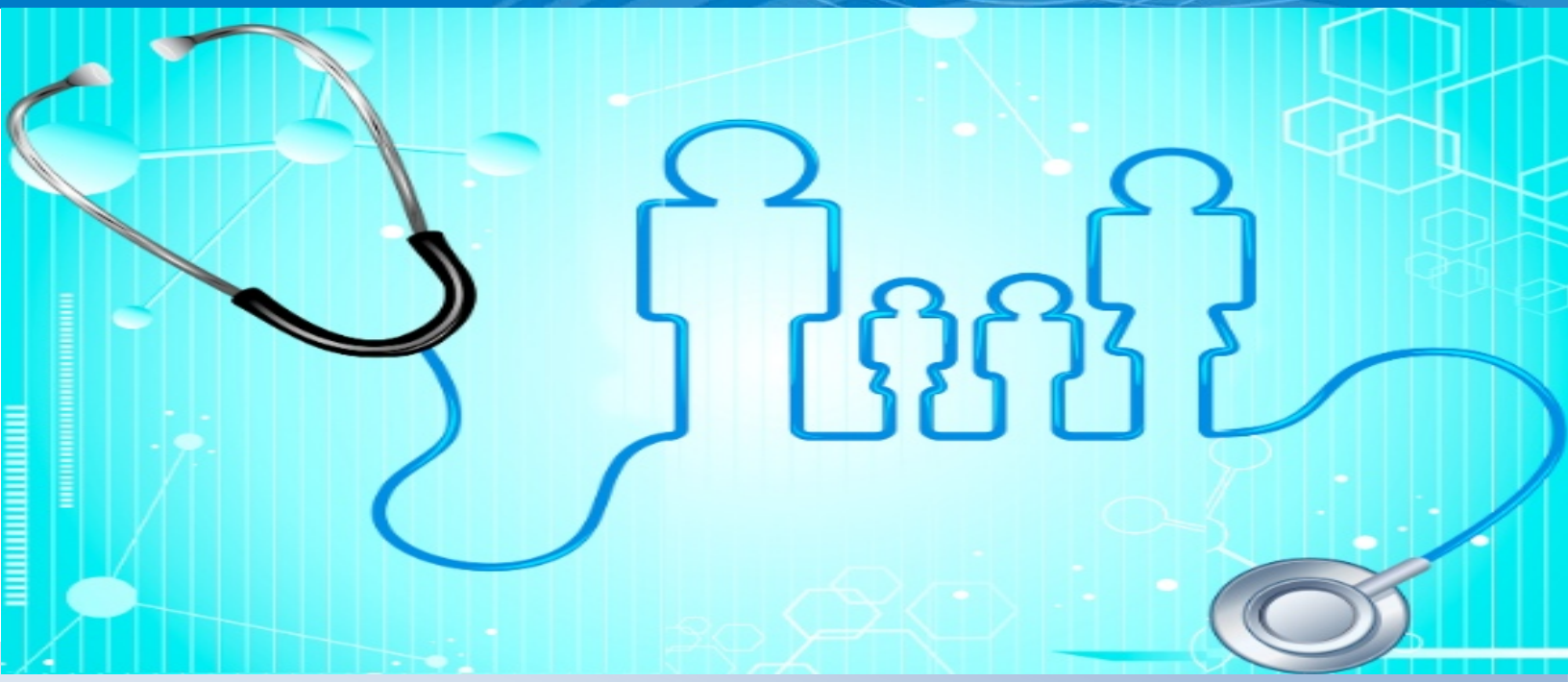
Alberta Health Services



Strategic Clinical Network™
Major Initiatives Report

March 31, 2017

Pre-amble

In memory of Dr. Cy Frank and all his contributions to the SCNs. His legacy of the 'top five' proposed innovations for success include:

A common goal: Alberta to create a sustainable health system (with evidence) that creates the healthiest population and best health outcomes in Canada

Empower all Albertans (AHS + others): We can (in Canada - and in Alberta) be "the best" in health

Need to build teams and Networks: Getting everyone aligned with a common purpose

Support improvement with good information: Need (near real time) data to inform decisions

Need innovative provincial team structures: To be bold + balanced perspective - including research

Dr. Cy Frank

Strategic Clinical Networks™ (SCNs) are 'innovation engines' within Alberta's health care system with the goal to improve the health and wellness of every citizen spanning across the continuum of care.

SCNs are province wide teams comprised of patients & families, clinicians, researchers, physicians, policy makers and operational leaders from specific areas of health with the aim of finding new and innovative ways of delivering health care services. The impact will lead to the establishment of a sustainable health care system creating the healthiest populations and best health outcomes for Albertans.

Over the last five years since the inception of the initial SCNs, the desire to demonstrate substantial impact to the provisions of healthcare care has been achieved through the design, implementation and execution of major initiatives. Reflection and learning is paramount to organizational transformation to become the best performing health care system as outlined in the corresponding report.

Dr. Blair O'Neill
Associate Chief Medical Officer
Strategic Clinical Networks™
Alberta Health Services

Tracy Wasylak
Senior Program Officer
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"These new initiatives will ensure we are getting the very best out of our health care system," says Dr. Tom Noseworthy (Associate Chief Medical Officer, SCN). "We are working to make a more efficient system that produces better outcomes for our patients and we know we can't achieve that by keeping things as they are. SCNs are how we will make change happen." (Insite, 2013)

Contents

Glossary of Terms

ACAP	Alberta Childhood Asthma Pathway
ADT	Admission, Discharge, Transfer
AH	Alberta Health
AHS	Alberta Health Services
AHW	Alberta Health and Wellness
AUA	Appropriate Use of Antipsychotics
aCATS	Adult Coding Access Targets for Surgery
C-CHANGE	Canadian Cardiovascular Harmonization of National Guidelines Endeavour
CR	Community Rehabilitation
CQM	Clinical Quality Metrics
CPSS	Clinical Project Support Services
DAD	Discharge Abstract Data
DIMR	Data Integration Measurement and Reporting
DTT	Decision-To-Treat
EAS	Early Adopter Sites
ED	Emergency Department
ERAS	Enhanced Recovery after Surgery
ESD	Early Supported Discharge
HQCA	Health Quality Council of Alberta
H&N	Head & Neck Pathway
IPT	Insulin Pump Therapy
KT	Knowledge Translation
LOS	Length of stay
LTC	Long term care
MDI	Metered Dose Inhaler
QPSE	Quality & Patient Safety Education
RTT	Ready-To-Treat
SAP	Stroke Action Plan
SCN	Strategic Clinical Networks
SL	Supportive Living
SSC	Safe Surgery Checklist
SUEC	Stroke Unit Equivalent Care
TOP	Towards Optimized Practice
UCC	Urgent Care Centres
VRR	Vascular Risk Reduction

Executive Summary

Alberta Health Services' (AHS) outlined its strategic priorities in 2012 through 'Becoming the Best: Alberta's Five Year Health Action Plan' (2012-2015) identifying five priority areas: 1) improve access and reduce wait times, 2) provide more options for continuing care, 3) strengthen primary care, 4) be healthy, stay healthy, and 5) build one system. This action plan highlighted the goals, objectives and key performance measures to improve quality, accessibility and sustainability for Albertans.

The Strategic Clinical Networks™ (SCNs) were designed as engines of innovation utilizing the 'Triple Aim' approach to transform Alberta's health care system. Patients and families, physicians, clinicians, operational leaders and external partners work synergistically to identifying evidence informed practices and a solution to improve the health outcomes for Albertans. Today there are fourteen SCNs; the first six SCNs were established in 2012. Figure 1 provides the detailed launch sequence of each SCN. During the initiation period, each SCN identified one of three projects to consider: a signature project of relevance, a reassessment opportunity or an AHS targeted area of importance. This foundation led to a series of major initiatives and provincial priorities identified and subsequently approved by Executive leadership.

The report provides an overview of the first ten SCN initiatives that were implemented over a three year period. All initiatives displayed either local or system wide transformational change and improvement. The initiatives were supported by multidisciplinary teams that were selected to work with the network to plan, implement, evaluate and calculate a return on investment. The value of implementing these projects led to an estimated savings of under $21M.

After reviewing the evidence to date, these SCN's initiatives were successful in achieving the Triple Aim; and supporting a high functioning health delivery system. The success can be attributed to engagement, innovation, evidenced based practices, research, project management, and strategic alignment. Key areas of opportunities exist including:

- strengthening engagement with frontline providers during implementation,
- communication of the initiatives throughout the entire cycle, and
- data to allow reporting and measurement of the initiatives.

SCNs have gained a reputation as the engines of innovation. Through bringing together relevant stakeholders, building consensus, identifying local and organization wide transformational projects, and demonstrating a positive impact to system effectiveness this has led to better and sustained health delivery for Albertans.

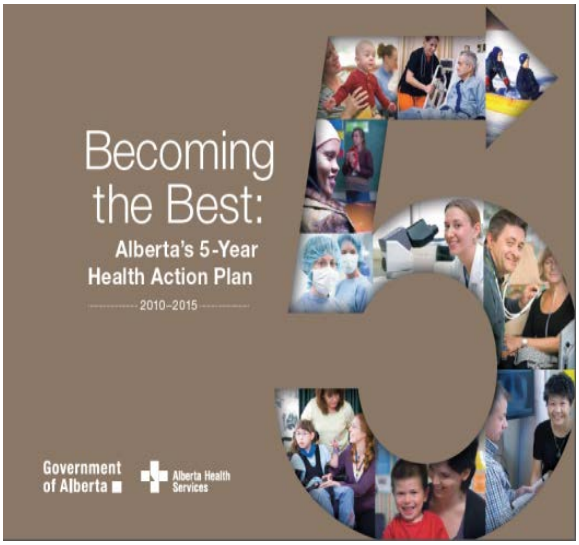
AHS is leading the formation of Strategic Clinical Networks to support clinicians and all key provincial stakeholders in building the best-performing, publicly funded health system in Canada.

Introduction

In 2012, Alberta Health Services (AHS) and Alberta Health and Wellness (AHW) strategic plans were identified through *Becoming the Best: Alberta's 5 Year Health Action Plan* (2010-15)[1]. The mission was to provide a patient-focused, quality health system that is accessible and sustainable for Albertans. The goal for AHS was to "create the best-performing, publically funded health system in Canada" (Stelmach, 2010). The strategic plan highlighted that Albertans could expect a "stronger, more integrated province-wide health system…[which] will deliver improved access to health information, treatment and care services, and other services…focus on early detection and prevention of illness and helping people stay healthy" (Becoming the Best, 2010-15).

The AHS Health Plan outlined five key strategies with corresponding goals and objectives that where supported by key performance measurement and targets:

- Improve access and reduce wait times (surgery, cancer therapy, and emergency room treatment)
- Provide more options for continuing care (supporting seniors staying in their communities or homes)
- Strengthen primary care (care that patients receive entering the system)
- Be healthy, stay healthy (focus on chronic diseases which places higher demands on our system)
- Build one health system (working together with Alberta Health, patient, providers and stakeholders to design, evaluate and take responsibility for our own health)



Strategic Clinical Networks™ (SCNs)

When the Strategic Clinical Networks™ (SCNs) were established in 2012[2], they were designed as engines of innovation utilizing the 'Triple Aim' approach to transform Alberta's' health care system. The SCNs recognized the need to foster bottom up approaches by empowering and collaborating with all stakeholders through teams to develop the strategies to achieve integrated and seamless prevention and care across the province. These teams are comprised of patient and family members, clinicians, physicians, government, clinical operational leaders, and academic partners. The networks support operations by co-leading, supporting or co-developing evidence-informed processes, practices and pathways spanning the healthcare continuum. The SCNs provided a means to identify a small number of high priority and high value cross-cutting provincial initiatives that align with the AHS strategic priorities. The ultimate outcome will result in better quality of care, health outcomes, patient experience, provider experience and value for money. A key element of the SCNs was the ability to partner with patients and families to drive innovation and change ensuring the patient's voice was embedded in the work.

[1] See http://www.health.alberta.ca/initiatives/5-year-health-action-plan.html
[2] See http://www.albertahealthservices.ca/assets/about/scn/ahs-scn-primer.pdf

In 2012 the first six SCNs were initially launched with the addition of three more in early 2013. There are currently 14 SCNs to date as illustrated below:

Figure 1: Strategic Clinical Networks™ (SCNs)

Why the SCN's?

In 2008, Alberta became Canada's first provincial health care system. AHS has an unparalleled opportunity to drive clinical quality standards, provincial equity and sustainable improvements to build the best health care system in Canada. This was and still is critical as Alberta is spending more on health care than ever before and patient outcomes do not yet reflect that investment. Over the past 4 years (2012-2016), there was evidence demonstrating that the SCNs are an effective mechanism to ensure collaboration, joint decision-making and shared learning to improve our system. Several examples exist illustrating the SCNs' capability to promote evidence based practices, knowledge translation and research to reduce variation and improve quality of care while improving healthcare service delivery by spreading and scaling successful innovative solutions.

