

Connected Care: A Summary of Learnings from the Emergency Department Waits and Patient Flow Initiative

September 2018



Connecting people.
Igniting ideas.
Accelerating improvement.

About Us

HQC is an independent provincial organization focused on accelerating improvement in the quality of health care in Saskatchewan. Established by government legislation in 2002, we work with patients and families, clinicians, administrators, researchers, and quality improvement specialists to make health care better and safer for everyone in Saskatchewan.

HQC accelerates improvement of health and health by building improvement capability and spreading innovation throughout the province, through education, improvement initiatives, and research.

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Executive Summary

Long waits in emergency departments are a symptom of an unsustainable health system, one that relies too heavily on hospital care and doesn't do a good job coordinating care options in the community. Saskatchewan's new "Connected Care" strategy is about providing the *right care, at the right time, in the right place, with the right provider.*

Through a collaborative process, the Emergency Department Waits and Patient Flow Initiative has explored different paths this province could take to reduce emergency department waits and improve the patient journey through the health care system. We have learned a lot over the past five years. This document pulls together these insights to enable anyone in the system to benefit from and build upon our learnings.

"What I think is exciting is that it's a system level improvement. It's about understanding that we are a large system and together we have to work to a single goal, and that we all contribute the patient experience, not just the episode in one single location."

Marjorie Ingjaldson
Director of Primary Health Care
Navigation, Regina



"Connected Care means that all of the providers that look after a patient know their patient, know each other, and are able to get information and a shared process in place to better manage the patient. There's such an enthusiasm, there's a recognition that we want to work together differently to achieve these better outcomes for our patients collectively whatever part of the health system we belong to."

Dr. Rashad Hansia
Physician Dyad, Regina

A Summary of Our Top 10 Lessons Learned

1

Team-based care is the foundation of Connected Care; it's indispensable in hospitals and communities. There's strong evidence that teams who know their role, understand each others' roles, communicate well, and resolve conflict effectively will provide high-quality, safe care. **(Page 6)**

2

Intermediate care teams are critical for patients who require less intensive care than that provided in an acute care bed, but more intensive than can be provided by basic home care services. Saskatchewan's need for community and bed-based intermediate care will grow as our population ages and their care needs become more complex. **(Page 8)**

3

Some solutions don't require major investment of resources. For example, **preventing the functional decline of patients while they're in hospital is a low cost, high impact opportunity** with proven results in Canada and around the world. **(Page 12)**

4

Connected Care is about continuity of relationships, management, and information. The connection between people, processes, and information is fundamental to integrated care systems and is the foundation to Saskatchewan's Connected Care Strategy. **(Page 14)**

5

There is room to improve how we're providing care in the Emergency Department. While the biggest gains in shortening ED waits will come from addressing hospital overcapacity, there are still opportunities to improve efficiency in Emergency – through changes in staff scheduling, lab and diagnostic imaging processes, and consultations. **(Page 17)**

6

Physicians are essential to co-designing Connected Care. They must be involved in determining how best to integrate care in all settings in Saskatchewan. **(Page 19)**

7

Integrating our approach to physical, mental, and social health will result in a healthier population and reduce our historic dependency on acute hospital care. **(Page 21)**

8

Aligning our measurement systems in health care is key to understanding if the changes we're making are improving health and health care delivery in Saskatchewan. **(Page 23)**

9

Social marketing campaigns that capture our hearts and inspire our actions are an effective way to spread a compelling vision for health system transformation. **(Page 26)**

10

We can never go wrong by asking patients, families, and communities **"What Matters to You?"** and then exploring where their responses lead us. **(Page 27)**

Background

In January 2013, shortly after the Saskatchewan Surgical Initiative wrapped up, the provincial government challenged the health system to eliminate emergency department wait times. By the spring of that year, a team had been assembled to explore options for achieving this lofty goal. The team was named the Emergency Department Waits and Patient Flow initiative, and it set up shop at the Health Quality Council office in Saskatoon.

After some initial analysis, the Initiative team determined the “Zero Waits” goal was neither attainable nor sustainable; the target was revised to a 60% reduction in waits by April 2019.

The team began by developing a strong governance structure, with a Guiding Coalition comprising representatives from the Ministry of Health, regional CEOs, patient and family advisors, and clinicians. Next a Provincial Stakeholders Advisory Group (PSAG) was established, and visioning sessions were conducted to determine the current state of Emergency Department waits in Saskatchewan, identify opportunities for improvement, understand the local context, and set out next steps.

The first improvement strategies rolled out provincially were Interdisciplinary Bedside Rounds (IDR) and data collection on Alternate Level of Care (ALC). IDR was selected as the starting point for building team-based care in hospital because it includes patient/families at the centre of the team. Teams were encouraged to use the ALC data collection tool in conjunction with IDR, to collect data on why patients are in hospital when the care they required could have been provided in the community (if programs and services were available/accessible). An electronic provincial dashboard was created, and 48 sites are now routinely entering their ALC data there. The Initiative team also developed IDR and ALC “toolkits” containing information and resources, and videos, to support teams interested in adopting these strategies.

The Initiative team conducted an exhaustive literature review to identify interventions that had been demonstrated to have a measurable impact on Emergency Department waits, hospital length of stay, or readmission rates. The team used computer-based health system modelling to determine what impact different interventions might have on ED waits — specifically the time waiting for an inpatient bed (TWIB) and physician initial assessment (PIA). Modelling showed that the quickest, most efficient way to reduce ED waits in Saskatoon and Regina was to focus resources, programs, and services on individuals with complex care needs who often stay in hospital longer than they need to because the services they need are not available or accessible in the community, thereby reducing hospital occupancy. The research literature also showed that having these community resources available can prevent complex care patients from visiting hospital and emergency departments in the first place.

“What excites me is the amount of energy and the number of people who are excited about the direction we are going and seeing that we’re now focused on a provincial process as opposed to working in silos. There are best practices being shared by regional health authorities that can be replicated across the province and as we move forward into a provincial health authority, we’re going to start thinking and acting as one, which makes it a lot easier from a patient perspective.”

Gabe Lafond
Executive Director for First Nations and Metis Health, SHA

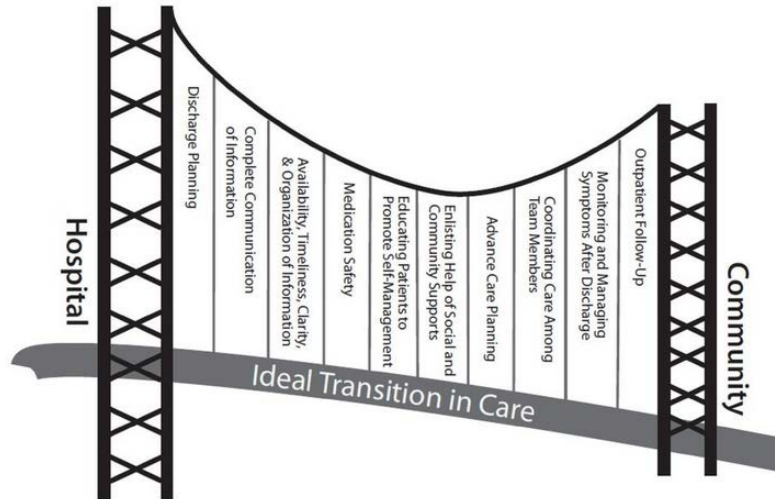
“It gives us an opportunity to look at the people we serve. In a rural environment we often miss what’s happening for the patient in the early stages if they’ve gone to tertiary care. When they come to us their needs are very different. This is giving us an opportunity to look at what their needs are and maybe look at re-addressing our services in the community.”

Carrie Dornstauder
Executive Director Maternal and Children’s Provincial Programs, SHA

The importance of transitional care was highlighted prominently in the literature. Focusing on the transitions of patients between care teams and care facilities were shown to reduce length of stay in hospitals, readmissions, and significantly improve the patient’s experience of care.

The first expression of the domains of “Ideal Care Transition” used by the Emergency Department Waits and Patient Flow Team was the one developed by Burke et al. below.

