

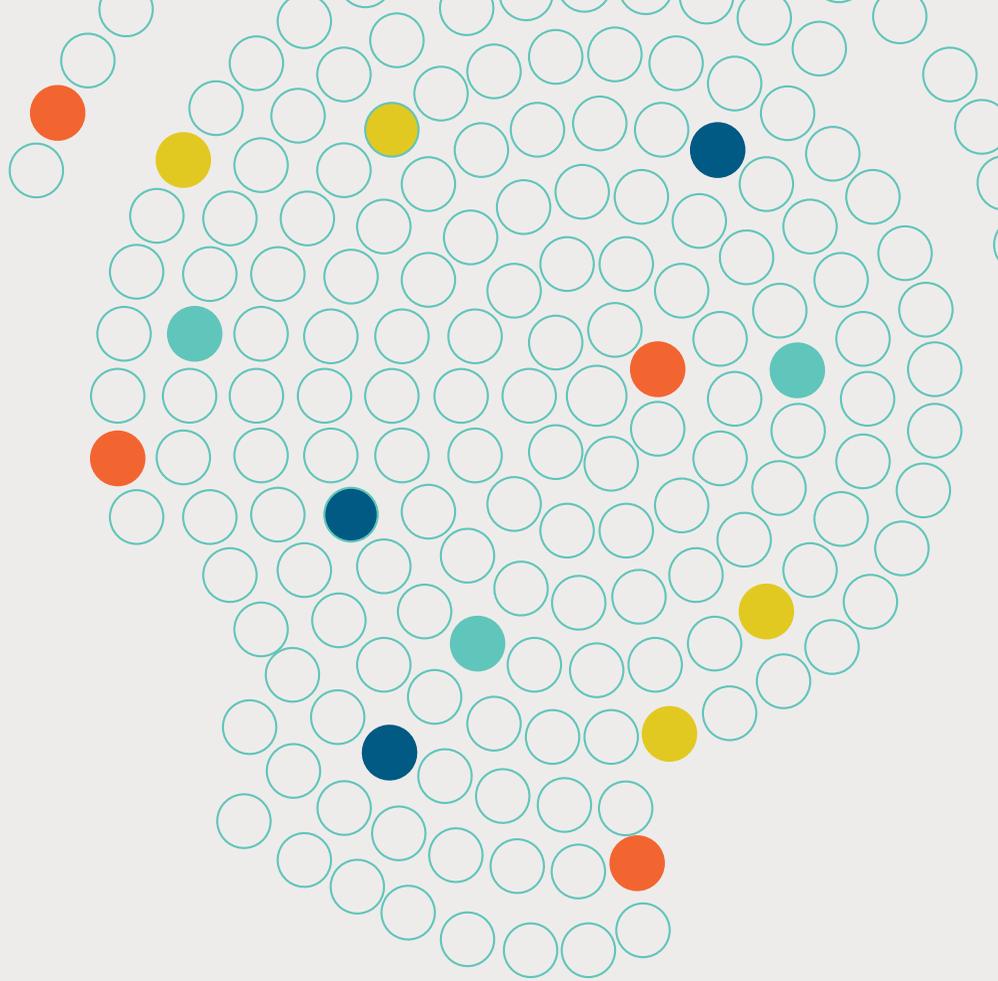
Tackling Complex Problems with Team-Based Solutions

NSQIP in BC 2014

WHAT'S INSIDE?

- 1 NSQIP in BC: Collated Results for All Hospitals
- 3 Local Stories of Improvement
- 12 Measuring the Immeasurable: Teamwork and Satisfaction
- 14 The Recap: Front Line Engagement
- 16 Summary





NSQIP in BC: Collated Results of All Hospitals

NSQIP in British Columbia has expanded dramatically since two hospitals started the program in 2006. The initial period saw a growth in the number of participating hospitals from those 2 to 25 in 2014. BC's NSQIP sites responded to the challenge of reacting in a timely manner to their initial data and have worked towards improving patient care across all areas of surgery. In these past three and a half years, gains have been made in several areas that have improved patient outcomes, reduced complications and saved lives.