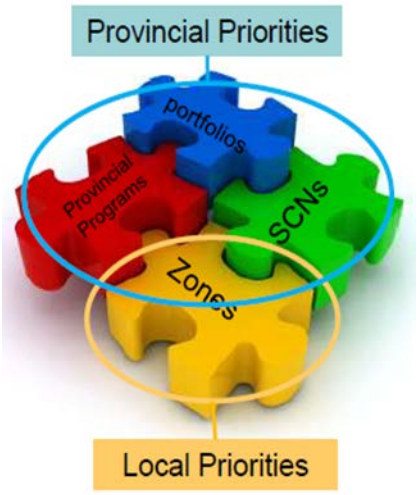
The SCNs will be successful when they are able to achieve the following:

- Improve all six dimensions of quality in well delineated patient populations
- Address equity, population and geographic variations in the prevention and delivery of care
- Establish cross-cutting improvement programs between SCNs where foundational systems are needed
- Integrate strategic research and education into programs that seek, develop and support on-going system improvement and sustainability
- Prevention of disease and proactively reduced specific burdens of illness in Alberta over time
- Improve Patient outcomes (effectiveness)
- Improve patient accessibility and acceptability (patient satisfaction)
- Demonstrate better value for money

At the time of the SCNs evolution, the Institute for Healthcare Improvement (IHI) [3] 'Triple Aim' approach of improving health of the population, enhancing the patient experience (quality, access and reliability), and decreasing costs was adopted. SCNs are expected to achieve targets and demonstrate that they have improved these outcomes within a population or program area. At the present time, the SCNs now incorporate the 'Quadruple Aim' adding the goal of improving the work life of health care providers, including clinicians and staff.

[3] See http://www.ihi.org/engage/initiatives/TripleAim/Pages/default.aspx

SCN Priority Setting Process



The SCNs used a priority setting process to identify areas of focus through their teams known as core committees and other stakeholders that aligned with local zone and AHS strategic priorities. The process used tools incorporating the need to demonstrate evidence, strategic alignment, six dimensions of quality, feasibility of resources, organizational readiness, best value for money, and relative opportunity cost of doing one thing over another. From the onset, a total of 35 initial priorities were ranked with twenty five being subjected to a 'Dragon's Den' process to critically appraise each of the initiatives going forward. The session brought together a panel of experts (both business and healthcare leaders) to consider each SCN proposals and evaluate the merits of the business case. The business cases identified important elements including details of the problem, proposed solution, goals, scope, timelines, risk, proposed outcomes, measurement strategy, budget and implementation plan. After all twenty five business cases were reviewed and ranked; the top ten were presented and approved by AHS's Executive Leadership Committee. These 10 SCN initiatives are reflected through projects and the focus of this report.

SCN Capability and Maturity Framework

The SCN Capability Framework and corresponding Maturity Assessment is a tool intended to gauge and make visible the maturity progress of the SCNs. The framework was designed to guide AHS in better understanding how to ensure that the SCNs assume their mandate of making a significant contribution in transforming the health care system and improving the health of Albertans. The Capability Framework allows each network to assess their overall performance by focusing on ten organizational capabilities. The ten capabilities (depicted below) are linked to each network's goals, objectives and organizational priorities, and are assessed on a quarterly basis with action plans. Network maturity is rated on a four level scale and full maturation across all ten capabilities was proposed to occur over an eight to ten year window. The ratings and evidence provided by each SCN in their assessment will help AHS to identify areas where SCNs may need additional support, training and resources, among other considerations, to increase their capability and improve organizational effectiveness. This report will incorporate the ten organizational capabilities related to the projects to provide an assessment on areas of strengths and opportunities to improve and to support the maturity of the SCNs.

Figure 2: SCN Organizational Capability Framework

Transformational Roadmaps

Transformational Roadmaps are another important early deliverable for all Strategic Clinical Networks™. The Roadmaps serve as the strategic plan for each SCN that outline and guide current and future work and research focus. They are aligned with the Alberta Health Services Health Plan and Business Plan[4] strategic directions. They illustrate the outcome of significant work that has been undertaken to understand the current state of services; identify health needs, best and promising practices, research and innovation and outline key goals and priorities that will be addressed to improve services locally and provincially over a three year planning cycle.

Six Dimensions of Quality

An important attribute of a high performing health system ensures a common definition of quality within the organization. To that end, the SCNs adopted the Health Quality Council of Alberta's Quality Matrix[5] that outlines the six dimensions of quality including acceptability, accessibility, appropriateness, effectiveness, efficiency, and safety as illustrated in Figure 3.

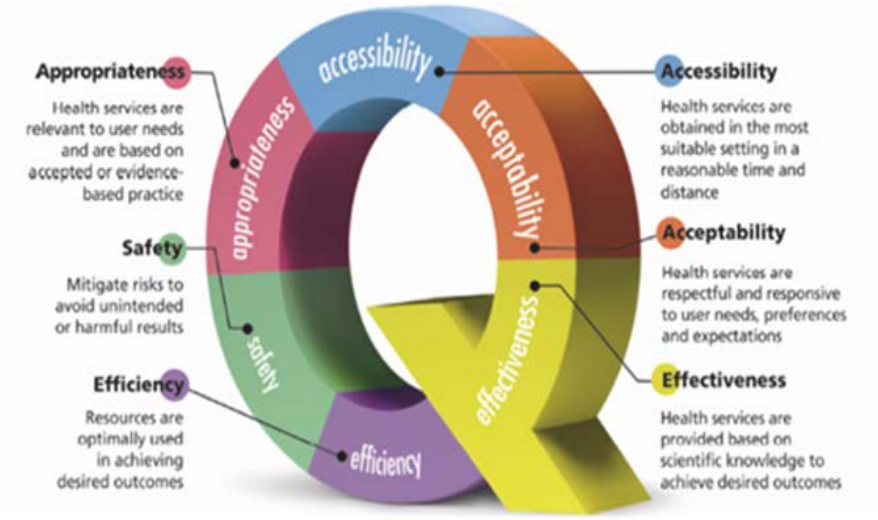


Figure 3: HQCA Six Dimensions of Quality

All SCN initiatives included a robust measuring and reporting methodology using the six dimensions of quality to monitor and measures improvements. Additionally, the networks framed their projects in accordance with the HQCA's four areas of need including being healthy, getting better, living with illness or disability, and end of life to highlight the initiatives metrics to report to senior leadership and other organizations the impact of the work. Please see Appendix A for project details.

SCN Strategic Initiatives

The purpose of this report is to highlight the SCN major initiatives in terms of background, achievements, outcomes and value for money while providing an assessment of the strengths and opportunities based on the ten capabilities of high performing health systems. The following SCNs and corresponding initiatives include:

- **Surgery SCN** – *Adult Coding Access Targets (aCATS) and Safe Surgery Checklist (SSC);*
- **Diabetes Obesity & Nutrition SCN** – *Insulin Pump Therapy (IPT) and Enhanced Recovery After Surgery (ERAS)*;
- **Seniors Health SCN** – *Appropriate Use of Antipsychotics (AUA)*;
- **Cardiovascular Health and Stroke SCN** – *Stroke Action Plan (SAP) and Vascular Risk Reduction (C-CHANGE) (VRR)*;
- **Cancer SCN** – *eReferral*;
- **Bone and Joint Health SCN** – *Fragility and Stability*

[4] See http://www.albertahealthservices.ca/assets/about/publications/ahs-pub-health-business-plan.pdf
[5] See http://hqca.ca/about/how-we-work/the-alberta-quality-matrix-for-health-1/

The Infographics for specific SCN initiatives have been included in the appendices of this report for further reference. Additional information on all the major projects discussed in this report can be found on the AHS website at http://www.albertahealthservices.ca/scns/scn.aspx.

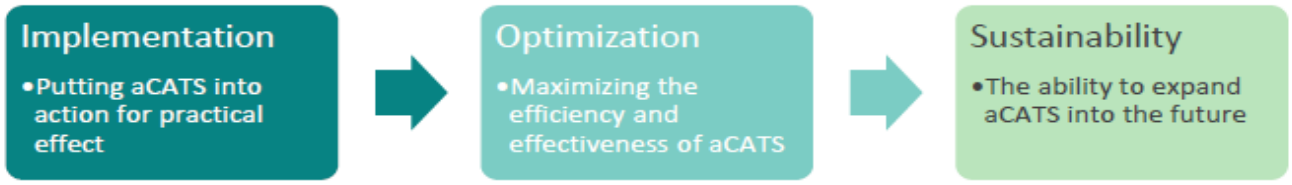
Adult Coding Access Targets for Surgery (aCATS)

Background:

The Adult Coding Access Targets for Surgery (aCATS) project led by Surgery SCN was initiated in 2012. aCATS is an Alberta developed standardized coding system to help prioritize scheduled surgeries throughout the province, depending on a patient's diagnosis and level of urgency. This translates into patients receiving the right treatment at the right time, from the time a surgical decision is made to the surgical date. As well, patients understand how long they can expect to wait based on their diagnosis, procedure and level of urgency. The aCATS pilot from June 2011 to September 2013 was budgeted at $3.7M but came under budget at $2.2M. The project is currently being transitioned to site operations by April 2017. The corresponding Infographic can be found in Appendix C.

Achievements:

The project began in 2012 with a focus on three areas implementation, spread, optimize and sustainability.



Year One (2012-13): Implementation of aCATS at eight pilot sites in 13 subspecialties areas.
Year Two (2013-14): Examining the spread of aCATS across the province and the process for optimization at a total of 15 sites.
Year Three (2015-16): Assessing provider, management and booking office staff perspectives to update project direction as it transitions to operations.

To date the project has been implemented in 32 (of 57) sites accounting for 92% of surgical services; and 15 scheduled[6] surgical services province wide (cardiovascular, dentistry, general, oncology, neurosurgery, obstetrics/gynecology, oral/maxillofacial, ophthalmology, orthopedic, otolaryngology, plastic, spinal, thoracic, urology, and vascular). This represented 3 sites (North Zone), 8 sites (Edmonton Zone), 13 sites (Central Zone), 5 sites (Calgary Zone), and 3 sites (South Zone). In 2014-15, the project accounted for 151,000 aCATS coded surgeries, involved 900 staff, and 855 surgeons. Tableau[7] reports can be accessed by surgeon, site, department and zone; as well the data is rolled up provincially to be utilized by clinical operational teams (https://tableau.albertahealthservices.ca/#/views/CalgarySurgicalWaitlistInformation/SurgicalWaitlistGraphically?:iid=2)

Outcomes:

The aCATS Interim Evaluation Report (2016) highlighted the success, strengths and areas for improvement for providers, management, and booking office staff on the efficiency and effectiveness of using aCATS. The report conclude the project demonstrated moderate success with providers using aCATS codes, respondents reported improved waitlist management, patient tracking, and prioritization of surgeries. The project had a positive impact on surgical demand improving access, ensuring more efficient utilization of OR time. As stated in the evaluation report "*I have a service that*

[6] Scheduled surgery is defined as any operative surgery scheduled out more than one week from the requested date.
[7] Tableau at AHS consists of a small army of Tableau Desktop Publishers constantly creating new reports on our internally hosted Tableau Server.

is 100% on aCATS right now and I see that it's working really well for access". The report outlined some areas of improvement to strengthen the sustainability plan including recommendations related to training and education, communication, aCATS processes, reports and codes.

Safe Surgery Checklist (SSC)

Background:

The Safe Surgery Checklist (SSC) was identified in 2010 as a key initiative for improving quality and safety of patient care for Albertans undergoing surgery. An AHS approved Safe Surgery Checklist was developed based on the communication tool developed by the WHO in 2009. At the time operations was asked to implement the tool across all Operating Rooms in Alberta. The method to assess compliance was self-reported with a goal of 100% compliance. Unfortunately, this was not achieved and a number of never misses occurred in the province. The Surgery SCN was asked to review the plan and assist operations to achieve 100% compliance. The project closed December 2014 after being transitioned to operations. The corresponding Infographics can be found in Appendix D.

The SSC was developed as a communication tool designed for the surgical team, inclusive of the patient, to reduce the number of preventable errors and adverse events during surgical procedures, therefore improving efficiency and outcomes. The SSC helps to improve communication to focus the entire surgical team on patient safety at three critical stages, or phases, during the surgical procedure or intervention:

- Before induction of anesthesia - BRIEFING
- Before skin incision - TIME OUT
- Before patient leaves operating room – DEBRIEFING

Achievements:

In 2012/13, the SSC baseline observed compliance measure was 43%; after one year 96% compliance was achieved provincially. A level 1 Clinical Policy was developed and implemented provincially to meet the mandated Accreditation Required Operating Practice (ROP) standard. Compliance, monitoring, reporting and management processes were developed with auditing tools and dashboards captured through Tableau to support operational sustainability.

Outcomes:

The SSC will eventually be used for all surgeries across the province. On project closure, 59 surgical sites in all five zones including Covenant Health (5 sites) were using the checklist with 92% of surgeries in Alberta compliant with the checklist. That number has continued to climb to 97% compliance provincially as per the diagram below. It was concluded that since implementation, 10,000 adverse events were avoided with a good catch[8] rate of 4.3% (315 good catches on 1,291 audited surgery checklists). The SSC is now part of MyHealth.Alberta.ca[9] as a resource for surgical patients in Alberta.

[8] The Good Catch reporting program helps AHS meet Accreditation Canada ROPs by creating learning opportunities for AHS staff to foster improvement.

