in order to reduce their wait times. This targeted funding is in addition to the global funding provided to each region. Examples of such targeted funding include:

- Brandon General Hospital received funding for 100 additional cataract surgeries for the 2005/06 fiscal year through to 2008/09.
- In 2011, the WRHA, SHSS and PMH were all given an increase in their global supply budgets to complete additional cataract surgeries; the directed amount was based on the target volume of procedures per year in each RHA.
- In the 2013/14 fiscal year the WRHA was provided funding for 600 additional cataract surgeries.

Below are the annual volume targets for cataract surgery by region, as well as the actual numbers done, for fiscal years 2015/16 and 2016/17:

Table 13.2: Target and Actual Volumes for Cataract Surgery by Site and Fiscal Year

Region/Site		2015/16 Actual	2016/17 Actual	Target for 15/16 and 16/17
WRHA	Misericordia Health Centre	9,115	8,996	9,045
	Western Surgery Centre	1,461	1,394	1,500
SHSS	Portage District General hospital	246	241	250
PMH	Brandon Regional Health Centre	1,157	1,143	1,230
	Minnedosa Health Centre	388	391	345
	Swan Valley Health Centre	301	325	300

During consultations with front line staff it became apparent that there are different understandings of the way that cataract surgeries are funded, how volumes are dictated, and what happens to savings that are realized by changing practices within the program.

For example, over the last number of years changing practices for cataract surgeries have netted savings for the Ophthalmology Program and healthcare system overall, including:

- \$1.2 million dollars with the elimination of pre-operative histories and physicals for low risk anesthesia patients.
- \$40 thousand dollars with a reduction in nursing overtime due to a revision in the standardized procedures for booking emergency cases.
- Maximization of supply contracts with vendors—dollar value unknown.

However, most of the staff we consulted did not know what happened to these savings. The savings did not appear to be re-invested in performing more surgeries. It is therefore important that the funding model be clear and transparent to all parties. It would also be beneficial if the provincial program could maintain control of more of its budget, so resources could be reallocated where needed, and savings could be reinvested. This would also provide an incentive to continue improvement and innovation.

One of the recommendations being made is that 2,000 additional cataract surgeries be done per year, in order to address increasing demand. This is estimated to cost between \$900,000 and \$3 million. \$900,000 assumes all infrastructure and human resources are already available, and surgeons are redirecting their efforts from other work so the physician remuneration costs remain approximately the same as they would otherwise. \$3 million assumes all new activity is in addition to what is already being done (i.e. addition of operating room time, addition of staff shifts, etc.), and the sites are unable to capitalize on the use of existing resources. Based on estimates from the WRHA it is anticipated the actual cost of an additional 2,000 cataracts would be in between these two estimates, approximately \$1.5 million.

To offset the costs to be incurred it is proposed that:

- Consideration of a reduction in the tariff for cataracts as the provincial tariff is no longer proportionate to the work required for performing this surgical procedure given advancements in technology—as previously discussed in Section 4: Capacity. A surgeon can now perform between 15 and 20, or even more, cataract procedures in a day, compared with two to four surgeries 20 to 30 years ago. However, the fee has not come down substantially and is still \$450 per procedure. A \$100 fee reduction would equate to an estimated \$1.27 million dollars in cost-savings annually.
 - Presently Manitoba has a cataract tariff of \$450 while Ontario's tariff is \$388.30.
 - Cautionary notes:
 - Should this be pursued all the appropriate organizations should be consulted.
 - The fact that some items in the fee schedule pay much more on a fee per time measure (i.e. cataract surgery) than other types of care (i.e. a primary care visit) has been a major issue for medical associations for centuries, and for provincial governments for decades. It is understandably divisive within the medical community and perplexing to lay people—but the issue remains largely unresolved. See Chapter 14 for further comments on physician remuneration.
- Consideration be given to the creation of a provincial program for cataract surgery. Up front costs may be present, but long term cost savings could be achieved by:
 - streamlined service delivery

- newfound staff efficiency equating to improved rates of turnover between slates
 - value-based procurement
 - optimization of existing infrastructure
- Consideration of the consolidation of cataract services. Consolidation of services may require initial investment into infrastructure and human resources but have potential long-term savings due to value-based procurement; consolidation of ophthalmology services for emergency surgery and consultation; and increased accountability for quality, standards and cost controls, particularly with the creation of a provincial program.
- Consideration be given to putting out a call for RFP for reasons identified in Section 4: Capacity; cost savings are dependent upon RFP submissions.
 - Specific evaluation criteria should be developed to detail what is to be included and excluded in the cost estimate:
 - Those organizations bidding should offer their best price, which should be based on marginal costs.
 - The price should include all needed pre-procedure and post-procedure care.
 - The price should reflect that the RFP does not include care for the sickest persons who will continue to have their surgery as hospital inpatients. In other words, the price should be less than the current average for cataract surgery.

The contract should be for a long enough period of time to amortize any needed initial investments.

Figure 13.7: Key Concept – Marginal Cost(s) versus Average Cost(s)

Marginal Cost(s) versus Average Cost(s)

It is recommended that marginal cost be included as cost estimate criteria, in place of average cost in the request for proposal, given that the marginal cost considers the change in total cost of delivering one additional service as opposed to simply the division of the total cost by the total number of services delivered. Marginal cost takes into consideration the costs that may be variable with the delivery of additional services.

Notably, there is a point at which marginal cost would not be preferential to average cost; such an instance would be when one additional unit of service delivery requires additional capacity.

Increases in surgical volume should first be used to target the wait list backlog for cataract surgery, targeting patients who have been waiting the longest.

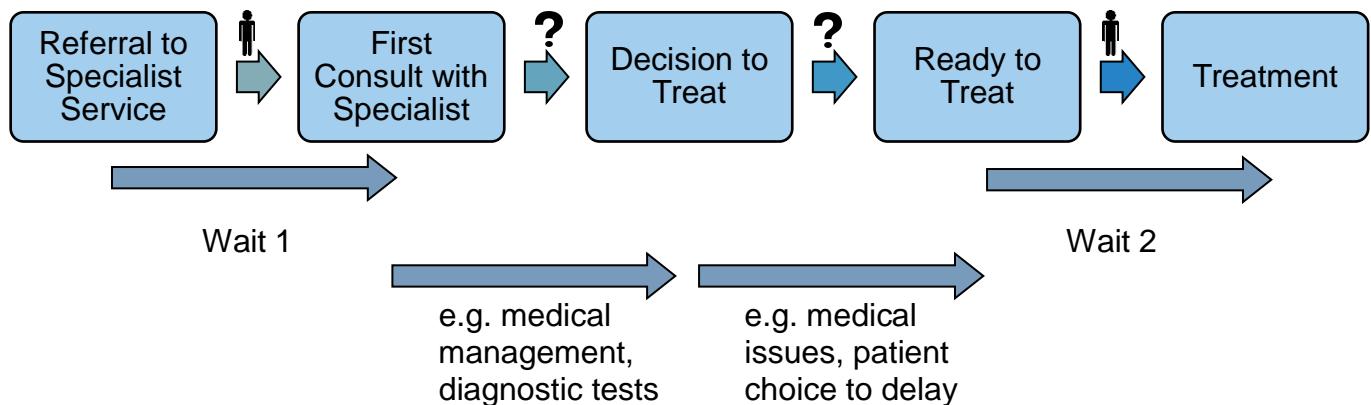
The committee would like to acknowledge the significant work that has been done over the past years by the ophthalmologists, other health care providers and the regions to

optimize the use of resources and reduce the costs while maintaining safe and effective clinical standards.

13.8 WAIT TIMES AND ACCESS INDICATORS

Wait times for treatment-based specialty services in Canada are generally measured in two standard segments, Wait 1 and Wait 2—see figure below.

Figure 10.1: Depiction of Wait 1 and Wait 2



It is clear from this diagram that there are gaps in the reported wait times when patients are not being tracked, namely the time waited between the first consult and the patient being physically, emotionally, and socially ready to receive service (“ready to treat”). This is because this time can be affected by many factors other than the health care system’s ability to provide the specific service. For example, in spite of the patient being deemed a surgical candidate, the patient may opt to defer surgery if they are finding their vision is not impairing their ability to perform activities of daily living. Similarly it may be more appropriate for a patient to pursue non-surgical management and treatment first, such as medication and/or prescription glasses. Once a decision is made that surgery is the appropriate option, the patient may still not be ready if, for example, there are other medical issues that must be addressed first, or if the patient is not available for other reasons, such as a planned vacation or the need to arrange for time off work. However, in order to understand the demand for services, as well as the province’s ability to provide services, it is important to have accurate and comparable data across Manitoba on all parts of the patient’s journey, not just small pieces. To this end, the provincial program should consider monitoring and reporting on indicators beyond those that are currently tracked. The specific indicators should be defined by the provincial program, and could go beyond wait time and volumes to, for instance, the percentage of patients who were provided a consult or surgery date within their preferred time range.

As funders and users of the health care system, the public have a right to be kept informed of system performance indicators, and to know how long they can expect to wait if referred for health care services in Manitoba.

13.9 How DOES CATARACT SURGERY FIT INTO PROVINCIAL PROGRAMMING?

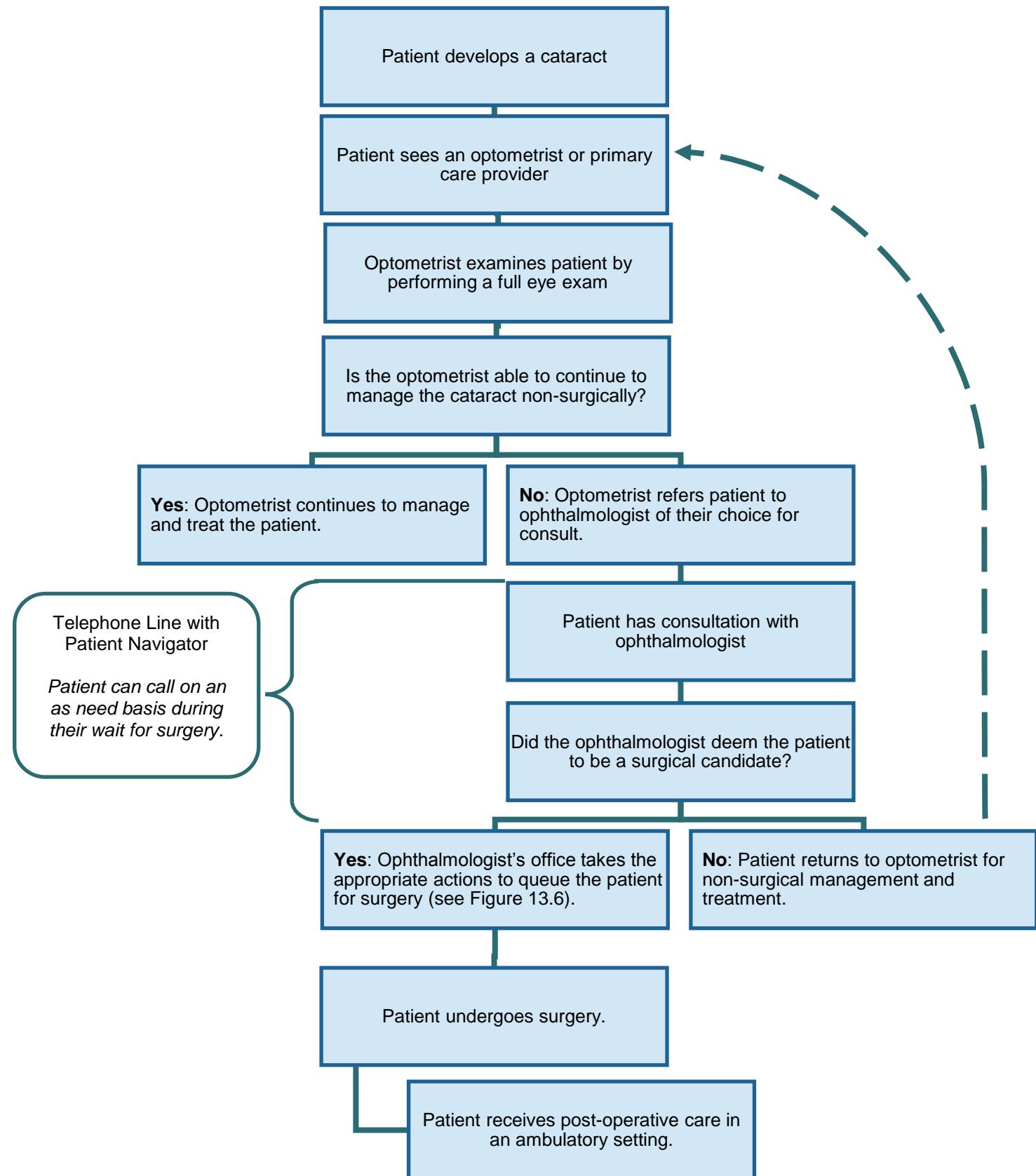
It is recommended that a provincial program for cataract surgery be created, similar to that already established by the hip and knee replacement surgery program. Establishment of such a program would ensure that governance and oversight over cataract surgery is occurring, standards for patient care are being upheld, and best surgical and wait list management practices are being adhered to.

It should be noted that a provincial program does not mean patients must travel to the next available surgeon even if there is a more accessible surgeon. It does mean that the province can have a more accurate picture of both the demand for services and where capacity exists, through standardized and consistent data collection, and can more easily redirect or reinvest money or other resources where the needs are.

13.10 PROPOSED PATIENT JOURNEY PATHWAY

Following the discussion above, the committee proposes a revised patient pathway for cataract surgery in Manitoba, summarized below:

Figure 13.8: Proposed Patient Journey for Cataract Surgery



13.11 RECOMMENDATIONS¹⁷⁵

1. Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient's preferences are honoured whenever possible.
2. As technology advances, consideration should be given to performing initial assessment and follow-up appointments via Telehealth or another distance mechanism where appropriate. Educate patients about distance communication options and encourage them to request consultation by distance when appropriate.
3. Consideration should be given to the greater use of optometrists in conducting post-operative assessments, in consultation with the ophthalmologists.
4. Reduce the demand and wait times for consultations and surgeries related to cataract surgery. Tactics should include:
 - a. Recognize and augment the role of optometrists in assessing patients' need for surgery, providing alternate treatments when appropriate, and in helping them navigate the health system.
 - b. Review the use of pre-operative assessments, and eliminate the components that do not provide value (for example pre-operative history and physical examinations).
5. Increase capacity for cataract surgeries, to address demand. Tactics should include:
 - a. Increase the number of cataract surgeries by 2,000 per year, a 15% increase from the current target volume. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, whether the sites have been able to manage the full increased volume without compromising other services, and whether further adjustments are required based on the updated demand data.
 - i. Increased volumes could be allocated in one of several ways:
 1. Surgeries be allocated by site, provided the site is capable of doing the additional volume of surgeries. If the distribution is based on the percentage of surgeries currently being done at each site the distribution would be:
 - a. WRHA
 - i. Misericordia Hospital: 1427
 - ii. Western Surgery Centre: 231

¹⁷⁵ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

- b. PMH
 - i. Brandon Regional Health Centre: 191
 - ii. Minnedosa Health Centre: 63
 - iii. Swan Valley Health Centre: 49
 - c. SHSS
 - i. Portage District General Hospital: 39
2. RFP: Consideration be given to putting out a call for Request for Proposals (RFP) as means to achieve greatest value for money, without compromising quality, and to provide both the public and private sectors the opportunity to bid on the contract. Should this recommendation be pursued, it is advised that very specific evaluation criteria be detailed in the RFP for what is to be included and excluded in the cost-estimate:
 - a. Those organizations bidding should offer their best price which should be based on marginal costs
 - b. The price should include all needed pre-procedure and post-procedure care
 - c. The price should reflect that the RFP does not include care for the sickest persons who will continue to have their surgery as hospital inpatients. In other words, the price should be less than the current average for current cataract surgery.
 - d. The contract should be for a long enough period of time to amortize any needed initial investments. It is important that any RFP process should be developed within the context of a provincial program for Cataract Surgery with ongoing assessment of capacity, demand, and quality.
 3. Combination of the two options listed above.
 - ii. It is suggested that the additional volumes initially be concentrated on the longest waiting patients, while ensuring that as many patients as possible receive surgery within the national benchmark.
 - b. Partially fund recommendation 5a with a reduction in the tariff for cataracts. The provincial tariff is no longer proportionate to the work required for performing this surgical procedure given advancements in technology that permit more than five procedures to be performed in the same time as one might be accomplished in the past. A \$100 fee reduction would equate to an estimated \$1.27 million dollars in cost-savings annually.

6. Establish a provincial program for cataract surgery, so funding and resources can be directed to where they are most needed. A provincial program should include:
 - a. Create a provincial standards committee for cataract surgery.
 - b. Negotiate a provincial surgical supply contract to maximize provincial savings and efficiencies (i.e. value-based procurement).
 - c. Organize and supervise activities of the cataract surgery program relating to the standards of practice.
 - d. Monitor indications for surgery against the recommended standard.
 - e. Monitor outcomes of surgery against the recommended standard.
 - f. Monitor, evaluate and recommend standards of practice for the Ophthalmology Program. These standards could include, but are not limited to, ensuring consistent wait times for consultation and cataract surgery between different ophthalmologists.
 - g. Educate providers using the knowledge gained through monitoring and evaluation activities.
 - h. Develop a high level of expertise in continuous quality improvement methods and patient safety and strive to foster increased understanding and application of knowledge within the Cataract Surgery Program. As part of this work, standardize criteria for patient prioritization on the central wait list.
 - i. Work with the program leadership to implement continuous improvement.
 - j. Shared Health Services Manitoba should convene a working group of ophthalmologists and optometrists, to create and implement a telephone line for patient navigation and support, as needed—especially for patients who appear to be waiting longer than necessary and those with language and literacy issues. As part of this work, the working group will identify the appropriate staff to operationalize the telephone line and educate them accordingly.
 - k. Support continued adoption of the central wait list management model established by the WRHA Cataract Surgery Program, placing it under Shared Health Services Manitoba as a provincial program.
 - l. Track and report on key access indicators by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial program. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - m. Update and/or create a new projection model for cataract surgery or forecasting of future demand.
 - n. Assess the existing and potential capacity of the rural sites, which is currently unknown.

- o. Following analysis of the capacity for surgery by site, assess the best options for service locations to improve the delivery of services and quality of care.
- p. Establish a funding-based model of delivery, rather than a volume-based model. This would allow for serving more patients in the same amount of money; it would also allow for a significant percentage of the savings realized by the provincial program to be reinvested into improving or increasing services. The funding provided should be accompanied by measurable deliverables, such as the minimum number of cataract surgeries to be done, on which the program would be required to report annually.

14 ADDITIONAL ISSUES

14.1 INTRODUCTION

The Priority Procedures Wait Times Reduction Committee (PPWTRC) investigated a wide variety of issues related to our mandate. However, we are limited in our mandate, as well as in time and resources. We cannot deal comprehensively with all the issues that are related to waits and delays for cataract surgery, MRI scans, and hip and knee replacement surgery. Further, our scope does not include implementation. Nonetheless, we feel that the province needs to deal with some fundamental issues to reduce wait lists for these and other health care services. We provide a brief background to each issue and then a few recommendations.

14.2 PATIENT AND PUBLIC PARTICIPATION

Patient participation in their own care, in planning services, and in governance can enhance the quality of health care services.¹⁷⁶ In particular, when patients are included in planning activities, providers are more likely to focus on the needs of patients and families than on their own concerns.

We were repeatedly told that more meaningful patient engagement is necessary in order to effectively implement change. Patient-centred care is also a major recommendation of the *Provincial Clinical and Preventive Services Planning for Manitoba* report (The Peachey Report):

“To achieve successful planning in the long-term requires commitment across the system, belief in the values of the system, and the imperative for change that maintains the patient at the centre of that system.”¹⁷⁷

Saskatchewan developed a strong patient engagement campaign in the wake of their 2009 provincial report, *Patients First*.¹⁷⁸ As Saskatchewan effectively reduced their wait times in the next five years¹⁷⁹ almost all committees planning new models of services had two trained and supported patient representatives. Saskatchewan observers claim that patient engagement was a necessary part of their overall strategy.

Manitoba and some other jurisdictions are also using patient clinical decision tools. These paper- or computer-based instruments help patients and families determine whether an

¹⁷⁶ (Coulter, 2012)

¹⁷⁷ (Peachey, 2017)

¹⁷⁸ (Dagnone, 2009)

¹⁷⁹ Since 2014, Saskatchewan's wait times, like other jurisdictions have crept up but they are still on average less than Manitoba.

(Canadian Institute for Health Information, 2017)

elective procedure, which is designed to improve quality of life, is in fact congruent with a particular patient's values and preferences. Not everyone might value the same apparent degree of mobility or vision improvement in the same way, or they might rate the risks of treatment differently.

In addition, as mentioned in previous chapters, ongoing standards reviews should include a measure of patient reported outcome measures (sometimes referred to as "PROMs"). Catquest is a tool being developed in the United Kingdom to help measure PROMs after cataract surgery.¹⁸⁰ This instrument avoids common problems identified in Manitoba¹⁸¹ and other places, where traditional visual testing reveals little benefit but the patients claim that they are now seeing better and doing more post-surgery.

14.2.1 Recommendations

- Manitoba Health, Seniors and Active Living (MHSAL) should develop a patient engagement strategy, with appropriate staffing and other supports, modelled on the Saskatchewan "Patients First" program.
- At least two patients should be members of any formal committee planning health services.
- The existing orthopedics standards committee, and any future provincial standards committees, should review the current state for patient decision tools and consider their implementation into care processes.
- The existing orthopedics standards committee, and any future provincial standards committees, should implement patient reported outcome measures and incorporate such metrics into their review processes.

14.3 CLINICAL GOVERNANCE

Clinical governance is not the same as administrative governance. Clinical governance refers to the rules and policies for clinical services and includes:

- establishing standards of practice
- monitoring performance (i.e., quality assurance)
- continuously improving quality and reviewing standards
- creating an environment where innovation and improvement can flourish

¹⁸⁰ (Fung, et al., 2016)

¹⁸¹ (Bellan, Why are patients with no visual symptoms on cataract waiting lists?, 2005)

Manitoba has some examples of good clinical governance. For example, the Manitoba Orthopedic Standards Committee provides oversight to the province's joint replacement program. However, this is still the only standards committee affiliated with the College of Physicians and Surgeons of Manitoba (CPSM), and it does not review other orthopedic procedures.

Providers who provide care within publicly funded facilities have to be members of medical staffs, but this is not true for those who only provide care in the community. Currently the CPSM is responsible for oversight of community-based medical staff, but this oversight is very limited.

Various Canadian jurisdictions are dealing with the issue of clinical governance, especially for community-based practitioners. The recent Peachey Report highlighted the challenges of inadequate clinical governance and made a number of recommendations for its enhancement. The issue of inadequate clinical governance affects almost all services, but it is a particularly thorny issue for Magnetic Resonance Imaging (MRI) waits and delays.

As outlined in Chapter 11, whenever the issue is examined, typically 20-30% of MRI scans are assessed as adding no value to the patient's journey. If the system could identify and eliminate these inappropriately ordered MRI scans, then those who really needed the test would hardly wait at all. In addition, there has not been harmonization of scanning protocols between different radiologists and different sites. This means that sometimes more than one scan is ordered when it will not add value to the patient's care, or there may be patients not getting a scan who could have benefited from one.

However, there is not any routine feedback to providers regarding their performance. Manitoba, like other Canadian provinces, is a long distance away from other health systems such as the Mayo Clinic and National Health Service Scotland where all physicians have annual performance reviews and quarterly performance reports.

14.3.1 Recommendation

- As Manitoba creates new mandates for its health organizations, especially Shared Health Services Manitoba, it should incorporate a provincial clinical governance plan that includes all publicly funded providers, whether they provide care in facilities or not.