Urinary tract infection (UTI) was the focus of many of the earliest NSQIP-focused projects. Since then, sites' focus has shifted to more complex problems such as surgical site infection (SSI), pneumonia, morbidity and mortality. Seeing improved results in these complications takes time and tackling these outcomes requires greater frontline, multidisciplinary and administrative support. NSQIP sites have made the commitment to address these multifaceted issues and have started to see improvement in their outcomes. This report highlights the results from the July 2014 risk-adjusted report and local success stories.

Working with the Data

NSQIP data is available in two forms: raw data and risk-adjusted data. Risk-adjusted data is provided by NSQIP four times a year and allows a site to compare its data with the other 525 hospital across North America enrolled in the program. Raw data is available to sites at any time and is used for real-time monitoring and local quality improvement.

NSQIP risk-adjusted reports contain three designations. “Exemplary” outcomes are achieved by the top 10% of participating hospitals and/or statistically-significant high performers. “Needs improvement” outcomes are results in the bottom 10% of participating hospitals and/or statistically-significant low performers. “As expected” outcomes are results that fall between “exemplary” and “needs improvement”. Risk-adjusted summaries in this report look at the “all cases” data of 24 adult NSQIP sites, unless otherwise specified.

There is one pediatric NSQIP site in BC, and it differs from the adult sites. Risk-adjusted reports are provided two times a year and reported outcomes are different, though they are still able to use raw data and can benchmark with the other 67 sites across North America now in the pediatric program.

NEEDS IMPROVEMENT

68% of the outcomes flagged as needing improvement in the July 2014 semi-annual report fall into three categories: UTI, SSI, and pneumonia. These three complications account for 27 of the instances in this designation. A total of 20 hospitals have at least one area flagged as “needs improvement.” The total number of indicators marked as needing improvement (40) increased from the 2013 summary (27) but there are 2 additional hospitals included in this year’s summary, and they account for 7 of the instances.

EXEMPLARY

Many of the NSQIP sites have been able maintain exemplary status in at least one outcome category. 10 hospitals have 17 instances of exemplary standing over 9 different outcomes. This number has remained steady compared to 2013 and ventilator >48 hours, mortality, DVT/PE and renal failure account for 65% of instances.

MERITORIOUS AWARD

UBC Hospital and Mount Saint Joseph’s were two of only 44 hospitals globally to be awarded “Meritorious Status” for its outstanding surgical outcomes by the American College of Surgeons National Surgical Quality Improvement Program in 2014.

This recognition means these hospitals achieved outstanding outcomes or composite quality scores in nine key surgical measures including mortality, unplanned intubation, ventilator >48hrs, renal failure, DVT/PE, cardiac, respiratory (pneumonia), surgical site infections and UTIs for all surgeries in 2013. Congratulations to the surgical teams at both hospitals for the great work!

Local Stories of Improvement

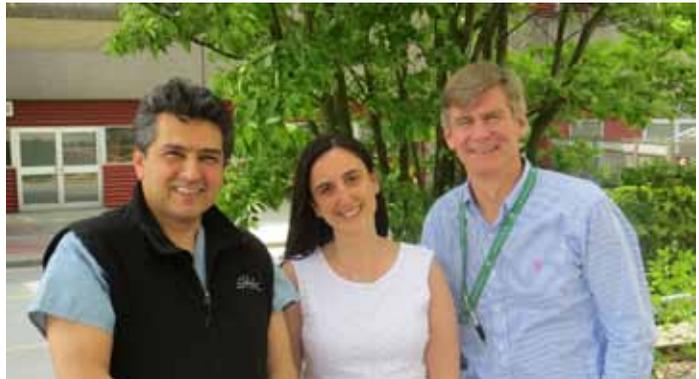
Most NSQIP sites have been reviewing their outcomes for over 3 years and face the additional challenge of determining the best ways to sustain early successes while addressing new focus areas for improvement. The commitment of NSQIP teams, and the frontline staff they work with, is detailed in these success stories.