[9] See https://myhealth.alberta.ca/Alberta/Pages/Safe-surgery.aspx

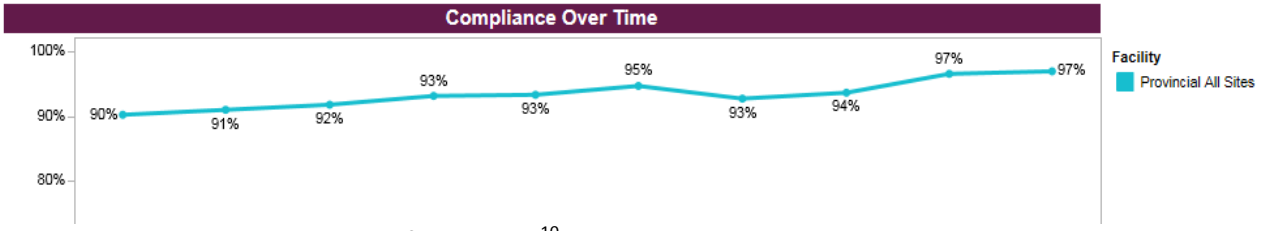


Figure 4: SSC Provincial Compliance Rate for All Sites[10]

Value for Money:

A cost analysis was completed by Financial Analytics using the reports detailing harm avoidance (good catches), safe surgery checklist compliance, and main operating room activity as presented in Tableau[11] for the 2014/2015 fiscal year and the first three quarters of 2015/2016. In 2014/15 there were 315 good catches falling into seven categories of classification on 7,291 audited surgeries. The gross good catch rate was 4.3%. This rate and associated compliance rate by fiscal year was applied to the total number of surgeries as reported in Tableau. In 2014/2015, there were 276,550 surgeries reported, and there was a 91.5% safe surgery checklist compliance rate. This provided an estimate of the total number of 'good catches' provincially. Using the numbers presented with rounding, it is estimated that there were 10,932 good catches in 2014/2015. These good catches were categorized into the seven categories by extrapolating the observed incidence. 11.4% of the observed good catches related to site/side/location of procedure being incomplete or incorrect. Therefore, 1,249 patients would have been impacted as a result of the safe surgery checklist. A conservative probability of occurrence and significant impact was then assigned to each category. This rate was used to estimate the number of patients impacted. It is estimated that 5% of the patients benefited significantly from this good catch. Using the numbers as presented, 62 patients avoided a significant impact. Each of the categories was then assigned a length of stay based on the research paper by Dindo, Demartines, & Clavien (2004)[12]. For the example presented, the associated length of stay was 19 days. The number of patients impacted and the associated length of stay were multiplied together to provide the number of patient days avoided. This was then multiplied by the average direct cost of surgical day. The value for each category was calculated by year and summed to generate a value of $1,409,025.

Insulin Pump Therapy (IPT)

Background:

The Insulin Pump Therapy (IPT) initiative was launched in June 2013 by the Diabetes, Obesity & Nutrition (DON) SCN, in conjunction with the Alberta Government mandate to publically fund IPT. The IPT program covers the cost of insulin pumps and basic diabetic supplies for Alberta residents providing alternate treatment for Type 1 Diabetes Mellitus (T1DM) that meet eligibility criteria. With an estimated 13,800 Albertans living with T1DM in 2012, the program would remove cost barriers and provide equitable access to those eligible for the treatment. Effective September 2015, the project transitioned to operations with sustained funding under the Provincial Clinical Operations portfolio. Alberta Health works directly with the DON SCN to provide any changes to criteria for IPT.

Achievements:

The IPT program impacted ten AHS and one Covenant Health IPT Diabetes Clinics for the screening and eligibility of receiving IPT treatment that covers funding, education for new clients and tracking of data to report program success. The program ensured approved patients have the knowledge and skill to effectively, safely and appropriately use IPT supporting patient safety, better outcomes and community based care provincially. The new pump-users who met the criteria would have 100% of their pump and basic supplies covered through Alberta Blue Cross. All eleven Diabetes Clinics worked collaboratively to ensure they use consistent criteria to monitor and maintain the program.

[10] See https://tableau.albertahealthservices.ca/#/views/SafeSurgeryChecklistSSCDashboard/ComplianceoverTime?:iid=4
[11] See https://tableau.albertahealthservices.ca/#/views/MainORReport/MainORActivity?:iid=1
[12] See http://www.surgicalcomplication.info/PDF/2004.pdf

Outcomes:
The IPT final report (2013-2015) illustrated that the program provided new insulin pumps to 530 patients with T1DM based on eligibility criteria, doubling the number from when the program first started. From June 2013 to September 2015, 1574 new or existing patients were deemed eligible for IPT with mean age of 31, where 58% were female. This improves access to treatment for Albertans suffering from Diabetes with the ability to provide funded support for supplies therefore reducing costs to the public. The Type I Diabetes information on IPT can be found on MyHealth.Alberta.ca[13] website for the public to gain more understand about their options and choices for treatment.

Enhance Recovery after Surgery (ERAS)

Background:
The Enhanced Recovery after Surgery (ERAS) project started in 2013 with completion in 2015. The project was originally sponsored by the DON SCN with the aim to enhance recovery after surgery for elective colorectal surgery patients in six major urban surgical centres across Alberta. The goal was to support local sites to adopt international ERAS colorectal surgery guidelines. The guidelines include twenty two specific principles including evidence informed patient-centred nutrition management and several surgical care practices (preoperative, intraoperative, and postoperative) to help patients stay strong, improve recovery time, reduce complications, thus creating a better patient experience. In April 2015, the project transitioned to the Surgery SCN with the focus on provincial spread and scale of the project with DON SCN still supporting the nutritional aspect of the project. The corresponding Infographic can be found in Appendix E.

Achievements:
The ERAS Project completed thirty nine major deliverables in twenty seven months over three overlapping phases of local site implementation. The project's phases were to develop, demonstrate and implement a colorectal surgery pathway in six large urban acute care hospitals in Calgary and Edmonton Zones. The ERAS project was focused on provincial quality improvement within surgical areas including:

- Preoperative patient education, fasting and carbohydrate loading practices
- Anesthetic and postoperative analgesic techniques
- Post-operative feeding and mobilization practices

Phase 1 (Jan 2013 to March 2015): Develop and Demonstrate - Pathway development (Jan – Sept 2013); Centers of Excellence demonstration (Sept 2013 – Mar 2015) with Peter Lougheed Centre (PLC) Unit 44 and Grey Nun's Hospital (GNH) Units 42 and 44.
Phase 2 (Jan 2014 to March 2015): Implementation at Royal Alexandria Hospital (RAH) Units 34 and 24; University of Alberta Hospital (UAH) Units 3E4 and 3E2; Misericordia Hospital (MCH) Unit 5 West.
Phase 3 (April 2014 to March 2015): Implementation at Foothills Medical Centre (FMC) Unit 102 and 64 (primary units), and 41B, 31, 42 (secondary units).

The project partnered with ERAS Society[14] to utilize their ERAS Care System consisting of ERAS evidence-based protocols, ERAS Implementation Program (EIP) for change management, and ERAS Interactive Audit System (EIAS).


Surgery patient Mary Anne Prosofsky says her recovery time was greatly improved thanks to the Enhanced Recovery After Surgery (ERAS) program.

Outcomes:
ERAS patients experienced less major surgical, lung, and heart problems resulting in better surgical outcomes. Six hospitals in Edmonton and Calgary have demonstrated that patients reach the same milestones for discharge on average 2-3 days sooner than prior to implementing ERAS. The project also demonstrated improved compliance with the use of ERAS protocol across patient perioperative continuum; reduction in post-

[13] See https://myhealth.alberta.ca/health/pages/conditions.aspx?hwid=zx1815&#zx3668
[14] See http://erassociety.org/

surgical complications rate and severity; and earlier patient mobilization, improved patient nutrition status all leading to net reduction in system cost per surgical case (see value for money).

From the Project Evaluation report (2013-2015) the following project outcomes were measured pertaining to colorectal surgery:

- Provincial compliance scores ***increased*** across all six sites from 49.5% to 69.5%; the provincial target was 80%
- Percentage of serious post-operative complications ***decreased*** at two sites (GNH and PLC combined) including renal hepatic pancreatic, respiratory, infections, surgical, and cardiovascular
- Overall readmissions rates ***decreased*** from 12% to 11%
- Average LOS for post-operative readmissions ***decreased*** from 9.58 days to 7.48 days

The Project Evaluation report (2013-2015) identified the following system outcomes that were measured pertaining to colorectal surgery:

- Average LOS across all sites ***decreased*** by 1.62 days
- ***Cost avoidance*** at two centres GNH and PLC from start of project (2013) to Dec 2014 revealed a net savings of $2.1M from 690 ERAS patients with a $3.1K saved for each ERAS patient
- Patient perspective surveyed at MCH found 91.8% selected the highest rating from 8-10 (scale 1-10) in regards to overall ***satisfaction*** of their hospital stay; where PLC found 83.9% of the patients selected 8-10 rating
- Provider perspective surveyed responded ***positively*** with 84% of respondents reporting that ERAS will ***improve*** patient care, 93% reported team commitment to ERAS, 96% reported management committed to ERAS, majority responded that each component of ERAS was easy to implement in their practice

Value for Money:
A cost analysis for ERAS project was completed by Financial Analytics based on an economic evaluation prepared by the Institute of Health Economics. Approximately 1,295 patients' colorectal surgical patients received the protocol experiencing, on average, a 1.9 day reduction in length of stay. With the protocol, there has been a corresponding 8% decrease in readmission rates, and patients who are re-admitted their corresponding length of stay has gone down by 3.24 days; therefore, a net savings projected at $1,921,851.

The Appropriate Use of Antipsychotics (AUA)

Background:
The Appropriate Use of Antipsychotics (AUA) project led by the Seniors Health and Addictions and Mental Health SCNs started in January 2013 with an aim to reduce antipsychotic medication use in long term care (LTC) facilities. Antipsychotics are prescribed in approximately 30% of residents to manage challenges behaviors of persons suffering from dementia. Health Canada has published alerts in regards to the growing concern regarding the adverse side effects and safety risks of antipsychotic use that negatively impacts senior's quality of life. The project was completed in July 2015 with all 170 LTC sites using the tools and methods. The Senior's SCN has now spread the work to 1000 Supportive Living facilities. The corresponding Infographics is referred to in Appendix F.

Achievements:
The AUA project was implemented in three phases and completed by September 2016.
Phase 1: Development of AUA Clinical Guidelines and Toolkit
Phase 2: Implementation of the resources in eleven early adopter LTC facilities
Phase 3: Spread to the remaining LTC sites across Alberta
All 170 LTC sites have been introduced to the AUA resources through many efforts such as Innovation Collaborative (IC), workshops, teleconferences, and videoconferences.

With a goal to reduce the use of antipsychotics in LTC facilities to less than 20% by March 2018, the AUA project team developed five key interventions:

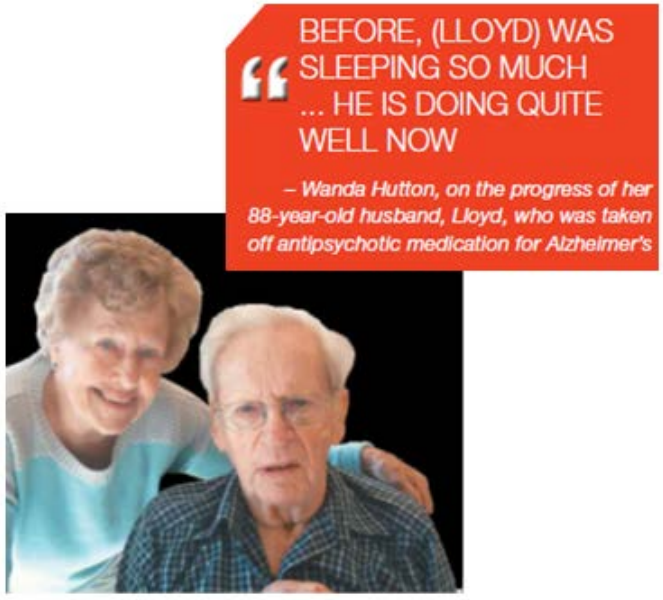
1. Education for staff and physicians on the AUA Clinical Guidelines and Toolkit
2. Inter-professional monthly medication reviews
3. Discussions with the health care team before establishing a patient's care plan
4. Increasing family involvement and understanding
5. Tracking of antipsychotic usage and other related indicators

Outcomes:

In January 2014, the AUA Clinical Guidelines and Toolkit was implemented in the eleven early adopter sites (EAS) that reduced inappropriate antipsychotic use from 38% to 20%; impacted 657 beds; resulting in a 50% drop in residents receiving antipsychotics.

Completed project outcomes include:

- ***Implementation*** in 100% of LTC centres by September 2015
- ***Reduction*** in inappropriate use of antipsychotic drugs from 29.16% to 20%, - Alberta now leads the country with a 17.8% average rate.
- 90% of EAS staff were ***educated*** on the AUA Toolkit for alternative strategies for the management of responsive behaviors



Current opportunities:

- AUA was implemented in LTC impacting 170 facilities; 14,500 beds by end of 2015/16
- AUA will be implemented in Supportive Living (SL) working with 10 early adopter sites
- Reduced expenditures on the use of antipsychotics – target $270,00 by 2017/18

Value for Money:

The cost analysis for the Appropriate Use of Antipsychotics projected completed by Financial Analytics assumes that 12,000 residents have been screened. A total of 840 residents have been taken off of atypical antipsychotics as it was no longer medically warranted. The calculation assumes that 18 out of every 1,000 residents on atypical antipsychotics experience an adverse cerebrovascular event when they otherwise wouldn't have as per Banerjee (2009)[15]. The calculation assumes all events require emergency room visits, ambulance transport, and appropriate stroke treatment upon arrival. 80% of the initial emergency room visits are triage level 2, all require hospitalization. For the hospitalized patients, the associated length of stay would equate to 15.5 days in a medicine bed and a subsequent 46 days in a rehabilitation bed. Based on the reduction need for hospital service due to a reduction in adverse event this would equate to a projected net savings of $718,885.

Stroke Action Plan (SAP)

Background:

The Stroke Action Plan (SAP) was a Tier 1[16] project that was officially approved in October 2012 and launched in March 2013 with project closure December 31, 2015. A province-wide plan ensured stroke patients in small urban and rural

[15] See http://www.rcpsych.ac.uk/pdf/Antipsychotic%20Bannerjee%20Report.pdf

[16] Tier 1 performance indicators (also called measures) help show AHS performance and improvement in areas that are important to Albertans. Each Tier 1 indicator has a set annual target that gives AHS a goal to work towards, helps us monitor our progress and direct improvement efforts.

setting receive the access and level of care delivered in larger centres by implementing Stroke Unit Equivalent Care (SUEC), Early Supported Discharge (ESD) and rehabilitation protocols. SAP addressed the quality of and access to stroke care provincially. Prior to the SAP, stroke unit care access was only offered to 52% of patients in Alberta. Stroke remains a major public health problem in Alberta with an estimated cost of over $300 million per year in both direct and indirect costs. With over 3500 new stroke survivors annually in Alberta an improved and sustainable model of care was required. The corresponding Infographics can be found in Appendix G.