14.4 PHYSICIAN REMUNERATION

The vast majority of Manitoba physician funding is based on fee for service (FFS) remuneration. FFS does provide an incentive to do things which can enhance productivity. However, there are several problems with current FFS remuneration including:

- Fee for service payment accentuates the disparity in pay between different physicians. As noted in Chapter 13, there have been technological advances that have reduced the costs of cataract surgery dramatically in the last 20-30 years. The time required for the procedure has fallen to an average of 25 minutes from 1–2 hours. The vast majority of patients no longer need an overnight stay in hospital. However, the fee for cataract surgery has only fallen in the past ten years from \$513.05 to \$450.00. As a result, notwithstanding their overhead costs, ophthalmologists who do significant amounts of cataract surgery are among the highest paid of all Manitoba doctors.¹⁸² Medical associations tried to deal with relativity of fees and incomes 25 years ago but were unsuccessful. However, Ontario, Alberta and other provinces are currently re-examining the issue.
- FFS can create inappropriate incentives for overuse and underuse. Hourly remuneration for procedures and surgery typically pay much more on a fee for time basis (5-10 times) than talking with the patient and their family.
- There is an incentive to “unbundle” fees. For example, some radiologists felt that discussing appropriate imaging with referring doctors was included in the fee they eventually billed Medicare, while others felt these activities were new work.
- FFS can discourage team work. Typically physicians are not remunerated for work performed by nurses, social workers, or other health care providers. They are just remunerated when they provide the service directly.

A 2014 BC Auditor General Report on physician remuneration concluded:

“Our findings suggest that Government does not know if the services provided by physicians are high-quality and if they are providing value for British Columbians. In addition, the way that doctors receive payment for their services does not necessarily lead to value for taxpayers.”¹⁸³

14.4.1 Recommendation

- Manitoba should review its current system of physician remuneration to ensure that it provides fairness for physicians, and value for money.

14.5 INFORMATION TECHNOLOGY

Information technology (IT) is a key component of health care. It helps support health care providers, patients and family members to get the information they need to make informed decisions.

¹⁸² This applies to other provinces as well.

¹⁸³ (Office of the Auditor General of British Columbia, 2014)

From a healthcare provider perspective, the potential of IT can include giving health care providers a fuller picture of their patients' medical histories by allowing them to access records of tests and consultations done by other providers, or at other sites. IT systems can provide decision support tools, for example to help healthcare providers determine the appropriate tests to order, or what information should be included when referring a patient to a specialist for a particular condition. IT systems can also provide a mechanism for ordering tests, or sending referrals, and facilitate communication between the healthcare provider and the specialist, as well as between the healthcare provider and the patient.

From the patient's perspective, IT has the potential to be an important resource to support them in managing their own health by allowing them to access their own health records, communicate with their healthcare providers, or book appointments. Much of this potential functionality is not currently available in Manitoba, and much would require significant investment, but the potential exists.

What we heard...



"Electronic files that the patient can consult online, print and save his exams."

- Public survey respondent [responding to the question to provide additional suggestions how to improve access to surgical or diagnostic services in Manitoba]

In addition to access to tests and other information, and opportunities for improved communication, IT systems can provide valuable access to a substantial amount of data which can be used for decision-making, improving health care services, and targeting services where they are needed most. However in order to realize the full benefits, the data must be accessible by those who need it.

In Manitoba there are multiple data systems within the healthcare system that are isolated from each other, or can only be accessed by certain groups of people. This creates gaps in knowledge which could be key to understanding factors that are contributing to increased wait times for services such as MRIs, hip and knee replacement surgery and cataract surgery. For example, it was noted in consultation that having accessible data on obesity and diabetes rates in the province could help the health system understand what percent of hip and knee replacements are related to obesity, or what percent of cataract surgeries are related to diabetes. Another suggestion made in consultation was to give broader access to data collected by, for example, the Manitoba Centre for Health Policy (MCHP). While it is understood that the privacy of MCHP data must be protected as part of this process, having the ability to combine MCHP data with the administrative data held within the Department could help analysts better understand how patients"

socio-economic status impact their likelihood of developing different health conditions, and the associated risk they will need a certain surgery or treatment. Two examples of some “missing links” in existing data, specific to the work of this committee, are as follows:

- Inability to determine the diagnosis associated with a specific procedure: As noted in Chapter 12, evidence shows that performing a knee arthroscopy on a patient with osteoarthritis does not add value. However while the committee was able to find out how many arthroscopies are performed in the province, it was unable to reliably determine how many of those were performed to treat symptoms of osteoarthritis. Therefore the committee was not able to conclude how many arthroscopies in Manitoba could likely be avoided by changing practice as recommended in Chapter 12.
- Inability to determine how many MRIs are performed on a specific body part: While the committee was able to find out how many MRIs were done on “extremities,” it was not able to break the data down further to determine how many of those were for knees, hips, shoulders, etc., or for a specific diagnosis. Therefore the committee was not able to conclude how many MRIs could be avoided by reducing the number of MRIs performed on patients with knee pain.

There is a great deal of data already available in Manitoba; expanding access to this data, and improving people’s ability to link datasets, would improve understanding of the current state of the patient journey and the healthcare system overall. This would allow Manitoba to better craft strategies to impact the underlying health conditions at a population level, and to help target health care where it is most needed to help address inequity of access to services.

In general, there are a number of factors that must be considered before implementing or expanding any sort of IT system:

- Ensure that the information contained in the IT system is collected, protected and used in accordance with applicable privacy legislation. Any health care IT system will most likely contain detailed, sensitive information about individual patients. It therefore requires the ability to maintain patients’ privacy, and protect the information from intended or unintended access or disclosure by those who do not need the information.
- Ensure workflow and processes are good and well understood; implementing an IT system when the underlying processes do not work well may only intensify any issues. In fact, in some cases issues can be addressed simply by fixing the processes, and no IT system is needed.
- Ensure the workflow within the new IT system supports or improves on existing workflows and processes, and reassess throughout the implementation. IT systems often shift work or alter existing workflow, sometimes on purpose and sometimes unintentionally. This can be challenging for those who are affected, unless the new workflow is an improvement over the previous, or there is some other significant benefit to the new process. Consider the example of a system that

places responsibility for writing and sending a referral request on a physician, when previously the physician would provide some notes to her office assistant to draft and send the referral. Even though there are now fewer overall steps in the process, the bulk of the work is placed on the physician instead of on a clerk, which many would not consider to be a good use of resources. It was noted in consultation that IT project failures can be failures of implementation as much as failures of design. These issues can be addressed in part by engaging affected stakeholders in the design, testing, implementation and re-assessment of the processes and the IT system.

- Ensure the system has the ability to track and report on any necessary data elements. This allows the secondary benefits to be achieved, such as being able to track access and performance indicators, predict need, or target services. Often if this secondary, but important, purpose is not considered at the start of the project, it is discovered later that the IT system is not capturing the right information or cannot give up its data without considerable manual effort.
- Ensure that the system not only provides value to the people who will be using it, such as healthcare providers and staff, but that the system provides value to patients as well. This can include direct value, if the system is used by patients themselves, or indirect value by making processes more efficient, allowing providers to more easily communicate or share information, or helping ensure the patient gets the right care the first time.
- Consider the potential limitations of those who will be using the IT system. For example, not all members of the public have access to a computer, tablet or smartphone. In some places, particularly in the north, access to internet and cellular phone services may be limited; this can affect health care providers as well as the public. Further, different people have different levels of comfort with and preference for technology. Many older people may prefer to get information or book appointments by speaking to someone by phone, whereas youth may prefer to have any interaction via chat or text.

One example of an existing system, which is currently in the process of being trialed in Manitoba, is eConsult, which allows referring clinicians to pose questions electronically to an on-call specialist, who will review and respond within a matter of days. The specialist may provide advice on how to manage a patient's case, request further information such as test results, or recommend the patient be referred to a specialist for further assessment. The system has already been successfully implemented in two regions in Ontario, where it has reduced the number of specialist referrals by an estimated 8%. It has also provided a valuable capacity-building function, by helping teach primary care providers how to manage patients with conditions they would previously have referred to specialists. This means the next time a patient presents with similar symptoms the primary care provider can manage the patient themselves. This also provides value to patients, who can be cared for by their primary care provider, usually more quickly and closer to home than if they were referred to a specialist for assessment. Use of eConsult is currently being expanded across Ontario.

14.5.1 Recommendations

- Trial the eConsult tool with one of the priority services, to help improve the appropriateness of referrals.
- Implement electronic consumer health information and access solutions where appropriate, to support some of the recommendations in previous chapters (e.g. patient portals, online chat options).
- Given there is extensive data available in Manitoba which could be used to guide program development and evaluation if it were more accessible, perform a review of existing datasets which could be used to gain a more complete provincial picture, at a population level, of the need for and provision of services.
- Engage the public in the development of policy regarding electronic transmission of personal information and personal health information, such as by text or email.

14.6 UNDERSTANDING Socio ECONOMIC RISK AND THE BURDEN OF UNDER TREATMENT

As mentioned in Chapter 2, Canada, like other countries with universal health insurance, has more equity than the US system, which is not universal and is mainly privately funded. Low income Canadians are more likely to get care according to their needs than low income Americans. But it appears that low income Canadians are still not as likely to get their health care needs met as are higher income Canadians.

Analyses conducted by MHSAL for this report have concluded that there seems to be a similar situation in Manitoba for cataract surgery, MRI scans, and hip and knee replacement surgery. Lower socio-economic status (SES) Manitobans get fewer MRI scans than do higher SES residents despite being more likely to have conditions which would require an MRI. Lower SES Manitobans have higher rates of cataract and hip and knee replacement surgery than do higher SES residents, but not as high as their increased need would suggest should occur.

Based on what we know about health inequity we expect that a similar analysis would find similar results for most elective services in Manitoba. The United Kingdom also has a universal health care system, and it too has found that while lower SES English have higher rates of cataract and knee surgery than did higher SES English, the increased servicing was not commensurate with the increased demand.¹⁸⁴

These access inequalities are driven by a variety of patient factors including lack of resources for transportation or non-Medicare services, lack of literacy in English, and

¹⁸⁴ (Steel, et al., 2014)

mental health problems. The health care system cannot alleviate the “care gap” completely. However, high performing health systems can improve their overall results significantly by ensuring that those patients who need health care get it as quickly as possible. Good systems ensure that all patients with remediable pain or disability get effective care by adapting the system to a particular patient or community.

A related issue is the much poorer health and access to health care suffered by Manitoba’s Indigenous peoples, particularly those who live in remote parts of the province.¹⁸⁵ The 2016 Federal Truth and Reconciliation Report made seven specific recommendations about health. We feel that they apply to the situation regarding the three services we examined, and other elective specialty care services. Report Recommendation #19 is particularly germane to the issues above:

“We call upon the federal government, in consultation with Aboriginal peoples, to establish measurable goals to identify and close the gaps in health outcomes between Aboriginal and non-Aboriginal communities, and to publish annual progress reports and assess long-term trends. Such efforts would focus on indicators such as: infant mortality, maternal health, suicide, mental health, addictions, life expectancy, birth rates, infant and child health issues, chronic diseases, illness and injury incidence, and the availability of appropriate health services.”¹⁸⁶

14.6.1 Recommendation

- MHSAL, in collaboration with key stakeholders including the public, should review the data on relative under-treatment of Indigenous peoples and lower socio-economic status Manitobans for MRIs, hip and knee replacement surgery, cataract surgery, and other procedures and treatments. The Ministry should develop a plan to improve the access for these groups to ensure that they have equitable access to needed health care.

¹⁸⁵ (Chief Provincial Public Health Officer, 2015)

¹⁸⁶ (The Provincial Court of Manitoba, 2015)

14.7 Recommendations [Compiled]¹⁸⁷

Patient and Public Participation

1. MHSAL should develop a patient engagement strategy, with appropriate staffing and other supports, modelled on the Saskatchewan Patients' First program.
2. At least two patients should be members of any formal committee planning health services.
3. The existing orthopedics standards committee, and any future provincial standards committees, should review the current state for patient decision tools and consider their implementation into care processes.
4. The existing orthopedics standards committee, and any future provincial standards committees, should implement patient reported outcome measures and incorporate such metrics into their review processes.

Clinical Governance

5. As Manitoba creates new mandates for its health organizations, especially Shared Health Services Manitoba, it should incorporate a provincial clinical governance plan that includes all publicly funded providers, whether they provide care in facilities or not.

Physician Remuneration

6. Manitoba should review its current system of physician remuneration to ensure that it provides fairness for physicians, and value for money.

Information Technology

7. Trial the eConsult tool with one of the priority services, to help improve the appropriateness of referrals.
8. Implement electronic consumer health information and access solutions where appropriate, to support some of the recommendations in previous chapters (e.g. patient portals, online chat options).
9. Given there is extensive data available in Manitoba which could be used to guide program development and evaluation if it were more accessible, perform a review of existing datasets which could be used to gain a more complete provincial picture at a population level of the need for and provision of services.

¹⁸⁷ Estimates for recommendations which will incur costs or result in savings are included in Appendix 16.16.

10. Engage the public in the development of policy regarding electronic transmission of personal information and personal health information, such as by text or email.

Understanding Socio Economic Risk and the Burden of Under Treatment

11. MHSAL, in collaboration with key stakeholders including the public, should review the data on relative under-treatment of Indigenous peoples and lower socio-economic status Manitobans for MRIs, hip and knee replacement surgery, cataract surgery, and other procedures and treatments. The Ministry should develop a plan to improve the access for these groups to ensure that they have equitable access to needed health care.

15 CONCLUSION

In its work throughout this process, and in speaking with a wide variety of health system stakeholders, including patients and the public, the Wait Times Reduction Task Force (WTRTF) found that there are many factors which influence wait times and people's ability to access needed health care services. There are health system factors, including but not limited to: the number and distribution of physicians, nurses, Emergency Medical Services (EMS), and other health care providers; the number and location of emergency departments; the number of operating rooms; the availability of specialized equipment for different medical procedures; and the way in which all these resources are used to make them as effective as possible. There are population level factors, such as the social determinants of health. There are individual factors, such as patient values, background and choice. Individual factors are often heavily influenced by the same social determinants of health that influence population factors, but are individual to the person and may require a unique solution that cannot be applied to others in the same population. For example, a middle-aged man with knee pain who does not want to first try to manage his symptoms with painkillers before resorting to surgery, because he has watched his son struggle with an opioid addiction.

Aside from questions around what causes long wait times and access challenges at the system level, it has been clear to the WTRTF members that there is definite inequity in individual people's ability to access the services that are available. This may be due to the distance needed to travel for service, the inability to get referred for, and follow-up from, a needed service due to lack of access to primary care, or the inability to access services which are adapted to the individual's culture, language, educational or socioeconomic status, for example. In order to address these issues the system needs to ensure not only are enough services available in the right place, but that people can access them when needed.

In the public consultations in urban areas, the main concerns expressed were regarding wait times, both for emergency departments (EDs) and priority procedures, time for ambulance clearances. In Winnipeg in particular, concerns were raised around announced closures of emergency departments (EDs) and Misericordia Urgent Care (MUC). In rural areas, concerns were more about access to EDs and communication about which would be open; timely ambulance services and lack of alternate methods of transportation; provider recruitment and retention; dependence on international medical graduates who are not committed to staying in communities; access to specialists and having to travel for appointments; and general health system deficiencies, such as a lack of a robust primary care system or adequate numbers of long term care beds. People expressed openness to increased use of technology, and to increased scope of practice for various health care disciplines. Both rural and urban participants expressed a desire to see better coordinated care, and believed a more integrated IT system would facilitate this. Both valued a culture of collaboration, and felt it was not always evident, and both expressed concern about inadequate mental health and addiction services.

The scope of the WTRTF mandate only allowed us to address issues which are fairly directly related to the provision of health care services, and propose solutions which are cost neutral. This is why many of the recommendations throughout this report, from both the emergency department and priority procedures sub-committees, directly address factors such as patient flow and process efficiency, in order to make best use of the many resources already available in Manitoba. Recommendations relating to helping patients access the right services the first time, and at the time they need them, can improve both equity and access by not using patients' or health care providers' time for something that does not provide value. This can free up providers' time to see the patients they need to see; reduce the amount of travel and time off work required for patients; and stop existing health problems from escalating to the point they require emergency or more intense care, which can have implications on the amount of time and effort required by patients, their families, and health care providers in order to manage patients' health needs.

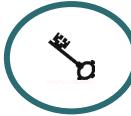
The WTRTF recognizes that, in order to truly address access issues at a systemic level, there is much work to be done that is beyond the scope of the WTRTF. For example, improved access to good quality primary care can reduce people's need for health care services overall as they can be diagnosed earlier, and chronic conditions such as diabetes or congestive heart failure can be managed before the patient requires emergency treatment or hospitalization. Indeed, some of the work needed is beyond even the scope of the health care system as a whole, for example addressing deficiencies in the social determinants of health, as introduced at the start of this report. Improving peoples' education and income levels can improve their health status, even without providing them with additional direct access to health care services. However, the WTRTF believes that the recommendations included in this report represent a good first step in improving wait times and access for services, but recommends further work be done at a system level to analyze and address some of the broader issues as identified throughout the report.

16 APPENDICES

16.1 RECOMMENDATIONS

Emergency Departments

- 4.1 It is recommended that all 24/7 EDs be equipped with a fully functioning EDIS that is integrated as a network with other EDs and EMS.
- 4.2 **Key Recommendation:** Diversions for Trauma, Burns, Neurosurgery (HSC) and ST Segment Elevation Myocardial Infarction (STEMI) (SBH) should be prohibited. ED physician and nursing staffing levels at St. Boniface Hospital and HSC must be sufficient to accommodate “red” tertiary patients, even when the ED is at maximum capacity. This will necessitate baseline staffing well above the mean (50th percentile), and ‘surge staffing’ protocols.
- 4.3 That models of intervention be supported in selected medical populations with chronic disease (e.g., IBD, heart failure), to decrease ED presentations for exacerbations of chronic disease. Those with previously diagnosed problems should have systems and processes in place, 24/7, that enable access to the care providers who know them best.
- 4.4 All EDs that see greater than 30,000 visits per year should consider establishing RAZ protocols with dedicated space and staff. It is recommended that current RAZ unit function be reviewed, and that “best practice” protocols from effective RAZ units be established and monitored.
- 4.5 **Key Recommendation:** Specialty services should not use the ED for access to diagnostics unless a patient requires specific urgent or emergency care in addition to the test(s). All hospitals must establish accessible and timely diagnostic testing options for clinicians inside and outside the hospital to preclude use of the ED for non-urgent or emergent investigations.
- 4.6 **Key Recommendation:** That consultation guidelines be developed by the WRHA medical executive, with the goal of meeting national benchmarks. Time to initial consult, response times, assignment to appropriate service and admission times should be recorded in EDIS, regularly reported and shared with all programs, as part of a continuous quality improvement initiative.
- 4.7 **Key Recommendation:** Small EDs that do not have 24/7 lab and large EDs that require specific tests urgently or frequently should use PoC tests for the ED.
- 4.8 **Key Recommendation:** That nurse-initiated testing protocols be developed in all regions.
- 4.9 WHRA explore the possibility of housing local stat labs, laboratory medicine staff and phlebotomists in Winnipeg’s permanent ED’s, using consolidation of personnel and equipment to reduce or eliminate additional costs.

 4.10 **Key Recommendation:** That pharmacist staffing within Winnipeg's EDs should be increased, using savings from consolidation to provide 24/7 access to clinical pharmacists.

4.11 That the Emergency Program Quality and Standards Committee work with the University of Manitoba Department of Medicine, Diagnostic Services Manitoba and other national organizations, such as CAEP and Choosing Wisely Canada, to promote education and further study the appropriateness of diagnostics, procedures and therapies in the ED.

 4.12 **Key Recommendation:** All ED patients who are unable to be safely discharged within 16 hours, including those who do not meet medical admission criteria, must be assigned to an admitting service that can assess their medical and social needs.¹⁸⁸ CAUs under the care of a Hospitalist should be implemented to facilitate this. Disposition decisions and transfer out of the CAU should take no longer than 36 hours, to ensure forward patient flow in the system.

 4.13 **Key Recommendation:** Early, multidisciplinary discharge planning.

4.14 **Key Recommendation:** All hospital staff should be educated about their collective responsibility for all patients who come through the ED doors, including those not yet seen, and the impact of flow on the ED waiting room.

 4.15 **Key Recommendation:** Patient flow principles should be taught in undergraduate and postgraduate training so that doctors, nurses, and other health professionals understand their roles in patient flow, the morbidity and mortality associated with access block, and the patient risk associated with long wait times.

4.16 All large EDs should consider physician extender roles to increase staffing flexibility and Emergency Physician effectiveness.

4.17 Large urban EDs should implement a flexible staffing and funding formula that can be used by unit managers to respond to surges when patient demand overwhelms care provider capacity.

4.18 WRHA should support a uniform "preference-based" scheduling system for all its EDs/UCs.

4.19 Consideration should be given to using a TLP in Winnipeg as part of a flexible staffing model that can respond to patient volume, acuity, and time of day. (A TLP would rarely be efficient in non-urban EDs.)

 4.20 **Key Recommendation:** Hospitals must be held accountable to predict output and respond to output variations such that no patient in Emergency stays greater than 24 hours and that national standards for flow are met or exceeded.

¹⁸⁸ (The Provincial Court of Manitoba, 2015)



4.21 **Key Recommendation:** That EDs be funded, to cover predictable and unpredictable fluctuations in demand, such that greater than 80% of the time staffing is adequate to meet demand. Funding should come with clear deliverables related to wait times.



4.22 **Key Recommendation:** That EDs be given incentives for improved performance and that this cost savings be shared with the hospital. Consider a pay-for-performance model for all hospitals that have 24/7 EDs where continuous flow from the “front door and out the back door” is important.

4.23 Consider blended physician remuneration models that reward throughput efficiency.

4.24 Develop province-wide physician, NP and PA performance metrics that can be used in any urban ED, acknowledging local adjustments where appropriate. There should be best practices that can be shared across Manitoba. Performance metrics should take into account the time required to look after boarded patients in the ED

4.25 All ED physicians should have performance appraisals conducted by their Clinical Lead, that assess patients per hour, diagnostic utilization, consultation rates,¹⁸⁹ consult to admit rates,¹⁹⁰ and unexpected ED returns (at any site) in less than 72 hours.¹⁹¹ Outcome metrics (departmental and individual) should be collected quarterly and be fed back to all physicians.



5.1 **Key Recommendation:** Establish a definition, with criteria, for EDs, encompassing 24/7 access to a physician with necessary (volume-driven) competencies in order provide a high standard of practice in response to high acuity conditions. The absence of these would suggest that a site should be reclassified as a health centre or urgent care centre with an alternate model of staffing, such as a CEC. This analysis should be conducted on a site by site basis across province, and be communicated to the public accordingly. Cost reallocation to occur at sites where reclassification results in changes to costs to maintain services.

¹⁸⁹ Consultation rates are useful because 1) high outlier rate may indicate lack of confidence or decision-making 2) increase patient waiting for specialist assessment 3) can falsely increase physician patients per hour metric because following a rapid superficial assessment a consult hand-off is made—many patients per hour are seen but little real care is delivered.

¹⁹⁰ Consult/admit rate is related to the consult rate: Emergency Physicians (EP) most often involve specialists when an admission to hospital is needed (not always, but often). If the rate of consult/admit is higher than the group norm, it may indicate that the EP is deferring decisions to others.

¹⁹¹ Unexpected return to the ED in < 72 hours, sometimes called “bounce-backs” is a quality metric. Some patients are asked to return for a test (e.g. ultrasound the next morning) whereas others develop complications and must return. It is important to review all revisits < 72 h to determine if it was preventable or unavoidable. A physician with higher than norm returns may have quality of care issues, poor communication, other problems.