No Status Quo Is Permitted – Success at BC Children’s Hospital

BC Children’s Hospital joined NSQIP-Pediatric in May 2011. From the very beginning, its surgical team members have focused on two aims – to develop a culture of safety with all disciplines involved in the care of surgical patients, and to reduce post-operative complication rates.

They decided that their first quality improvement initiative would combine both goals by trying to reduce their urinary tract infection (UTI) rate. They began by developing strong team dynamics and multi-disciplinary relationships within the surgical unit, and they used NSQIP data to design a case control study aimed at identifying quality improvement targets.

Since starting the UTI initiative in January 2012, they have had significant success in reducing their raw UTI rate from 2% to 0.3%, and have shifted from being a “needs improvement” site, to “as expected”.



NSQIP team from BC Children’s Hospital : Kourosh Afshar, Julie Bedford and Erik Skarsgard

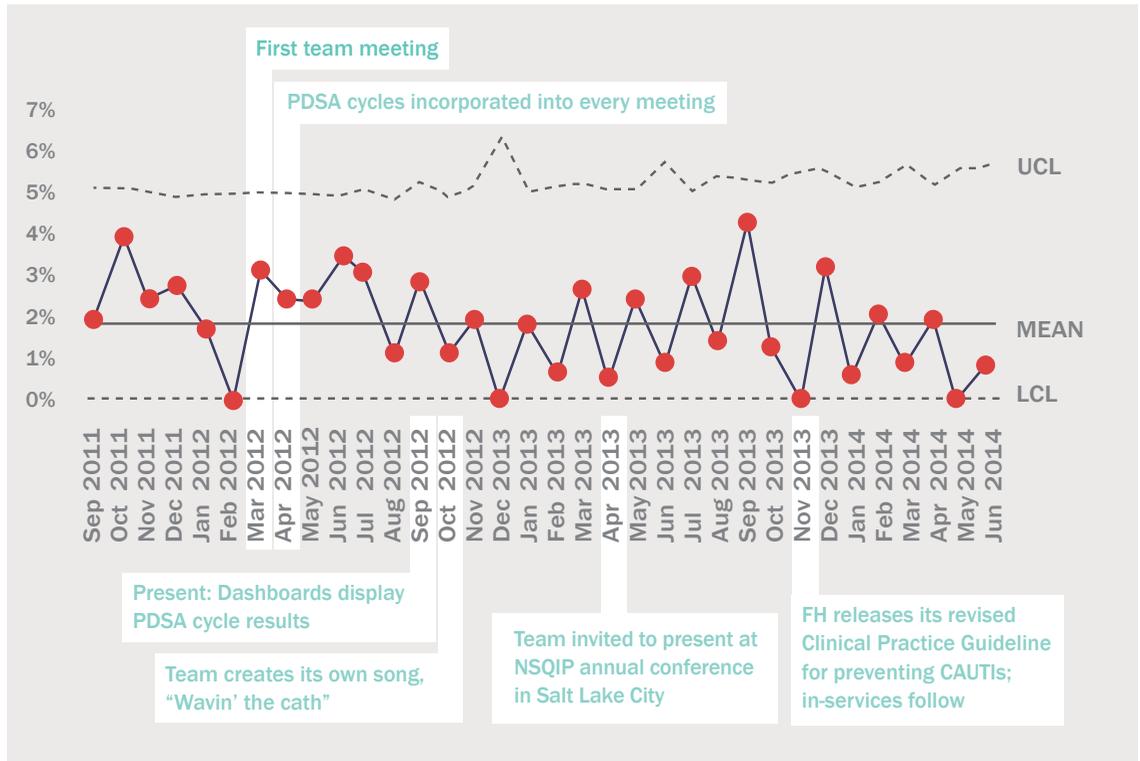
“Thanks to our NSQIP-P data we’ve identified and made significant improvements in our outcomes and patient care.”