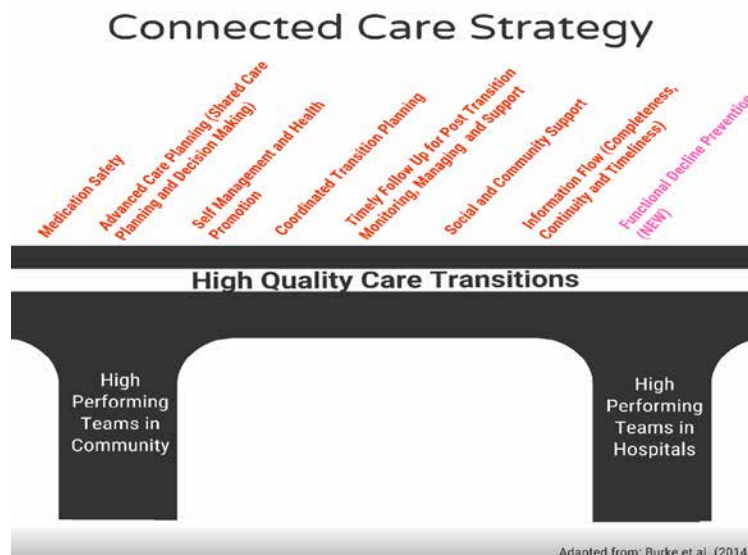
Figure 1: Ideal care transition diagram



Source: Burke, Kripilani, Vasilevskis, and Schnipper. JHM 2013. In Press

With the authors’ permission and in consultation of our partners, we revised the bridge to include the *pillars* of good transitional care: effective teams in the community and effective teams in hospital. Right now, this image provides the best visual representation of “Connected Care” – strengthening team based care in hospitals, strengthening team-based care in community and improving transitional care processes between these teams to reduce unnecessary hospital days, preventable admissions, and 30 day readmissions in an effort to reduce hospital capacity and thereby reduce emergency department waits.

Figure 2: Pillars of good transitional care diagram



Adapted from: Burke et al. (2014)

Source: Original, Emergency Department Waits and Patient Flow Initiative

△ Why Connected Care? Why Now?

The population our health system serves is changing and the urgency to adapt to this reality grows each year. Simple disease diagnoses have given way to complex, chronic, multi-morbidities across all age groups. Data released by the Ministry of Health in 2016 showed that in 2012-13:

- about 257,000 (23%) Saskatchewan residents had at least one of five chronic diseases (asthma, COPD, ischemic heart disease, diabetes, or heart failure);
- about 25% of these people had more than one of the five chronic diseases; and,
- about 950 residents had all five of the chronic diseases.

When you combine the issue of multi-morbidities with our aging population, we can clearly see a burning platform for change. In 2016, Statistics Canada reported that Saskatchewan had the highest proportion of people aged 85 years and older. With the oldest baby boomers only 72 years old and the burden of chronic disease/multimorbidity growing as people age, our traditional reliance on the acute care system to manage these complex care needs will not be sustainable into the future. In Saskatoon alone, more than 200 acute care beds will be needed by 2025 to meet the demands of our ageing population if no changes are made to our current health care system (Ministry of Health, Acute and Emergency Services Branch, 2018).

The services required to meet the needs of this emerging population must be anchored in the community, delivered by high-functioning care teams, and facilitated through streamlined and standardized processes – with patients engaged as active partners in leading the redesign. Without this fundamental shift in how we deliver care in this province, we will be unable to provide the infrastructure and staffing to meet inevitable demands.

★ Learnings and “Leading Lights”

Health systems around the world have invested considerable effort and resources in reducing Emergency Department waits and improving patient flow. Here in Saskatchewan, the Emergency Waits and Patient Flow Initiative team has collected research evidence, reports, promising practices, change packages, and stories to support the province’s new Connected Care Strategy. The document you’re reading summarizes some of the key learnings that can help our health system focus its efforts on those areas with the most evidence and promise.

In the following pages, we also shine a spotlight on good work that is already happening – locally, nationally, and internationally. These “leading lights” can offer guidance, support, share lessons learned, and help us accelerate our spread and adoption of ideas that work. This is not an exhaustive listing of all of the great work happening in Saskatchewan and elsewhere, but it does highlight some of the people and places we can learn from as we advance our shared understanding of Connected Care and plan the next steps.

Lesson #1

Team-Based Care: The Foundation of Connected Care

In health care, we often talk about team-based care. But what does that really mean? What makes a good team? And how can we move toward more effective team-based care in Saskatchewan? Babiker et al. (2014) provides a very helpful overview of major concepts of team-based care in the article "[Health Care Professional Development: Working as a Team to Improve Patient Care.](#)"

Team-based health care is where health services are provided to individuals, families, and/or their communities by at least two health providers who work collaboratively with patients and their caregivers – to the extent preferred by each patient – to accomplish shared goals within and across settings to achieve coordinated, high quality care (Naylor et al., 2010). An “effective” team is one where the team members – including the patients – communicate with each other, and merge their observations, expertise, and decision-making responsibilities to optimize patients’ care (WHO, 2014). Often, teams are expected to work together despite the fact that they haven’t done any team development – to sort out such things as role clarity, conflict management, communication processes, shared decision making, or performance management. As a result, members of the “team” carry on working silos, which can result in adverse events, poor communication, and waste – all things that are visible to patients and families when they receive care in our health system.

Much has been written about team effectiveness in all sectors. There is no shortage of frameworks, models, research studies, and competencies. But perhaps the best summary of the evidence on what makes a good team is this Sketchnote produced by a team at the 2017 International Forum on Quality and Safety in Healthcare:

Figure 3: Sketchnote diagram 10 things that good teams do



Source: [Twitter](#)

Creating teams is not merely about having all members in the same location — although that’s a great start! It’s also about improving how team members communicate, learn, share, and improve together to achieve outstanding results for the people they serve. The success of Connected Care hinges on having effective, team-based care in both hospital and the community.

These high functioning teams also need to understand the population they are accountable for, whether that is based geographically or on characteristics (i.e., age, frailty, burden of chronic disease, socioeconomic status, etc.). While this will require a significant amount of effort and redesign, it will establish a solid foundation upon which to base improvements needed to create a more sustainable health care system.

★ Leading Lights in Team-Based Care

- ✓ In and around Regina, teams of home care nurses, therapists, public health nurses, nurse practitioners, paramedics, and other previously dispersed care providers are organized around geographic areas of accountability as [“hubs” within “networks.”](#)
- ✓ A number of primary health care sites in Saskatchewan are using a “Team Effectiveness Survey” to determine what’s working well for them, and where they need to develop further.
- ✓ By implementing [Team STEPPS](#) (Strategies and Tools to Enhance Patient and Performance Safety) the team working in Paediatrics Unit/Ward at Royal University Hospital boosted their score on a safety-focused team effectiveness survey by 89% in one year (also see [TeamSTEPPS Canada](#)).
- ✓ Medical units at St. Paul’s Hospital in Saskatoon and Pasqua Hospital in Regina have established [Accountable Care Units™ \(ACUs\)](#) to enhance team effectiveness; teams working at Lloydminster and Gravelbourg hospitals are also adopting the same practices to improve their performance.
- ✓ Saskatchewan hospitals continue to adopt the practice of interdisciplinary bedside rounds; the goal is to have all acute care units doing daily, physician-attended, structured interdisciplinary bedside rounds.
- ✓ [Nuka System of Care, Alaska](#)

📖 Additional Reading

- [National Interprofessional Competency Framework](#)
- [Interprofessional Care Competency Framework and Team Assessment Toolkit](#) (Source: Toronto Academic Health Science Network Practice Committee and University of Toronto Centre for Interprofessional Education at the University Health Network)
- [Teamwork and Communication in Health Care: A Literature Review](#) (Source: Canadian Patient Safety Institute)

Lesson #2

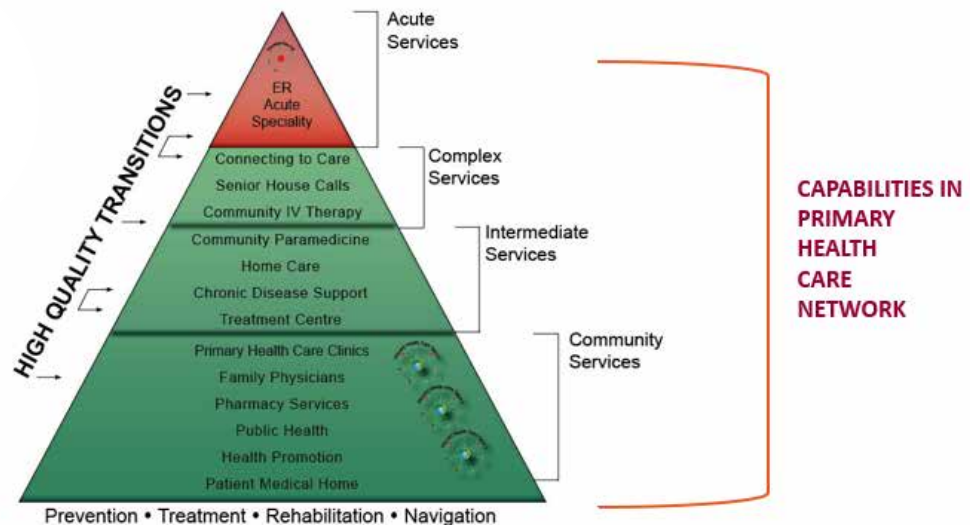
Intermediate Care: A New Kind of Team for a New Kind of Patient

The care needs of our aging population are intensifying. Our most complex and frail patients will require some form of support that fills the gap between the family physician's office and the hospital. Programs and services that can close the care gap between primary care centres and acute care services are often referred to as "Intermediate Care."