-  5.2 **Key Recommendation:** Implement the CEC model in Rural Manitoba, with an on-site paramedic and nurse to provide overnight staffing, and booking into the clinic the next day, with a small percentage of ED patients transported to regional hospitals for immediate service.
-  5.3 **Key Recommendation:** Innovate on and enhance use of technology, including videoconferencing, phone contact, PECS and telehealth to access consultations with Emergency Physician specialists, other specialists and follow ups. Leverage the resources in larger centres and avoid costly transport and in person visits with associated long waits. This applies to all rural/remote sites in Manitoba
-  5.4 **Key Recommendation:** A more consistent, supportive patient transfer system that takes into account the overlap and gaps in service to remote First Nations. Create a system, such as a dedicated phone line connected to a bed coordinator, to manage the process of finding an available bed, receiving care provider, and arrange transport. Physicians should focus on what they are trained to do: assess, stabilize patients and when needed, refer to larger centres and prepare for safe transport.
-  5.5 **Key Recommendation:** Invest in basic diagnostic equipment at remote sites, such as X-rays, PoC, ultrasound, and lab equipment, with quality control and cross-training to allow general staff to utilize it. Ensure it is maintained and operated by trained staff. Funding may be redirected from savings from avoided trips to larger centres.
-  5.6 **Key Recommendation:**
 - a) Redirect non-urgent scheduled procedures to primary care physician offices or scheduled surgery clinics instead of using limited ED resources (staff, equipment, space.)
 - b) Critically evaluate the appropriateness of scheduled outpatient appointments that use ED resources such as dressing changes and IV therapies. Consider using limited clinics elsewhere with dedicated staff.
 - c) Renegotiate physician contracts that have a limited number of clinic visits/day. Consider blended funding models that mix salary or sessional rates with productivity to improve throughput, reduce waiting but allow flexibility regarding time needed per patient.
-  5.7 **Key Recommendation:** Develop a rural staffing strategy: implement alternative staffing models and incentive structures for physicians providing a variety of services at multiple sites, such as a combination of salaried/contract and FFS; hire high EFT permanent nursing staff rather than contract staff, and invest in casual and overtime, rather agency nurses or understaffing practices. These practices will support safe staffing levels, morale and staff familiarity with community and site; enhance training/orientation for new physicians and nurses in small sites, and support placements for PAs and NPs.

- 5.8 Implement a province-wide policy that ensures once a treating site has deemed a patient appropriate for repatriation, the “home site” must accept the patient, unless there is a clear safety concern related to required resources. If there are no beds in the “home site,” it is the responsibility of that site to find an available bed within the region.

 6.1 **Key Recommendation:** The EDWTRC has been in contact with health care providers with extensive experience serving both urban and rural Indigenous peoples. The EDWTRC suggests Indigenous Manitobans, as experts in their own experiences, and health care providers who serve Indigenous Manitobans, be asked to provide perspectives and recommendations, under separate cover, to further inform this aspect of emergency department care.

 6.2 **Key Recommendation:** The Truth and Reconciliation Recommendations and the recommendations around health care provision should be consulted when planning services for Indigenous peoples, which call for nursing and physician residency programs to provide opportunities for Indigenous youth, and providing education on Indigenous history and context to physicians and staff.¹⁹²

 6.3 **Key Recommendation:** Priority should be given to use technology and organize timely access to specialists on-call who are experts at supporting primary care clinicians in rural and remote Manitoba. The prime goal is to treat people in their home communities whenever possible.

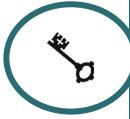
 6.4 **Key Recommendation:** Recommendations in the chapter on rural and remote ED access on serving remote communities addresses challenges also faced by remote Indigenous communities, should be referred to.

6.5 A high priority should be made to ensure that vulnerable Indigenous patients who are assessed in an ED have a culturally competent primary care provider to provide follow-up care.

 7.1 **Key Recommendation:** Invest in prevention: support EDVIP and other peer support services that assist vulnerable patients in the ED. The EDVIP model can potentially be applied to other targeted patient populations as well, such as those with opioid/overdose and suicidal ideation, resulting in cost avoidance for each one “diverted” from the ED, significant long-term cost savings and multiple other individual and societal benefits.

 7.2 **Key Recommendation:** Due to the medical and social complexity of vulnerable patients, a multidisciplinary team should be present in the ED. The physical presence of pharmacists in large EDs, and shared on-call access to pharmacist from all EDs, is recommended to improve flow and quality of care, particularly for the increasing elderly population.

¹⁹² (Truth and Reconciliation Canada, 2015)

-  7.3 **Key recommendation:** Address the unique needs of populations who may require tailored assistance in navigating the healthcare system, such as those who lack literacy skills to complete documents for accessing specialist care, clarifying issues around medication, assisting with upcoming appointments and travel, etc.
-  7.4 **Key Recommendation:** Standardize the use of Telehealth for mental health nursing assessments, psychiatric consults and follow up appointments. Implement a telephone consult model using Psychiatric nurses for rural and remote mental health patients, within the context of a new provincial network. If and when PECS is implemented (see Chapter 8: Emergency Medical Services and Transportation), this model could be integrated within that service.
-  7.5 **Key Recommendation:** Restructure the psychiatric model, with remuneration changes and other incentives to recruit and retain psychiatrists to the hospital system. Include family physicians with additional expertise in mental health, nurse practitioners, and psychologists in the spectrum of mental health care providers, within and beyond the ED. Alter the culture to be patient-focused, by ensuring a 24/7 response to psychiatric emergencies.
-  7.6 **Key Recommendation:** “Orphan patients” in the ED, who are unable to be safely discharged within 16 hours, including those who do not meet medical admission criteria, must be assigned to an admitting service (and physician) that can assess their medical and social needs. CAUs, with Hospitalists, should be implemented to facilitate this. Disposition decisions and transfer out of the CAU should take no longer than 48 hours, to ensure forward patient flow in the system
- 7.7 Create more designated space in the ED for mental health and addictions patients to be assessed and to safely wait in the ED.
- 7.8 Provide training for staff who don’t feel well equipped to provide care to patients with mental health and addictions issues in the ED. Enhance training for the application of the InterRAI Mental Health screening tool.
-  7.9 **Key Recommendation:** Improve access to specialists and consults for Indigenous Patients in remote locations and on reserve: Use Skype and Telehealth wherever possible for rapid access to consults with specialists; identify dedicated staff at large sites to facilitate the communication with more remote sites.
-  7.10 **Key Recommendation:** A dedicated assessment of Children’s Hospital ED should be performed with respect to performance and processes compared to other Childrens’ EDs, and the adequacy of their physical capacity relative to projected volume, acuity and output.
- 7.11 Services that assist and support rural practitioners in the acute and follow-up care of infants and children should be developed. Telehealth options and a dedicated Provincial Emergency Consultation service should be pursued.

7.12 Enhancement of child and adolescent acute mental health services should be a priority.

7.13 Outpatient pediatric clinics to address non-urgent follow-ups and consultation should be enhanced, to preclude the need for using the ED for those services.

7.14 **Key Recommendation:** Develop of a responsive model of care for older patients, based on available educational resources. Have a multidisciplinary team, including pharmacists and geriatrics-trained nurses in the ED, and collaborate with primary care and geriatric clinicians to ensure continuity of care after discharge.

8.1 **Key Recommendation:** Establish a PECS. This is integral to the successful implementation of a number of changes and recommendations to EMS and rural ED access. The net savings from this program will more than offset its costs.

8.2 **Key Recommendation:** Under the Shared Health Services Manitoba (SHSM) umbrella, develop a single governance structure for provincial EMS. An effective and unified governance structure will allow for pan-provincial policies around recruitment, staffing, training, quality and standards. It will further allow coordinated dynamic deployment and destination protocols, to enable paramedics to more rapidly respond to calls and take patients to the most appropriate site, regardless of region.

8.3 **Key Recommendation:** Explore alternatives to using EMS for IFTs, by identifying low cost transportation methods across regions. To this end, a request for proposals (RFP) should be undertaken by SHSM, to allow a fair, transparent and competitive process.

8.4 Remove incentives that encourage inappropriate use of EMS for IFTs.

8.5 **Key Recommendation:** Provide provincially run paramedic training (could be through the RFHS and DEM—see Chapter 9), with a central curriculum, supplemented by specialized foci for specific regional needs, governed by a vision and mission by SHSM. The goal is to provide PCP training to all rural paramedics and ensure an adequate supply of ACPs to provide support and education to the corps of PCPs.

8.6 **Key recommendation:** Implement pre-hospital information and communication systems, including e-PCR and tracking technology for ambulances. This will align communication ability with current standards in WRHA EMS services.

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- 8.7 **Key Recommendation:** Expand community paramedicine. Work with regions and communities to identify gaps in community care, and implement programs such as those currently available in Winnipeg (EPIC), as appropriate, to address access issues, transportation issues, and provide quality care closer to home in a timely manner. Utilize community paramedics in places with frequent ED users, such as personal care homes, to reduce (intake) ED visits and provide preventative care to these populations, with treat and release protocols. Fund and expand EPIC and other community paramedic programs with established value, offsetting costs with savings from reduced ED visits and improved outcomes.¹⁹³

- 8.8 Expand bypass protocols to include trauma, pediatric and obstetrical emergencies, through an integrated pan-provincial destination strategy, utilizing coordinated dispatch between land and air ambulance.

Recommendations for Health Sciences Centre Emergency Department

- 9.1 Sufficient 24/7 physician and nursing resources to safely staff the resuscitation area, as well as high, mid, and low acuity patient streams and preclude the need to divert major trauma away from the HSC. Staffing should account for variance in daily volume and acuity, rather than for average volumes/acute, as discussed in Chapter 4.
- 9.2 A provincial accredited Level 1 Trauma System should be established within the next five years, based at HSC. Rapid assessment, coordination and throughput of trauma patients is essential for quality of care and ED efficiency. This could be done by way of a dedicated trauma team leader, or, preferentially, by embedding these additional hours within the physician schedule.
- 9.3 A robust Emergency Psychiatry unit within the HSC Adult ED to enable timely, dignified and professional care of involuntary patients who have been referred from other sites and require mandatory assessment and complex psychiatry consultations from across the province.

Recommendations for St. Boniface General Hospital Emergency Department

- 9.4 A new ED for St. Boniface Hospital is a high priority, as its current capacity is a major constraint to a fully consolidated system. The recently announced \$3M “renovation” should be merely the first phase of an integrated ED redevelopment plan. Piecemeal renovations to accommodate an accelerated consolidation timetable, without development of a new functional plan and ED design, would not meet the long-term needs of the system.

Key recommendations from Chapter 4 include compliance with new consultation/admission benchmarks, an effective over-capacity protocol with shared accountability, and use of Hospitalists to expedite outflow. These are of particular importance at St. Boniface, given that site’s access (output) block.

¹⁹³ (Porter, 2010)

Recommendations for Grace Emergency Department

- 9.5 Grace ED must be given sufficient medical and nursing resources to serve its expanded physical footprint and the projected increases in volume and acuity.
- 9.6 Grace should expand its role as an academic center and become the designated community ED for the CCFP-EM training program (one of two streams for Emergency Physician residency training).
- 9.7 The impact of Winnipeg Fire and Paramedics Service (WFPS) volumes, particularly those from the Victoria catchment area, must be carefully evaluated and modified as necessary.

Recommendations for Victoria General Hospital Urgent Care

- 9.8 All patients requiring admission or specialty consultation from Victoria be transferred without delay, based upon modified policies originally developed for MUC.
- 9.9 EMS and WRHA, under the governance of SHSM, develop ambulance destination policies using pre-hospital CTAS to allow EMS to bring selected CTAS 2 to 5 patients with a high likelihood of discharge to Victoria.
- 9.10 Stable patients with low acuity conditions be directly admitted to Victoria, when inpatient beds and an admitting physician can be readily accessed.
- 9.11 The WRHA develop a plan to cover inpatient urgencies, precluding the need for the UC Physician to leave the department to attend to these.

Recommendations for Misericordia Urgent Care Patient Population

- 9.12 That all EDs and VUC develop processes for the efficient streaming of low-mid acuity patients.
- 9.13 That WRHA develop innovative programs, in collaboration with other provincial departments and community services, directed to the complex social and healthcare needs of its local “vulnerable populations,” such as accessible primary care and addictions services, 7 days per week.

Recommendations for Concordia Hospital

- 9.14 That the full closure of Concordia ED be delayed until Phase 1 of WRHA consolidation has been properly evaluated, modified and demonstrated to be successful, by which we mean lengths of stay for admitted and discharged ED patients across the region are approaching the Canadian average.
- 9.15 Due to EMS and hospital interdependencies, the respective roles of Concordia and Seven Oaks be de-coupled in Phase 2 of consolidation, and that sufficient physical capacity in Winnipeg’s remaining EDs be created/maintained.

Recommendations for Seven Oaks General Hospital Emergency Department

- 9.16 That the conversion of Seven Oaks ED be delayed until SHSM has had the opportunity to fully evaluate WRHA Phase 1 consolidation, strategically plan Phase 2 of consolidation (particularly, the impacts of Concordia closure and limits of St. Boniface's physical capacity) and ensure formal modes of service integration between Seven Oaks and IERHA.
- 9.17 That transformation of Seven Oaks ED to an UC be reconsidered in light of the above, as well as the socially and medically complex patient population that it serves.

Recommendations for all Winnipeg Emergency Departments

- 9.18 Clear processes for consultation and admission, which will allow EDs to meet accepted Canadian benchmarks for flow. Shared goals should be championed and enforced by senior site and regional management; accountability for admitted patients should be shared throughout the hospital and metrics fed back to all involved programs.
- 9.19 Leadership must engage and achieve buy-in from physicians and direct-care nurses. These culture changes are difficult to enact quickly, but are essential to the success of consolidation.
- 9.20 That the physical (ED capacity), operational, behavioural and cultural improvements (as described in recommendation 19) outlined in all preceding recommendations be substantially completed prior to proceeding with Phase 2 of consolidation.

Recommendations for Rural Emergency Department Transformation

- 9.21 Through SHSM and with input from RHAs, establish a provincially coordinated ED service plan which integrates Regional Hubs, EDs, urgent care centers, primary care and EMS. This plan must be provincially coordinated and managed, ensuring any impacts or challenges are managed across regions and sites collaboratively.
- 9.22 All rural EDs with less than 12 CTAS 1 or less than 200 CTAS 2 visits per annum should be considered as potential candidates for transformation to a non-ED function, in order to optimally utilize resources and ensure patients receive care by providers with volume-dependent competencies. Distance from full 24/7 EDs also need to be considered.
- 9.23 In determining the future function of existing EDs, consideration should also be given to proximity to other 24/7 EDs—both within and beyond regional boundaries—and demonstrated ability of sites to consistently deliver 24/7 care. In the absence of another ED within 60 minutes, reorganization should not occur without necessary enhancement of EMS services.
- 9.24 That there be well-advertised, transparent communications with staff and local communities about planned changes, and that in-person visits include an informative and effective communication strategy that details how and why their services are changing, and what to expect as an alternative.

- 9.25 Implementation of PECS, consistent use of Telehealth for timely access to specialists, and secure but simple communication technologies must be supported to allow communication with specialists, EMS, and other staff over long distances. In a consolidated environment, investing in technology at facilities where it is absent is paramount.
- 9.26 The RFHS should increase post-graduate training positions in Emergency Medicine and associated disciplines (PAs, NPs, rural Bachelors of Nursing etc.), in order to match the supply of well-trained providers with provincial needs.
- 9.27 Distributive training programs for paramedicine should be offered at select sites around the province. Ideally it would include a maintenance of competencies program for graduates (simulation, webinars) and affiliation with the academic Department of Emergency Medicine at the RFHS.
- 9.28 Implementation of the “basket of services” model for communities that may lose their ED needs to be strongly considered. Group of physicians signing on to the basket of services model accept responsibility for providing care for all medical services (ED, hemodialysis, PCH, primary care) in a defined geographical area.
- 9.29 Delay the conversion of Seven Oaks ED until SHSM has had the opportunity to evaluate the potential collateral impact on patients in IERHA and WRHA. (The full rationale for delaying the transformation of Seven Oaks was explained earlier in Chapter 9.

Priority Procedures

Recommendations for MRIs

- 11.1 Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient’s preferences are honoured whenever possible.
- 11.2 Whenever appropriate, book follow-up appointments to discuss test results via Telehealth or another distance mechanism. Educate patients about distance communication options, such as Telehealth, and encourage them to request consultation by distance when appropriate.
- 11.3 Reduce the demand and wait times for MRI by improving appropriate ordering of tests. Tactics should include:
 - a. Standardize MRI referral forms, and include guidance on appropriate ordering. Require radiologists to consult referring clinicians to ensure imaging requests are appropriate.
 - b. Implement a mechanism to allow referring clinicians to identify the patient’s signs and symptoms, and consult with the radiologist to choose the best imaging test.
 - c. Fund activities in recommendations 3a and 3b from within existing radiologist remuneration.

- d. Implement further education and training strategies for primary care providers, residents, specialists, radiologists and staff regarding appropriate ordering. Provide decision support tools, such as through Choosing Wisely Manitoba, which clinicians can use in discussion with their patients to help determine the most appropriate test or treatment. Target strategies for ordering clinicians for those who order a large number of tests.
 - e. Implement monitoring and feedback mechanisms for referring clinicians, so they are aware of the appropriateness of their ordering.
- 11.4 Increase MRI capacity to address demand. Tactics should include:
- a. Maximize the use of existing MRI machines by running machines 16 hours per day, 7 days per week, where appropriate. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, and whether further adjustments are required based on the updated demand data.
 - b. Implement and measure strategies to improve utilization of MRI machines, including offering all patients the opportunity to be on a cancellation list, and reducing no-show and cancellation rates.
 - c. Continue to standardize and harmonize MRI protocols across Manitoba.
 - d. Ensure processes, training and collective agreements are in place to support MRI technologists working at any MRI site in Manitoba.
- 11.5 Do not purchase or install additional MRI machines in Manitoba until the demand warrants it. In 2017 Manitoba added approximately 18% more capacity through the installation of two new MRIs. Additional MRI demand in Manitoba needs to be analyzed, as it has in the past, before adding additional machines.
- 11.6 Establish a provincial program for diagnostic imaging, including MRIs, so funding and resources can be directed to where they are most needed. A provincial program should include:
- a. Implement a provincial data reporting and standards review.
 - b. Standardize wait time and wait list definitions, data collection and reporting from all sites. This data should be used to model different options for wait list management based on the principles of queuing theory, to help determine how to most efficiently use the existing resources to meet the needs of Manitobans. The data should include, but not be limited to:
 - i. Complexity of scan (e.g. number of different views needed, whether perfusion is used)
 - ii. Exact part of body scanned
 - c. Track and report on key access indicators by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial program. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - d. Evaluate the demand and anticipated needed volume on a regular basis, so staffing volumes can be planned a significant time in advance.

- e. Strengthen the existing WRHA central intake, placing it under Shared Health Services Manitoba as a provincial program:
 - i. Enforce participation in the central intake by all MRI sites, i.e. all MRI sites will receive referrals from central intake.
 - ii. Enforce referral to central intake of all patients requiring an MRI. Patients may still choose a specific site, but all referrals will be assessed and processed at the central intake office to ensure maximum patient choice and complete data collection.
 - iii. Ensure central intake processes are patient-centred. Central intake should be prepared to provide additional navigation and support services as needed, especially for patients with language and literacy issues.
 - iv. Provide a contact number for patients who have questions or who need assistance while they are waiting.
 - v. Ensure the central intake has sufficient staff to process referrals in a timely way. Monitor turnaround times.

Recommendations for Hip and Knee Replacement Surgery

- 12.1 Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient's preferences are honoured whenever possible.
- 12.2 As technology advances, consideration should be given to performing initial assessment and follow-up appointments via Telehealth or another distance mechanism where appropriate. Educate patients about distance communication options and encourage them to request consultation by distance when appropriate.
- 12.3 Reduce the demand and wait times for consultations and surgeries related to hip and knee replacements. Tactics should include:
 - a. Eliminate the use of pre-operative tests, such as MRI, when they do not provide value to the patient. Unnecessary testing can delay surgery.
 - b. Eliminate the use of interim procedures, such as arthroscopy, when they do not provide value to the patient. Unnecessary procedures can introduce additional risk, and delay surgery.
 - c. Establish regional multi-disciplinary assessment clinics, modeled after the existing spine clinic in Winnipeg, in appropriate locations.
- 12.4 Increase capacity for hip and knee replacement surgeries to address demand. Tactics should include:
 - a. Increase the number of hip and knee replacement surgeries by 900 per year, a 24% increase from the current target volume. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, whether the sites have been able to manage the full increased volume without compromising other services, and whether further adjustments are required based on the updated demand data.

- i. It is suggested the 900 joints be distributed as follows, based on feedback from each site regarding how many additional joints could be done:
 - 1. Concordia Hospital: 350
 - 2. Grace Hospital: 350
 - 3. Boundary Trails Health Centre: 200

Note: If PMH later indicates additional joint replacement surgeries could be done, the total number could be increased to 1,000 and/or volumes re-allocated to PMH as appropriate.

- ii. It is suggested that the additional volumes initially be concentrated on the longest waiting patients, while ensuring that as many patients as possible receive surgery within the national benchmark.
 - iii. As technology advances and outpatient surgery becomes an option, it is suggested consideration be given to putting out a call for a Request for Proposals (RFP) as a means to achieve the greatest value for money, without compromising quality, and to provide both the public and private sectors the opportunity to bid on the contract. Should this recommendation be pursued, it is advised that very specific evaluation criteria be detailed in the RFP for what is to be included and excluded in the cost-estimate:
 - 1. Those organizations bidding should offer their best price which should be based on marginal costs.
 - 2. The price should include all needed pre-procedure and post-procedure care.
 - 3. The price should reflect that the RFP does not include care for the sickest persons who will continue to have their surgery as hospital inpatients. In other words, the price should be less than the current average for hip and knee surgery.
 - 4. The contract should be for a long enough period of time to amortize any needed initial investments. It is important that any RFP process be developed within the context of a provincial program for orthopedic surgery with ongoing assessment of capacity, demand, and quality.
- b. Fund recommendation 4a from savings realized by the program. Significant past savings have already been realized, as demonstrated in section seven above, and this should be recognized and rewarded by reinvesting in the program. It is further anticipated that additional savings will be realized in future, given the ongoing quality improvement activities in the program.
 - c. Optimize the use of existing operating room and hospital bed capacity, through establishing teams of specialized hip and knee replacement surgeons, anesthesiologists and operating room support staff.
 - d. Consider 6- or 7-day operating room utilization for elective cases.
 - e. Improve patient flow throughout the hospital stay by adjusting human resources and processes to match patients' needs. Examples include:

- i. Adjust physiotherapy shifts to begin and end later in the day, and ensure staff are available to support patients who have surgery at non-standard times (such as on the weekend), to ensure patients are walking on the day of surgery.
 - ii. Ensure each patient's home and home care needs are arranged in advance, for example rails are installed on the stairs, home care or home IV service is arranged.
 - iii. Ensure the hospital has everything ready for the patient to take when they leave, for example prescriptions have been ordered.
- 12.5 Establish a provincial program for hip and knee replacements, so funding and resources can be directed to where they are most needed. A provincial program should include:
- a. Continue the existing joint replacement registry data reporting and standards review.
 - b. Standardize wait time and wait list definitions, data collection and reporting from all sites. This data should be used to model different options for wait list management based on the principles of queuing theory, to help determine how to most efficiently use the existing resources to meet the needs of Manitobans.
 - c. Track and report on key access indicators, by surgeon and by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial orthopedic standards committee. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - d. Enhance the current value-based procurement for joint prostheses and related supplies.
 - e. Establish a funding-based model of delivery, rather than a volume-based model. This would allow for serving more patients in the same amount of money; it would also allow for a significant percentage of the savings realized by the provincial program to be reinvested into improving or increasing services. The funding provided should be accompanied by measurable deliverables, such as the minimum number of joints to be done, on which the program would be required to report annually.
 - f. Strengthen the existing central intake, placing it under Shared Health Services Manitoba as a provincial program:
 - i. Enforce participation in the central intake by all surgeons who perform hip or knee replacements, i.e. all hip or knee surgeons will receive referrals from central intake.
 - ii. Enforce referral to central intake of all patients requiring a hip or knee replacement. Patients may still choose a specific surgeon, but their referral will be assessed and processed at the central intake office to ensure maximum patient choice and complete data collection.
 - iii. Ensure central intake processes are patient-centred. Central intake should be prepared to provide additional navigation and support

services as needed especially for patients with language and literacy issues.

- iv. Provide a contact number for patients who have questions or who need assistance while they are waiting for consultation or for surgery.
- v. Ensure the central intake has sufficient staff to process referrals in a timely way. Monitor turnaround times.
- vi. Direct patients to the most appropriate service, whether it be the first available surgeon, a specific surgeon the patient prefers, or an assessment clinic if the patient may not need surgery.
- vii. Coordinate patient navigation with the surgeons' offices.