Julie Bedford

Since the spring of 2013, they have built on their achievement with UTIs by tackling surgical site infections. To succeed in this, they recognize the need to be ‘relentless’ in their improvement efforts, and have developed a new definition of NSQIP aimed at decreasing complacency in all disciplines – **No Status Quo Is Permitted**. A variety of activities have sprung from this, including increased infection control audits in the surgical suites and updated policies in the OR for attire and patient temperature regulation. Surgical departments have also been tasked with determining at least one quality improvement initiative. They are in the process of measuring outcomes and hope to report a decrease in our SSIs next year.

Continuing the Attack on UTIs – Surrey Memorial Hospital

Surrey Memorial Hospital continues to sustain the gains it achieved in reducing UTIs in the General Surgery and Orthopaedics departments. A pneumonia and UTI NSQIP action team meets monthly to review data and actions taken to reduce postsurgical infections. The emphasis is on education, sharing of data and targeted actions in response to the data. These actions include regular huddles, in-services on revised clinical practice guidelines, posting of NSQIP data, and posting of dashboards showing the results of monthly audits to measure compliance with best practices and clinical practice guidelines. Over the 12 month period of June 30, 2013 to July 1, 2014, the Orthopaedics department had 8 months with no UTIs and the General Surgery department had 7 months with no UTIs.

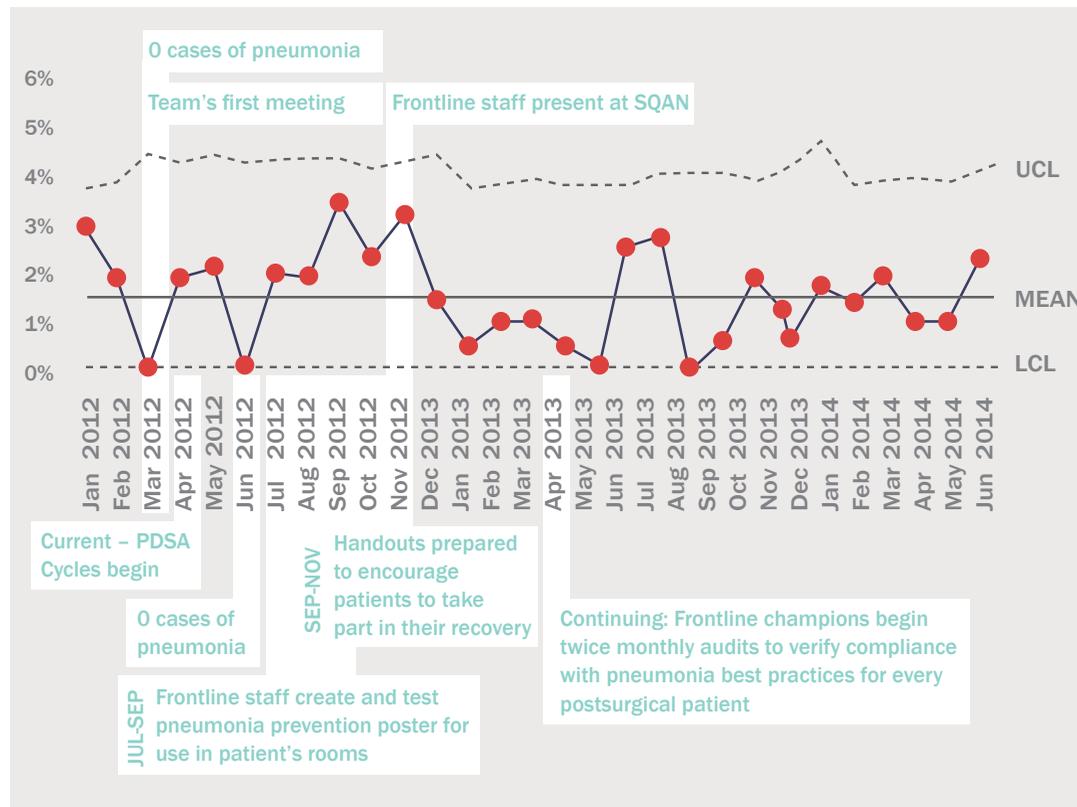


Fewer cases of Pneumonia: Peer-to-peer education helps reduce pneumonia as a postsurgical complication at Burnaby Hospital