Achievements:

Two main strategies were targeted: 1) to implement provincial ESD and in-home rehabilitation, and 2) creation of standards for rural stroke units or SUEC.

Current state analysis and guideline development:

Phase 1 (July 2013-October 2013): Implementation and evaluation of SUEC guidelines and ESD/Community Rehab (CR) service at pilot primary stroke centre in Red Deer

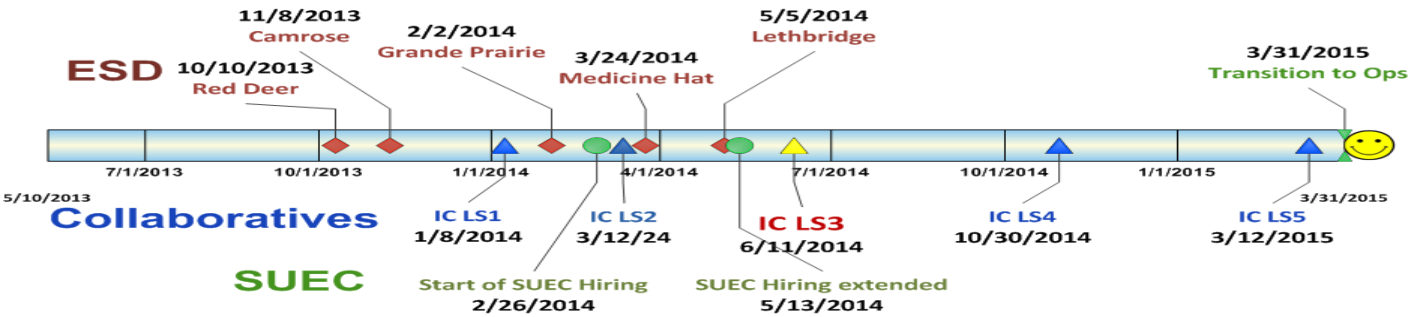
Phase 2 (October 2013-July 2014): Implementation and evaluation of SUEC guidelines and ESD/ CR service at 4 primary stroke centres (Camrose, Grand Prairie, Medicine Hat and Lethbridge)

Phase 3 (January 2014-December 2015): Implementation and evaluation of the SUEC clinical practice guidelines at remaining 9 primary stroke centres

Innovation Collaboratives (IC)[17] (January 2014-March 2015): IC methodology was introduced to the project and five sessions were conducted between January 8, 2014 and March 11, 2015.

Transition to Operations (July 2015): Project transition to operations for 14 participating sites commenced in July 2015.

Project Closure (December 2015): Project closure where all participating sites would operate fully independent SEUC, ESD/CR services utilizing best practice evidenced care increasing access to rural Albertans.



Outcomes:

ESD programs were implemented in five small urban primary stroke centres and SEUC were implemented in 14 sites to reach over 1300 patients provincially. Both programs supported a 50% reduction in patient LOS. The project had remarkable results with a few key highlights from the IC:

- Usage of Stroke order sets ***improved*** from 48% to 76% (22% increase)
- Mean rehabilitation intensity for acute stroke inpatients was 59.1 minutes
- LOS for acute stroke patients ***decreased*** from 14.8 days to 11.8 days (17% reduction)
- Swallowing screen done prior to oral intake post-acute stroke patients ***improved*** 28% to 67.6%
- Rehab assessments within 48 hours of acute admission ***improved*** from 57.7% to 88.2%

Overall project outcomes include:

- 95% of ESD patients surveyed reported a high level of ***satisfaction*** with care; while 97% of SEUC patients reported a high level of ***satisfaction*** with inpatient care (increase from 73-75%)

[17] Innovation Collaboratives (ICs) provide a structure and process for engaging local teams in making changes designed to enhance the system of care using evidence and measurement.

- 17% ***reduction*** in inpatient LOS resulting in 3,377 bed days saved leading to improved capacity and access
- 0.9% absolute ***reduction*** in percentage of patients that experience one or more episodes of care with stroke-related complications
- 17 patients/year ***avoid*** admission to LTC
- 150 additional patients/year received intensive rehabilitation at discharge
- 1,101 additional patients received SUEC
- Stroke survivors treated in ESD/CR programs demonstrated 67% clinically significant and meaningful ***improvements*** in their functional abilities
- Jan 2016 the provincial median door to needle (DTN) time was 32 min with 81% of the patients being treated within 60 min

Stroke survivor and Red Deer resident, Elwood Kirkpatrick performs a motor skills test while therapy assistant Jolene Boutin observes. Stroke patients, like Elwood who live in small urban and rural settings, can expect the same level of care delivered in larger centres thanks to the Stroke Action Plan, a project of the Cardiovascular Health and Stroke Strategic Clinic Network. Stroke Action Plan has achieved national recognition, and was awarded the Co-Chair's Award for Impact by the 2014 Canadian Stroke Congress.

Value for Money:
The cost analysis for SAP project was created on projections from Financial Analytics that was based on information provided by Strategic Clinical Network Manager, CvHS SCN. The SAP project established multidisciplinary teams to provide ESD in five sites, and SUEC in fourteen other sites throughout the province. This resulted in 3,337 acute care bed days saved equaling $2,068,572. A total of 43 admissions with an average LOS 228 days in long term care were saved equating to $1,731,681. The total combined net savings of $3,800,253 to the healthcare system.

Vascular Risk Reduction (VRR)

Background:
Cardiovascular disease, the leading cause of mortality in Canada, accounts for about 32% of all deaths, and the leading cause of hospitalization in Canada, accounting for 17% of all admissions. The two most common types of cardiovascular disease are heart disease and stroke. Cardiovascular risk factors are highly prevalent in Canadians; 60% of Canadians are overweight or obese, 20% have hypertension, 8% have diabetes, 15% of Canadians smoke and 50% are inactive. These statistics reflect an opportunity to improve health; prevent premature death and disability; and reduce unnecessary health care expenditures. Therefore, the rationale for the Vascular Risk Reduction (VRR) program included a comprehensive strategy to help identify individuals at high risk for vascular disease and improve access to health screening and risk factor management to improve the cardiovascular health of Albertans.

The VRR program was approved for funding from April 1, 2013 until December 31, 2015. The VRR program was led by the Cardiovascular Health and Stroke (CVHS) SCN in collaboration with DON, Addiction and Mental Health (A&MH), and Cancer SCNs. In 2012, the Council of the Federation Health Innovation Report recommended the national adoption of C-CHANGE (Canadian Cardiovascular Harmonized National Guidelines Endeavour)[18]. Alberta Health agreed to this

[18] See http://www.cmaj.ca/content/186/17/1299.full

recommendation and will support the Toward Optimized Practice (TOP)[19] aimed to increase health screening in primary care. The VRR program consists of a series of projects conducted in a phased approach including:

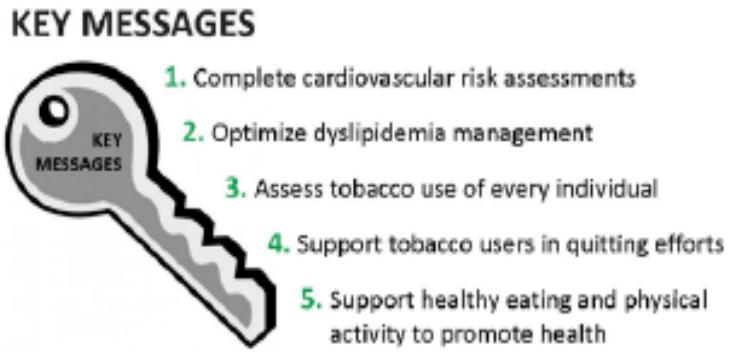
- vascular risk factor screening and early management
- integrated vascular risk reduction integrated approach (VRR-IA) through clinics
- surveillance monitoring and evaluation; health economic modelling
- integration of health promotion policy and clinical care

VRR includes programs provided by family physicians, community pharmacists, work sites and chronic disease management programs. The corresponding Infographic can be found in Appendix H.

Achievements:

The VRR project included:

- An environmental scan of related vascular risk reduction services in Alberta Health Services
- Implementation of vascular risk reduction model design for regional and rural centers, one in South zone (Medicine Hat), and one in North Zone (Slave Lake)
- Education and training of clinic staff consistent with C-CHANGE
- Implementation of Share Care Plan in two urban centres - TotalCardiology (Calgary) and UofA Stroke Prevention Clinic (Edmonton)



Outcomes:

The VRR project provided the following outcomes:

- 33 primary care teams, 1 family care clinic, 1 worksite and over 492 family physicians are participating, reaching more than 45,000 Albertans with a 30% ***increase*** in screening and prevention offered among participants
- Established the ACTION NETWORK - Alberta Coalition for Prevention and Control of Vascular Disease with 56 community pharmacists participating and over 720 patients participating across AHS with a 40% ***increase*** in detection of Albertans with chronic kidney disease that were previously unaware of their condition
- 1573 patients had ***appropriate*** utilization of lab lipid profiles and subsequent ***improvement*** in overall use of statin prescriptions
- Launched vascular screening and case management model at Alberta Newsprint Company in Whitecourt, AB
- 72 ***improvement*** facilitators trained in primary care setting
- ***Increased*** access to vascular risk secondary prevention through integrated approaches to vascular risk reduction at chronic disease management (CDM) program and family care clinics
- A 21% relative risk ***reduction*** in estimated cardiovascular risk in pharmacy patients within three months
- ***Integrated team*** approaches support reduced vascular disease while eliminating redundancies, promoting system efficiencies and being more patient-centric

Value for Money:

The VRR has no associated calculated cost analysis or benefit due to the nature and challenges of estimating cost avoided for the project.

[19] See http://www.topalbertadoctors.org/asap/

Access for Referral & Triage (ART) e-Referral

Background:

The e-Referral project initiative began as Path to Home in 2013 and was led by AHS Provincial Access Team and sponsored by Cancer & Bone and Joint Health SCNs. It was the first of its kind electronic referral system supporting care-coordination, providing patients and providers wait time information, and improving access to scheduled health services. Prior to the project, referrals were done manually through various methods to book a scheduled procedure. E-Referral leverages existing information within Net care Alberta to provide a standardized way of transferring patient information; therefore, improving the referral process, improving patient access to care, and wait time reduction. E-Referral went live on July 14, 2014 with a Limited Production Roll-out (LPR) for three targeted health services including medical/radiation oncology for lung and breast cancer and hip and knee joint replacements. These populations were chosen because they had provincial referral guidelines in place and clinicians were supportive of the eReferral process.

The e-Referral team modelled their implementation strategy around the Alberta Quality Matrix for Health with the goals to improve:

1. Efficiency in scheduled health services by improving, standardizing, and automating business processes
2. Accessibility and reduce wait times for scheduled services
3. Stakeholder acceptability by improving awareness and clarity of patient's Path to Care
4. Care appropriateness through a standardized referral management process and increased adoption of clinical best practices
6. Safety for patients by increasing transparency in the referral process

Achievements:

The project achieved success with staggered launching of seventeen early adopter sites in the five zones for six cancer and 11 hip and knee sites. The project showed increasing adoption and uptake and an increase in monthly referral volumes since it went live July 2014.

Despite some success there were considerable learnings and challenges, specifically the fact that the roll out was very limited to three early adopter groups (lung/breast cancer and knee replacement); limited access to Netcare; low referral volumes in user groups; eReferral staff turnover, and poor integration of e-Referral into primary care EMRs. Other areas of need included training alignment between Netcare and e-Referral, increased investment in resources to integrate into primary care EMRs, and improved consistent leadership sponsorship in order to sustain the work beyond the initial roll out.

Outcomes:

Conservative estimates suggested approximately 5 million fax based referrals were processed annually within AHS, with approximately 1,600 new e-referrals starting daily.

E-Referral adoption outcomes:

- Total of 2078 e-Referrals were processed in the first year
- 37 referrals processed weekly with a steady ***increase*** month over month
- Breast cancer showing the ***best adoption*** of 40% of all referrals sent

- Lung cancer and hip and knee demonstrated the least amount of adoption at 10% and 2% (potential factors include who received training i.e. physicians versus non-physicians)
- Complexity of the e-referral requirements provided ***transparency*** to the number and trend for missed appointments and cancellations that contributed to ***decreasing*** patient no shows or cancellations of appointments

Fragility & Stability

Background:

The Fragility and Stability program through the Bone and Joint Health SCN focused on the full continuum of care including osteoporosis prevention, hospital care for fractures, and care in the community following a hip fracture. The Hip Fracture Care[20] was an initiative to improve care in the hospital and community for the nearly 2,700 Albertans who suffer hip fractures caused by osteoporosis every year. The information for patients and families about hip fractures can be found on MyHealth.Alberta.ca[21]. The Catch a Break[22] program identifies Albertans who suffered a low-trauma fragility fracture caused by osteoporosis. This program helped to connect these individuals to a treatment and education program designed to prevent any future fractures. The corresponding Infographic can be found in Appendix I.

Achievements:

The Fragility and Stability project developed standardized hip fracture (acute and restorative) clinical pathways to improve the quality of care for those that experience a hip fracture in Alberta. These pathways are utilized by providers across the province as they move from surgery back to their homes providing high quality, consistent, and safe care. The restorative clinical pathway creates improvement in transitions of care by introducing a Fracture Liaison Service linking hospital, community services and primary care as patient's transition to home. The Catch a Break was a service provided once patients are seen in the Emergency department and cast clinic, the patients are then contacted for a follow up assessments through Health Link. The program was designed to support the use of PCN and family physician model to keep patients in their communities to provide coordination of care and prevention strategies. The program was expanded across all of Alberta in December 2014 following a successful launch earlier in the year in the Edmonton and Calgary Zones.