"Intermediate care services are provided to patients – generally older – to help them avoid going into hospital unnecessarily, to help them be as independent as possible after discharge from hospital and to prevent them having to move into residential or nursing homes until they really need to. These services are generally time-limited, until the person has regained independence or medical stability, and are provided in people's own homes, in community hospitals or sometimes within local nursing homes. Intermediate care is crucial to ensuring that older people with complex needs are seen by the right service for their needs at the right time, unblocking the gridlock in acute hospitals and ensuring that life-changing decisions aren't made prematurely about long-term care needs." (The King's Fund)

The following diagram, from the former Regina Qu'Appelle Health Region, shows where Intermediate Services fit into the broader structure of health services.

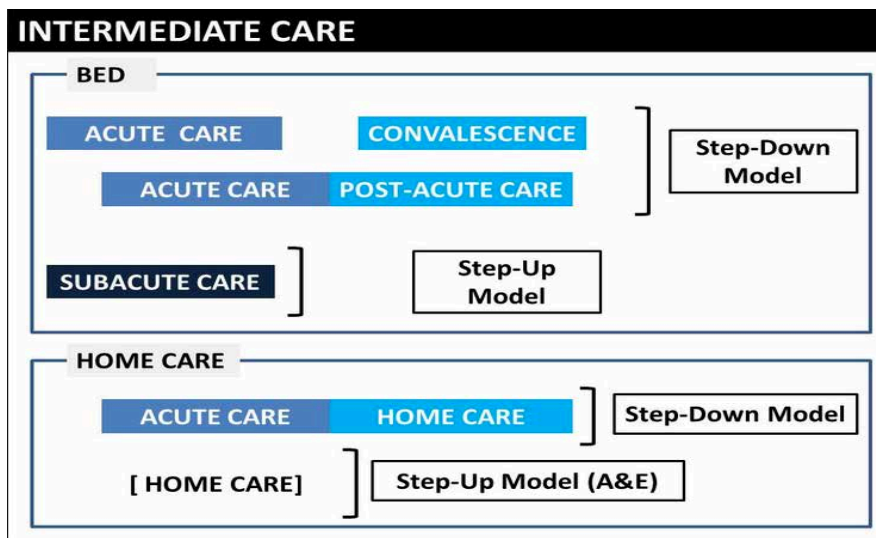
Figure 4: Where intermediate services broadly fit into health services



Source: former Regina Qu'Appelle Health Region

The following image from [Scottish Care](#) displays Immediate Care as a “step up, step down” concept that includes various elements of both bed-based and home-based intermediate care services.

Figure 5: Scottish Care’s immediate care as a step up, step down concept



Source: [Scottish Care](#)

△ Which Saskatchewan patients need “Intermediate Care”?

In this province, we have two types of patients who would benefit the most from Intermediate Care: patients admitted to hospital with an Ambulatory Care Sensitive Condition (ACSC) and patients who are considered Alternate Level of Care (ALC).

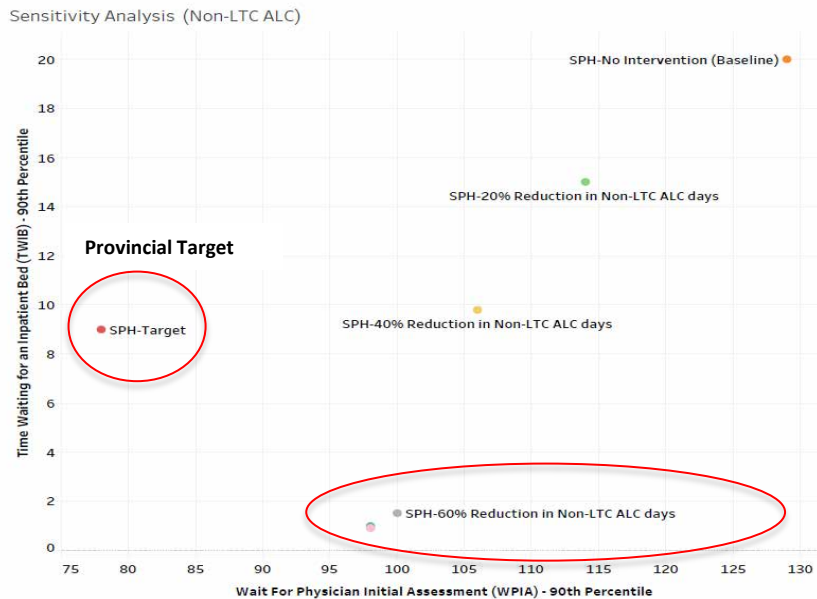
Alternate Level of Care (ALC) is the term used to describe patients who have completed the acute care phase of their treatment, but are still in hospital. Patients may remain in acute care for a number of reasons – waiting diagnostics, rehabilitation, poor care coordination with services outside of hospital, inefficient discharge planning processes, etc. Some jurisdictions use the term "unnecessary hospital days" because these patients can be considered to be in hospital unnecessarily due to the lack of available or accessible services outside of the hospital.

Recent data shows anywhere from 30% to 70% of patients in acute medical wards in Saskatchewan’s largest hospitals could actually be cared for in a more appropriate place including their home or in a different type of bed-based intermediate care unit or facility if the programs and services they need were available and accessible. Each month there are approximately 430 people with some degree of unnecessary hospital days; their average length of time waiting in hospital is 17 days.

In 2015, the Emergency Waits and Patient Flow Initiative introduced a provincial ALC data collection form to try to understand the extent of the problem in Saskatchewan. A number of Canadian and international organizations have taken an interest in our pioneering efforts to understand ALC in Saskatchewan, including the Canadian Institute for Health Information (CIHI), the Institute for Healthcare Improvement (IHI), and the Organization for Economic Cooperation and Development (OECD).

The graph below provides an example of how we've used health system modelling to explore the impact of reducing the percentage of non-long-term care ALC patients (i.e., those delayed in their discharge/transfer out of hospital but not waiting for a long-term care bed). If we reduced by 40% to 60% the proportion of ALC or "Unnecessary Hospital Days" for patients not waiting for long-term care, St. Paul's Hospital would meet or exceed its targets for Time Waiting for an Inpatient Bed (TWIB) and PIA in St Paul's Hospital.

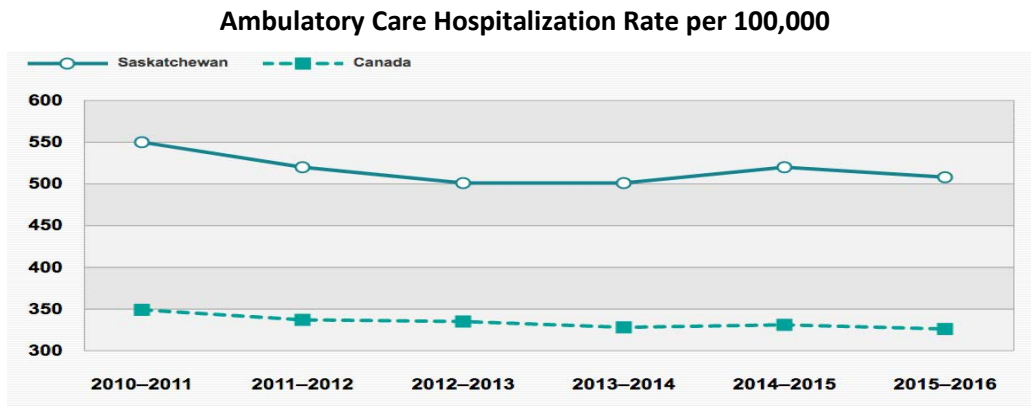
Figure 6: Modelled impact of reducing non-long term care ALC patients on TWIB and PIA in St Paul's Hospital



Source: Health Quality Council

The other group of patients who would benefit from Intermediate Care are those diagnosed with an Ambulatory Care Sensitive Condition (ACSC). ACSC admissions are considered to be largely preventable with the appropriate services available within the community. These conditions include asthma, congestive heart failure, diabetes, COPD, coronary artery disease, and mood disorders. Saskatchewan's ACSC hospitalization rate is much higher than the national average. Approximately 430 patients under the age of 75 are admitted to hospital each month with ACSC conditions (Ministry of Health, 2018).