Recommendations for Cataract surgery

- 13.1. Different parts of the health care system must collaborate to ensure the patient journey is as seamless and efficient as possible. The system must centre its care around the patient, and ensure the patient's preferences are honoured whenever possible.
- 13.2. As technology advances, consideration should be given to performing initial assessment and follow-up appointments via Telehealth or another distance mechanism where appropriate. Educate patients about distance communication options and encourage them to request consultation by distance when appropriate.
- 13.3. Consideration should be given to the greater use of optometrists in conducting post-operative assessments, in consultation with the ophthalmologists.
- 13.4. Reduce the demand and wait times for consultations and surgeries related to cataract surgery. Tactics should include:
 - a. Recognize and augment the role of optometrists in assessing patients' need for surgery, providing alternate treatments when appropriate, and in helping them navigate the health system.
 - b. Review the use of pre-operative assessments, and eliminate the components that do not provide value (for example pre-operative history and physical examinations).
- 13.5. Increase capacity for cataract surgeries, to address demand. Tactics should include:
 - a. Increase the number of cataract surgeries by 2,000 per year, a 15% increase from the current target volume. Re-evaluate the status annually after implementation, to determine whether the estimated benefits have been realized, whether the sites have been able to manage the full increased volume without compromising other services, and whether further adjustments are required based on the updated demand data.

- i. Increased volumes could be allocated in one of several ways:
 - 1. Surgeries be allocated by site, provided the site is capable of doing the additional volume of surgeries. If the distribution is based on the percentage of surgeries currently being done at each site the distribution would be:
 - a. WRHA
 - i. Misericordia Hospital: 1427
 - ii. Western Surgery Centre: 231
 - b. PMH
 - i. Brandon Regional Health Centre: 191
 - ii. Minnedosa Health Centre: 63
 - iii. Swan Valley Health Centre: 49
 - c. SHSS
 - i. Portage District General Hospital: 39
 - 2. RFP: Consideration be given to putting out a call for Request for Proposals (RFP) as means to achieve greatest value for money, without compromising quality, and to provide both the public and private sectors the opportunity to bid on the contract. Should this recommendation be pursued, it is advised that very specific evaluation criteria be detailed in the RFP for what is to be included and excluded in the cost-estimate:
 - a. Those organizations bidding should offer their best price which should be based on marginal costs
 - b. The price should include all needed pre-procedure and post-procedure care
 - c. The price should reflect that the RFP does not include care for the sickest persons who will continue to have their surgery as hospital inpatients. In other words, the price should be less than the current average for current cataract surgery.
 - d. The contract should be for a long enough period of time to amortize any needed initial investments. It is important that any RFP process should be developed within the context of a provincial program for Cataract Surgery with ongoing assessment of capacity, demand, and quality.
 - 3. Combination of the two options listed above.
- ii. It is suggested that the additional volumes initially be concentrated on the longest waiting patients, while ensuring that as many patients as possible receive surgery within the national benchmark.

- b. Partially fund recommendation 5a with a reduction in the tariff for cataracts. The provincial tariff is no longer proportionate to the work required for performing this surgical procedure given advancements in technology that permit more than five procedures to be performed in the same time as one might be accomplished in the past. A \$100 fee reduction would equate to an estimated \$1.27 million dollars in cost-savings annually.
- 13.6. Establish a provincial program for cataract surgery, so funding and resources can be directed to where they are most needed. A provincial program should include:
- a. Create a provincial standards committee for cataract surgery.
 - b. Negotiate a provincial surgical supply contract to maximize provincial savings and efficiencies (i.e. value-based procurement).
 - c. Organize and supervise activities of the cataract surgery program relating to the standards of practice.
 - d. Monitor indications for surgery against the recommended standard.
 - e. Monitor outcomes of surgery against the recommended standard.
 - f. Monitor, evaluate and recommend standards of practice for the Ophthalmology Program. These standards could include, but are not limited to, ensuring consistent wait times for consultation and cataract surgery between different ophthalmologists.
 - g. Educate providers using the knowledge gained through monitoring and evaluation activities.
 - h. Develop a high level of expertise in continuous quality improvement methods and patient safety and strive to foster increased understanding and application of knowledge within the Cataract Surgery Program. As part of this work, standardize criteria for patient prioritization on the central wait list.
 - i. Work with the program leadership to implement continuous improvement.
 - j. Shared Health Services Manitoba should convene a working group of ophthalmologists and optometrists, to create and implement a telephone line for patient navigation and support, as needed—especially for patients who appear to be waiting longer than necessary and those with language and literacy issues. As part of this work, the working group will identify the appropriate staff to operationalize the telephone line and educate them accordingly.
 - k. Support continued adoption of the central wait list management model established by the WRHA Cataract Surgery Program, placing it under Shared Health Services Manitoba as a provincial program.
 - l. Track and report on key access indicators by site, so these performance metrics are transparent to all stakeholders including the public. Indicators should be developed by the provincial program. Data should be published on a public-facing, patient-friendly website, and be as close to real-time as possible.
 - m. Update and/or create a new projection model for cataract surgery or forecasting of future demand.

- n. Assess the existing and potential capacity of the rural sites, which is currently unknown.
- o. Following analysis of the capacity for surgery by site, assess the best options for service locations to improve the delivery of services and quality of care.
- p. Establish a funding-based model of delivery, rather than a volume-based model. This would allow for serving more patients in the same amount of money; it would also allow for a significant percentage of the savings realized by the provincial program to be reinvested into improving or increasing services. The funding provided should be accompanied by measurable deliverables, such as the minimum number of cataract surgeries to be done, on which the program would be required to report annually.

Other Recommendations

- 14.1. MHSAL should develop a patient engagement strategy, with appropriate staffing and other supports, modelled on the Saskatchewan Patients' First program.
- 14.2. At least two patients should be members of any formal committee planning health services.
- 14.3. The existing orthopedics standards committee, and any future provincial standards committees, should review the current state for patient decision tools and consider their implementation into care processes.
- 14.4. The existing orthopedics standards committee, and any future provincial standards committees, should implement patient reported outcome measures and incorporate such metrics into their review processes.
- 14.5. As Manitoba creates new mandates for its health organizations, especially Shared Health Services Manitoba, it should incorporate a provincial clinical governance plan that includes all publicly funded providers, whether they provide care in facilities or not.
- 14.6. Manitoba should review its current system of physician remuneration to ensure that it provides fairness for physicians, and value for money.
- 14.7. Trial the eConsult tool with one of the priority services, to help improve the appropriateness of referrals.
- 14.8. Implement electronic consumer health information and access solutions where appropriate, to support some of the recommendations in previous chapters (e.g. patient portals, online chat options).
- 14.9. Given there is extensive data available in Manitoba which could be used to guide program development and evaluation if it were more accessible, perform a review of existing datasets which could be used to gain a more complete provincial picture at a population level of the need for and provision of services.
- 14.10. Engage the public in the development of policy regarding electronic transmission of personal information and personal health information, such as by text or email.

14.11. MHSAL, in collaboration with key stakeholders including the public, should review the data on relative under-treatment of Indigenous peoples and lower socio-economic status Manitobans for MRIs, hip and knee replacement surgery, cataract surgery, and other procedures and treatments. The Ministry should develop a plan to improve the access for these groups to ensure that they have equitable access to needed health care.

16.2 WAIT TIMES REDUCTION TASK FORCE STEERING COMMITTEE TERMS OF REFERENCE

Purpose:

Per the Minister of Health, Seniors and Active Living's mandate, the Wait Times Reduction Task Force Steering Committee (WTRTF) shall recommend specific actions to shorten wait times for Emergency Departments and priority procedures and treatments where Manitoba performance is below the Canadian average.

Objectives:

- Provide oversight to and governance of the Priority Procedures Wait Times Reduction Committee (PPWTRC) and the Emergency Department Wait Times Reduction and Access Improvement Committee (EDWTRC) ensuring that both committees effectively complete assigned mandates.
- Ensure the PPWTRC and EDWTRC are operating in alignment with the established principles.
- Prepare a report on recommendations from the PPWTRC and EDWTRC to the Minister.

Principles:

- Patient centred
- Equity
- Common solutions applicable to all areas
- Generative Dialogue
- Innovation
- Transparency
- Efficient
- Evidence Based
- Reflective of the entirety of the patient experience (primary care, referral, consult, treatment, rehabilitation/restorative care, discharge / palliation)

Membership:

Chair

3 Public Representatives to be solicited via public recruitment process

Co-Chair, EDWTRC

Co-Chair, PPWTRC

Reporting:

The WTRTF will report to the Minister of Health, Seniors and Active Living. A final report to the Minister on recommendations shall be prepared no later than 6 months from committee initiation.

Meetings:

Four meetings shall be held, lasting 3 hours each:

- Kick Off meeting (establishment of each committee and committee mandates)
- Progress meeting—reports from the EDWTRC and PPWTRC on progress to date
- Draft Recommendations Reports—Review and feedback from the Steering Committee on EDWTRC and PPWTRC draft recommendations reports
- Final Reports—Final Report preparation and submission to the Minister

Secretariat:

Manitoba Health, Seniors and Active Living Acute, Tertiary and Specialty Care branch shall provide secretariat services to the Steering Committee.

16.3 EMERGENCY DEPARTMENT WAIT TIMES REDUCTION COMMITTEE TERMS OF REFERENCE

Purpose:

The **Emergency Department Wait Times Reduction Committee (EDWTRC)** will enable the development and provision of expert advice, front line clinician and public advice to government on ways to improve access to emergency based facilities for Manitobans.

- 1) improve access to emergency facility services
- 2) improve patient experience during emergency care

Deliverable:

The MEDAC will produce a report of recommendations, information by evidence and consultation, on ways to improve access to emergency care for Manitobans. In doing so, the MEDAC will:

- undertake extensive consultations throughout Manitoba with front line clinicians, health system leaders and the public via survey and in person
- receive advice from selected interested stakeholders and industry as determined by the committee
- review existing reports, data and documentation
- identify opportunities and means for improved efficiency, effectiveness, utilization and sustainability of emergency care in urban and rural Manitoba
- identify barriers and or challenges to achieving these improvement
- identify necessary policy and or regulatory interventions
- identify principles of resource allocation / reallocation to enable the recommendations to be accomplished
- recommend strategies for performance measurement, monitoring and management of emergency care access
- recommend governance and accountability structure to support improvements to emergency care

Principles:

The MEDAC shall use the following principles to steward its work:

- Patient centred
- Equity
- Creative, Healthy Debate
- Innovation
- Transparency
- Develop solutions which does not compromise access to or the care delivered in other parts of the health system
- Efficient
- Evidence Based
- Fiscally prudent
- Value based, fiscal and social
- Reflective of the entirety of the patient experience.
- Develop solutions which balance emergency care access with access to other elements of the healthcare system
- Maintenance or improvement of overall clinical quality

Scope:

In scope:

- Policies and procedures around emergency care access
- System design
- Governance
- Cultural constructs
- System behaviours
- Funding models

Outside of scope

- Individual clinician practice

Timelines:

The MEDAC will initiate work in January 2017 and will conclude its work 6 months from establishment in June 2017.

Reporting Relationship:

The MEDAC will report to the Wait Times Reduction Task Force Steering Committee and receive direction from the Steering Committee.

Membership:**Co Chairs:**

Dr. John Ross

Dr. Alecs Chochinov

Committee Membership:

3 public members

3 clinical members

Decision Making Model

The committee will makes decisions by consensus.

Expert Advice

The committee shall solicit expert advice from other health care providers and health system administrators where necessary to inform the committee's deliberations and ensuing recommendations.

Secretariat

Manitoba Health, Seniors and Active Living will provide secretariat services to the committee at large, providing logistical support, research, data and report drafting at the direction of the committee. The secretariat will provide support to the co-chairs to support the operations of the committee.

16.4 PRIORITY PROCEDURES WAIT TIMES REDUCTION COMMITTEE TERMS OF REFERENCE

Purpose:

The **Priority Procedures Wait Times Reduction Committee (PPWTRC)** will enable the development and provision of expert, front line clinician, and public advice to government on ways to:

- 1) improve access to priority procedures where Manitoba performance is below the Canadian average;
- 2) improve the quality of access and the patient's experience of access; and
- 3) ensure sustainment of access and accountability for priority procedures and treatments.

Deliverable:

The PPWTRC will produce a report of recommendations, informed by evidence and consultation, on ways to shorten wait times for priority procedures and treatment where Manitoba performance is below the Canadian average, notably hip and knee replacement surgery, cataract surgery and magnetic resonance imaging (MRI). In doing so, the PPWTRC will:

- Receive and consider clinical consultation and recommendation reports from assigned clinical leads in orthopedics, ophthalmology and diagnostic imaging
- Undertake in person and online consultations with front line health care service providers and administrators in the respective clinical areas
- Undertake in person and online public consultations
- Receive advice from select stakeholders and industries of interest , as determined by the committee
- Review existing reports, data and documentation
- Identify opportunities and means for improved efficiency, effectiveness, utilization and sustainability of accessible priority procedures in urban and rural Manitoba
- Identify barriers and / or challenges to achieving these improvements
- Identify necessary policy and / or regulatory interventions
- Identify principles of resource allocation / reallocation to enable the recommendations to be accomplished
- Identify strategies for performance measurement, monitoring and management of wait times for priority procedures
- Recommend governance and accountability structure to support improvements to priority procedure access

Principles:

The PPWTRC shall use the following principles to steward its work:

- Patient centred
- Equity
- Generative dialogue
- Innovation
- Transparency
- Value for Manitobans, measurable in patient health outcomes
- Efficient
- Evidence based

- Fiscally prudent
- Reflective of the entirety of the patient experience so as to not shift the wait from one part of the patient care journey to another (primary care, referral, consult, treatment, rehabilitation/restorative care, discharge)
- Develop solutions which do not compromise access to or the quality of care delivered in other parts of the health system
- Develop solutions applicable to other areas of like clinical services
- Maintain clinical quality

Scope:

The mandate of the PPWTRC includes:

- Policies and procedures around emergency care access
- System design
- Governance
- Cultural constructs
- System behaviours
- Funding models

The mandate of the PPWTRC excludes:

- Clinical quality of services
- Distribution of operating room slates or services at sites within regional health authorities

Timelines:

The PPWTRC will initiate work in January 2017 and will submit its report to the steering committee by September, 2017; enabling steering committee submission of reports to government by September 29, 2017.

Reporting Relationship:

The PPWTRC will report to the Wait Times Reduction Task Force Steering Committee and receive direction from the Steering Committee.

Membership:

Co Chairs:

Dr. Jack McPherson

Dr. Michael Rachlis

Committee Membership:

2 public members

1 clinical member

Decision Making Model

The committee will strive to achieve decisions by consensus. Should the committee be unable to achieve consensus a majority vote shall prevail, but the minority perspective shall be presented and acknowledged in the final report.

Expert Advice:

The committee will receive expert advice and recommendations from appointed clinical leads in each of the priority procedure areas through the form of a report of recommendations and clinical consultation outcomes (see attached clinical expert mandate).

Expert advice shall be provided by the following appointed clinical leads:

Dr. Eric Bohm, Orthopedic Surgeon
Dr. Mathen Mathen, Ophthalmologist
Dr. Marco Essig, Radiologist

The committee shall also solicit expert advice from other health care providers and health system administrators where necessary to inform the committee's deliberations and ensuing recommendations.

Secretariat:

Manitoba Health, Seniors and Active Living will provide secretariat services to the committee at large, providing logistical support, research, data and report drafting at the direction of the committee. The secretariat will provide support to the co-chairs to support the operations of the committee.

Priority Procedures Wait Time Reduction Mandate: Clinical Lead – Orthopedics

The orthopedic clinical lead shall:

- Undertake consultations with Manitoba orthopedic health care stakeholders (surgeons, anaesthesiologists, referring providers, nursing, allied health, operating room slating, administrative staff and others as determined appropriate) to solicit advice, ideas and recommendations on cost neutral or cost redirected mechanisms to improve patient access to hip and knee replacement surgery
- Encourage the input of orthopedic health care stakeholders via online survey methods
- Assess the literature and data on means and opportunities for improving access to hip and knee replacement surgery
- Report on progress at each PPWTRC meeting
- Produce a final report to the PPWTRC which:
 - Summarizes the consultations undertaken
 - Assesses and reports on the capacity, supply and demand of current service provision in Manitoba and future anticipated demand
 - Assesses and reports on the current state of health system management, and on the monitoring and management of wait time and access performance measures
 - Forecasts anticipated changes in demand
 - Forecasts anticipated changes in service design and the potential impacts of those changes (technological change in service design, plausible changes in procedural approaches, etc.)
 - Advises on existing clinical quality assurance mechanisms, and service quality improvement activities which have taken place in the clinical area in the recent past
 - Provides recommendations on ways to improve access to hip and knee replacement surgery, improve the quality of access and the patient's experience of access, and ensure sustainment of access and accountability for hip and knee replacement surgery
 - Identifies administrative or health system interventions necessary to enable the implementation of recommendations

In undertaking his work, the clinical lead shall ensure congruence with the principles of the Priority Procedures Wait Times Reduction Committee.

Timeline:

Report submission shall occur by May 30, 2017.

Provision of incremental or supplemental reports maybe provided in advance of this date and shall be negotiated with the PPWTRC co-chairs.

Secretariat support:

MHSAL shall support the clinical lead with note taking at consultation meetings, as well as literature summaries, data provision and consultation logistics as requested by the clinical lead.

Priority Procedures Wait Time Reduction Mandate: Clinical Lead – Ophthalmology

The ophthalmic clinical lead shall:

- Undertake consultations with Manitoba ophthalmic health care stakeholders (surgeons, anaesthesia, referring providers, nursing, operating room slating, administrative staff and others as determined appropriate) to solicit advice, ideas and recommendations on cost neutral or cost redirected mechanisms to improve patient access to cataract surgery
- Encourage the input of ophthalmic health care stakeholders via online survey methods
- Assess the literature and data on means and opportunities for improving access to cataract surgery
- Report on progress at each PPWTRC meeting
- Produce a final report to the PPWTRC which:
 - Summarizes the consultations undertaken
 - Assesses and reports on the capacity, supply and demand of current service provision in Manitoba and future anticipated demand
 - Assesses and reports on the current state of health system management, and on the monitoring and management of wait time and access performance measures
 - Forecasts anticipated changes in demand
 - Forecasts anticipated changes in service design and the potential impacts of those changes (technological change in service design, plausible changes in procedural approaches, etc.)
 - Advises on existing clinical quality assurance mechanisms, and service quality improvement activities which have taken place in the clinical area in the recent past
 - Provides recommendations on ways to improve access to cataract surgery, improve the quality of access and the patient's experience of access, and ensure sustainment of access and accountability for cataract surgery
 - Identifies administrative or health system interventions necessary to enable the implementation of recommendations

In undertaking his work, the clinical lead shall ensure congruence with the principles of the Priority Procedures Wait Times Reduction Committee.

Timeline:

Report submission shall occur by May 30, 2017.

Provision of incremental or supplemental reports may be provided in advance of this date and shall be negotiated with the PPWTRC co-chairs.

Secretariat support:

MHSAL shall support the clinical lead with note taking at consultation meetings, as well as literature summaries, data provision and consultation logistics as requested by the clinical lead.

Priority Procedures Wait Time Reduction Mandate: Clinical Lead – Magnetic Resonance Imaging (MRI)

The MRI clinical lead shall:

- Undertake consultations with other Manitoba MRI stakeholders (anaesthesia, referring providers, MR technologists, scheduling staff, administrative staff and others as determined appropriate) to solicit advice, ideas and recommendations on cost neutral or cost redirected mechanisms to improve patient access to MRI
- Encourage the input of MRI health care stakeholders via online survey methods
- Assess the literature and data on means and opportunities for improving access to MRI
- Report on progress at each PPWTRC meeting
- Produce a final report to the PPWTRC which:
 - Summarizes the consultations undertaken
 - Assesses and reports on the capacity, supply and demand of current service provision in Manitoba and future anticipated demand
 - Assesses and reports on the current state of health system management, and on the monitoring and management of wait time and access performance measures
 - Forecasts anticipated changes in demand
 - Forecasts anticipated changes in service design and the potential impacts of those changes (technological change in service design, plausible changes in procedural approaches, etc.)
 - Advises on existing clinical quality assurance mechanisms, and service quality improvement activities which have taken place in the clinical area in the recent past
 - Provides recommendations on ways to improve access to MRI, improve the quality of access and the patient's experience of access, and ensure sustainment of access and accountability for MRI
 - Identifies administrative or health system interventions necessary to enable the implementation of recommendations

In undertaking his work, the clinical lead shall ensure congruence with the principles of the Priority Procedures Wait Times Reduction Committee.

Timeline:

Report submission shall occur by May 30, 2017.

Provision of incremental or supplemental reports may be provided in advance of this date and shall be negotiated with the PPWTRC co-chairs.

Secretariat support:

MHSAL shall support the clinical lead with note taking at consultation meetings, as well as literature summaries, data provision and consultation logistics as requested by the clinical lead.

16.5 LIST OF CONSULTATIONS CONDUCTED

Emergency Departments

Audience	Number of Consultations	Location
Addictions Services	1	Winnipeg
Health Sciences Centre Internal Medicine and Family Medicine	1	Winnipeg
Leadership - Emergency Medical Services	1	Winnipeg
Leadership - Interlake Eastern Regional Health Authority	1	Selkirk
Leadership - Misericordia Hospital	1	Winnipeg
Leadership - Southern Health/Santé Sud	1	Portage la Prairie
Leadership - Victoria Hospital	1	Winnipeg
Leadership and staff - Boundary Trails Health Centre	2	Morden-Winkler
Leadership and staff - Brandon Regional Health Centre	2	Brandon
Leadership and staff - Children's Hospital	2	Winnipeg
Leadership and staff - Concordia Hospital	2	Winnipeg
Leadership and staff - Dauphin Regional Health Centre	2	Dauphin
Leadership and staff - EM Crowe Memorial Hospital	2	Eriksdale
Leadership and staff - Grace Hospital	2	Winnipeg
Leadership and staff - Hamiota Hospital	2	Hamiota
Leadership and staff - Health Sciences Centre	2	Winnipeg
Leadership and staff - Pine Falls Hospital	2	Pine Falls
Leadership and staff - Portage District General Hospital	2	Portage la Prairie
Leadership and staff - Selkirk Hospital	2	Selkirk
Leadership and staff - Seven Oaks General Hospital	2	Winnipeg
Leadership and staff - St. Boniface Hospital	2	Winnipeg
Leadership and staff - Steinbach	2	Steinbach
Leadership and staff - Swan River Hospital	1	Swan River
Leadership and staff - The Pas Hospital and Northern Regional Health Authority	2	The Pas
Leadership and staff - Thompson Hospital	2	Thompson

Audience	Number of Consultations	Location
Mental Health Crisis Response Centre	1	Winnipeg
Mental Health Management Network	1	Winnipeg
Mental Health Services Organizations	1	Winnipeg
Paramedics Association Manitoba	1	Winnipeg
Public	1	Dauphin
Public	1	Eriksdale
Public	1	Hamiota
Public	1	Selkirk
Public	1	Steinbach
Public	1	Swan River
Public	1	The Pas
Public	1	Thompson
Public	1	Winnipeg
Regional Pharmacy Directors	1	Winnipeg
Winnipeg Fire and Paramedics Association	1	Winnipeg
Winnipeg Police Service	1	Winnipeg
WRHA Cardiac Program	1	Winnipeg
WRHA Diagnostics and Lab Leadership	1	Winnipeg
WRHA Home Care and Continuing Care	1	Winnipeg
WRHA Leadership	1	Winnipeg

Priority Procedures

Audience	Number of Consultations	Location
Diagnostic Services Manitoba	1	Winnipeg
eHealth and Information Technology	2	Winnipeg
Manitoba Association of Optometrists	1	Winnipeg
Manitoba Health, Seniors and Active Living	1	Winnipeg
Private surgical centres	2	Winnipeg
Program and regional leadership	5	Winnipeg
Provincial Public Health Officer	1	Winnipeg
Public	1	Brandon
Public	1	Morden
Public	2	Winnipeg
Referring clinicians	1	Morden-Winkler
Referring clinicians	3	Brandon
Referring clinicians	1	Carman
Referring clinicians	1	Selkirk
Referring clinicians	1	Thompson
Referring clinicians	1	Winnipeg
Shared Health Services Manitoba	1	Winnipeg
Leadership and staff - Boundary Trails Health Centre	1	Morden-Winkler
Leadership and staff - Brandon Regional Health Centre	1	Brandon
Leadership and staff - Grace Hospital	1	Winnipeg
Leadership and staff - Health Sciences Centre	1	Winnipeg
Leadership and staff - Misericordia Health Centre	1	Winnipeg
Leadership and staff - Pan Am Clinic	1	Winnipeg
Leadership and staff - St. Boniface Hospital	1	Winnipeg

Emergency Department and Priority Procedures Combined

Audience	Number of Consultations	Location
Nanaandawewigamig (First Nations Health and Social Secretariat of Manitoba)	1	Winnipeg
Ongomiizwin (Northern Medical Unit)	1	Winnipeg
Public	2	Winnipeg

16.6 WAIT TIMES REDUCTION TASK FORCE PUBLIC SURVEY

Your views on how to improve access to emergency department, surgical and diagnostic services for Manitobans are important. Your responses will inform the recommendations of the Wait Times Reduction Task Force Committees.