It's not just a "woman's disease". In Canada, 1 out of every 3 women and 1 out of every 5 men have osteoporosis. The risk of a subsequent fragility fracture can be reduced by 40% to 60% through early treatment of osteoporosis.

Outcomes:

Since the launch in 2011:

- 13 surgical sites across the province are using the Hip Fracture Pathway
- 3% ***decrease*** in LOS for patients with hip fractures
- 89% of patients reach the OR within 48 hours (improved from 77% at the start of the pathway)
- With the use of the Fracture Liaison Services, 41% (compared to 6%) of patients were ***discharged*** on osteoporosis medications
- 85% (up from 81%) of patients were moving the day after surgery

[20] See http://www.albertahealthservices.ca/scns/hfcptoolkit.aspx
[21] See https://myhealth.alberta.ca/Alberta/Pages/hip-fracture-your-hip.aspx
[22] See https://myhealth.alberta.ca/Alberta/Pages/Catch-a-break.aspx

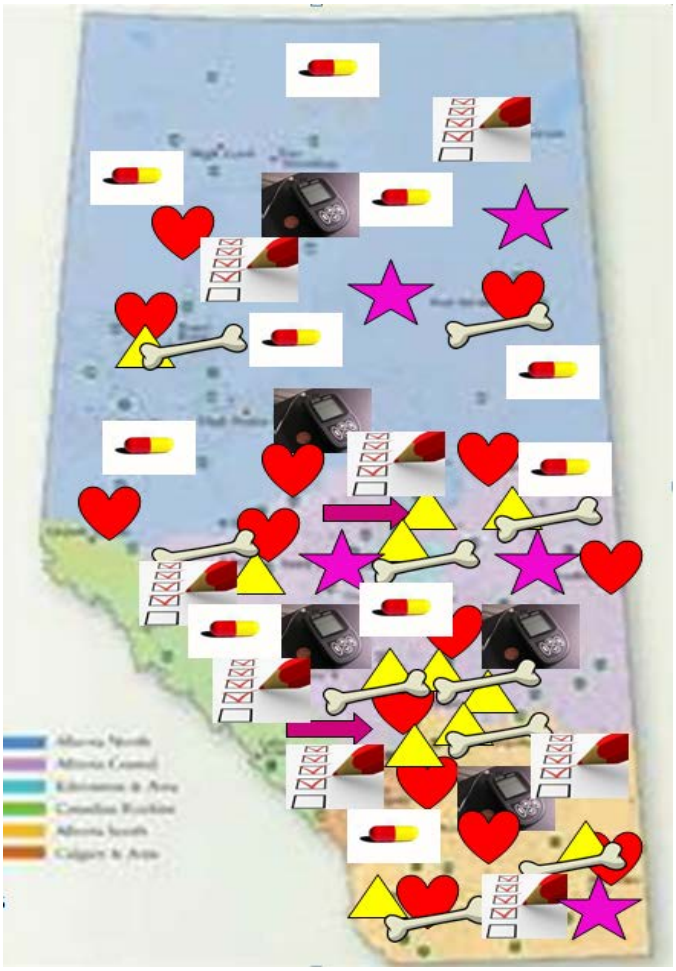
- 71% (up from 66%) of patients were able to return to previous living conditions.
- As of January 2015, the Catch a Break program has contacted 5288 patients - of those contacted 65% where considered high risk for osteoporosis

Value for Money:
The cost analysis for the Fragility and Stability program is based on information provided by the Senior Provincial Director, Surgery and Bone and Joint Health SCNs. The calculation conducted by Financial Analytics is based on 1,314 of fractures being prevented. The average length of stay for pathological fracture for MSK patients was derived from the CIHI database[23]. The average length of stay for patients aged 65+ is used equating to 13.5 days. The total net savings of the project is estimates to be $11,284,097.

Provincial Impact

All of the funded initiatives impacted at least one or more of the five 2012-2015 strategic priorities as illustrated in Appendix B. The projects used a provincial standardized approach with local customization to support the need for quality improvement with the ability to spread and scale these initiatives once they demonstrated value to the delivery of healthcare services. To illustrate the magnitude of the reach of these SCN projects, a diagram and legend depicts a provincial landscape of the impact for all five zones:

Stroke Action Plan 14 sites
Hip & Knee Plan – 12 sites
Insulin Pump Program – 8 centers
Vascular Risk Reduction
Fragility & Stability – 12 Sites
Appropriate Use of Antipsychotics -
E-Referral – Lung / Hip & Knee
Safe Surgery Checklist - 59 sites



SCN Unfunded Projects

Several of the SCN projects were not funded due to restructuring and changes in AHS. Despite this, the SCNs were able to use internal resources and business supports to plan, and implement these projects that also provided significant value to the organization. A few of these initiatives include:
Respiratory Health SCN – *Alberta Childhood Asthma Pathway (ACAP)*,
Cancer and Critical Care SCN – *Head & Neck Pathway*

[23] See https://www.cihi.ca/en/spending-and-health-workforce/spending/patient-cost-estimator

Alberta Childhood Asthma Pathway (ACAP)

Background:

The goal of the Alberta Childhood Asthma Pathways (ACAP)[24] was to implement the Emergent/Urgent Care and Inpatient Care pathways at hospitals and urgent care centres across the province caring for pediatric asthma patients. Starting in 2012, the Asthma Working Group of the Respiratory Health SCN completed a merger and updating of the pathways from the former four regions for managing children with asthma in both emergency and inpatient setting. These efforts involved multidisciplinary provincial teams with representatives from across Alberta's respiratory community to support the development of the evidenced based clinician led pathway. The ACAP focuses on evidenced based ED/UCC and inpatient care pathways that support clinicians, physicians and patients/families in the care of asthma management and treatment in over 105 sites provincially. The overall objectives for these pathways include:

- improved asthma management through standardization of best practices
- equity of asthma care available across Alberta
- decreased healthcare utilization and costs.

Achievements:

In September 2012, ACAPs pilots were launched at Medicine Hat Regional Hospital, followed by the rural sites within the South Zone East. A robust staff engagement strategy was employed and validated through qualitative evaluation methods. A modest national research grant was acquired to support development of online training modules and evaluation for Medicine Hat, Grande Prairie, and surrounding areas.

In early 2013, sixteen sites (both EDs and UCCs) across the Calgary Zone began using the updated Alberta Childhood Asthma Pathways. The project developed the online ACAP Toolkit[25] providing health provider resources, patient resources and online training and video's to support consistent education provincially. Key benefits observed in the preliminary evaluation of the pilot data included significant increase in the use of Metered Dose Inhalers (MDI) with spacers and other evidenced based therapies. The use of a standardized severity assessment tool (PRAM) was also significantly well adopted. The implementation of the ACAPs continued through 2015, and has now been spread across Alberta in over 105 hospitals and urgent care centres.

Outcome:

The ACAP project implemented pediatric asthma care best practices through the implementation of the Childhood Asthma Pathway and the following was highlighted:

- ***switching*** from nebulizers to meter dose inhalers with spacer
- 87% of respondents felt that implementing the pathway has made the ***care*** of pediatric asthma more ***consistent*** at their site
- Over 60% of respondents felt that implementation at their site was ***successful***
- Half of the respondents suggested that 75% or more of children presenting with asthma would have received the pathway at their site since implementation
- 87% of respondents felt that the care of pediatric asthma has changed for the ***better*** since implementing the pathway
- Clinicians appreciated having a consistent and objective measurement tool built into the pathway (i.e. PRAM)
- "It is because we believe in ***gold standards***, and if this is the standard then it needs to be for everyone."

Further data collection was planned with subsequent analysis targeting length of stay, admission rates and readmission rates that are forthcoming in 2016.

[24] See http://pert.ucalgary.ca/pathways/index.php

[25] See http://www.albertahealthservices.ca/scns/Page13147.aspx

Head and Neck Pathway

Background:

Providing appropriate care for head and neck cancer patients is complex, crossing multiple program areas and health disciplines. As well, coordinating a smooth transition between care providers can be challenging and can result in less than optimal outcomes for patients and system inefficiencies. To improve the patient experience and address care gaps, a provincial post-operative clinical pathway for major head and neck cancer surgery focusing on the high observation protocols and the inpatient stay was designed and implemented. This pathway has substantially improved patient outcomes, improved quality of life, and has created substantial capacity at the two major surgical centres at the University of Alberta Hospital (UAH) and the Foothills Medical Centre (FMC) without new resources. The corresponding Infographics can be found in Appendix J.

Achievements:

The initiative involved over seventy stakeholders including clinicians, operational leads, and front-line staff. Teams reviewed best practices and bench marked standards with other leading head and neck cancer centres across Canada. Provincial components of the pathway and performance metrics were developed and clinical teams adapted their patient care processes with the goals of:

- reducing ventilation and sedation and promoting early mobility in the ICU
- better coordination of care between providers to improve the patient experience and health outcomes

Outcomes:

The early results from implementation of the ICU component have shown the following:

- The percentage of patients with no mechanical ventilation upon arrival in ICU ***increased*** from 15% to 80% in Edmonton and 6% to 31% in Calgary.
- The percentage of patients with an ICU LOS less than 24 hours ***increased*** from 21% to 80% in Edmonton, and 66% to 89% in Calgary.
- The percentage of patients re-admitted to ICU ***decreased*** from 16% to 0% in Edmonton, and decreased from 4% to 0% in Calgary.

Value for Money:

The cost analysis for the major head and neck pathway calculation was provided by Financial Analytics and was based on information provided by the Cancer SCN Manager for 200 head and neck cancer patients. The pathway interventions focused on multidisciplinary coordination and standardized post-operative care resulting in the avoidance of 330 ICU bed days and 1,750 inpatient days. This leads to a net savings of $1,804,542 to the healthcare system.

SCN Capability Framework and Maturity Assessment Lessons Learned

The SCN projects support transformational change of Alberta's healthcare system to improve quality, outcomes, patient experience, and create value for money. In partnership with IBM, the SCNs created a Capability Framework, and corresponding Maturity Assessment that address essential capabilities of creating a high performing healthcare organization. These ten capabilities were used to assess the projects creating an opportunity to understand what worked well and how the SCNs can be better. The key lessons learned from the project closure, project evaluation, and other reports have been used to identify opportunities to improve future projects and scopes of work for the SCNs (refer to Appendix B).

Transformational Leadership:

Strengths:

- Direct SCN leadership, collaboration or partnership with other SCN's, operations and government

- Incorporated governance structures inclusive of project sponsorship, steering committees, working groups, and collaboration with outside agencies such as Alberta Health to provide a strong leadership structure

Opportunities:

- Clear identification of project/executive sponsors, with clear accountability and responsibility for supporting key decision, direction, and issues
- Project Management support with a clear transition plan including identified leadership accountabilities with the use of service partner agreements when projects are transitioned to operations requiring further reporting structures and budgets

Strategic Alignment:

Strengths:

- All projects supported the 2012-2015 strategic priorities to improve access and reduce wait times; provide more options for continuing care; strengthen primary health care; be healthy, stay healthy; and build one health system
- The use of a priority setting process that clearly demonstrated strategic alignment of these projects (see Appendix B)
- The use of projects that deliver value to meet AHS strategic priorities, goals and objectives

Innovation:

Strengths:

- Projects added new policy/procedures, booking processes, care delivery processes, best practices, information technology and service models across the continuum of care
- Use of collaborative and innovative ways to engage with operational areas to drive quality improvement and sustain changes through reporting, audit and feedback of performance metrics

Opportunities:

- The use of Innovation Collaboratives (IC) was a key strength with some projects specifically AUA, ERAS, and SAP that provided purposeful, appropriate and meaningful engagement for the zones and sites participating in the projects
- The method introduced new and novel ways to identify performance measures and quality improvement cycles that supported local needs

Planning & Priority Setting:

Strengths:

- The use of priority setting, planning tools and processes where each initiative was screened according to selected criteria that focused on alignment, six dimensions of quality, feasibility, impact, and cost
- The use of the SCN core committee members and stakeholders to determine top priority areas of focus.
- The use of business cases to clearly assess the problem; create solutions, implementation plans, scope, budget, risk, feasibility, value for money, and strategic alignment
- The projects met the overall objective(s), delivered on results and used outcomes measures that were reported

Evidence Informed Decision Making:

Strengths:

- The use of the Research arm of the SCNs led by a Scientific Director and supported by an Assistant Scientific Director, supported research, evidenced based practices, innovation and evaluation of these initiatives for the population or program area of service
- The use of data and evidence to identify areas of best practices to reduce variation creating standardization, economies of scale and provincial spread

- The SCNs actively participate and received funding from Alberta Innovates Health Solutions through Partnering for Research Improvements in the Health System (PRIHS) grant; strengthens the evidence to inform system wide quality improvements

Network Stakeholder Engagement and Relationship Management:

Strengths:

- The intent of all projects to engage senior leadership, physicians, clinical management, front line providers and patients in project planning, implementation and evaluation

Opportunities:

- Clinical engagement could be strengthened moving forward specifically, engaging frontline staff earlier in the process
- Improved communication needs to occur prior to the projects and during project implementation in terms of purpose and goals of the projects
- Clear roles and responsibilities and leadership could be improved prior to the onset of priority projects

Program and Project Management:

Strengths:

- The use of Clinical Project Support Services (CPSS, within Knowledge Management)
- The use of standardized project management tools adopted for the development of project charters, schedules, regular status reporting, and change control across all projects
- During project initiation and early planning, multiple project management learning sessions were held to increase quality and support consistency across projects and SCNs
- For those projects receiving direct project management support from CPSS, there was additional ongoing guidance provided by CPSS leadership to reinforce best practices and issue management throughout project execution
- Joint effort between the SCNs, Knowledge Management and IT, a collaborative content management platform (SharePoint) was also established early on for each project and SCN, and site stewards and PMs were identified and trained to support uptake and site maintenance
- Additional support and in kind resources from various AHS departments, including but not limited to Knowledge Management, Analytics, Communications, DIMR, and QHI

Opportunities:

- The consistent use of CPSS rather than internal SCN staff to support projects
- For some of the projects the schedule was extended due to issue with engagement, buy in and project sponsorship. Despite meeting targets, the delay in schedule did have a ripple effect on other work within the networks and AHS

Performance Management and Measurement:

Strengths:

- The use of the HQCA quality framework to identify improvements in the following areas of appropriateness, safety, efficiency, accessibility, acceptability and effectiveness
- The use of key quality metrics for reporting, auditing and feedback that supported both project measurements and quality dimensions to demonstrate improved outcomes
- Some projects identified the project quality metrics very well, such as SAP and VRR, and reported on these measurements as part of the project, project evaluation and outcomes measures
- Some projects developed dashboards (SSC, aCATS, VRR, AUA, and H&N) that are used operationally to support sustainability in specific area to continue to drive quality and innovative care

Opportunities:

- Cleary and consistent identification and reporting of project quality metrics. Consistent available data from sources like DIMR, Seymour, ADT, and DAD to support baseline and target measurement and evaluation of these projects within AHS

Knowledge Management and Translation:

Strengths:

- SAP and VRR had a knowledge translation component clearly developed and executed as part of the project supported by Research, Innovation, and Analytics department through the Assistant Scientific Directors for the SCN
- The use of reporting, auditing and feedback through key metrics or dashboards was a successful output of the majority of the projects to provide frontline providers the evidence of sustained improvement and change
- Staff training in the form of face to face clinical training, physician training, online modules, webinars, Lync, Telehealth and video was also offered by many of the projects for staff during the implementation phase of the projects and supports ongoing training of staff

Opportunities:

- Some projects highlighted the need to improve the training and resources that were provided to support the adoption of the new practices or processes
- A challenge was front line staff availability for training due to competing workload at the beside
- All projects to have a clear KT plan

Organizational and Culture:

Strengths:

- The use of engagement and communication strategy to identify the stakeholders, communication avenues, and to better understand the potential challenges
- Engagement of clinicians in quality improvement initiatives supporting a bottom up approach has proved to be a challenging but successful element
- The use of AIW and PROSCI change management principles and practices were incorporated by some of the SCN as part of the projects
- The use of ADKAR model was very useful in identifying areas where challenges could exist with all stages of the projects

Opportunities:

- There is an ongoing need for buy-in and communication at all levels before, during and after implemented that was required, especially raising awareness of the purpose and goals of the projects

Summary

The SCN have introduced a multifaceted, multidimensional healthcare planning, implementation, and quality improvement framework. The key components incorporate priority planning, project management, quality improvement, patient and family centered care, collaboration with frontline clinicians and operations, performance management and measurement and clinical best practice/evidence based care. These projects address these essential components while supporting provincial thinking with local input and action to drive change, improve our system and add value to the patients we serve. The projects have had provincial or zone impact with the ability to spread and scale, adding significant value in the healthcare system. Overall, these projects have saved $21M in direct cost savings to the organization achieving not only the cost per capita of the triple aim approaches but also patient experience and better outcomes for Albertans. As the SCNs mature, there are opportunities to strengthen future strategic initiatives as innovative ways to transform and sustain Alberta's healthcare ecosystem.

Appendices

Appendix A – SCN Summary of Projects Six Dimensions of Quality

ALBERTA QUALITY MATRIX FOR HEALTH USER GUIDE

SCN SUMMARY OF PROJECTS - MARCH 31, 2016

DIMENSIONS OF QUALITY	ACCEPTABILITY Health Services are respectful and responsive to user needs, preferences and expectations	ACCESSIBILITY Health services are obtained in the most suitable setting in a reasonable time and distance	APPROPRIATENESS Health services are relevant to user needs and are based on accepted or evidence-based practice.	EFFECTIVENESS Health Services are provided based on scientific knowledge to achieve desired outcomes.	EFFICIENCY Resources are optimally used in achieving desired outcomes.	SAFETY Mitigate risks to avoid unintended or harmful results.
AREAS OF NEED						
Being Healthy **Achieving health and preventing occurrence of injuries, illness, chronic conditions and resulting**	aCATS - ACCESS SURGICAL SPECIALITIES ERAS - DISCHARGE HOME, PATIENT CENTRED ACAP - EVIDENCED BASED CARE	aCATS - APPROPRIATE WAITLISTS WRR - SCREENING, COMMUNITY ACCESS, PREVENTION ACAP- IMPLEMENTATION	aCATS - APPROPRIATE WAIT TIMES ERAS - APPROPRIATE INTERVENTIONS WITH EVIDENCE WRR - EVIDENCE BASED GUIDELINES, APPROPRIATE USE F&S - PREVENTION	aCATS- OUTCOMES ERAS - EVIDENCE, DATA WRR - SCREENING ACAP - EVIDENCE BASED GUIDELINES	SSC - COMPLIANCE, AUDITS, ADVERSE EVENTS ERAS - GUIDELINES, LOS, APPROPRIATE RX F&S - ASSESSMENT, DOCUMENTATION	aCATS - TIMELY ACCESS SX AUA - UTILIZATION MEDICATIONS SAP - UTILIZATION ORDER SETS, ASSESSMENTS
Getting Better **Care related to acute illness or injury**	aCATS - WAIT TIME SSC - OUTCOMES ERAS - OUTCOMES SAP - SATISFACTION	ERAS - COMPLIANCE SAP - ACCESS WRR- ACCESS F&S - LOS ACUTE CARE, RE-FRACTURE RATE, ACCESS	SSC - COMPLIANCE POLICY ERAS - READMISSION, LOS F&S - ACCESS	SSC - GOOD CATCHES ERAS - COST SAVINGS SAP - ACCESS WRR - RELATIVE RISK F&S - RE-FRACTURE RATES	ERAS - SURG COMPLICATIONS, MOBILIZATION, NUTRITION SAP - INPATIENT LOS F&S - LOS ACUTE CARE, RE-FRACTURE RATES, READMISSION	SSC - COMPLIANCE, ADVERSE EVENTS ERAS - COMPLICATIONS, MOBILIZATION, NUTRITION SAP - COMPLICATIONS F&S - RE-FRACTURE RATE, READMISSION
Living with Illness or Disability **Care and support related to chronic or recurrent illness or disability**	SAP - AVOID ADMISSION LTC AUA - EXPERIENCE RESIDENT/FAMILY	AUA - IMPLEMENTATION	SAP - REHAB ON DISCHARGE AUA - INAPPROPRIATE USE, ACCESS	AUA - ALTERNATE STRATEGIES	AUA - COST SAVINGS	
End of Life **Care and support that aims to relieve suffering and improve quality of living with or dying from advanced illness or bereavement**						

GLOSSARY OF NAMES			
B&J SCN	Bone & Joint SCN	B&J SCN - F&S	Bone & Joint SCN - Fragility & Stability
Cancer SCN	Cancer SCN	Cancer SCN - HNC	Cancer SCN - Head & Neck Cancer Surgery Pathway
Cancer SCN	Cancer SCN	Cancer SCN - eReferral	Cancer SCN - eReferral
CVS SCN	Cardiovascular Health & Stroke SCN	CVS SCN - WRR	Cardiovascular Health & Stroke SCN - Vascular Risk Reduction
CVS SCN	Cardiovascular Health & Stroke SCN	CVS SCN - SAP	Cardiovascular Health & Stroke SCN - Vascular Rural Stroke Action Plan
DON SCN	Obesity, Diabetes & Nutrition SCN	ODN SCN - ERAS	Diabetes, Obesity,& Nutrition SCN - Enhancing Recovery after Surgery
DON SCN	Obesity, Diabetes & Nutrition SCN	DON SCN - IPT	Diabetes, Obesity,& Nutrition SCN - Insuling Pump Therapy
Seniors SCN	Seniors Health SCN	Seniors SCN - AUA	Seniors Health SCN - Appropriate Use of Antipsychotics in Long Term Care
Surgery SCN	Surgery SCN	Surgery SCN aCATS	Surgery SCN - Adult Coding Access Targets
Surgery SCN	Surgery SCN	Surgery SCN - SSC	Surgery SCN - Safe Surgery Checklist
RH SCN	Respiratory Health SCN	RH SCN - ACAP	Respiratory Health SCN - Alberta Childhood Astham Pathway

Appendix B - Ten Capabilities Summarized by Project

			Capability and Maturity Framework									
Project	**SCN**	**Project Summary**	**Transformational Leadership**	**Strategic Alignment (5)**	**Innovation**	**Planning & Priority Setting**	**Evidenced Informed Decision Making**	**Stakeholder Engagment & Relationship Management**	**Program & Project Management**	**Performance Management & Measurement**	**Knowledge Management & Translation**	**Organizational & Culture**
aCAT	Surgery SCN	The aCATS inititiative is a way of standarizing surgical wait times in AB	✓	①⑤	✓	✓	✓	✓	✓	✓	✓	✓
SAP	CvHS SCN	SAP is an initiative that will improve the quality and availability of stroke care in rural AB.	✓	①②⑤	✓	✓	✓	✓	✓	✓	✓	✓
SSC	Surgery SCN	A project that will improve the safety and quality of care provided in AB operating rooms.	✓	⑤	✓	✓	✓	✓	✓	✓	✓	✓
AUA	Seniors SCN	Rather than using traditional drugs to treat challenging behaviours we are collaborating to research, review and implement new guidelines around the appropriate use of such medications.	✓	①②⑤	✓	✓	✓	✓	✓	✓	✓	✓
ERAS	DON & Surgery SCNs	ERAS is working to get surgery patients back to their normal self as quickly as possible.	✓	①⑤	✓	✓	✓	✓	✓	✓	✓	✓
VRR	CvHS, Cancer, AMH, DON SCNs	VRR includes a series of projects aimed at identifying and supporting people at risk of heart disease and stroke.	✓	①③④⑤	✓	✓	✓	✓	✓	✓	✓	✓
ART eReferral	Cancer SCN	Project rolled out the first electronic referall system for surgery called eRerral.	✓	①③⑤	✓	✓	✓	✓	✓	✓	✓	✓
IPT	DON SCN	IPT project with the goal of ensuring safe and equitable access to those who will benefit from this treatment.	✓	①④⑤	✓	✓	✓	✓	✓	✓	✓	✓
Fragility & Stability	B&J SCN	Project is aimed at getting hip-fracture patients into surgery within 48 hours regardless of where they live in AB.	✓	①⑤	✓	✓	✓	✓	✓	✓	✓	✓
ACAP	RH SCN	Provincial evidence based clinical pathway for pediatric inpatient and emergency care	✓	①⑤	✓	✓	✓	✓	✓	✓	✓	✓
H&N Pathway	Cancer & CC SCN	The project implemented evidence based care pathway to improve major head and neck surgeries into two major centres.	✓	①⑤	✓	✓	✓	✓	✓	✓	✓	✓
Overall Success	✓	Well done										
	✓	Could be better										
Strategic Alignment	①	Improve access and wait times										
	②	Provide more options for continuing care										
	③	Strengthen primary health care										
	④	Be healthy, stay healthy										
	⑤	Build one system										

Appendix C – aCATS Infographic

SURGERY STRATEGIC CLINICAL NETWORK

ADULT CODING ACCESS TARGETS FOR SURGERY (aCATS)

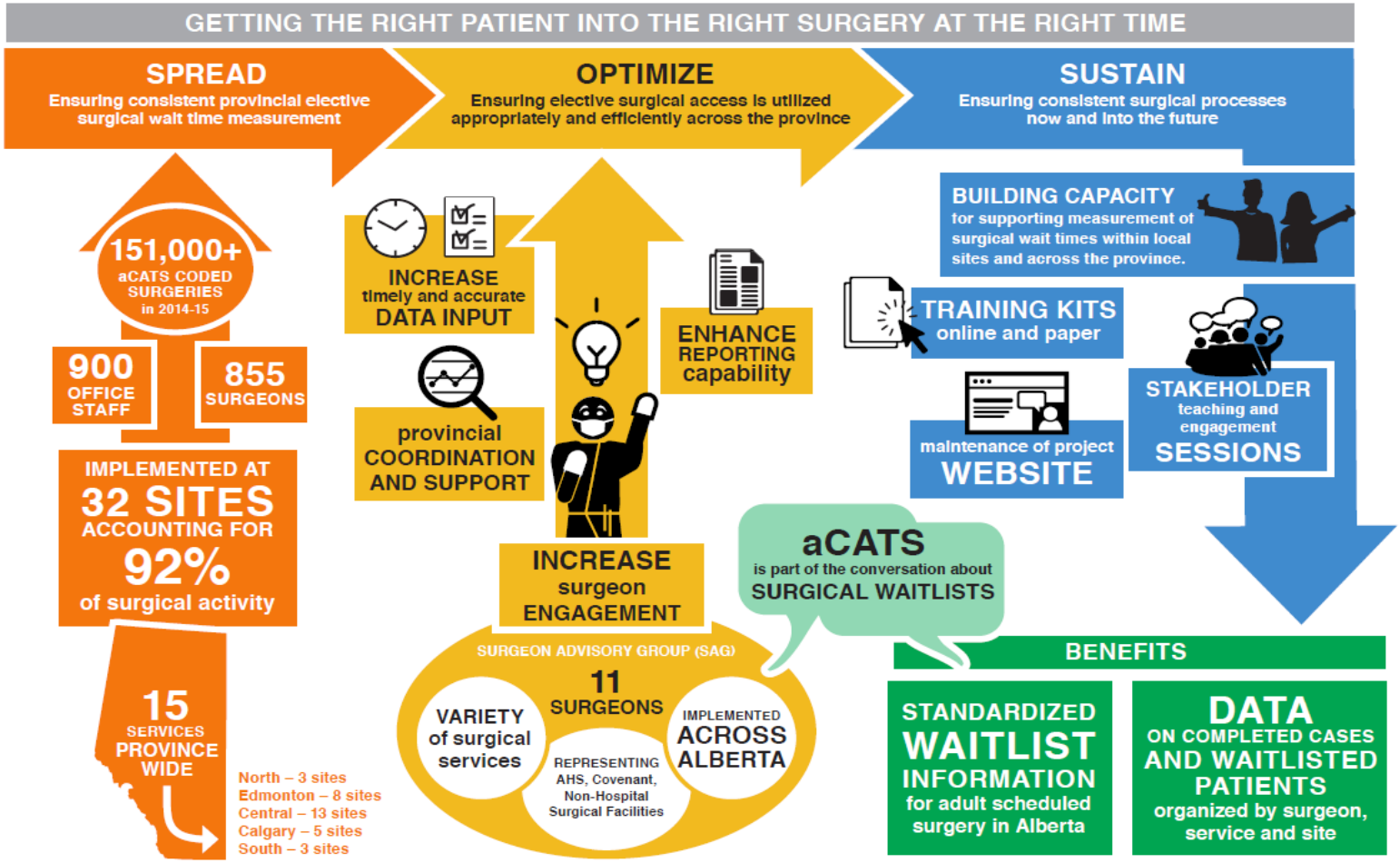
Measuring Access to Elective Surgery

Strategic Clinical Networks (SCNs) are creating improvements within focused areas of health care.