Figure 7: Ambulatory Care Hospitalization Rate per 100,000: Canada vs Saskatchewan



Source: Canadian Institute of Health Information

The benefit of creating Intermediate Care services as a supplement to our current primary and acute care services is that it can address both ends of the acute care experience: Intermediate care can prevent hospital admissions in the first place and reduce unnecessary days in the hospital after patients' care needs have lessened. Intermediate care teams that are integrated into a larger community team-based care structure (i.e., networks) and made available as a resource to family physicians to support patients in the community will offer a more seamless care experience for the people of Saskatchewan.

★ Leading Lights in Intermediate Care

- ✓ [COPD Nurse Practitioner Provide Support at Home in Prince Albert](#)
- ✓ Creation of a Community Health Centre in Saskatoon dedicated to meeting the unique needs of older adults and those with complex care conditions in the Nutana neighbourhood, which has one of the highest rates of “unnecessary hospital days” (aka ALC days) in Saskatoon. Similar work is occurring in Regina in an area of the city with a high number of seniors with complex health issues as well.
- ✓ [“Senior’s House Calls”](#) in Regina
- ✓ [“Senior’s First”](#) in Saskatoon
- ✓ [Community Paramedicine in Saskatoon](#)
- ✓ [New Brunswick’s Extra-Mural Project](#) (also known as “Hospital without Walls”)
- ✓ [Emerging Idea: Expanding Paramedicine in the Community \(EPIC\) Pilot Designed to Reduce ED Visits](#)
- ✓ [Traitement intensif bref à domicile \(TIBD\)](#) – or “brief intensive home treatment.” for at-home treatment of psychosis in Quebec City.

📖 Additional Reading

- [Intermediate Care – Halfway Home: Updated Guidance for the NHS and Local Authorities \(Department of Health\)](#)
- [Patient Flow Toolkit: Alternate Level of Care \(Emergency Department Waits and Patient Flow Initiative\)](#)
- [Alternate Level of Care Video \(Health Quality Council\)](#)
- [Hospitalizations for Ambulatory Care Sensitive Conditions \(ACSC\): The factors that matter \(Statistics Canada\)](#)

Lesson #3

Preventing Functional Decline: A Low-Cost, High-Impact Opportunity

Hospitalizations are not without risk – particularly for older adults. During hospital stays, adverse events such as medication errors, falls, delirium, and infections often occur. Although patient safety in acute care has been a provincial priority in recent years, we have not invested as much time exploring how patient deterioration while in hospital contributes to length of stay, unnecessary hospital/ALC days, and premature admission into long-term care.

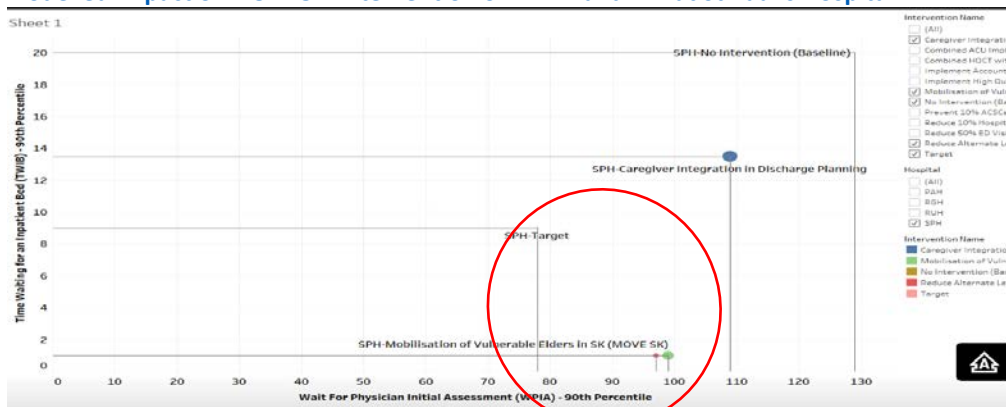
A 2009 study by Brown et al. found older adults can spend up to 83.3% of their time lying in a bed when admitted to hospital. This had a significant impact on these patients’ musculoskeletal and cardiorespiratory strength. In a recent Canadian study, Lui et al. concluded that:

Older patients admitted to hospital are at increased risk for hospital-acquired morbidity related to immobility. Bed rest is a contributor to iatrogenic complications including delirium, decubitus ulcers, pneumonia, and muscle atrophy. Each day spent immobile is associated with 1% to 5% loss of muscle strength in an older person. In a vulnerable senior, this can quickly result in the loss of the ability to transfer and ambulate independently”. Another study by Brown and colleagues found immobilized seniors are six times more likely to be discharged to long-term care facilities and 34.3 times more likely to die in hospital (Brown et al. 2004). Research by Boyd et al (2008) showed that 35% of hospitalized elderly patients were discharged with a hospitalization disability and within one year 41.3% had died and only 30% were back to their baseline function. (Lui et al.)

The good news is that there are a number of low-cost, low-tech interventions that can have a significant impact. For example, the Mobilization of Vulnerable Elders in Ontario (MOVEON) project in Ontario found that, with just a 10% increase in patient mobilization, median length of stay decreased by 3.45 days during the intervention and 6.1 days post-intervention.

Using health system modelling, we looked at what would happen if we replicated the MOVEON results at St Paul’s hospital. The impact of the intervention on Time Waiting for an Inpatient Bed (TWIB) and Physician Initial Assessment (PIA) show that we could meet the target for TWIB at St Paul’s with this intervention alone. The MOVEON project required no new staff resources or funding other than the hiring of a research coordinator.

Figure 10: Modelled impact of MOVEON intervention on TWIB and PIA at St Paul’s Hospital



Source: Heath Quality Council

Hospital-acquired delirium can also increase length of stay and lead to unnecessary hospital days for patients (McCusker et al. 2003). One program gaining traction in Canada is the Hospital Elder Life Program (HELP), described as a “comprehensive patient-care program that provides optimal care for older persons in the hospital.” The HELP website www.hospitalelderlifeprogram.org lists the program’s goals:

- Maintaining cognitive and physical functioning of high risk older adults throughout hospitalization
- Maximizing independence at discharge
- Assisting with the transition from hospital to home
- Preventing unplanned hospital readmissions

“These goals have been accomplished using a multicomponent intervention strategy. In addition to targeted interdisciplinary geriatric assessment, the program uses an innovative volunteer model to provide personal, supportive attention to vulnerable older patients. HELP materials include a structured curriculum for instructing volunteers to deliver daily orientation, early mobilization, feeding assistance, therapeutic activities, a non-pharmacological sleep protocol, and hearing/vision adaptations”. (HELP website)

One study (Rubin et al., 2006), found the HELP program reduced relative risk of delirium by 35% and saved US \$626,261 over six months, while increasing both nursing and family satisfaction.

Some people have assumed that, because much of the focus to date in Saskatchewan’s Connected Care Strategy has been on “funded activities” (i.e., Accountable Care Units, Community Health Centres, there are little that teams, units, and hospitals that haven’t received funding can do to be of this change. But the MOVEON and HELP programs show that it’s possible to reduce unnecessary hospital days using low-cost interventions.