Please complete the survey below to share your experiences and ideas on how emergency care, surgical care and diagnostic care can be improved in Manitoba.

EMERGENCY DEPARTMENTS

Emergency departments (EDs) across Manitoba provide different levels of service depending on their location and size. In general, there are three types of EDs in Manitoba:

Large Tertiary EDs: Large tertiary EDs see more than 40,000 patients a year (100 to 150 patients a day) and have highly specialized ED care teams such as trauma teams, cardiac teams and on-site 24/7 diagnostic and laboratory services such as MRI and CT. St. Boniface Hospital and Health Sciences Centre in Winnipeg are considered Manitoba's tertiary EDs.

Community EDs: Community EDs see between 10,000 and 35,000 patients a year (28 to 79 patients a day). These EDs are generally located in larger urban areas, are open 24 hours a day, seven days a week, and are mostly staffed by doctors with specialized ED training and a dedicated ED health care team. Diagnostic and laboratory services may not be available 24/7 at these sites. Facilities such as Portage District General Hospital, Selkirk and District General Hospital, Boundary Trails Health Centre (between Winkler and Morden), Bethesda Regional Health Centre (Steinbach), Brandon Regional Health Centre, Dauphin Regional Health Centre, St. Anthony's General Hospital (The Pas), Flin Flon General Hospital and Thompson General Hospital are examples of Community EDs.

Small EDs: Small EDs open 24 hours a day, seven days a week are characterized as EDs that see between 5,000 and 10,000 patients a year (14 to 28 patients a day). Examples include Swan Valley Health Centre (Swan River), Russell Health Centre, Johnson Memorial Hospital (Gimli) and Beausejour Hospital. These EDs are generally located in medium-sized rural communities, and are mostly staffed by family doctors who also maintain a primary care practice in the local community. The remainder of the ED team may or may not be dedicated to the ED, depending on patient volumes.

Very small EDs: Very small EDs see less than 5,000 patients a year (2 to 14 patients a day). Examples of very small EDs include Centre médico-social De Salaberry District Health Centre (St. Pierre-Jolys), Carberry Plains Health Centre, Hunter Memorial Hospital (Teulon) and Deloraine Health Centre, as well as many others across the province. These EDs are generally located in small rural communities and may operate limited hours each day (e.g. 12 to 18 hours a day). These EDs are mostly staffed by family doctors who also maintain a primary care practice in the local or nearby communities. Generally, one or two nurses provide care for all patients at the facility, including those who present to the ED. Due to the small volume of staff and patients at these facilities, these facilities tend to have higher risk of temporary closures or patient redirections without advanced notice.

1. When was the last time you visited an ED, as a patient or with a loved one? (Choose one)

- More than once in the last 6 months
- Once within the last 6 months
- Once or more within the last 1 to 3 years
- It has been longer than 3 years
- I have never visited an ED → If you have never visited an ED, go to Question 6

2. Thinking about the last time you visited an ED, based on the descriptions of types of EDs provided earlier, what type of ED did you visit? (Choose one)

- Large Tertiary ED
- Community ED
- Small ED
- Very Small ED

3. Thinking of the last time you visited an ED, as a patient or with a loved one, what made you choose to visit an ED? (Choose your best answer)

- I didn't know how serious my condition or that of my loved one was
- I thought I would need care that was only available at an ED (e.g. x-ray, ultrasound, surgery, hospital admission)
- My condition or that of my loved one was clearly an emergency
- I couldn't get an appointment with my family doctor
- I don't have a family doctor
- I didn't know where else I could go
- The ED was the closest or most easily accessible place for me to go (e.g. on a bus route, etc.)
- I was brought by ambulance
- My health care provider or Health Links – Info Santé told me to go to the ED
- I wanted to have access to a specialist (e.g. cardiologist, surgeon, etc.) if necessary
- I didn't feel confident in the care that could be provided elsewhere
- Other

(If Other, please write in)

4. Thinking about the last time you were at the ED, tell us about what you think went well.

5. Thinking about the last time you were at the ED, tell us about what you think could have been done better.

6. If you visit an ED, you will be registered and triaged upon arrival. After you are registered and triaged, the first time you see a nurse at the ED, what information would you like to receive from the nurse? (Choose all that apply)

- I would like the nurse to tell me how serious they think my condition is
- I would like the nurse to tell me how long I should expect to wait
- I would like the nurse to tell me if there are options other than the ED that I could immediately go to for my condition
- I would like the nurse to tell me if it is safe for me to go home and to see a health care provider tomorrow
- Rather than receiving this information from the nurse, I would like to wait to see a doctor to receive any information about my care or condition

7. Why do you think there are long waiting times in EDs? (Choose up to three)

- The ED does not have enough resources (e.g. supplies, beds, access to equipment)
- The ED does not have enough health care providers (e.g. doctors, nurses)
- The hospital does not have enough beds
- The processes in the ED are inefficient, unnecessary or not well-coordinated (e.g. waiting for diagnostic imaging, waiting for blood work to come back, waiting for a specialist consultation)
- The processes in the hospital are inefficient, unnecessary or not well-coordinated (e.g. waiting for a bed, waiting to be discharged, waiting for home care)
- The health care providers don't work as a team or communicate well
- Too many people come to the ED who don't need ED care
- Other

(If Other, please write in)

8. What is most important to you when you get care at an ED? Please rank from 1 (most important) to 8 (least important).

- Being treated quickly
- Being treated on a “first-come, first-served” basis
- Being treated on the basis of urgency – someone who needs more urgent care than me should go first
- Being told why I need to wait
- Receiving high quality care
- Being treated with respect and compassion
- Being given enough information to make my own decisions about whether I wait, go home or go elsewhere.
- Receiving care from a doctor or specialist

9. What health services are most important for you to be able to access? (Choose your best answer)

- Same-day primary care (seeing a family doctor or a nurse practitioner) and access to highly trained emergency medical services (EMS), e.g. ambulance or paramedics, rapidly in the event of an emergency
- Primary care within 30 minutes driving time and access to highly-trained EMS rapidly in the event of an emergency
- Access to primary care within a few days, and the ability to access highly-trained emergency medical services rapidly in the event of an emergency
- Same-day primary care and access to ED care 24 hours a day, seven days a week
- Access to ED care 24 hours a day, seven days a week
- Access to highly-trained emergency medical services rapidly in the event of an emergency, but I am comfortable travelling for non urgent or primary care

10. If there was not an ED close to your home, what would concern you most about not having access to an ED in your home community? Please rank these statements from 1 (most important) to 6 (least important).

- I am concerned about my ability to get to an ED in another town, especially during bad weather
- I am concerned EMS (ambulance/paramedic) will not be able to get to me in time
- I am concerned EMS will not be able to provide me the care I need in an emergency
- I am concerned I cannot afford EMS fees
- I am concerned I will not know or trust the people providing me care
- I am concerned my family/friends will have to travel to visit me if I am admitted to hospital
- Other

(If Other, please write in)

11. Please rank these statements in order of importance to you from 1 (most important) to 8 (least important).

- The doctor/health care team who treats me has seen a patient with my condition in the last year
- The doctor/health care team who treats me has seen a number of patients with my condition in the last six months
- I have access to any tests (e.g. diagnostic imaging, labs) and specialists I need
- The ED is conveniently located
- I can rely on the ED being open 24 hours a day, seven days a week with a dedicated ED care team including a doctor
- I can rely on EMS (ambulance/paramedics) to get to me quickly and provide me the initial care I need in the event of an emergency
- I do not need to drive far to get to an ED or to receive emergency care
- My family/friends do not need to drive far to visit me in hospital
- Other

(If Other, please write in)

12. Please provide any additional ideas on how ED care can be improved or any other thoughts you have.

PRIORITY PROCEDURES

Surgical services (hip and knee replacements and cataract surgery) and diagnostic imaging services (magnetic resonance imaging [MRI], computed tomography [CT] scans, ultrasound, x-ray), are available at various sites throughout Manitoba. To make sure services are high quality and safe, the right equipment, space and care team are needed before, during and after the service.

Please note these questions relate only to scheduled surgeries and diagnostic imaging services, not emergency services.

13. Thinking about surgical services in general, please rank these statements from 1 (most important) to 5 (least important).

- My surgery should happen as close to my home as possible
- My recovery from surgery should happen as close to my home as possible
- I can choose where I have my surgery
- My surgery should be done by a surgeon who does this type of surgery regularly
- I do not have to wait long for my surgery
- Other

(If Other, please write in)

14. Thinking about diagnostic imaging services (MRI, CT, ultrasound, x-ray) in general, please rank these statements from 1 (most important) to 5 (least important).

- My diagnostic imaging should happen as close to my home as possible
- I can choose where I have my diagnostic imaging
- My diagnostic imaging should be done by someone who does this type of scan regularly
- I do not have to wait long for my diagnostic imaging
- Any recently completed diagnostic imaging I have had can be accessed so I don't have to do another one
- Other

(If Other, please write in)

15. Please tell us whether you agree or disagree with each of the following statements:

	Agree	Disagree	No opinion
Universal, publicly-funded health care is part of what it means to be Canadian and reflects our core values; we would be a poorer society if we shifted to a two-tier health care system.			
Allowing people to pay for faster or better health care services is fairer because it allows the freedom to choose as is the case in other areas of the economy.			
Allowing people to pay for faster or better health care services will not be necessary if governments make the right decisions today about how to make the system more efficient.			
By having Canadians pay to use private clinics, waiting times in publicly-funded clinics and hospitals would be reduced.			
It makes no sense for governments to try to keep up with the rising cost of the public health care system because the system is so demanding that it will absorb any amount of money put into it.			
The only ones who would benefit from allowing people to pay for faster or better health care services would be wealthy Canadians.			

Note: This question was originally asked as part of the Commission on the Future of Health Care in Canada report, 2002; original source was Ekos Research Associates 1999. No changes to the question or language have occurred to enable a comparison between Canadian perspectives in 2002 and Manitoban perspectives in 2017.

Consider this situation: You have been told by your family doctor that you need to have surgery, but it is not an emergency and it is safe for you to wait.

16. Thinking about your wait for the initial consultation appointment with the surgeon, please rank these statements from 1 (most preferred) to 5 (least preferred).

- I would like to be told right away that I can expect my appointment to be scheduled within a certain time (e.g. six months)
- I would like to be told the date and time of my appointment only when it is scheduled and confirmed
- I would like to be told the date and time of my appointment right away (even if it is many months away) and I don't want this date to change
- I would like to be told the date and time of my appointment right away (even if it is many months away) recognizing this date might change in the future
- I would like to be given a range of dates available so I can choose the date that works best for me and schedule my appointment accordingly
- Other

(If Other, please write in)

17. Thinking about your wait for the surgery, please rank these statements from 1 (most preferred) to 5 (least preferred).

- I would like to be told right away that I can expect my surgery to be scheduled within a certain time (e.g. six months)
- I would like to be told the date and time of my surgery only when it is scheduled and confirmed
- I would like to be told the date and time of my surgery right away (even if it is many months away) and I don't want this date to change
- I would like to be told the date and time of my surgery right away (even if it is many months away) recognizing this date might change in the future
- I would like to be given a range of dates available so I can choose the date that works best for me and schedule my surgery accordingly
- Other

(If Other, please write in)

18. Thinking about the surgeon who will perform your surgery, please rank these statements from 1 (most preferred) to 5 (least preferred). Please keep in mind not all options are possible in some cases. For example, the surgeon with the shortest wait time may not be the surgeon your family doctor has referred you to or may not work at the location closest to you.

- I would like to see the surgeon who has the shortest wait time
- I would like to see the surgeon who is located closest to my home
- I would like to see the surgeon my family doctor has recommended
- I would like to see the surgeon my family or friends have recommended
- I would like to see a surgeon I have previously seen (if applicable)
- Other

(If Other, please write in)

19. If surgical services were not available close to your home, what concerns you most about not having access to surgical services in your home community? Please rank these statements from 1 (most important) to 4 (least important).

- I am concerned about the amount of time I (and/or my family/friends) will need to travel to go to appointments and for surgery
- I am concerned that my family/friends will need to travel far and take time away from work in order to visit me
- I am concerned that once I am home there is no access to resources to help me in the event of a surgical complication, like an
- I am concerned that I will not have access to home care or other supports (physiotherapy) once I am home
- Other

(If Other, please write in)

20. Thinking about surgical and diagnostic services in general, what are two or three other things that are important to you?

21. Please provide any additional ideas or suggestions how to improve access to surgical or diagnostic services in Manitoba.

ABOUT YOU

22. In general, how would you rate your overall physical health? (Choose one)

- Excellent
- Very good
- Good
- Fair
- Poor
- Don't know
- Prefer not to answer

23. What is your gender? (Choose one)

- Male
- Female
- Other
- Prefer not to answer

24. What is your year of birth?

(Please write in; for example, "1934.")

25. What are the first three characters of your postal code?

(Please write in; for example, "R0B.")

26. What is the highest grade or level of school that you have completed? (Choose one)

- Grade 8 or less
- Some high school, but did not graduate
- High school or high school equivalency certificate
- College, or other certificate or diploma
- Undergraduate degree or some university
- Post-graduate degree or professional designation
- Prefer not to answer

Thank you for completing this survey. The information will be used to help improve access to health care services in Manitoba.

For further information about the work of the Wait Times Reduction Task Force, please visit <http://www.gov.mb.ca/health/wtrtf.html>

16.7 EMERGENCY DEPARTMENT HEALTH CARE PRACTITIONER SURVEY

Your views on how to improve access to emergency department (ED) services for Manitobans are important. Your responses will inform the recommendations of the Wait Times Reduction Task Force Emergency Department Wait Times and Access Improvement Committee.

For this survey, the types of Emergency Department (EDs) have been defined as follows:

Large Tertiary EDs: Large tertiary EDs see more than 40,000 patients a year (100 to 150 patients a day) and have highly specialized ED care teams such as trauma teams, cardiac teams and on-site 24/7 diagnostic and laboratory services such as MRI and CT. St. Boniface Hospital and Health Sciences Centre in Winnipeg are considered Manitoba's tertiary EDs.

Community EDs: Community EDs see between 10,000 and 35,000 patients a year (28 to 79 patients a day). These EDs are generally located in larger urban areas, are open 24 hours a day, seven days a week, and are mostly staffed by physicians with specialized ED training and a dedicated ED health care team. Diagnostic and laboratory services may not be available 24/7 at these sites. Facilities such as Portage District General Hospital, Selkirk and District General Hospital, Boundary Trails Health Centre (between Winkler and Morden), Bethesda Regional Health Centre (Steinbach), Brandon Regional Health Centre, Dauphin Regional Health Centre, St. Anthony's General Hospital (The Pas), Flin Flon General Hospital and Thompson General Hospital are examples of Community EDs.

Small EDs: Small EDs open 24 hours a day, seven days a week are characterized as EDs that see between 5,000 and 10,000 patients a year (14 to 28 patients a day). Examples include Swan Valley Health Centre (Swan River), Russell Health Centre, Johnson Memorial Hospital (Gimli) and Beausejour Hospital. These EDs are generally located in medium-sized rural communities, and are mostly staffed by family physicians who also maintain a primary care practice in the local community. The remainder of the ED team may or may not be dedicated to the ED, depending on patient volumes.

Very small EDs: Very small EDs see less than 5,000 patients a year (2 to 14 patients a day). Examples of very small EDs include Centre médico-social De Salaberry District Health Centre (St. Pierre-Jolys), Carberry Plains Health Centre, Hunter Memorial Hospital (Teulon) and Deloraine Health Centre, as well as many others across the province. These EDs are generally located in small rural communities and may operate limited hours each day (e.g. 12 to 18 hours a day). These EDs are mostly staffed by family physicians who also maintain a primary care practice in the local or nearby communities. Generally, one or two nurses provide care for all patients at the facility, including those who present to the ED. Due to the small volume of staff and patients at these facilities, these facilities tend to have higher risk of temporary closures or patient redirections without advanced notice.

- 1. This survey asks questions which can apply to each ED type noted above. Please tell us which ED type you are thinking about specifically in answering these questions: (Choose one)**

 - Large tertiary ED
 - Community ED
 - Small ED
 - Very small ED
 - Do not know
- 2. If you feel that the ED you work in has significant wait times, what do you believe are the factors that contribute the most to ED wait times? Choose your top five reasons:**

 - Low acuity patients access the ED when alternate care could be accessed (e.g. primary care, walk-in care, scheduled appointments)
 - Waiting for diagnostic imaging or labs to be completed and processed for ED patients
 - Waiting for specialist consultations to occur in the ED
 - Waiting for admissions to occur from the ED
 - Insufficient access to diagnostic imaging or labs by primary care providers/specialists
 - Insufficient number of inpatient beds
 - Insufficient number of personal care home (PCH) beds
 - Insufficient access to home care
- 3. Which statement do you agree with the most? (Choose one)**

 - The ED should assess and treat all patients who present to the ED regardless of their urgency
 - The ED should assess and treat only higher urgency patients (CTAS 1 to 3) and low acuity patients (CTAS 4 and 5) should be redirected to alternate care providers
 - Do not know

4. The ED is best suited to deliver care to the following patient populations (rank your top five answers from 1 [very best suited] to 5 [least best suited]):

- Patients with immediate threat to life or limb (e.g. extreme hypotension or tachycardia, loss of consciousness, non-responsive or single word speech, airway obstruction)
 - Patients with emergent potential threat to life or limb needing rapid attention (e.g. transient hypotension or extreme hypotension, garbled speech, extreme pain, head injury, chest pain, GI bleeding)
 - Patients with urgent conditions that could potentially escalate (e.g. "high normal" vital signs, shortness of breath on exertion, challenges breathing without obvious airway blockage)
 - Geriatric patients with chronic condition exacerbation (e.g. Chronic Obstructive Pulmonary Disease, Chronic Heart Failure)
 - Patients requiring IV therapy or wound management (e.g. dressing changes)
 - Patients requiring mental health assessments and services
 - Patients requiring addictions treatment and detox services
- Patients requiring less urgent services (e.g. sutures, treatment for fractures)
 - Patients requiring social support services
 - Patients requiring primary care (e.g. prescription refills)
 - Patients attending the ED requiring non-urgent specialist consultations
 - Patients attending the ED requiring non-urgent imaging
 - Other
(If Other, please write in)
 - Do not know

5. The ED is not as well suited to deliver care to the following patient populations (rank your top five answers from 1 [worst suited] to 5 [better suited]):

- Patients with immediate threat to life or limb (e.g. extreme hypotension or tachycardia, loss of consciousness, non-responsive or single word speech, airway obstruction)
- Patients with emergent potential threat to life or limb needing rapid attention (e.g. transient hypotension or extreme hypotension, garbled speech, extreme pain, head injury, chest pain, GI bleeding)
- Patients with urgent conditions that could potentially escalate (e.g. "high normal" vital signs, shortness of breath on exertion, challenges breathing without obvious airway blockage)
- Geriatric patients with chronic condition exacerbation (e.g. Chronic Obstructive Pulmonary Disease, Chronic Heart Failure)
- Patients requiring IV therapy or wound management (e.g. dressing changes)
- Patients requiring mental health assessments and services
- Patients requiring addictions treatment and detox services
- Patients requiring less urgent services (e.g. sutures, treatment for fractures)
- Patients requiring social support services
- Patients requiring primary care (e.g. prescription refills)
- Patients attending the ED requiring non-urgent specialist consultations
- Patients attending the ED requiring non-urgent imaging
- Other
(If Other, please write in)
- Do not know

6. The patient population which has the most impact on ED waits is (rank your top five answers from 1 [highest impact] to 5 [lesser impact]):

- Patients with immediate threat to life or limb (e.g. extreme hypotension or tachycardia, loss of consciousness, non-responsive or single word speech, airway obstruction)
 - Patients with emergent potential threat to life or limb needing rapid attention (e.g. transient hypotension or extreme hypotension, garbled speech, extreme pain, head injury, chest pain, GI bleeding)
 - Patients with urgent-conditions that could potentially escalate (e.g. "high normal" vital signs, shortness of breath on exertion, challenges breathing without obvious airway blockage)
 - Geriatric patients with chronic condition exacerbation (e.g. Chronic Obstructive Pulmonary Disease, Chronic Heart Failure)
 - Patients requiring IV therapy or wound management (e.g. dressing changes)
 - Patients requiring mental health assessments and services
 - Patients requiring addictions treatment and detox services
- Patients requiring less urgent services (e.g. sutures, treatment for fractures)
 - Patients requiring social support services
 - Patients requiring primary care (e.g. prescription refills)
 - Patients attending the ED requiring non-urgent specialist consultations
 - Patients attending the ED requiring non-urgent imaging
 - Other _____
- (If Other, please write in) _____
- Do not know

7. In your opinion, which solutions below would most improve ED access for patients? Rank your top five answers from 1 (highest) to 5 (lowest):

- Providing more options for low acuity patients to access outside of the ED (e.g. primary care, walk in care, scheduled appointments, etc.)
- Provide more options for low acuity patients inside the ED (e.g. rapid assessment zones)
- Improving the efficiency of diagnostic imaging or labs completion for ED patients
- Improving access to specialist consultations for ED patients
- Improving access to admissions from the ED
- Improving discharge process from inpatient beds
- Improving access to diagnostic imaging or labs by primary care providers/specialists
- Increasing the number of inpatient beds
- Increasing the number of PCH beds
- Increasing access to home care
- Increasing access to primary care providers
- Increasing supports for populations requiring social supports
- Increasing alternate care options in the evenings (system design)
- Improving coordination between levels of care (e.g. long term care to primary care; specialist to primary care; home care to hospital care)
- Increasing nursing and/or physician staff in the ED
- Improving efficiencies of processes within the ED
- Improving efficiencies of processes within the inpatient environment
- Revising scheduling to match patient demand
- Providing patients with information and choices about their ED wait and care (e.g. redirect to alternate care, advise if safe to wait at home and see family practitioner later)
- Having the ability to redirect patients to alternate care clinics
- Other

(If Other, please write in)

Do not know

8. How do you believe the ED should handle low acuity patients at triage who have been determined clinically safe to wait (choose your best answer):

- The ED should care for all patients who present, regardless of acuity
- At triage, the ED should be able to redirect the patient to seek care at an alternate level of care available best suited for the patient's specific needs
- At triage, the ED should be able to arrange for redirection of patient to an alternate level of care available best suited for the patient's specific needs
- At triage, the ED should be able to inform the patient about their relative urgency and options for their care, enabling the patient to choose whether or not to wait
- At triage, the ED should be able to provide the patient with a specific time to return to the ED, enabling the patient to wait elsewhere or at home (when safe)

9. What health services do you think are most important for the patient population you serve to access? (choose your best answer):

- Same-day primary care and access to highly trained emergency medical services (EMS), e.g. paramedics, rapidly in the event of an emergency
- Primary care within 30 minutes driving time and access to highly trained EMS rapidly in the event of an emergency
- Access to primary care within a few days, and the ability to access highly trained EMS rapidly in the event of an emergency
- Same-day primary care and access to a facility in the community that has medical staff on site 24 hours a day, seven days a week
- Access to highly trained EMS rapidly in the event of an emergency
- Access to ED services within 1 hour (driving time)
- Access to ED services within 30 minutes (driving time)
- Other
(If Other, please write in)
- Do not know

10. a) Would you be concerned if a patient had to drive between 30 and 60 minutes to access an ED?