To get the most out of our health care system, AHS has developed networks of people who are passionate and knowledgeable about specific areas of health, challenging them to find new and innovative ways of delivering care that will provide better quality, better outcomes and better value for every Albertan.

The adult Coding Access Targets for Surgery project (aCATS) is a key initiative of the AHS Surgery Strategic Clinical Network.

aCATS is an Alberta-developed, standardized coding system to help prioritize scheduled surgeries offered at facilities throughout the province, depending on a patient's diagnosis and level of urgency.



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Appendix D – SSC Infographic

SURGERY STRATEGIC CLINICAL NETWORK

SAFE SURGERY CHECKLIST

Strategic Clinical Networks (SCNs) are creating improvements within focused areas of health care.

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The Safe Surgery Checklist (SSC) is a communication tool that is used to assist surgical teams in reducing and preventing errors during surgery. Reinforcing safety and quality in the OR, the SSC also decreases complications, improves efficiency and ensures better overall outcomes for patients.

The Surgery SCN would like to thank our operational and corporate support Partners as well as Patient and Community Engagement Research (PACER) group for contributing to the success of this initiative.

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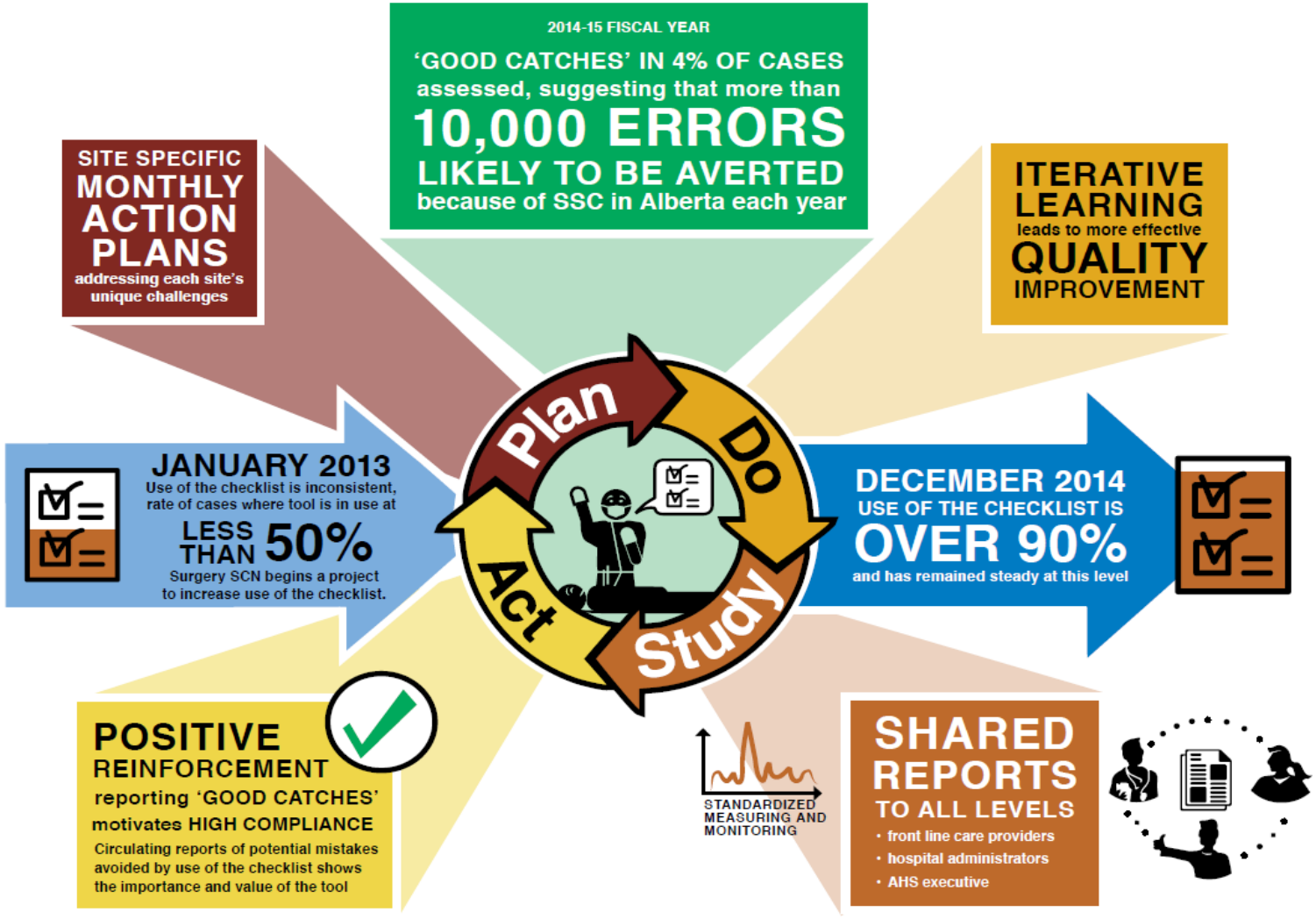

Appendix E – ERAS Infographic

SURGERY STRATEGIC CLINICAL NETWORK

ENHANCED RECOVERY AFTER SURGERY

Helping People Recover Better and Faster from Surgery

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Covenant Health

Strategic Clinical Networks (SCNs) are creating improvements within focused areas of health care.

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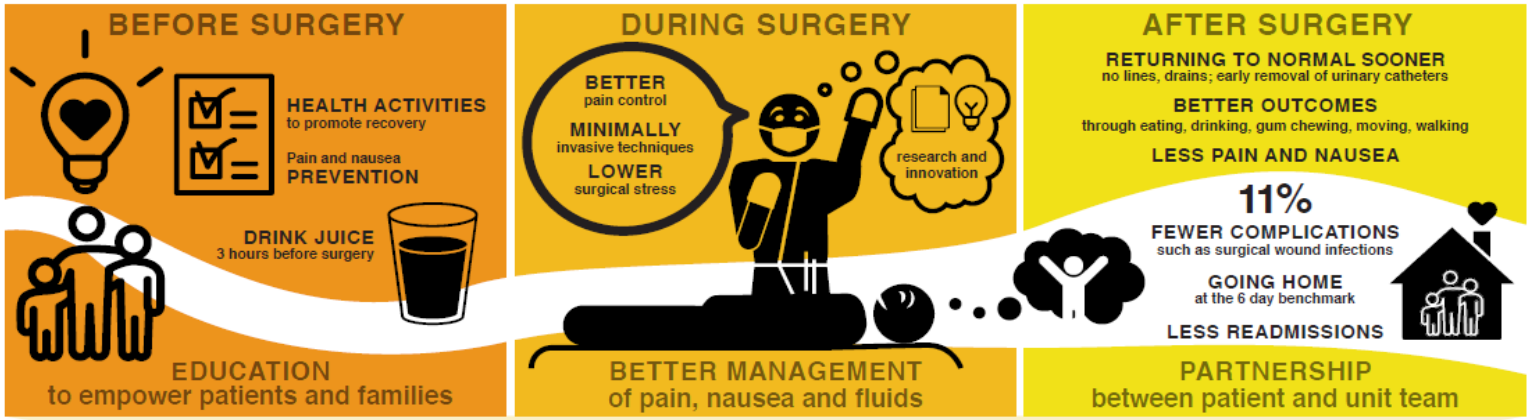
The Enhanced Recovery Pathways After Surgery program (ERAS) is a key initiative of the AHS Surgery Strategic Clinical Network.

ERAS provides consistent ways of managing care before, during and after surgery with an aim of helping patients stay strong physically and mentally, improving recovery time and reducing complications.

ERASAlberta
patients are the heart of enhanced recovery pathways



HEALTH SYSTEM BENEFITS

COST savings

increased QUALITY

greater bed CAPACITY

3024 DAYS
OF BED CAPACITY
given back to the system

$3.6–$8.0 MILLION
saved in first 21 months[1]

1. All Health System Benefit Numbers provided by the IHE – ERAS Economic Evaluation. www.ihe.ca

ERAS PATIENTS

return to home, family, work and play

2.3 DAYS SOONER

HOW WE DID IT

PROVINCE-WIDE COLLABORATION

- Local innovation and learning
- Grassroots-driven changes
- Teams led by local clinicians

CONTINUOUS QUALITY IMPROVEMENT

- Evidence based practices
- Internationally researched
- Tested and proven

ERAS Alberta to date: Over 2200 patients experienced ERAS pathways between September 2013 and October 2015 at Peter Lougheed Centre, Grey Nuns Community Hospital (Covenant Health), Royal Alexandra Hospital, University of Alberta Hospital, Misericordia Community Hospital (Covenant Health) and Foothills Medical Centre.

Appendix F – AUA Infographic

LED BY SENIORS' HEALTH SCN IN COLLABORATION WITH ADDICTION & MENTAL HEALTH SCN

APPROPRIATE USE OF ANTIPSYCHOTICS IN LONG TERM CARE

Strategic Clinical Networks (SCNs) are creating improvements within focused areas of health care.

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The AUA project is a key initiative of the AHS Seniors Health Strategic Clinical Network. Long term use of antipsychotics in older people with dementia is known to be harmful

Antipsychotic use in Alberta Long Term Care (LTC) is now under 20%, compared to a national average of approximately 30%. LTC teams are collaborating to solve problems and improve care.

GOAL
Use antipsychotics appropriately to
IMPROVE QUALITY OF LIFE
for residents with dementia

PROCESS

THROUGH

- inter-professional medication reviews
- person-centred care

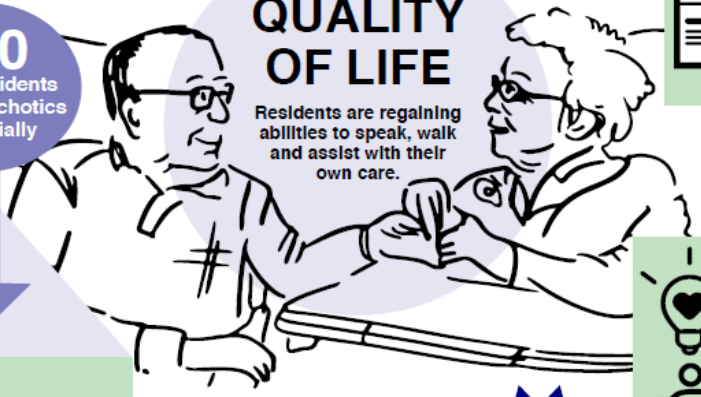
2012-2013 Develop Resources
Toolkit and guidelines for clinical teams to help reduce un-necessary antipsychotic use.

2013-2014 Early Adopter Sites
11 teams
50% fewer residents on antipsychotics

2014-2015 Province-wide
170 sites
14,500 beds

900 fewer residents on antipsychotics provincially

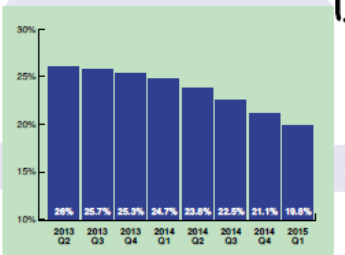
QUALITY OF LIFE
Residents are regaining abilities to speak, walk and assist with their own care.



2014-15 Innovation Collaboratives
100 "higher use" sites identified
- Teaching and resources provided for leaders and clinical staff
- Teams submitted monthly data
- Teams equipped to lead change

2014-2015 AUA Toolkit
All Alberta sites introduced to success stories, links and project resources on AHS External website.

2014-2015 Family Engagement
Resources for staff to engage families of residents:
- Explain reason for reducing antipsychotics
- Help family understand behaviours of residents with dementia



2015 Outcomes
- Fewer residents in daily restraints
- Less pain and delirium
- Reports of aggressive behaviours remained same
- More residents with symptoms of depression

WINNER AHS President's award for QI in 2014

2016-onwards Future Sustainability
- Develop AUA sustainability plan
- Ongoing monitoring of anti-psychotic use and quality improvement
- Enhanced education for all sites. Priority topics: supporting good sleep, delirium in residents with dementia
- Expand to Supportive Living facilities.