★ Leading Lights in Preventing Hospital Decline

- ✓ [The Mobilization of Vulnerable Elders \(MOVE\)](#)
- ✓ [Hospital Elder Life Program \(Hamilton Health Sciences\)](#)
- ✓ [Delirium 'a dreaded scourge' underdiagnosed in hospitals \(CBC News\)](#)
- ✓ [Advancing Senior Friendly Hospital Care in Ontario \(Council of Academic Hospitals of Ontario\)](#)
- ✓ [ALC Avoidance Leading Practices and Improvement Strategies for the Acute Care \(healthcareathome.ca\)](#)
- ✓ [Mobility Change Package and Toolkit \(Hospital Elder Life Program\)](#)
- ✓ [The Delirium Pathway \(Australian Government, Department of Health and Ageing\)](#)

Lesson #4

Connected Care = Continuity of Care

Connected Care is about continuity of care. The research literature talks about three types of care continuity: informational continuity, management continuity, and relational continuity. Freeman & Hughes (2010) defines each as follows:

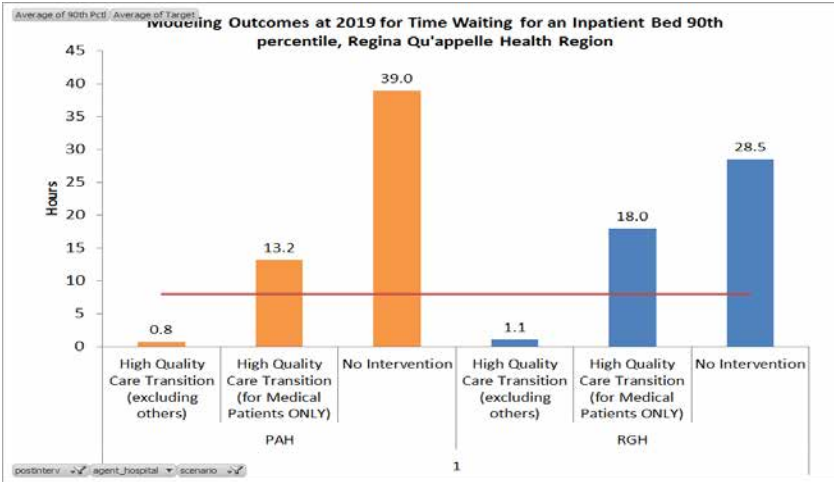
- **Informational continuity** means that information on prior events is used to give care that is appropriate to the patient's current circumstance.
- **Relational continuity** recognizes the importance of knowledge of the patient as a person; an ongoing relationship between patients and providers is the undergirding that connects care over time and bridges discontinuous events.
- **Management continuity** ensures that care received from different providers is connected in a coherent way. Management continuity is usually focused on specific, often chronic, health problems.

Delivering “Connected Care” demands that attention be paid to all three of these elements when planning improvements. How can we build connections and continuity around a shared care plan with shared information while strengthening patient-provider relationships?

Our first opportunity for improving care continuity is within the care transition process. A Cochrane Review by Shepperd et al, [Individualized Discharge Planning from Hospital to Home](#), found that patients who received “Individualized Discharge Planning” had a decreased hospital mean difference length of stay reduction of -0.91 days and had a three-month readmission risk reduction of 12%. When we used modelling to apply these results to the Saskatchewan health system, we found that applying the approach in this province would enable us to meet the provincial goals for Emergency Department wait times.

We named this intervention “High Quality Care Transitions.” The graph below illustrates the result of applying this strategy in Regina’s hospitals. (Note: excluding others refers to the exclusion of maternity and pediatric patients).

Figure 11: Modelled impact of high quality care transition intervention on TWIB for Regina hospitals



Source: Health Quality Council

Burke et al.'s Ideal Care Transition Bridge (2013) outlines 10 key evidence-based strategies we have shortened to 8 to advanced "Connected Care" in Saskatchewan:

- Medication Safety
- Advanced Care Planning
- Self-Management and Health Promotion
- Coordinated Transition Planning
- Timely Follow-Up (for post-transition monitoring, management and support)
- Social and Community Support
- Information Flow (completeness, continuity, and timeliness)
- Prevent Functional Decline (See Lesson 3)

There are many models, frameworks, strategies, and programs that aim to reduce unnecessary hospital days and readmissions by improving care transitions. There are also a number of multi-domain transitional care programs that have proven effective such as: [IDEAL Discharge Planning, Care Transitions Program](#)®, [Better Outcomes by Optimizing Safe Transitions \(BOOST\)](#), [Project Re-engineered Discharge \(Project ReD\)](#), [The Transitional Care Model](#). The goal of Connected Care is to have patient/families, hospital teams, and community teams working in partnership, to improve care processes in these 8 strategies to ensure patients' care is seamless as they move between teams and facilities.

High Quality Care Transitions provide an opportunity for care teams in hospital and the community to discuss how they can work together to improve continuity of care. While there's more to improving continuity of the continuum of care than better transitions, this is a concrete place to start talking about how we can do things better.

Thinking about how we can work as teams to manage patients, around shared care goals with patients/families, with smooth information transfer via improved electronic platforms, and a focus on strengthening patient/provider relationships, provides us with a "North Star" to guide health system transformation. Until we shift away from our old paradigm of episodic, task-focused, provider-centric, and siloed services, real system integration will continue to elude us.

★ Leading Lights in Care Continuity

- ✓ Regina's Director of Primary Health Care Navigation focuses on information and patient flow within their network system for both the general public (self-navigation) and providers (case management support)
- ✓ Saskatoon's new Community Health Centre is applying a new model of care (referral, intake, assignment of providers, information flow for patients & providers) to support older complex adults living in that city's Nutana SC neighbourhood
- ✓ 3sHealth's Dictation and Transcription Service is helping ensure family physicians receive discharge summaries within 48 hours of dictation
- ✓ Regina's of the "[D Minus System](#)"
- ✓ Transitions in Care: From Hospital to Home [\(Health Quality Ontario\)](#)

① Additional Reading

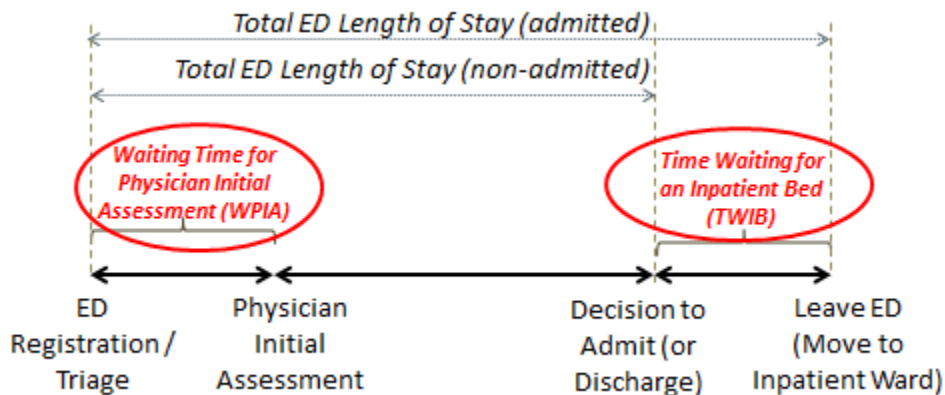
- [Care Transitions: Clinical Best Practice Guidelines \(Registered Nurses' Association of Ontario\)](#)
- [Adopting a Common Approach to Transitional Care Planning: Helping Health Links Improve Transitions and Coordination of Care \(Health Quality Ontario\)](#)
- [Continuity of Care to Optimize Chronic Disease Management in the Community Setting: An Evidence-Based Analysis \(Health Quality Ontario\)](#)
- [Continuity of Care and the Patient Experience \(The King's Fund\)](#)
- [Understanding Patient and Provider Experiences with Relationship, Information, and Management Continuity \(Health Quality Council of Alberta\)](#)

Lesson #5

Optimizing Emergency Department Processes: Still Room to Improve

The two main outcome measures for the provincial Emergency Department Waits and Patient Flow Initiative: 1) Time Waiting for Inpatient Bed (TWIB) and 2) Physician Initial Assessment (PIA). Many of the interventions from the research literature that we have modelled using Saskatchewan data have reduced TWIB but not PIA times. The evidence we've reviewed suggests that, in order to improve PIA, we must continue work to optimize care processes within the Emergency Department itself.

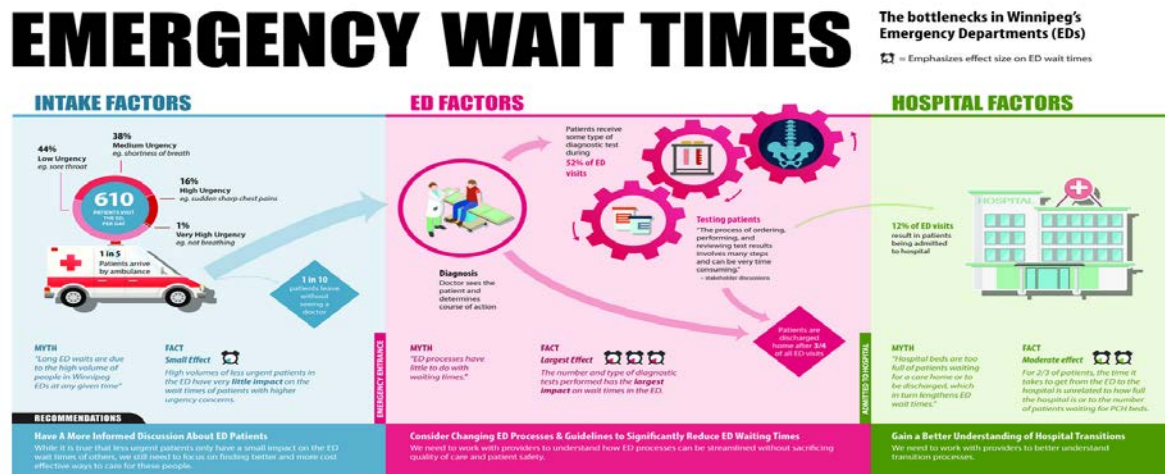
Figure 12: A summary of standardized wait indicators for emergency departments in Saskatchewan



Source: Health Quality Council

A Manitoba report from 2017 concluded Emergency Department inefficiencies had a significant impact on wait times. In particular, the task force found that the number and type of diagnostic tests done in Emergency had the biggest impact on how long patients waited for a diagnosis or decision to be admitted.