- Yes → If Yes, go to Question 10.b.
- No → If No, go to Question 11.

10. b) If a patient had to travel between 30 and 60 minutes to access an ED, what would concern you most? Rank these statements from 1 (most important) to 6 (least important).

- ____ I am concerned that patients will not have access to timely emergent care
- ____ I am concerned about patients' ability to get to an ED, especially during bad weather.
- ____ I am concerned that EMS will not get to patients in time
- ____ I am concerned that EMS will not be able to provide the care patients require during transport
- ____ I am concerned that patients will not call EMS because they cannot afford EMS(ambulance/paramedic) fees
- ____ I am concerned about patient social isolation if admitted at a facility far from their home
- ____ Other

(If Other, please write in)

11. Thinking about what is needed to provide safe emergency care, rank these statements from 1 (most important) to 6 (least important).

- ____ The physician/health care team has seen similar patients within the last year.
- ____ The physician/health care team has seen a number of similar patients in the last six months.
- ____ The physician/health care team has access to any tests (e.g. diagnostic imaging, labs) and specialists necessary
- ____ The ED has a dedicated care team available 24 hours a day, seven days a week
- ____ ED services are reliable and stable (i.e. do not intermittently close or redirect patients)
- ____ EMS can get to patients quickly and provide necessary care during transport
- ____ Other

(If Other, please write in)

- ____ Do not know

12. Please provide any additional ideas or suggestions you have on how to improve access to emergency care in Manitoba.

ABOUT YOU

14. What are the first three characters of your postal code?

(Please write in; for example, "R0B.")

15. What type of service provider are you? (Choose one)

- Nurse
- Nurse Practitioner
- ED Physician/ED Clinical Assistant
- Family Physician Who Provides ED Care/Coverage
- Family Physician who does not provide ED care/coverage
- Non-Surgical Specialist
- Surgeon
- Imaging/Lab Technologist

- Allied Health Provider
(Physiotherapy, Occupational Therapy, Rehabilitation, Social Work)
- Mental Health Care Provider
- Addictions Services Provider
- Health Care Aide
- Administrator
- Other

(If Other, please write in)

16. What is your gender?

- Male
- Female
- Other
- Prefer not to answer

17. What is your year of birth?

(Please write in; for example, "1954.")

Thank you for completing this survey. The information will be used to help improve access to health care services in Manitoba.

For further information about the work of the Wait Times Reduction Task Force, please visit <http://www.gov.mb.ca/health/wtrtf.html>.

16.8 PRIORITY PROCEDURES HEALTH CARE PRACTITIONER SURVEY

Your views on how to improve access to surgical and diagnostic services for Manitobans are important. Your responses will inform the recommendations of the Wait Times Reduction Task Force Priority Procedures Wait Times Committee. Priority procedures have been defined as those procedures where Manitoba wait times are worse than the Canadian average, specifically hip and knee replacement, cataract surgery and magnetic resonance imaging (MRI).

Please note these questions relate only to elective or scheduled surgeries and diagnostic services, not emergency procedures.

DIAGNOSTIC IMAGING

- 1. In your opinion, what is a clinically acceptable amount of time for a patient to wait for an elective, non-urgent MRI scan, after the requisition is received by the MRI clinic?**
 Number of weeks: _____
 Do not know
- 2. If you are involved in the provision of MRI services, approximately how often is your service able to see patients for a scan within the timeframe you identified in Question 1?**
 0 per cent to 24 per cent of the time
 25 per cent to 49 per cent of the time
 50 per cent to 74 per cent of the time
 75 per cent to 89 per cent of the time
 90 per cent to 100 per cent of the time
 Not applicable

3. In your opinion, what are the barriers preventing MRI scans from being done within the timeframe you identified in Question 1? Please rank your top five in order from 1 (most important) to 5 (least important).

- Not enough information in the referral to schedule appropriately (determination of urgency, prioritization, etc.)
- Too many urgent referrals that take precedence
- Not enough appointment times
- Not enough access to necessary equipment.
- Too much time required for doing paperwork
- Too many scans cancelled at the last minute due to unavailability of health system resources (technician, equipment, etc.)
- Patient cannot attend appointment on date offered
- Patient does not show for appointment
- Patients referred inappropriately (don't need an image or should have gone for a different imaging type)
- Inefficient scheduling and/or imaging processes
- Do not know
- Other:

4. In your opinion, what are some solutions that would permit patients to be seen for an MRI within the timeframe you identified in Question 1? Please rank your top five in order from 1 (most important) to 5 (least important).

- Having the ability to redirect referrals to another MRI with a shorter wait list
- Centralizing all referrals to the service and having the patient seen at the facility with the next available appointment. Patients could get an MRI scan at the facility of their choice but might have to wait longer
- Discussing the necessity of the patient's referral with the referring provider
- Having access to tools to help manage the wait list, such as by identifying and prioritizing patients who are getting close to the reasonable wait time you identified in Question 1
- Improving referring clinicians' knowledge of appropriate referrals or appropriate imaging type
- Redesigning processes to improve efficiencies
- Do not know
- Other:

CATARACTS

5. In your opinion, what is a clinically acceptable amount of time for a patient to wait for elective, non-urgent cataract surgery, after the consultation with an ophthalmologist?

- Number of weeks: _____
 Do not know

6. If you are involved in the provision of cataract surgery, approximately how often is your service able to perform surgery on patients within the timeframe you identified in Question 5?

- 0 per cent to 24 per cent of the time
 25 per cent to 49 per cent of the time
 50 per cent to 74 per cent of the time
 75 per cent to 89 per cent of the time
 90 per cent to 100 per cent of the time
 Not applicable

7. In your opinion, what are the barriers preventing cataract surgery from being provided to patients within the timeframe you identified in Question 5? Please rank your top five in order from 1 (most important) to 5 (least important).

- _____ Too many urgent referrals that take precedence
_____ Not enough operating/procedure room time
_____ Not enough access to necessary equipment
_____ Too much time required for doing paperwork
_____ Too many surgeries cancelled at the last minute due to unavailability of health system resources (nurse, anesthesia, equipment, etc.)
_____ Patient cannot attend surgery on date offered
_____ Patient does not show for surgery
_____ Inefficient scheduling and/or surgical processes
_____ Do not know
_____ Other:

8. In your opinion, what are some solutions that would permit patients to receive cataract surgery within the timeframe you identified in Question 5? Please rank your top five in order from 1 (most important) to 5 (least important).

- ____ Having the ability to redirect referrals to another specialist with a shorter wait list.
- ____ Centralizing all referrals to the service and having the patient see the specialist with the next available appointment. Patients could see the specialist of their choice but might have to wait longer
- ____ Discussing the necessity of the patient's referral with the referring provider

- ____ Having access to tools to help manage the wait list, such as by identifying and prioritizing patients who are getting close to the reasonable wait time you identified in Question 5
- ____ Improving referring clinicians' knowledge of appropriate referrals or appropriate providers
- ____ Redesigning processes to improve efficiencies
- ____ Do not know
- ____ Other:

HIP OR KNEE REPLACEMENT SURGERY

9. In your opinion, what is a clinically acceptable amount of time for a patient to wait for elective, non-urgent hip or knee replacement surgery, after the consultation with an orthopedic surgeon?

- Number of weeks: _____
- Do not know

10. If you are involved in the provision of hip or knee replacement surgery, approximately how often is your service able to perform surgery on patients within the timeframe you identified in Question 9?

- 0 per cent to 24 per cent of the time
- 25 per cent to 49 per cent of the time
- 50 per cent to 74 per cent of the time
- 75 per cent to 89 per cent of the time
- 90 per cent to 100 per cent of the time
- Not applicable

11. In your opinion, what are the barriers preventing hip or knee replacement surgery from being provided to patients within the timeframe you identified in Question 9? Please rank your top five in order from 1 (most important) to 5 (least important).

- Too many urgent referrals that take precedence
- Not enough operating/procedure room time
- Not enough access to necessary equipment
- Too much time required for doing paperwork
- Too many surgeries cancelled at the last minute due to unavailability of health system resources (nurse, anesthesia, equipment, etc.)
- Patient cannot attend surgery on date offered
- Patient does not show for surgery
- Inefficient scheduling and/or surgical processes
- Do not know
- Other:

12. In your opinion, what are some solutions that would permit patients to receive hip or knee replacement surgery within the timeframe you identified in Question 9? Please rank your top five in order from 1 (most important) to 5 (least important).

- Having the ability to redirect referrals to another specialist with a shorter wait list.
- Centralizing all referrals to the service and having the patient see the specialist with the next available appointment. Patients could see the specialist of their choice but might have to wait longer
- Discussing the necessity of the patient's referral with the referring provider
- Having access to tools to help manage the wait list, such as by identifying and prioritizing patients who are getting close to the reasonable wait time you identified in Question 9
- Improving referring clinicians' knowledge of appropriate referrals or appropriate providers
- Redesigning processes to improve efficiencies
- Do not know
- Other:

ELECTIVE SURGERY (OTHER)

13. In your opinion, what are the barriers preventing your service from providing other types of elective surgery to patients in what you consider a clinically reasonable timeframe? Please rank your top five in order from 1 (most important) to 5 (least important).

- Too many urgent referrals that take precedence
- Not enough operating/procedure room time
- Not enough access to necessary equipment
- Too much time required for doing paperwork
- Too many surgeries cancelled at the last minute due to unavailability of health system resources (nurse, anesthesia, equipment, etc.)
- Patient cannot attend surgery on date offered
- Patient does not show for surgery
- Inefficient scheduling and/or surgical processes
- Do not know
- Not applicable
- Other:

-

14. In your opinion, what are some solutions that would permit your service to provide other types of elective surgery to patients within what you consider a clinically reasonable timeframe? Please rank your top five in order from 1 (most important) to 5 (least important).

- Having the ability to redirect referrals to another specialist with a shorter wait list
- Centralizing all referrals to the service and having the patient see the specialist with the next available appointment. Patients could see the specialist of their choice but might have to wait longer
- Discussing the necessity of the patient's referral with the referring provider
- Having access to tools to help manage the wait list, such as by identifying and prioritizing patients who are getting close to what you consider to be a clinically reasonable wait time
- Improving referring clinicians' knowledge of appropriate referrals or appropriate providers
- Redesigning processes to improve efficiencies
- Do not know

CONSULTATION (ALL ELECTIVE SURGERY)

15. In your opinion, what is a clinically acceptable amount of time for a patient to wait for an elective, non-urgent consultation with a specialist, once the referral is received by the specialist's office?

- Number of weeks: _____
 Do not know

16. If you are involved in the provision of specialist services, approximately how often is your service able to see patients for consultation within the timeframe you identified in Question 15?

- 0 per cent to 24 per cent of the time
 25 per cent to 49 per cent of the time
 50 per cent to 74 per cent of the time
 75 per cent to 89 per cent of the time
 90 per cent to 100 per cent of the time
 Not applicable

17. In your opinion, what are the barriers preventing your service from seeing patients for consultation within the timeframe you identified in Question 15? Please rank your top five in order from 1 (most important) to 5 (least important).

- ____ Not enough information in the referral to schedule appropriately (determination of urgency, prioritization, etc.)
____ Too many urgent referrals that take precedence
____ Not enough clinic time
____ Not enough access to necessary equipment
____ Too much time required for doing paperwork
____ Patient cannot attend consultation on date offered
____ Patient does not show for consultation
____ Patients referred inappropriately (don't need the service or should have gone to a different clinician)
____ Inefficient scheduling and/or consultation processes
____ Do not know
____ Not applicable
____ Other:

18. In your opinion, what are some solutions that would permit your service to see patients for consultation within the timeframe you identified in Question 15? Please rank your top five in order from 1 (most important) to 5 (least important).

- ____ Having the ability to redirect referrals to another specialist with a shorter wait list
- ____ Centralizing all referrals to the service and having the patient see the specialist with the next available appointment. Patients could see the specialist of their choice but might have to wait longer.
- ____ Having access to other care providers within the clinic to undertake components of the consultation / assessment (nurse practitioner, clinical assistant, etc.)
- ____ Discussing the necessity of the patient's referral with the referring provider and providing advice to manage care during the wait
- ____ Being able to direct a patient to an alternate care provider who can confirm the necessity of the referral (e.g. advanced practice physiotherapist)
- ____ Having access to tools to help manage the wait list, such as by identifying and prioritizing patients who are getting close to the reasonable wait time you identified in Question 15
- ____ Improving referring clinicians' knowledge of appropriate referrals or appropriate providers
- ____ Redesigning processes to improve efficiencies
- ____ Do not know
- ____ Not applicable
- ____ Other: _____

GENERAL QUESTIONS

19. Please tell us whether you agree or disagree with each of the following statements:

	Agree	Disagree	No opinion
Universal, publicly-funded health care is part of what it means to be Canadian and reflects our core values; we would be a poorer society if we shifted to a two-tier health care system.			
Allowing people to pay for faster or better health care services is fairer because it allows the freedom to choose as is the case in other areas of the economy.			
Allowing people to pay for faster or better health care services will not be necessary if governments make the right decisions today about how to make the system more efficient.			
By having Canadians pay to use private clinics, waiting times in publicly-funded clinics and hospitals would be reduced.			
It makes no sense for governments to try to keep up with the rising cost of the public health care system because the system is so demanding that it will absorb any amount of money put into it.			
The only ones who would benefit from allowing people to pay for faster or better health care services would be wealthy Canadians.			

20. Please provide any additional ideas or suggestions you have on how to improve access to surgical or diagnostic services in Manitoba.

21. What type of service provider are you?

- Nurse
- Nurse Practitioner
- Physician/Clinical Assistant
- Family Physician
- Non-Surgical Specialist
- Surgeon
- Imaging/Lab Technologist
- Allied Health Provider
(Physiotherapy, Occupational Therapy, Rehabilitation, Social Work)
- Health Care Aide
- Administrator
- Other:

22. Are you involved in the provision of any of the following services?

- MRI services
- Cataract surgery
- Hip and/or knee replacement surgery

23. What is your gender?

- Male
- Female
- Other
- Prefer not to answer

24. What is your year of birth?

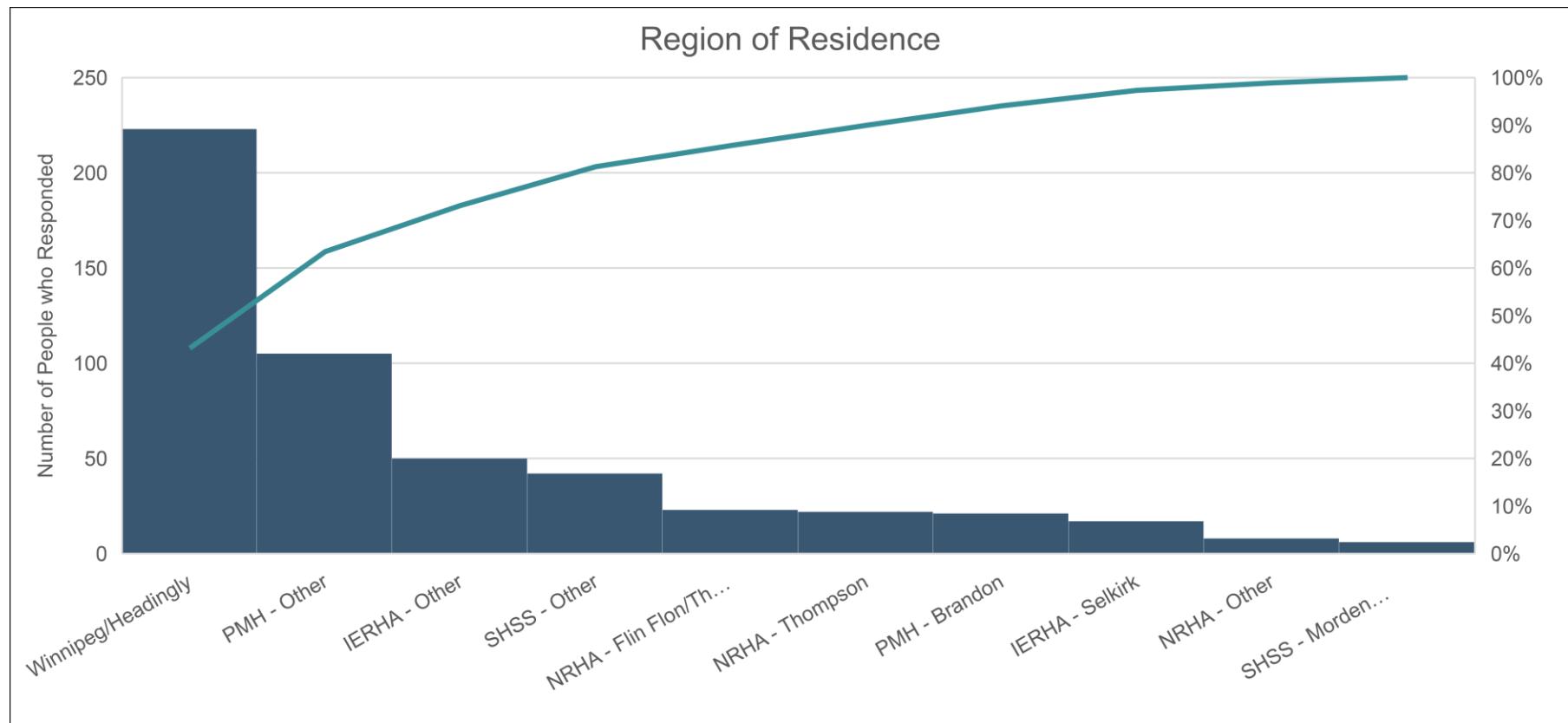
(Please write in; for example,
"1954.")

Thank you for completing this survey. The information will be used to help improve access to health care services in Manitoba. For further information about the work of the Wait Time Reduction Task Force, please visit <http://www.gov.mb.ca/health/wtrtf.html>.

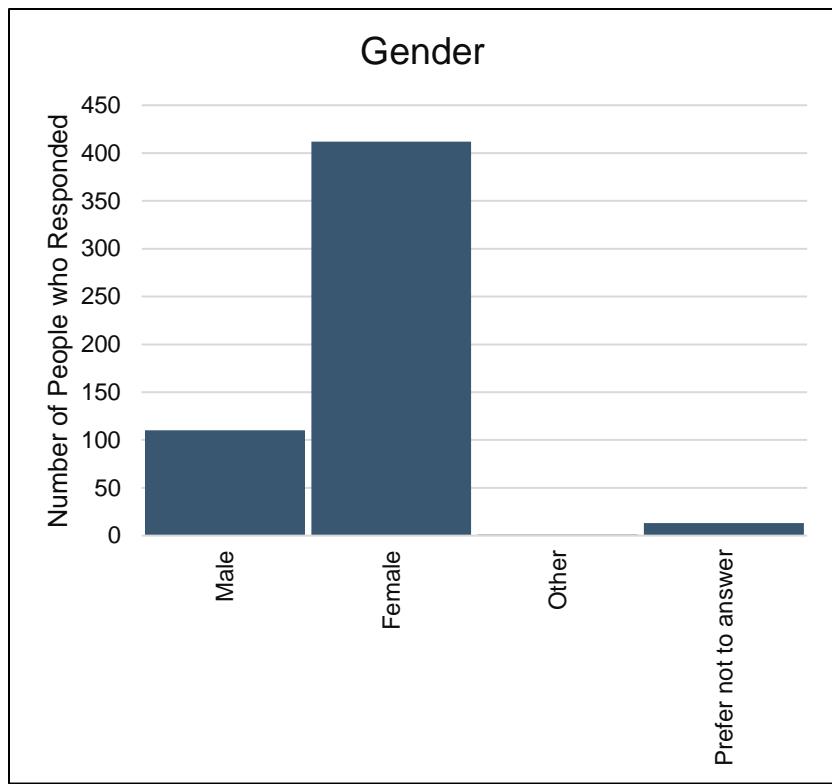
Question 19 is adapted from the Commission on the Future of Health Care in Canada report, 2002; original source was Ekos Research Associates 1999. No changes to the question or language have occurred to enable a comparison between Canadian perspectives in 2002 and Manitoban perspectives in 2017.

16.9 PROFILE OF PUBLIC SURVEY RESPONDENTS

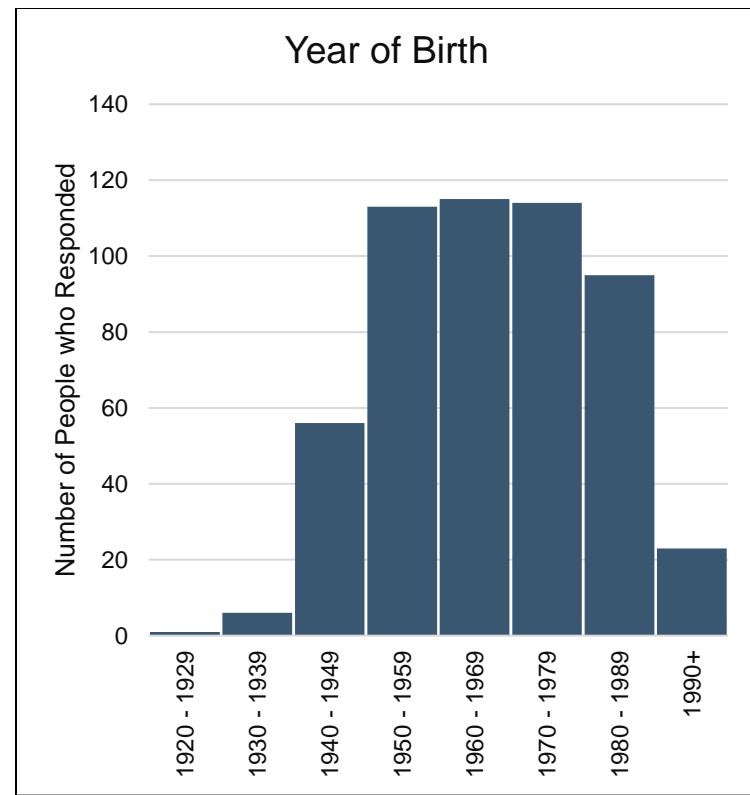
There were 947 total respondents to the public survey, though not everyone answered every question.



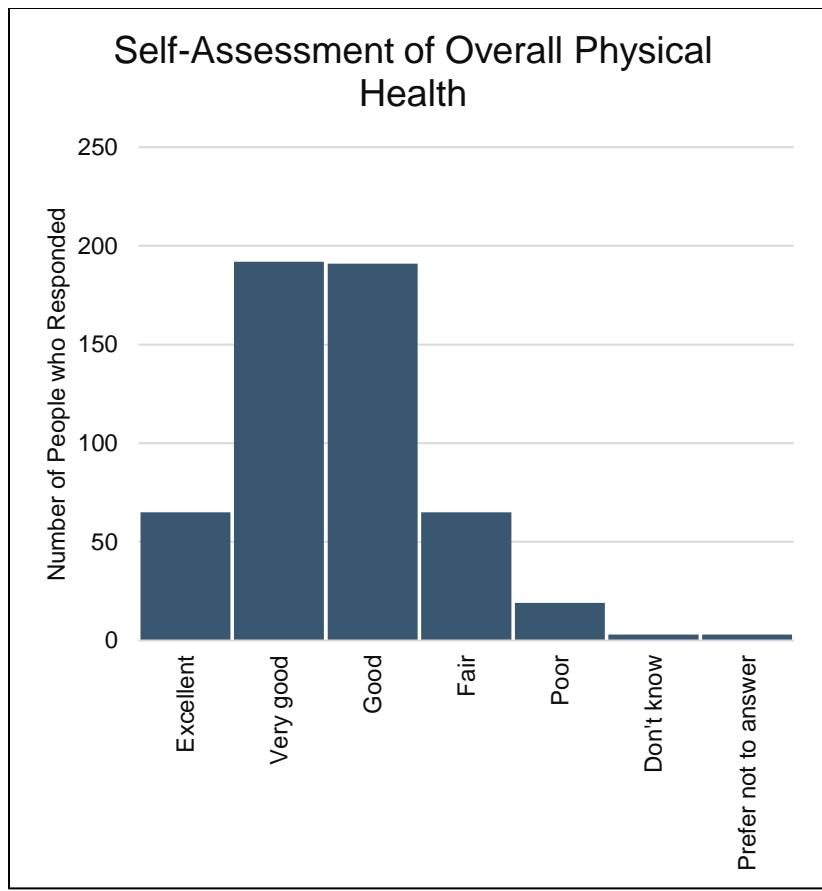
Note: 430 people did not answer this question.