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Appendix G – SAP Infographic

CARDIOVASCULAR HEALTH & STROKE STRATEGIC CLINICAL NETWORK

STROKE ACTION PLAN

Getting Better, Faster

Strategic Clinical Networks (SCNs) are creating improvements within focused areas of health care.

To get the most out of our health care system, Alberta Health Services (AHS) has developed networks of people who are passionate and knowledgeable about specific areas of health, challenging them to find new and innovative ways of delivering care that will provide better quality, better outcomes and better value for every Albertan.

Stroke Action Plan (SAP)is a key initiative of the Cardiovascular Health and Stroke SCN. It has greatly improved access to high quality stroke care to rural Albertans and is a model of care applicable to other areas beyond stroke.

The SAP team was nationally recognized at the 2014 Canadian Stroke Congress, winning the Chairs' Award for Impact.

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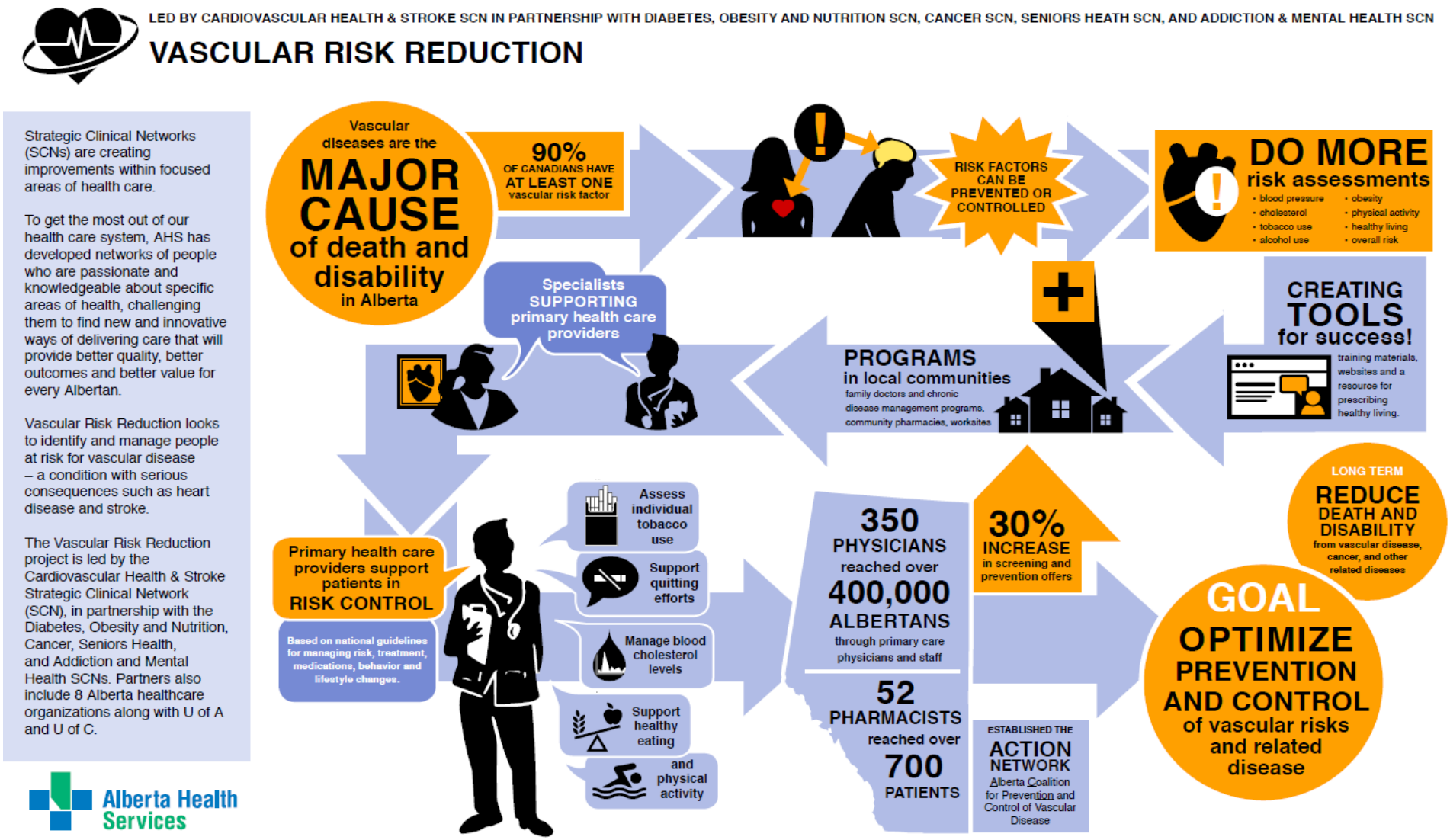
Appendix H – VRR Infographic



Appendix I – F&S Infographic

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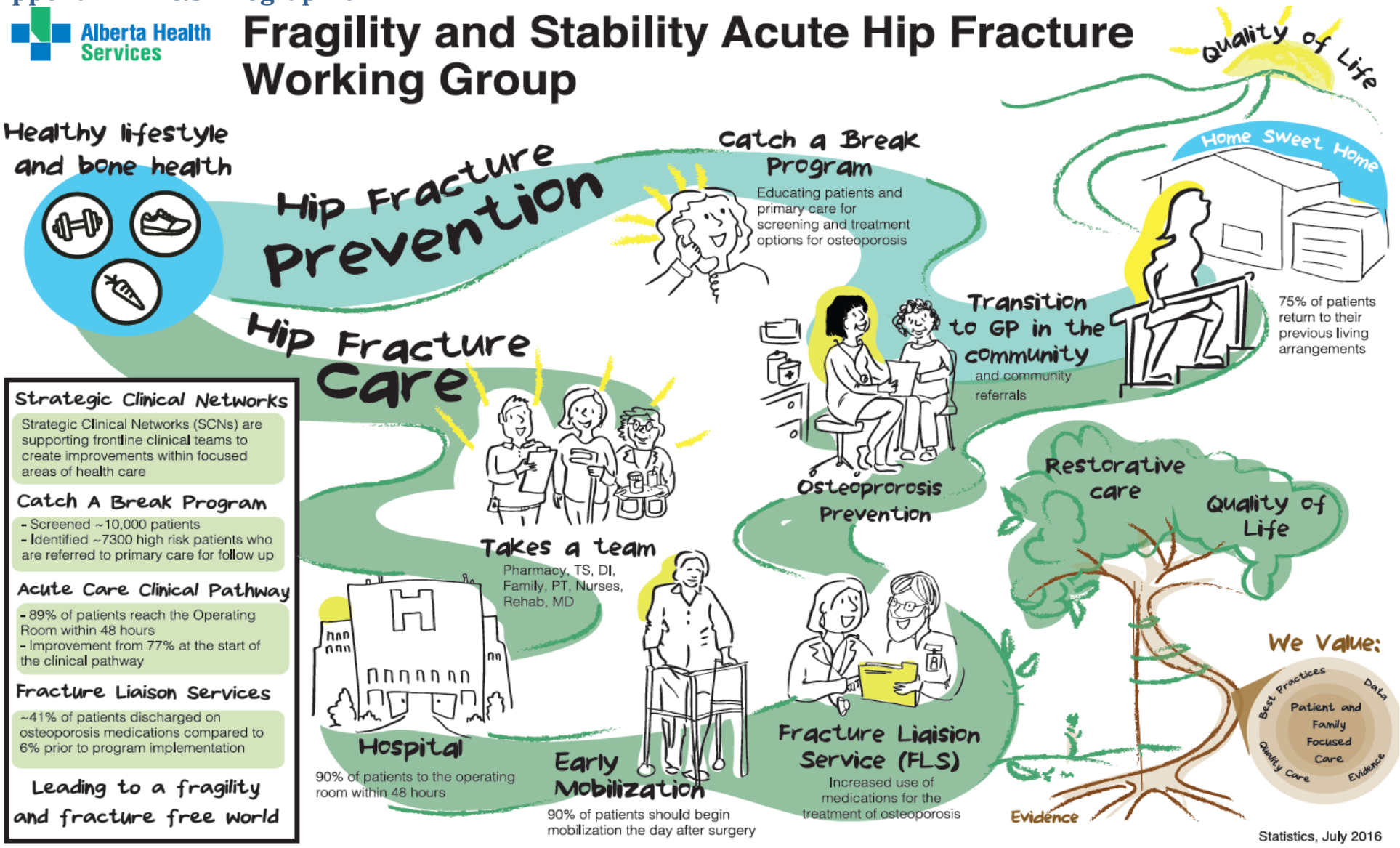
Fragility and Stability Acute Hip Fracture Working Group



Strategic Clinical Networks

Strategic Clinical Networks (SCNs) are supporting frontline clinical teams to create improvements within focused areas of health care

Catch A Break Program

- Screened ~10,000 patients
- Identified ~7300 high risk patients who are referred to primary care for follow up

Acute Care Clinical Pathway

- 89% of patients reach the Operating Room within 48 hours
- Improvement from 77% at the start of the clinical pathway

Fracture Liaison Services

~41% of patients discharged on osteoporosis medications compared to 6% prior to program implementation

Leading to a fragility and fracture free world

Appendix J – H&N Infographic

Keeping Alberta Moving

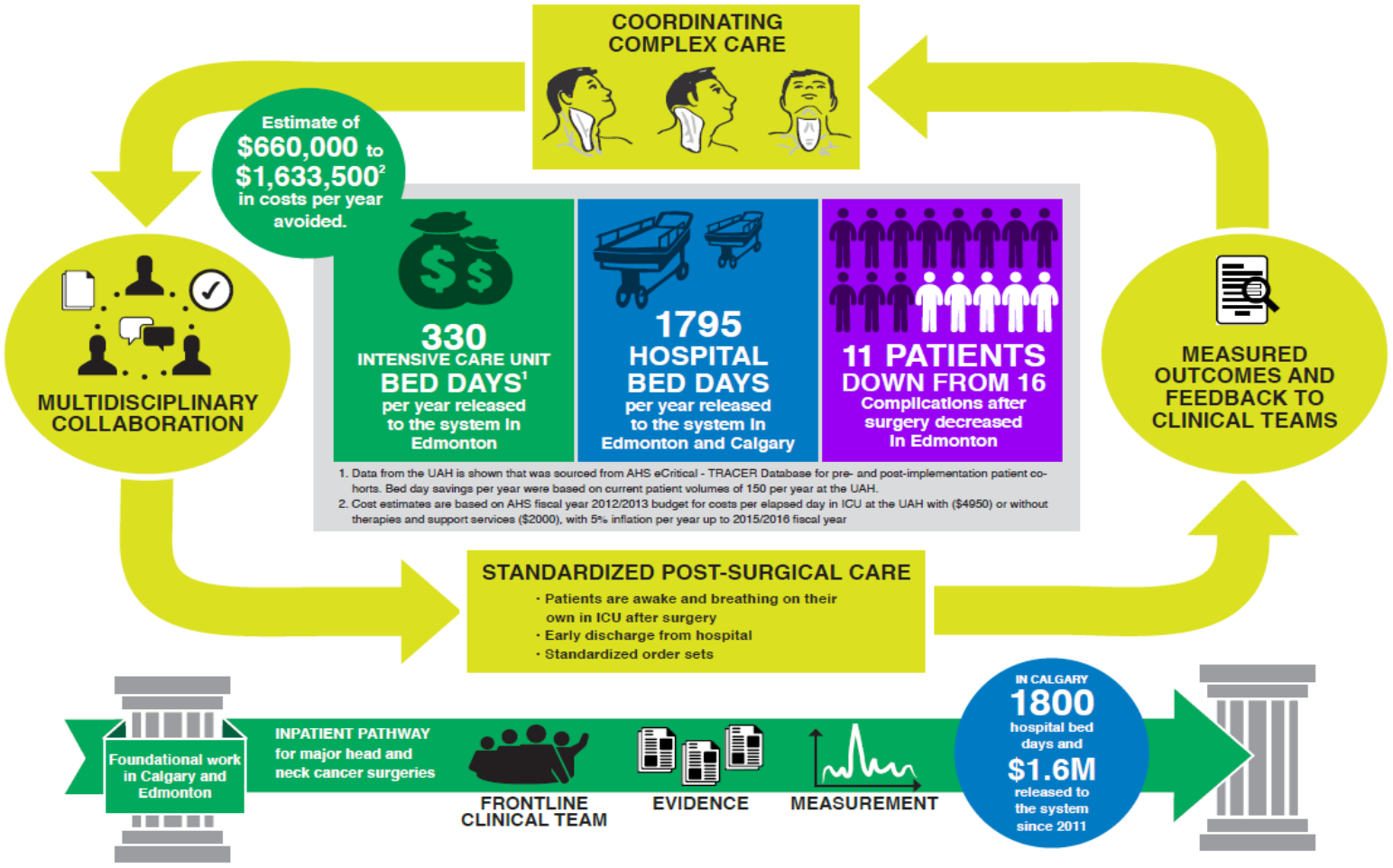
Strategic Clinical Networks (SCNs) are supporting frontline clinical teams to create improvements within focused areas of health care.

The Head and Neck Cancer Clinical Pathway is a key initiative to bring clinical teams together across the province to learn from each other. It is led by Zone-based surgical programs, with support from the Cancer, Critical Care and Surgery SCNs.

This initiative has led to better post-surgical care for over 200 head and neck cancer patients per year in Alberta. It has also generated substantial capacity at the University of Alberta Hospital (UAH) and the Foothills Medical Centre (FMC) without new resources.

HEAD AND NECK CANCER CLINICAL PATHWAY

SUPPORTED BY THE CANCER, CRITICAL CARE AND SURGERY STRATEGIC CLINICAL NETWORKS



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Resources

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