Figure 13: Contributing factors to Manitoba emergency department wait times



Source: [Manitoba Centre for Health Policy](#)

Based on our conversations with clinicians and some early analysis of local data, we believe there are opportunities to shorten PIA times in Saskatoon and Regina EDs by improving specialist consultations and access to diagnostics and lab tests, and by addressing physical space constraints.

A working group led by the Ministry of Health's Strategic Priorities Branch is analysing local data and exploring the opportunities for using Sunrise Clinical Manager (SCM), lab and imaging databases in Saskatoon and Regina to identify opportunities to increase efficiencies in consultation, diagnostics, and lab. Using input from clinicians and local databases, we can employ modelling to determine which specific interventions will have the biggest on PIA.

★ Leading Lights in Emergency Department Optimization

- ✓ [Wait time Reduction Task Force: Final Report \(Manitoba\)](#)
- ✓ [Emergency Medicine: Ten Things Physicians and Patients Should Ask \(Choosing Wisely Canada\)](#)
- ✓ The “admit to bed” not “admit to physician” philosophy of Accountable Care Units™

Lesson #6

Co-Designing Connected Care with Physicians as Partners

A number of Saskatchewan physicians – including emergency physicians, family physicians, acute care hospitalists, and a geriatrician – were part of the core team that helped develop the province’s new Connected Care strategy. In 2017, physician involvement in Saskatchewan’s health care system took a major step forward with the introduction of a provincial Chief Medical Officer within the Saskatchewan Health Authority’s Quality, Safety, and Strategy portfolio, along with area Chiefs of Staff across the province, and four Physician Executives partnered with each of the four provincial Vice Presidents. This advance signaled a strong commitment from the province to have physicians be at the forefront in leading our health care system.

While there are 650 more physicians practising in this province than there were 10 years ago, a 2017 survey by the Saskatchewan Medical Association (SMA) found that nearly two thirds (62%) of Saskatchewan physicians reported feeling at risk of burnout. Stress levels were higher among family physicians, specialists, and doctors with less than 10 years of practice working outside of Saskatoon and Regina. These findings signal the importance of physicians finding new ways of working; team-based care is one promising option that can support both physicians and patients.

We are beginning to see examples of physicians leading new ways of working in the province. The Accountable Care Unit™ started as a physician-led initiative in Regina. Following a hospitalist model, physicians are working exclusively on a single medical unit, contributing to effective, team-based care. This same model being applied in other locations as well:

- The Lloydminster medical unit is currently providing hospitalist coverage on their medical unit through a coordinated schedule between local family physicians.
- North Battleford is in early stages of testing a 4-hour hospitalist model to improve flow between the emergency department and the inpatient units.
- Physicians in Meadow Lake, Moose Jaw and Gravelbourg have also coordinated their schedules to cover acute care services.

Interest in this model is also expanding to other communities across Saskatchewan.

In the community setting, new relationships are being established between physicians and other community care team members such as home care nurses, nurse practitioners, community therapists, and paramedics. Many individuals and teams are expressing interest in learning more about how these new models can make things better for both patients and providers.

Since the start of the Emergency Department Waits and Patient Flow Initiative in 2013, the issue of physician compensation has come up time and time again as an obstacle to changing care processes in this province. The existing fee structure does not adequately compensate physicians when they are providing services as a member of a care team. Without a modernized fee code structure and compensation package, efforts to create an integrated care system will be slow or stall completely.

★ Leading Lights in System Redesign with Physicians in Saskatchewan

- ✓ [Clinical Quality Improvement Program \(CQIP\) to develop physician leadership in QI \(Health Quality Council\)](#)
- ✓ “The Gardens” Community Health Centre in Regina
- ✓ The Nutana SC Community Health Centre in Saskatoon
- ✓ Prince Albert’s “Demonstration Site”
- ✓ [Accountable Care Unit™ \(Regina\)](#)

① Additional Reading

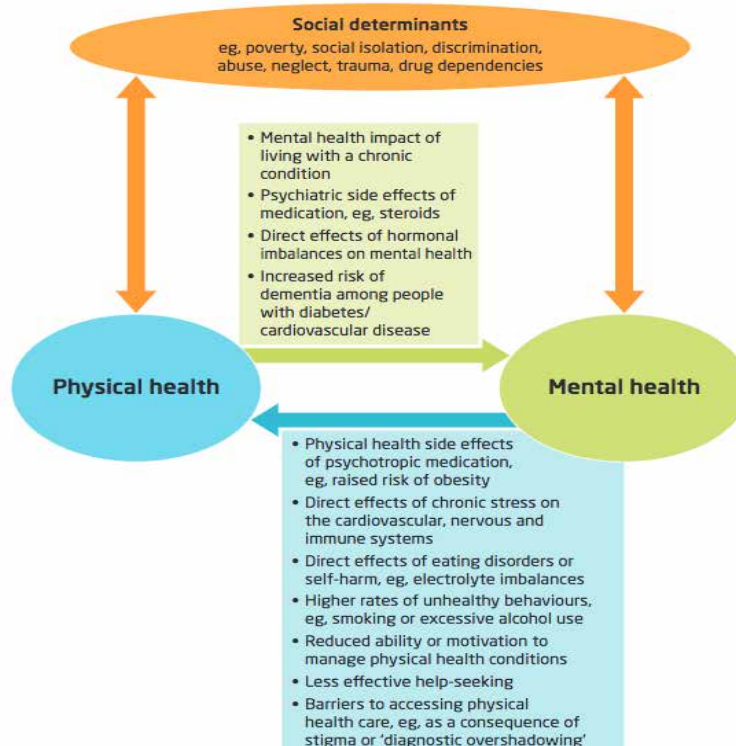
- [Patient’s Medical Home \(The College of Family Physicians of Canada\)](#)
- Best Advice: [Team Based Care in the Patient’s Medical Home \(The College of Family Physicians of Canada\)](#)
- Best Advice: [Physician Remuneration in a Patient’s Medical Home \(The College of Family Physicians of Canada\)](#)
- [Innovative Models of General Practice \(Kings Fund\)](#)
- [Optimizing the value of team-based primary care: Review of the literature \(Association of Family Health Teams of Ontario\)](#)
- [Rapid Synthesis: Examining the Effects of Value-based Physician Payment Models \(McMaster University\)](#)
- [The Evolving Professional Relationship Between Canadian Physicians and the Health Care System: Where do we stand? \(Canadian Medical Association\)](#)

Lesson #7

Triple Integration for Health and Wellbeing

There is a growing call for more intentional integration of services to better meet the changing health care needs of the global population. The NHS refers to this need as “triple integration”: integration of health and social care, primary and specialist care, and physical and mental health care. The [NHS Mental Health Taskforce](#) in England also called for more integrated care that better reflected the individual’s social, physical and mental health needs. The following diagram shows how these three aspects of health are related.