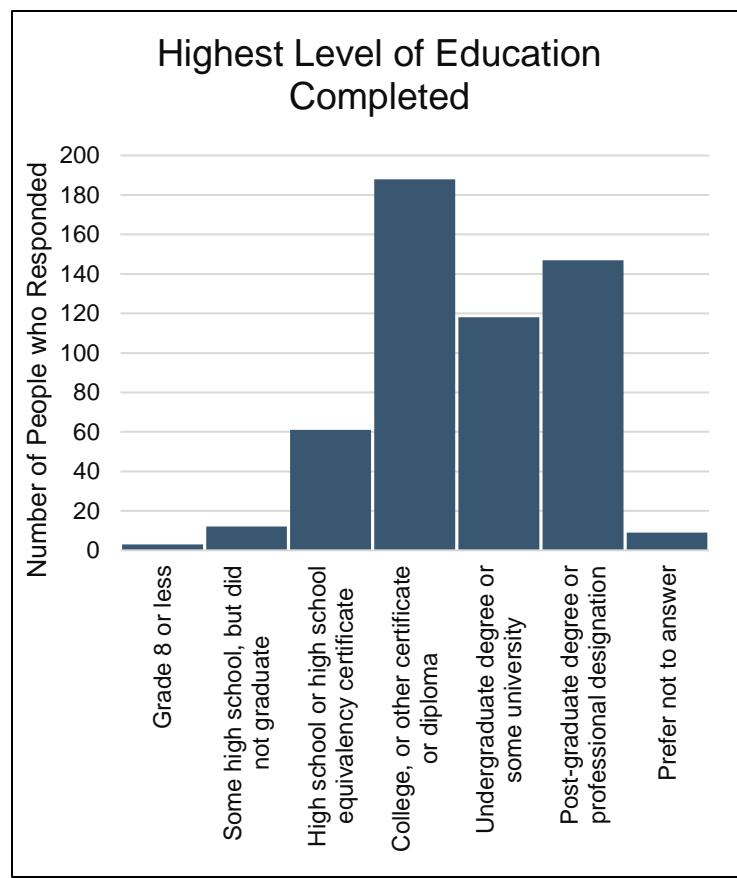
Note: 411 people did not answer this question.



Note: 424 people did not answer this question.



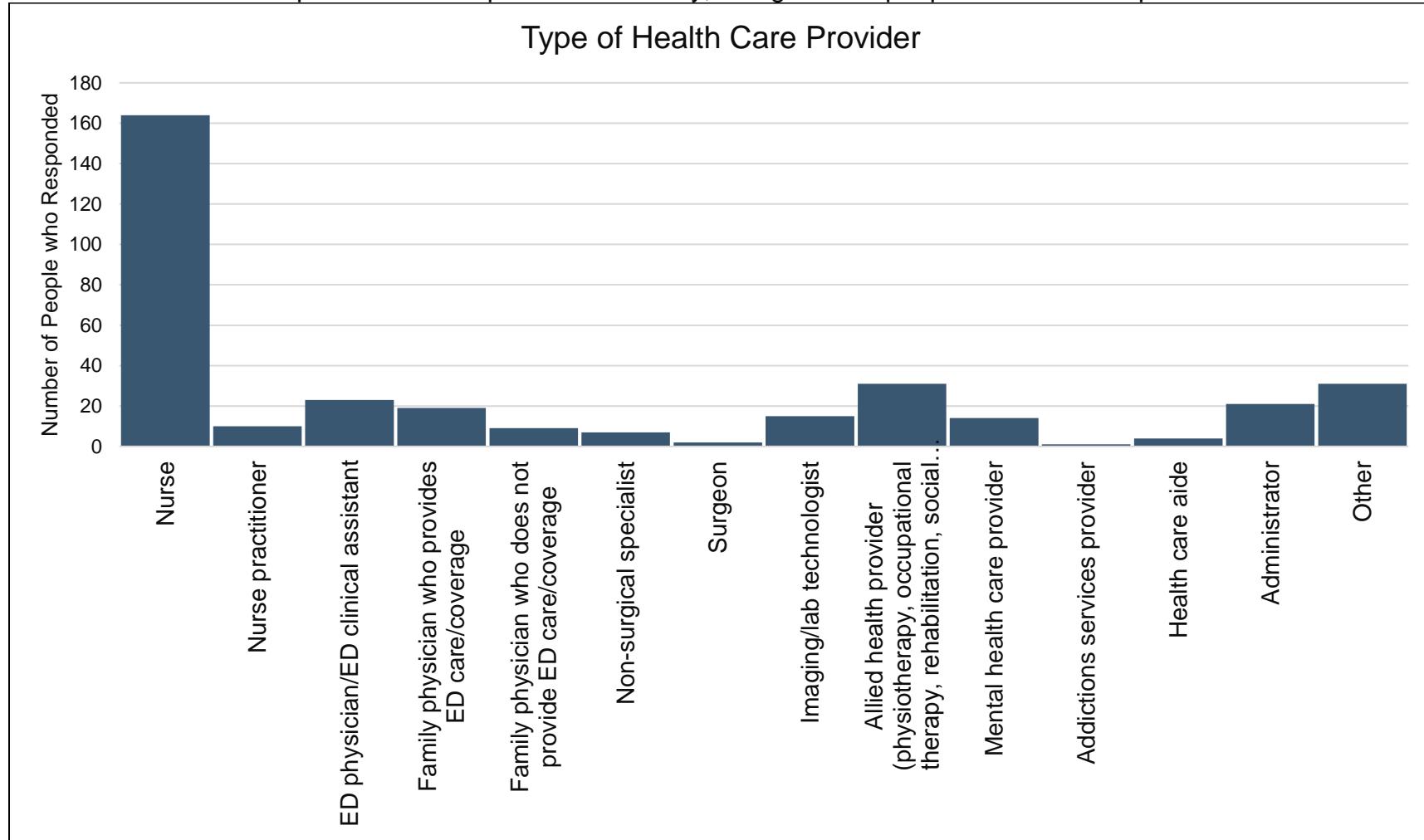
Note: 409 people did not answer this question.



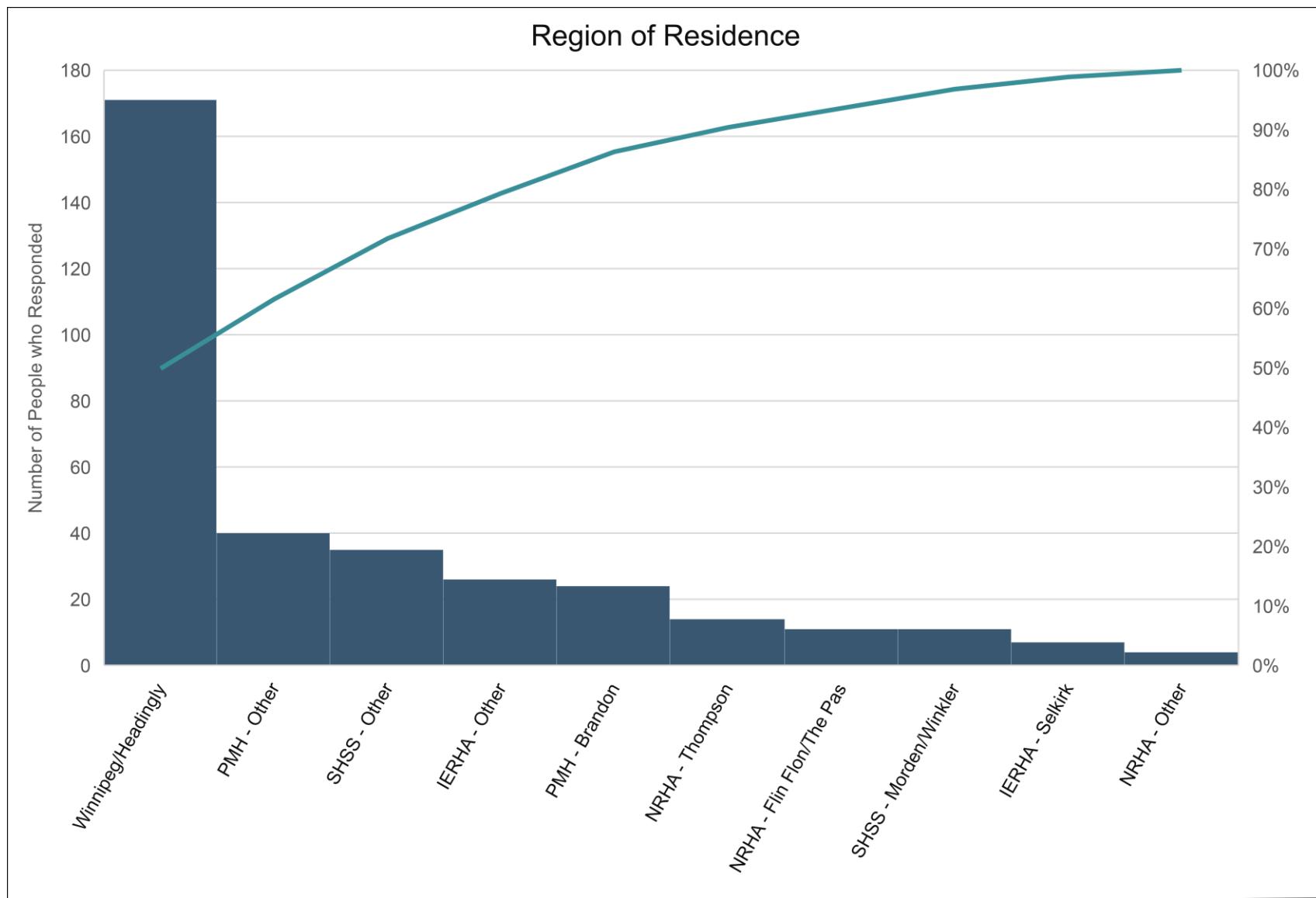
Note: 409 people did not answer this question.

16.10 PROFILE OF EMERGENCY DEPARTMENT HEALTH CARE PRACTITIONER SURVEY RESPONDENTS

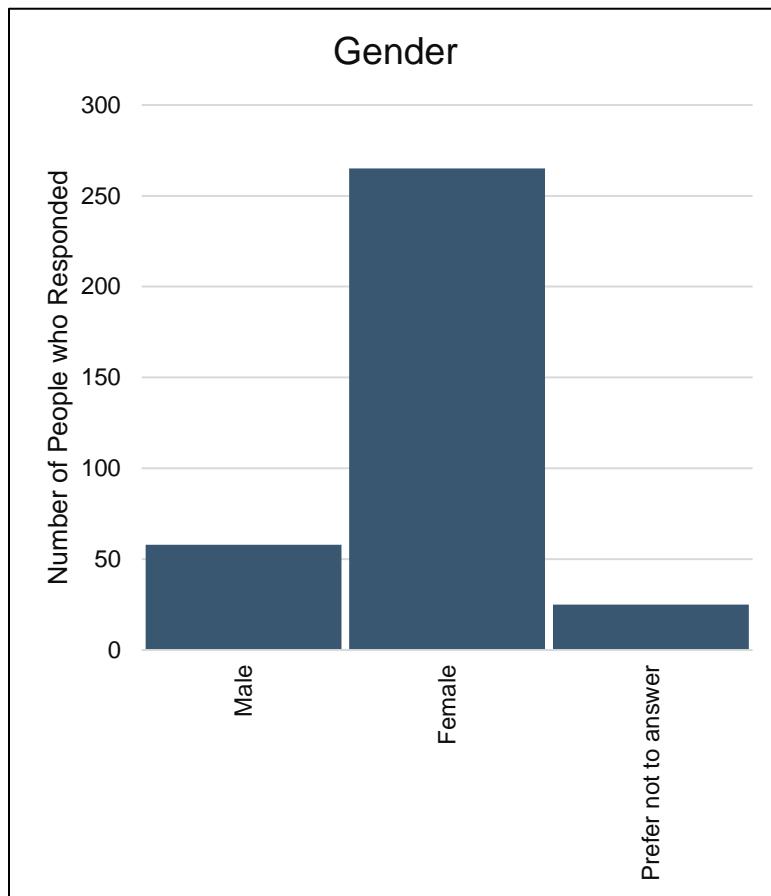
There were 529 total respondents to the practitioner survey, though not all people answered all questions.



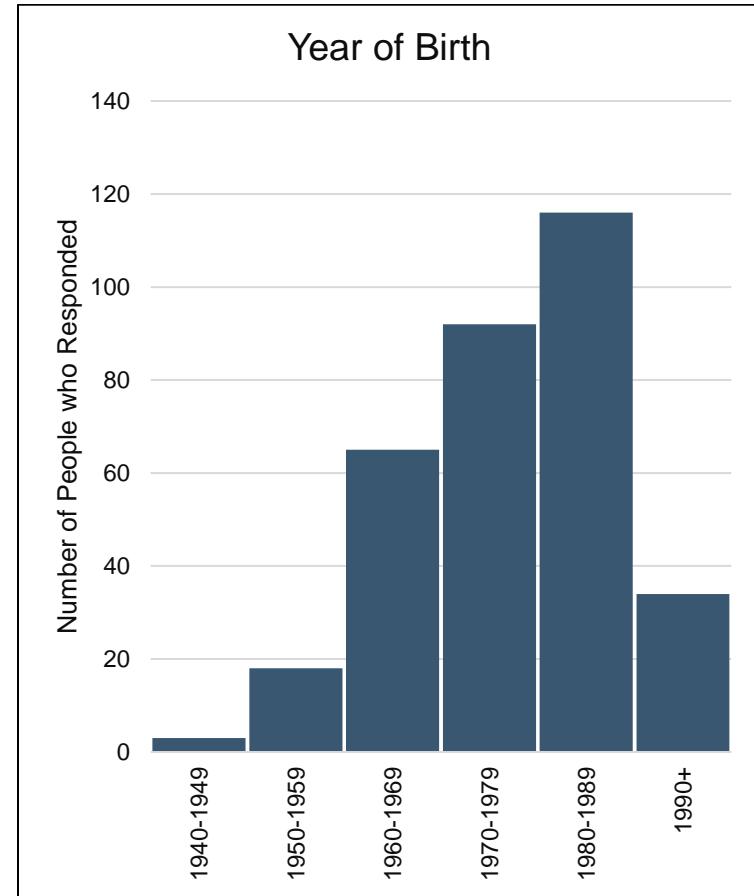
Note: 177 people did not answer this question.



Note: 185 people did not answer this question



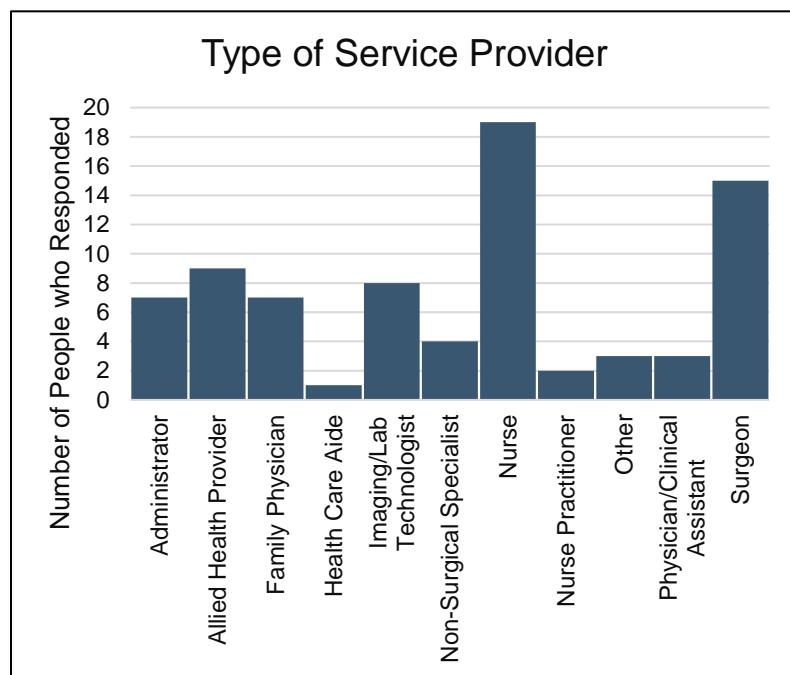
Note: 180 people did not answer this question.



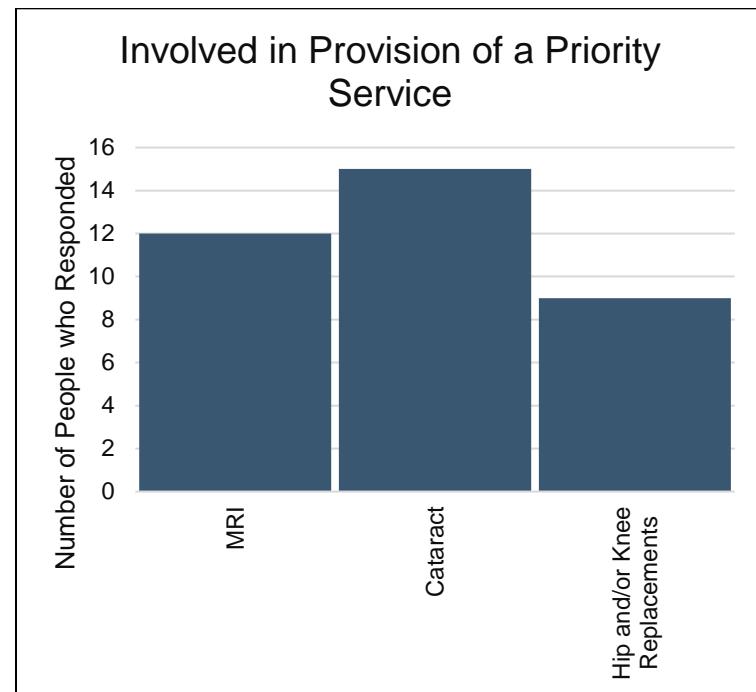
Note: 200 people did not answer this question.

16.11 PROFILE OF PRIORITY PROCEDURES HEALTH CARE PRACTITIONER SURVEY RESPONDENTS

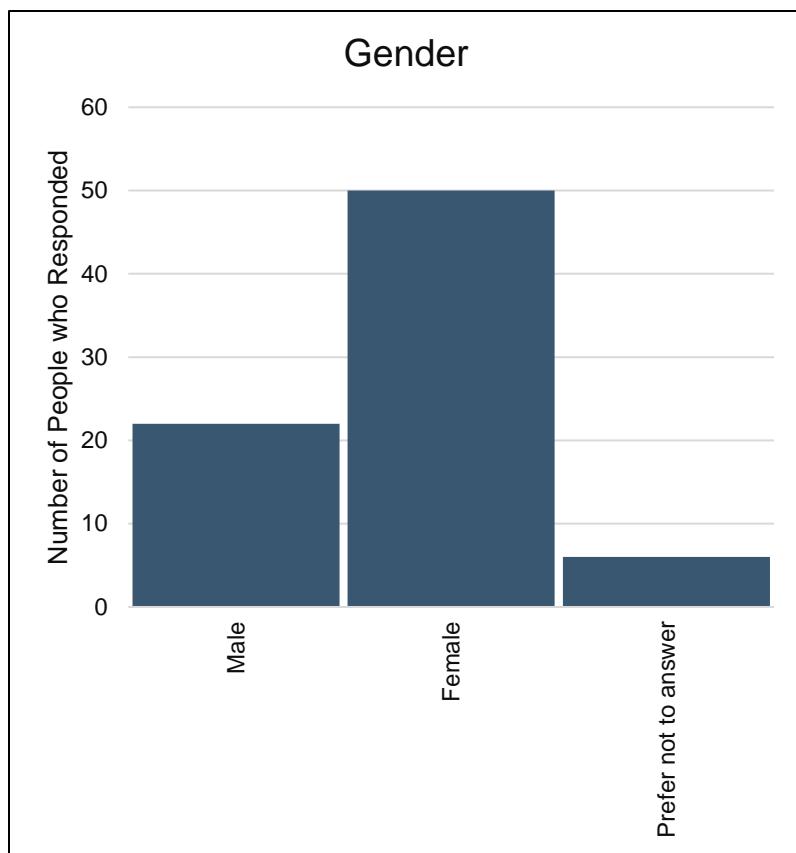
There were 176 total respondents to the practitioner survey, though not everyone answered every question.



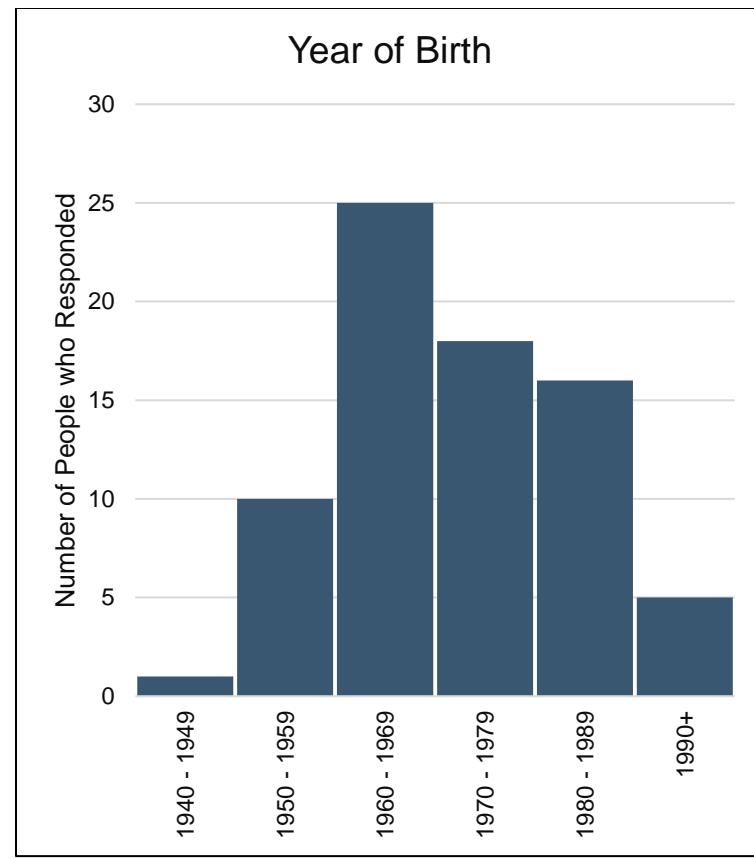
Note: 98 people did not answer this question.



Note: 161 people did not answer this question, however in some cases that is because they do not provide one of these services.

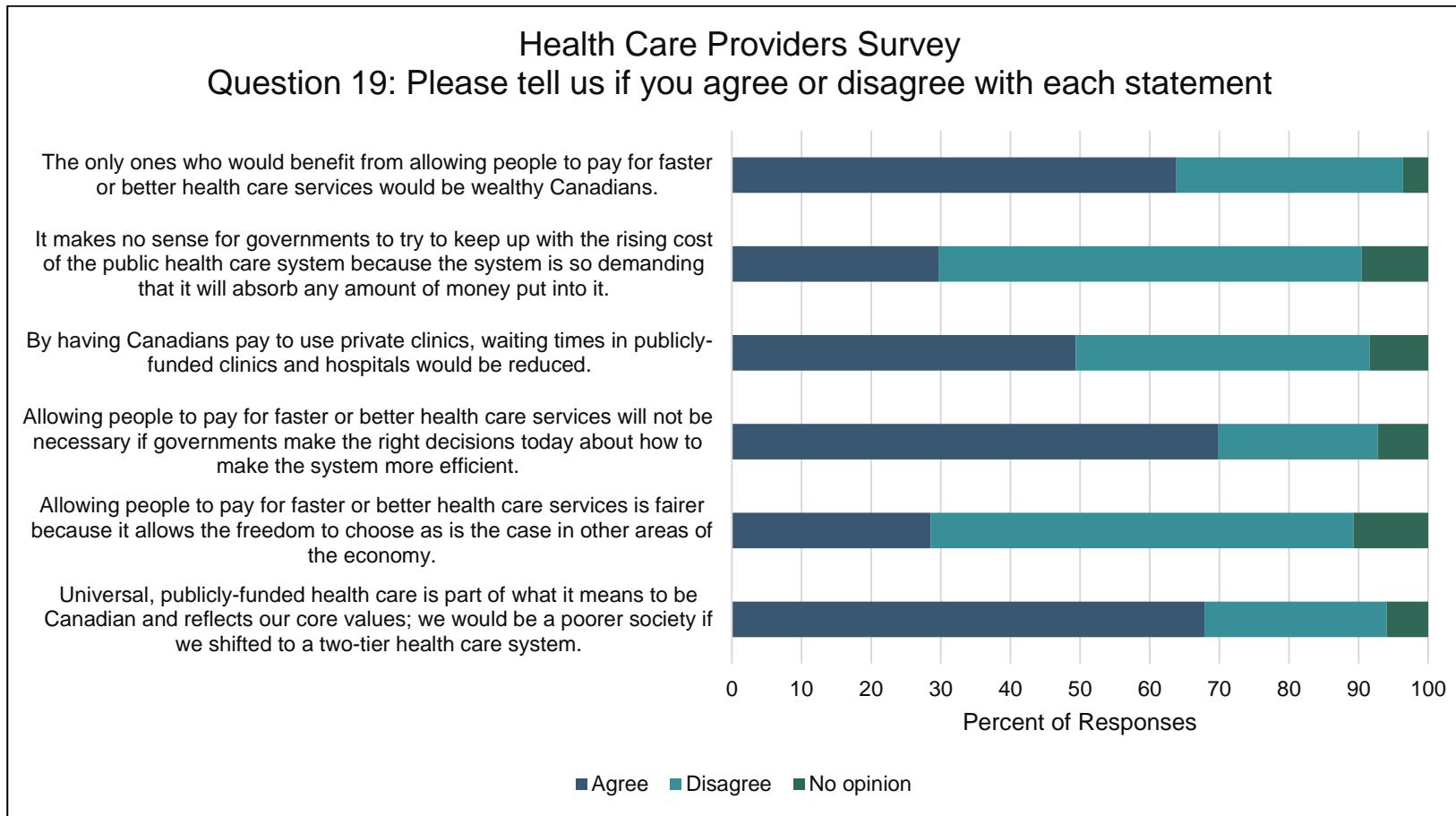


Note: 98 people did not answer this question.



Note: 101 people did not answer this question.

16.12 SELECT ADDITIONAL PUBLIC AND HEALTH CARE PRACTITIONER SURVEY RESPONSES



84 people chose to answer this question.

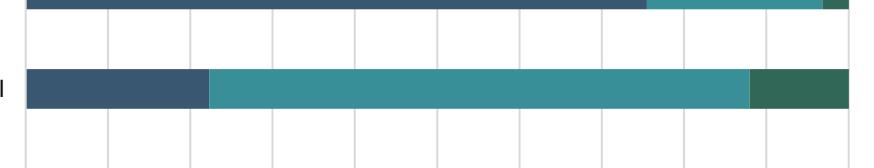
Public Survey

Question 15: Please tell us if you agree or disagree with each statement

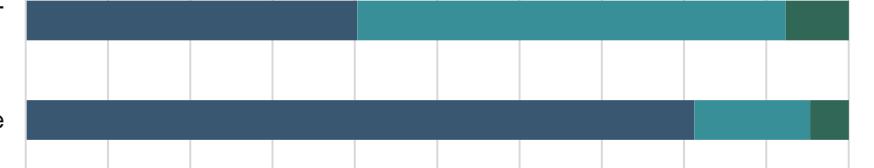
The only ones who would benefit from allowing people to pay for faster or better health care services would be wealthy Canadians.



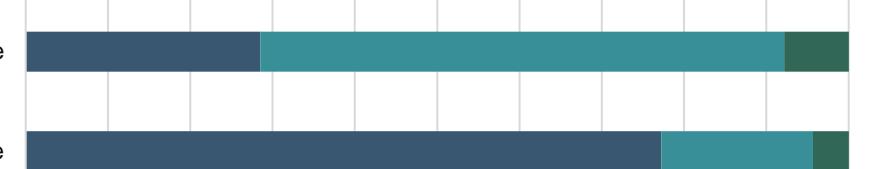
It makes no sense for governments to try to keep up with the rising cost of the public health care system because the system is so demanding that it will absorb any amount of money put into it.



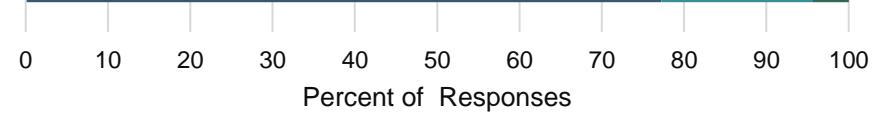
By having Canadians pay to use private clinics, waiting times in publicly-funded clinics and hospitals would be reduced.



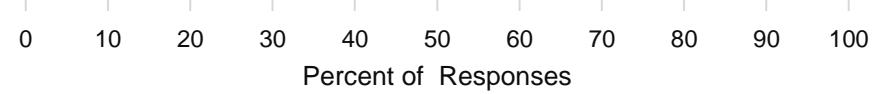
Allowing people to pay for faster or better health care services will not be necessary if governments make the right decisions today about how to make the system more efficient.



Allowing people to pay for faster or better health care services is fairer because it allows the freedom to choose as is the case in other areas of the economy.



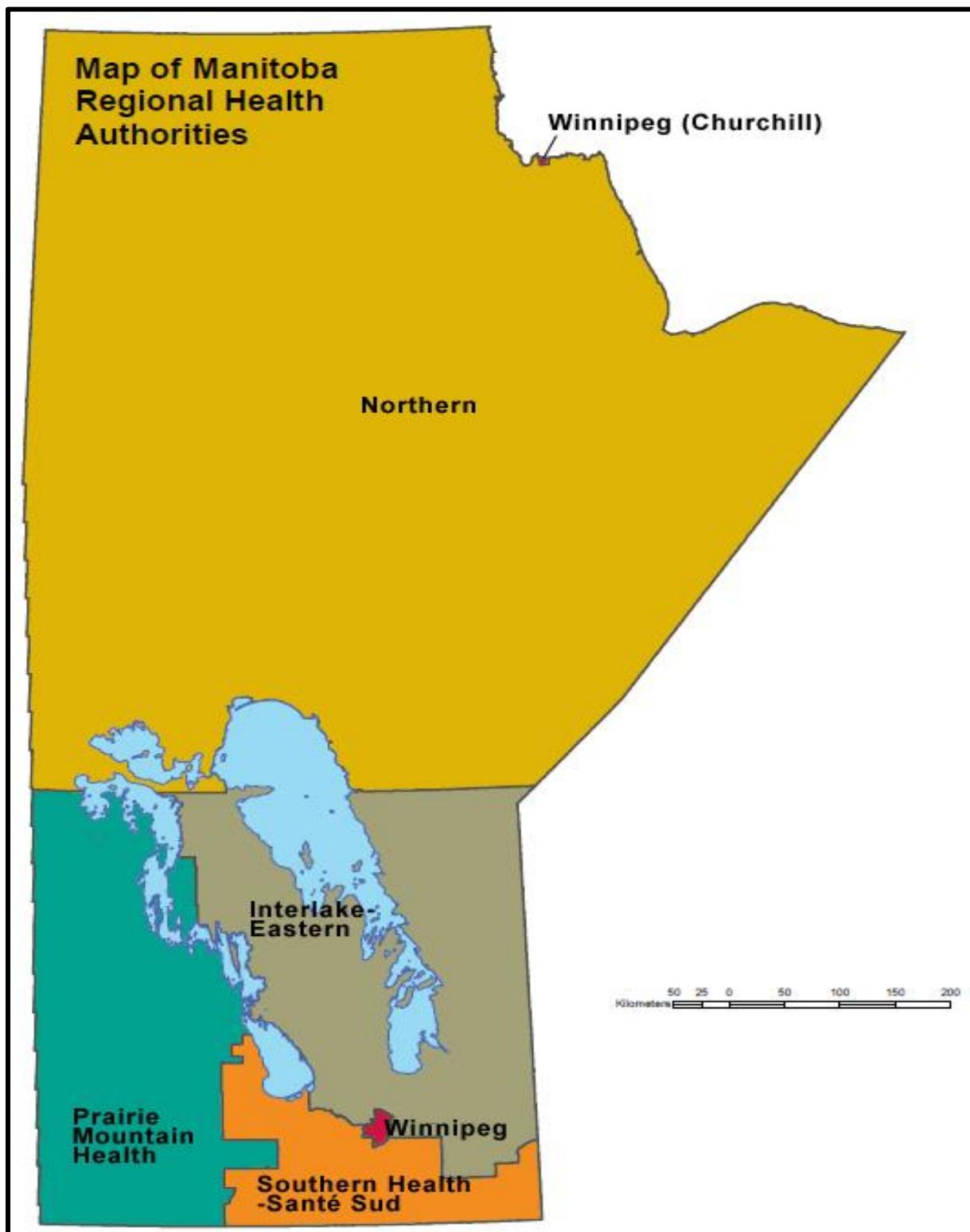
Universal, publicly-funded health care is part of what it means to be Canadian and reflects our core values; we would be a poorer society if we shifted to a two-tier health care system.



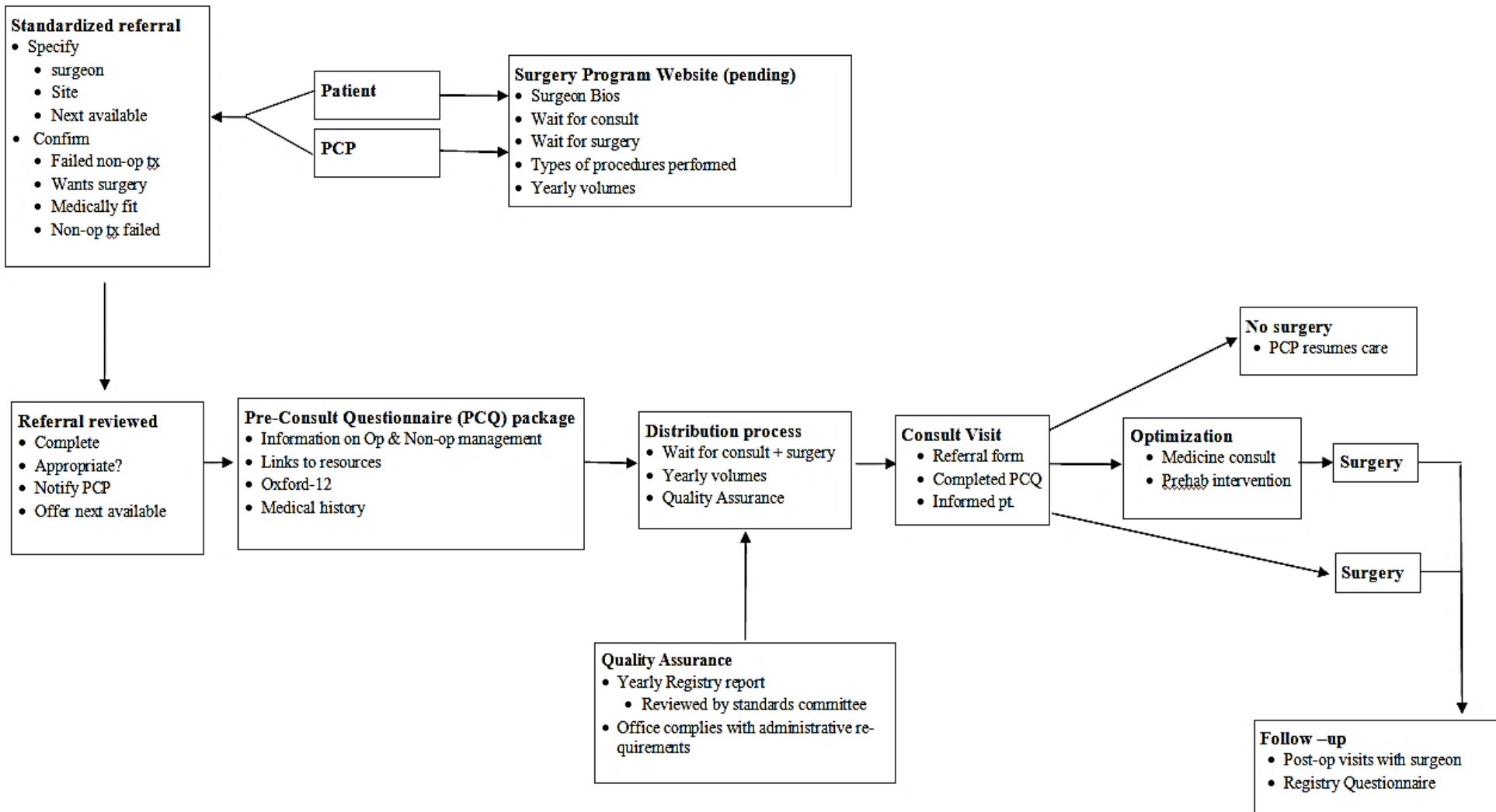
■ Agree ■ Disagree ■ No opinion

575 people chose to answer this question.

16.13 REGIONAL HEALTH AUTHORITIES OF MANITOBA



16.14 DIAGRAM OF HIP AND KNEE CENTRAL INTAKE STRUCTURE



16.15WRHA CATARACT PROGRAM PRE-OP ASSESSMENT QUESTIONNAIRE



MISERIC DIA
Health Centre
The future of care

PREOP Assessment Questionnaire Cataract Program

Name: _____

Date of Birth: _____ Day/ _____ Month/ _____ Year

PHIN: _____

Address: _____

Home Phone No. _____ Cell Phone No. _____

Next of Kin Name & Phone No. _____

CLINIC USE ONLY	No	Yes
Is a preop History and Physical required ("yes" response to any of questions 2-12 or BMI above 40)?		

Patient Instructions: Please read each question carefully. Respond with a (✓) in the "yes" or "no" box. For "yes" to questions 13-35, please provide additional information (such as date diagnosed, medications, treatments, etc.) in the "describe" section.

1. What is your current: a) height: feet inches b) weight:	□ Kilos □ Pounds	YES NO
4. Do you use home oxygen?	YES NO	
5. Do you use a sleep apnea machine? "Have you been diagnosed to have sleep apnea?"	YES NO	
6. Do you have a pacemaker?	YES NO	
7. Do you have a heart defibrillator?	YES NO	
8. Do you take Insulin?	YES NO	
9. Are you on dialysis?	YES NO	
10. Are you hemiplegic or paraplegic?	YES NO	
11. Do you get short of breath when you walk 1 city block or climb 1 flight of stairs?	YES NO	
12. Do you have trouble lying flat (1 pillow) for 30 minutes? <input type="checkbox"/> can't breathe <input type="checkbox"/> back pain	YES NO	
DESCRIBE		
13. Have you ever had an anesthetic?		
14. Have you or any of your blood relatives ever had a reaction to an anesthetic?		
15. Please list all allergies or adverse drug reactions you have:		
16. Have you ever had:	<input type="checkbox"/> Epilepsy (seizures) <input type="checkbox"/> Blackouts <input type="checkbox"/> Stroke <input type="checkbox"/> TIA	
17. Do you have any tremors or other nerve conditions that make lying still difficult?		
18. Do you have episodes of:	<input type="checkbox"/> Recent memory loss <input type="checkbox"/> Dementia	
19. Are you presently being treated for:	<input type="checkbox"/> Anxiety <input type="checkbox"/> Depression <input type="checkbox"/> Bipolar <input type="checkbox"/> Schizophrenia	
Do you feel anxious in small or confined spaces?		
21. Do you wear hearing aids?		

PREOP Assessment Questionnaire (Page 2)

Name:

	YES	NO	DESCRIBE
22. Do you drink beer/wine/ liquor?			Quantity?
23. Do you use recreational drugs?			
24. Do you smoke?			
25. Do you have dentures, loose or capped teeth?			
26. Have you ever had a heart attack?			
27. Do you have a heart murmur or valve problem?			
28. Have you ever been treated for an irregular heart beat?			
29. Do you have high blood pressure?			
30. Do you have asthma?			<input type="checkbox"/> Inhaler regularly <input type="checkbox"/> Inhaler when needed <input type="checkbox"/> Prednisone
31. Do you have any other lung conditions such as:			<input type="checkbox"/> Bronchitis <input type="checkbox"/> Emphysema <input type="checkbox"/> Chronic cough <input type="checkbox"/> Pneumonia <input type="checkbox"/> Tuberculosis
32. Do you have diabetes?			<input type="checkbox"/> Diet <input type="checkbox"/> Pills <input type="checkbox"/> Insulin
33. Do you have reflux/heartburn?			
34. Do you have a kidney condition?			
35. Please list any other important medical problems you have: <input type="checkbox"/> None			
36. Please list any major operations you have had (attach list if more space needed): <input type="checkbox"/> None			
37. Please list all medications you take (prescription and non prescription) including the dose and times/day (attach list if more space needed): <input type="checkbox"/> None			<hr/>
38. Please list any infectious diseases you have (such as Hepatitis, HIV, MRSA, VRE, Tuberculosis): <input type="checkbox"/> None			
Can you put in your own eye drops? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain)			
Do you have someone to pick you up from the health centre and stay with you overnight after your surgery? <input type="checkbox"/> Yes (Who will pick you up? _____) <input type="checkbox"/> No (explain)			
May your health care team leave detailed messages about future appointments (including your surgery) a) on your answering machine? <input type="checkbox"/> Yes <input type="checkbox"/> No b) with a family member? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Date Completed: DD / MMM / YYYY		Signature: _____ <input type="checkbox"/> Patient <input type="checkbox"/> Designate	

16.16 SUMMARY OF COSTS FOR RECOMMENDATIONS

Emergency Departments

Emergency Department Recommendations Where Associated Costs or Savings are Present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
5.3	Enhance use of communication technology, including PECS and telehealth, in order to access consultations with specialists for acute care and follow up. Leveraging the resources of larger centres in this manner will avoid costly transport and long waits associated with in-person visits.		Unknown Also see 5.1	Savings of replacing in person consultations with Telehealth and PECS dependent on volume of consultations achieved remotely
5.5	Invest in basic diagnostic equipment, such as X-rays and (point-of care) lab equipment, with quality control and cross-training to allow general staff to utilize it. This could be funded with savings garnered from avoided trips to larger centres.		Unknown	Savings from conducting tests in communities and avoiding medevac and scheduled flights to larger centres dependent on volume of avoided travel
7.1	Invest in prevention: support EDVIP and other peer support services that assist vulnerable patients in the ED. The EDVIP model can potentially be applied to other targeted patient populations as well, such as those with opioid/overdose and suicidal ideation, resulting in cost avoidance for each one “diverted” from the ED, significant long-term cost savings and multiple other individual and societal benefits.	\$640 per year	\$8–\$10 per avoided ED trauma visit	Anticipated that program costs will be recouped by savings within 2-3 years, based on current patterns

Emergency Department Recommendations Where Associated Costs or Savings are Present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
8.1	Establish a Provincial Emergency Consultation Service (PECS). This is integral to the successful implementation of a number of changes and recommendations to EMS and rural ED access. The net savings from this program should more than offset its costs.	Year 1: \$472 Year 2: \$2790 Annual: \$2990	\$1500-\$4500	Estimated cost figures are 2015 dollars. Cost Savings Estimate based on 300 avoided Medevac trips, with a range of between \$5,000-\$15,000 per trip.
8.4	Remove incentives that encourage inappropriate use of EMS for IFTs.		Unknown	Dependent on reduction in IFTs.
8.7	Expand community paramedicine. Work with regions and communities to identify gaps in community care, and implement programs such as those currently available in Winnipeg (EPIC), as appropriate. Utilize community paramedics in places with frequent ED users, such as personal care homes, to reduce (intake) ED visits and provide preventative care to these populations, with treat and release protocols Fund and expand EPIC and other community paramedic programs with established value, offsetting costs with savings from reduced ED visits and improved outcomes	Unknown	Unknown	Dependent on volume of reduced ED visits and avoided primary care visits due to effects of preventative health. The net cost/savings is a balance between ED savings and the cost of EPIC.

Emergency Department Recommendations Where Associated Costs or Savings are Present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
9.22	All rural EDs with less than 12 CTAS 1 or less than 200 CTAS 2 visits per annum should be considered as potential candidates for transformation to a non-ED function, in order to optimally utilize resources and ensure patients receive care by providers with volume-dependent competencies. Distance from full 24/7 EDs also need to be considered.		Unknown	Savings associated dependent on resources saved from transformation of sites.

Priority Procedures

Priority Procedures recommendations where associated costs or savings are present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
12.2	Whenever appropriate, book follow-up appointments to discuss MRI test results via Telehealth or another distance mechanism.		\$274	Assuming 50% of travel from the north can be avoided; this may be high. Only savings for the health system are included, individual patient savings in time and cost would also be substantial.
12.3d	Implement monitoring and feedback mechanisms for referring clinicians, so they are aware of the appropriateness of their MRI ordering.		\$2180-3270	Assuming this reduces inappropriate ordering by the estimated 20-30%.
12.4a	Maximize the use of existing MRI machines by running machines 16 hours per day, 7 days per week, where appropriate.	\$1800-\$2050		The exact amount depends on the human resources required.
12.5	Do not purchase or install additional MRI machines in Manitoba until the demand warrants it.		Infrastructure: \$9000-11000 Set-up & Install: \$103 Operating: \$985	Costs for one MRI running 8 hours per day. Operating costs are annual. Capital, set-up and installation are one time costs, and will depend on the location and complexity of the site and machine.
13.2	As technology advances, consideration should be given to performing initial assessment and follow-up appointments for hip and knee replacement surgery via Telehealth or another distance mechanism where appropriate.		Unknown	Further work is required to determine how many pre-op or follow-up visits could appropriately be done by distance.

Priority Procedures recommendations where associated costs or savings are present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
13.3a	Eliminate the use of pre-operative tests, such as MRI, when they do not provide value to the patient.		Unknown	Unable to determine how many MRIs are currently inappropriately done on knees or hips.
13.3b	Eliminate the use of interim procedures, such as arthroscopy, when they do not provide value to the patient.		\$275-\$705	The numbers include fee-for-service billings for arthroscopy only. The low range assumes the majority of procedures done on patients over age 60 can be avoided. The high range assumes the majority of procedures done on patients over age 40 can be avoided.
13.3c	Establish regional multi-disciplinary assessment clinics for patients with hip or knee pain, modeled after the existing spine clinic in Winnipeg, in appropriate locations.	\$258-\$516		Exact amount depends on the infrastructure and human resources required, and the number of clinics established.
13.4a	Increase the number of hip and knee replacement surgeries by 900 per year	\$2300-\$8900		The exact amount depends on the infrastructure and human resources required.
13.4b	Fund recommendation 13.4a from savings realized by the program.		\$1524	Includes some examples of past savings from practice changes which can be quantified.
13.5d	Enhance the current value-based procurement for hip and knee joint prostheses and related supplies.		Unknown	The amount depends on the arrangements which can be made with vendors.

Priority Procedures recommendations where associated costs or savings are present				
	Recommendation	Estimated Costs ('000s)	Estimated Savings ('000s)	Caveats
13.5f	Strengthen the existing hip and knee replacement central intake.	\$0-\$100		The exact amount depends on whether additional human resources are required.
14.2	As technology advances, consideration should be given to performing initial assessment and follow-up appointments for cataract surgery via Telehealth or another distance mechanism where appropriate.		\$39	Assuming 50% of travel from the north can be avoided; this may be high. Only savings for the health system are included, individual patient savings in time and cost would also be substantial.
14.4b	Assess the use of pre-operative assessments for cataract surgery, and eliminate the components that do not provide value (for example pre-operative history and physical examinations).		Unknown	Work has occurred to reduce these requirements resulting in some savings, the exact impact of further reduction is unknown.
14.5a	Increase the number of cataract surgeries by 2,000 per year.	\$900-\$3000		The exact amount depends on the infrastructure and human resources required.
14.5b	Fund recommendation 14.5a with a reduction in the tariff for cataract surgery.		\$1270	Assuming a \$100 reduction.
14.6b	Negotiate a provincial surgical supply contract for cataracts to maximize provincial savings and efficiencies (e.g. value-based procurement).		Unknown	It is unknown exactly what the potential is at this time.
15.8	Implement electronic consumer health information and access solutions where appropriate, to support some of the recommendations in previous chapters (e.g. patient portals, online chat options).	Unknown		The costs depend on what solutions are chosen, and could vary significantly.

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