Figure 14: Mechanisms through which physical and mental health interact



Source: Naylor et al 2016

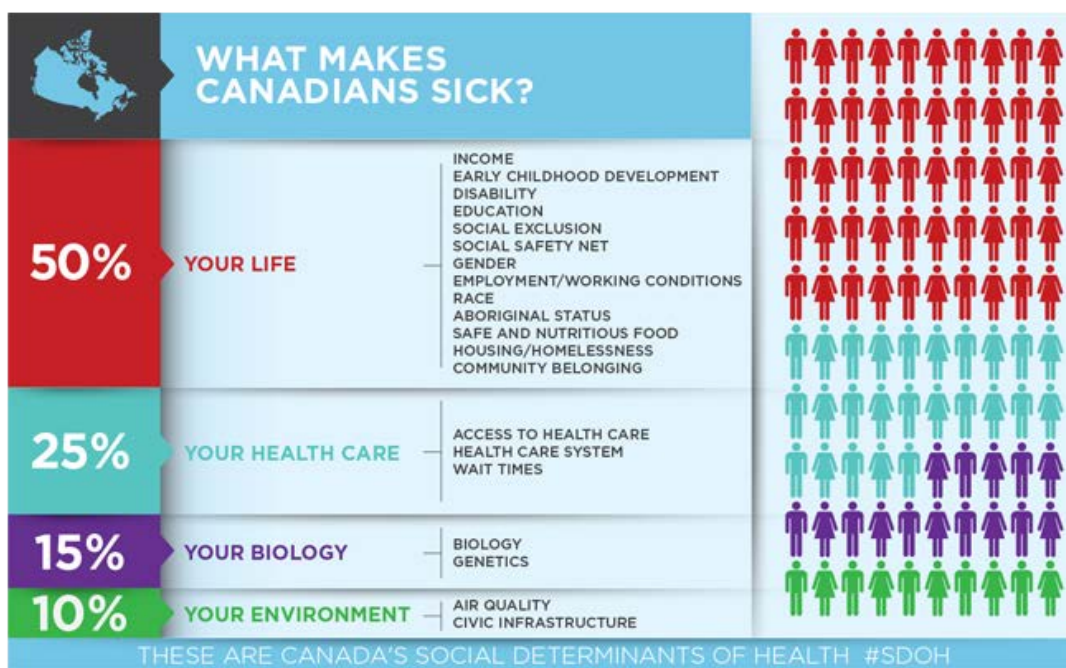
So what does this have to do with Emergency Department Wait Times? Statistics Canada found mental health, as a primary or secondary diagnosis, had a significant impact on length of stay for hospitalized patients in 2009-2010. In one example they highlighted the average length of stay for individuals without a mental health diagnosis was 7.8 days compared to 19.5 days for individuals with a comorbid mental health diagnosis (in older adults over 70 years of age). In another example, patients hospitalized with a circulatory disease but no corresponding mental health diagnosis had an average length of stay of 7.1 days, compared to and 17.2 days for patients who also had a mental health diagnosis. The combination of physical and mental health diagnosis may be a significant contributor to unnecessary hospital days.

A systematic review and meta-analysis done by Pederson et. al (2016) found depressive symptoms in about one-third of medical inpatients. Depressive symptoms increased the risk of readmission by 73% and patients had a 2-fold risk of death within 30 days compared to patients without depressive

symptoms. The authors concluded that it is important for clinical teams to assess and understand depressive symptoms in their medical inpatients and plan effectively for transition back to the community for those patients who require additional resources to help manage their mental, physical, and social issues in a collaborative and coordinated way.

The social determinants of health have significant impact on health service use. The infographic below shows that, in Canada, 75% of our health status is determined by factors other than health care. In our efforts to improve the health care system, we must not lose sight of the importance of working in new and innovative cross-sectoral partnerships to address these other factors.

Figure 15: Canada’s social determinants of health



Source: [Homeless Hub](#)

Through the new provincial Connected Care Strategy, acute and community care teams can develop a deeper understanding of the physical, mental, cultural, and social care needs of the people they serve, which will in turn help prevent hospital admissions, readmissions, and premature placement in long-term care.

★ Leading Lights in Care Integration

- ✓ [The Prince Albert Hub and Core \(Community Mobilization Prince Albert\)](#)
- ✓ [The Quest for Integrated Health and Social Care: A Case Study in Canterbury, New Zealand \(The King's Fund\)](#)

📖 Additional Reading

- [Mental health and new models of care: Lessons from the vanguards \(The King's Fund\)](#)
- [Bringing Together Physical and Mental Health: A new frontier for Integrated Care \(The King's Fund\)](#)
- [Joined-up care: Sam's Story \(The King's Fund\)](#)

Lesson #8

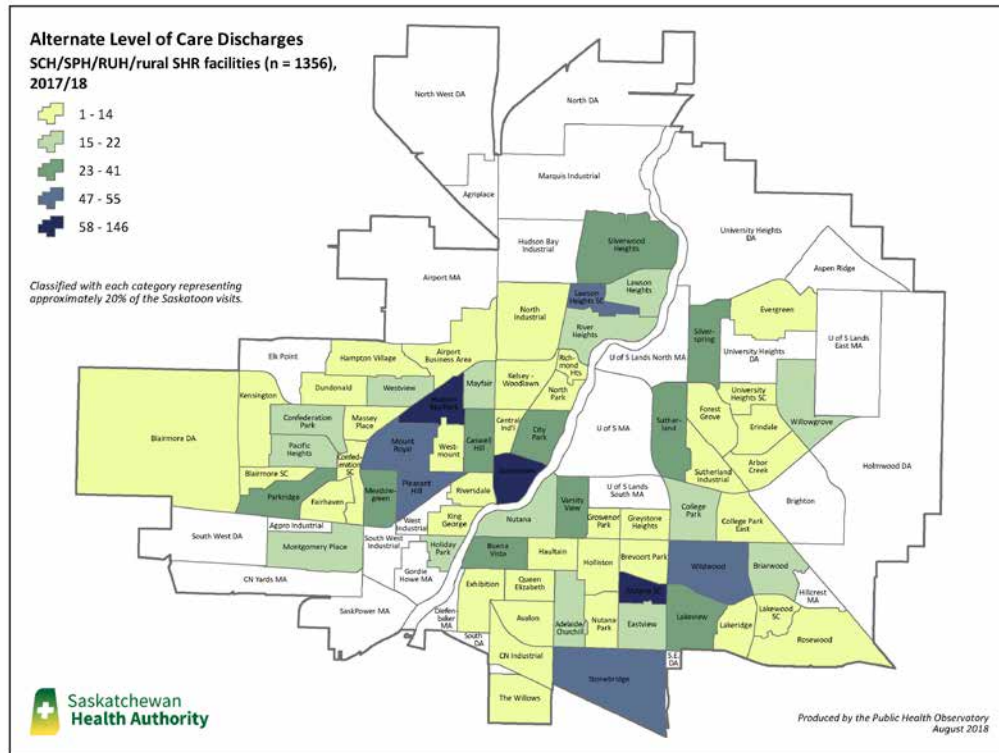
Are the changes we're making improving health and health care?

The health care system is akin to a patient – it has a set of vital signs. A set of standard measures that every ward, unit, facility, physician practice, community health centre, district and province should be looking at to check the status of the health care system and the health of people they serve. Currently, the Health Quality Council is working with stakeholders in the system to determine what these “vital signs” for the system will be. Outcome measures will include health care utilization metrics, patient reported outcomes and experience, care team effectiveness, cost of services, etc. These vital signs will be a signal of when things are going well and when things are not going well. They will be incredibly important to understanding if the changes that we make to delivery of care make things better or worse for the people of Saskatchewan. Without knowing our “vitals”, we are unable to know what we should start doing, stop doing or continue doing. No health care practitioner would make changes to an ill patient’s care without understanding their vital signs. The health care system needs to adhere to the same principle.

The Alternate Level of Care (ALC) metric is one of the key “vital signs” within a health care system. If patients are getting the right care, at the right time, in the right place, by the right provider there will be low percentages of ALC. If we have high levels of ALC, we will know we are not accomplishing our goal of Connected Care. In 2015, the Emergency Department and Patient Flow Initiative prioritized a key activity – understanding the ALC population in Saskatchewan. Why was this one of the key priorities of the Initiative? Because ALC data can tell us so much about how we are working together as one team. ALC days are a key defect metric in understanding patient flow as it highlights the gaps, services, and care in the community that could reduce unnecessary hospital days thereby reducing hospital capacity and emergency department wait times. With 30-70% of patients considered to be able to safely receive care in a more appropriate setting outside of a hospital if the service was available or accessible, this provides a significant opportunity to reduce hospital capacity with targeted interventions aimed at those individuals who are not receiving their care in the “right place”.

An example of how provincial ALC/Unnecessary Hospital Days data can be used can be found in Saskatoon. In 2016, after a simple review of their ALC data that was linked to postal codes, it was discovered that a high number of patients that were identified to be in the hospital unnecessarily were from the Nutana Suburban Neighbourhood of Saskatoon - a neighbourhood with a high population of older adults. This provided a strong business case for the creation of a Community Health Centre dedicated to the needs of older adults in that area of the city to facilitate improved admission prevention programs and facilitate better transitions out of hospital.

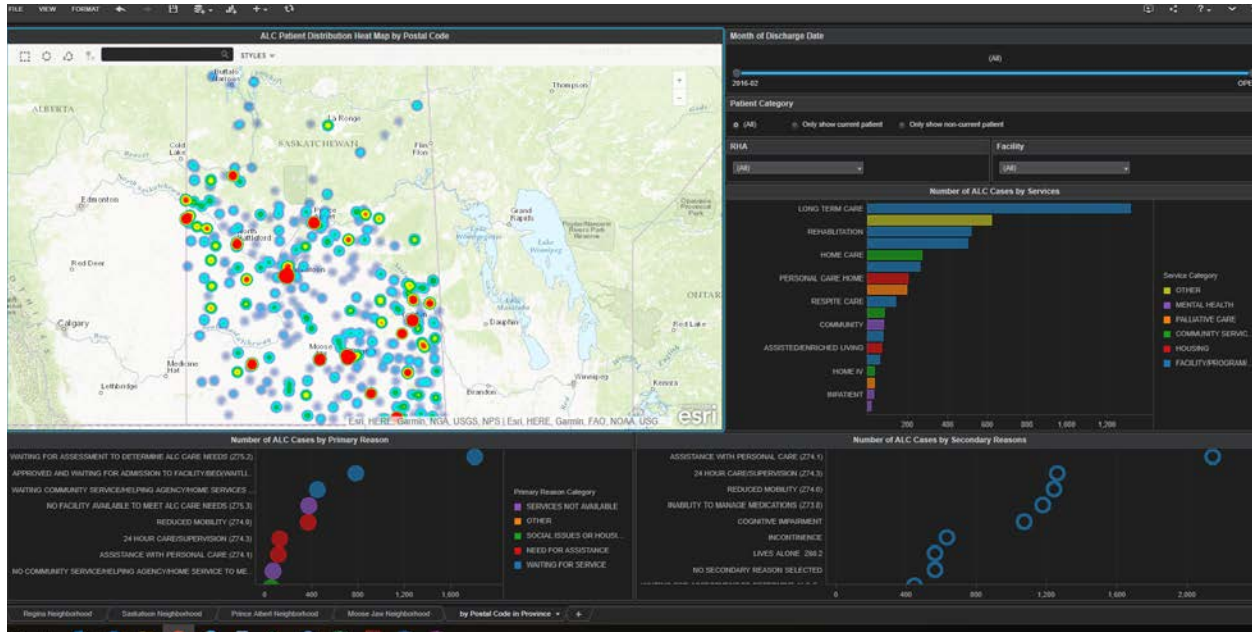
Figure 16: Alternate level of care cases by postal code, Saskatoon



Source: former Saskatoon Health Region

This can also be done provincially as seen below in this screenshot of the provincial ALC dashboard.

Figure 17: Alternate level of care cases by postal code, Saskatchewan



Source: Provincial ALC Dashboard

There have been many challenges in implementing this new data collection strategy such as:

- the misconception that ALC patients are only those waiting for long term care
- a lack of understanding of what the data will be used for (i.e. for planning enhanced community services)
- getting the data into the provincial dashboard in a timely way
- understanding, and use of, the data in the dashboard graphs for learning and improvement
- low motivation of acute care staff to collect data that is most meaningful to community service providers

One of the changes proposed in recent months is to change the topic of conversation from “Alternate Level of Care” to “Unnecessary Hospital Days”. The definition remains the same – a patient who is occupying a bed in a facility and does not require the intensity of resource and/or services provided in that care setting – but the new term may be more easily understood by patients/families, care providers, and system leaders. In other words, “unnecessary hospital days” better reflects the problem we are trying to solve with the Connected Care Strategy.

Currently, the data we have available in Saskatchewan are not sufficient to understand the barriers patients face in leaving hospital to receive care in the “right place, at the right time.” More data would help us be more confident in the investments we need to make to improve provincial patient flow and seamless care delivery.

★ Leading Lights in Aligning Our Measurement Systems in Health Care

- ✓ Saskatchewan is considered a leading light in this area with expressed international interest in our ALC work from both the Institute for Healthcare Improvement (IHI) and the Organisation for Economic Co-operation and Development (OECD)
- ✓ [Systems Level Measurement Framework \(New Zealand\)](#)
- ✓ [The Quality Measurement Framework \(Scotland\)](#)
- ✓ [Health Quality Ontario](#)

Lesson #9

Improvement Campaigns: Igniting the Conversation

The Institute for Healthcare Improvement (IHI) is widely credited with creating the first large-scale QI campaign. Their 100,000 Lives Campaign focused on reducing preventable harm in hospitals through the use of a bundle of evidence-based quality improvement strategies. This was followed in 2006 by the 5 Million Lives Campaign, which expanded on the scope of the original campaign. IHI's targeted messages and communication techniques – combined with leveraged organizational and social networks – revolutionized the way quality improvement was marketed to the health care community.

A cluster-randomized trial done by Schneider et al. (2017), concluded that:

“a carefully crafted campaign can accelerate the spread of evidence-based practices, scaling results from clinical trials and promising local initiatives to larger regions and states. Application of the campaign method may be especially useful when newly emerging evidence suggests changes to current clinical care should be adopted rapidly as best practice. Given the substantial number of new evidence-based practices emerging each year, the campaign may be an efficient alternative or adjunct to other improvement scale-up methods.”

Another source (Nick Milton) found that social connection/discussion is 14 times more effective than written word/best practice databases/toolkits. This suggests it might be effective to create communities of practice, networks, or sharing and learning forums around a specific strategy (e.g., reducing unnecessary hospital days) as part of a broader Connected Care campaign. We may also want to incorporate the “3% Rule” which says that 3% of an organization's members are “key influencers.” By targeting your engagement efforts on them, you can reach 85% of the other employees.

By combining a campaign approach, effective marketing strategy, and targeted engagement of key influencers, we have the opportunity to stimulate a provincial conversation around how Connected Care can improve the care experience for patients in this province.

★ Leading Lights in QI Campaigns

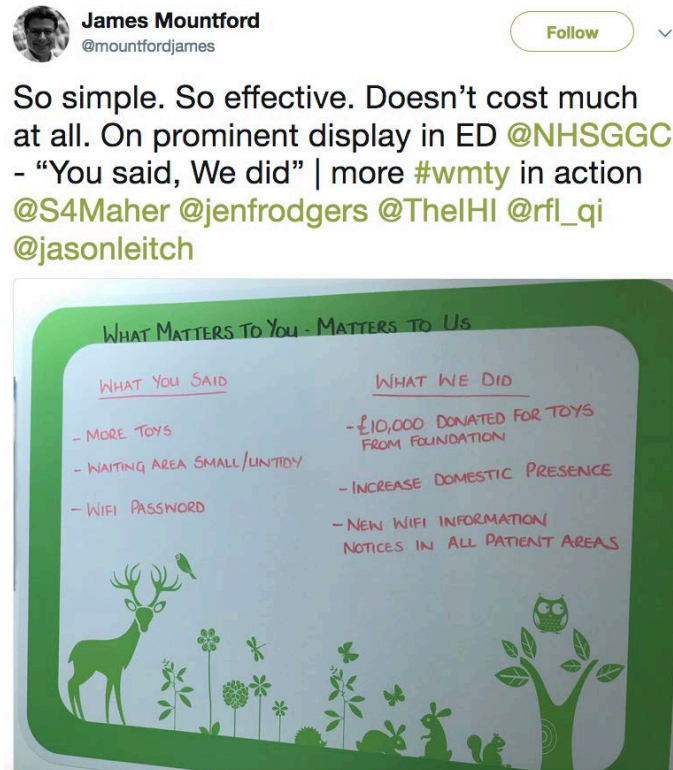
- ✓ [Last 1000 Days Campaign \(Dolan and Holt\)](#)
- ✓ [70 Days to End PJ Paralysis \(NHS England\)](#)
- ✓ [20,000 Days Campaign \(Ko Awatea Health System Innovation and Improvement\)](#)
- ✓ Integrating Behavioural Health in the Emergency Department and Upstream: [ED and Up Learning Community \(Institute for Healthcare Improvement\)](#)
- ✓ [What Matters to You? \(NHS England\)](#)
- ✓ [The Q Community \(The Health Foundation\)](#)

Lesson #10

What matters to you? Hearing from our patients, families, clients, and communities

There is much research and reporting related to the importance of patient/community engagement to improve and transform our health system. It can seem very overwhelming and complex. But what if it was as simple as this Tweet?

Figure 18: Tweet example of patient/community engagement in health



Source: [Twitter](#)

In his article "[The Hard Work of Health Care Transformation](#)" Richard Bohmer writes that "major change emerges from the aggregation of marginal gains." By asking people "What matters to you?" then taking small steps daily to address those needs, our small changes will add up to major achievements if we can keep Connected Care as our North Star.

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Ian Fallas

Dr Rashaad Hansia

Barb Jiricka

Kelsey Kevinsen

Angie Palen

Dr James Stempien

Yuan Tian

Brad Waddell

Greg Basky

Jeff Brown

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