Burnaby Hospital's surgical program has a long history of striving to prevent pneumonia. In 2012 a frontline-led NSQIP action team was created and developed a poster highlighting best practices for preventing pneumonia. It was posted in patients' rooms so that they could actively participate in their recovery. In early 2013, volunteer frontline nurses came forward to act as pneumonia prevention champions. They conduct twice-monthly audits on every surgical patient to ensure compliance with all elements of the pneumonia prevention bundle; results are reviewed regularly by the action team so that progress can be measured and the audit tools can be refined. The champions also provide in-the-moment in-services to new and returning staff on how to follow best practices for preventing pneumonia as a postsurgical infection.

A Clinical Nurse Educator supplements in-the-moment in-services with additional teaching to ensure best practices are understood and can be applied. The risk-adjusted pneumonia rate for 2013 is "as expected" – comparable to similar NSQIP sites. Audit results, compliance with best pneumonia practices, and NSQIP data are posted on the wards for the staff to see. The graphs are a powerful tool that identifies where best practices have taken root and where they can be improved.

BURNABY HOSPITAL PNEUMONIA

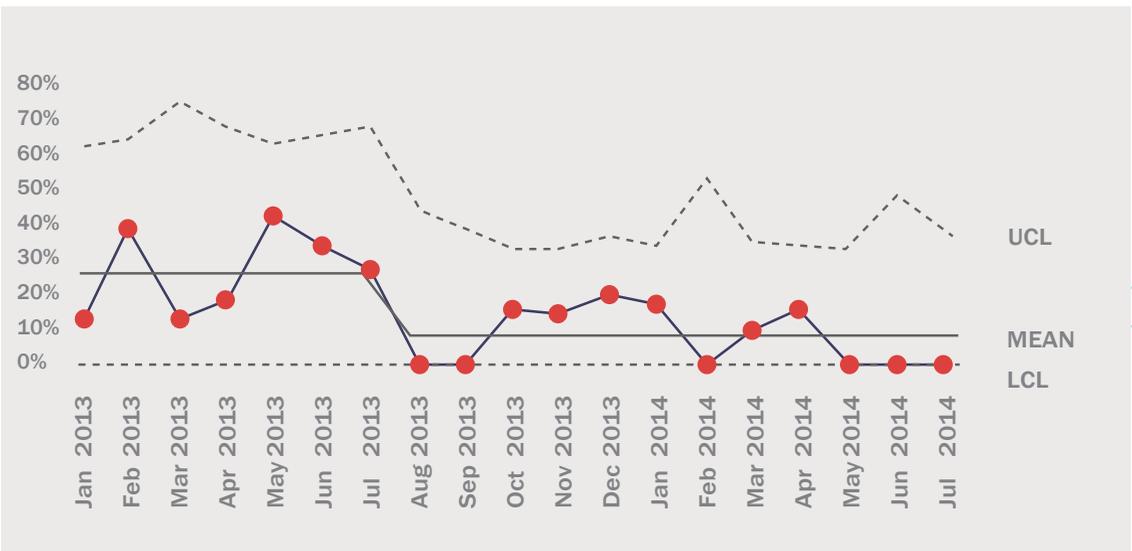


Significant Improvement in SSI – Royal Inland Hospital

Royal Inland Hospital implemented an SSI bundle for colectomy/proctectomy cases on June 17, 2013. Elements of this bundle included containment technique in the OR, increasing the use of wound barriers and the use of antimicrobial sutures. These elements involved a significant change in practice for OR teams and was supported by OR staff. Antibiotic timing was addressed and new procedures were put in place to ensure all antibiotics were administered within recommended guidelines.

Additional focus was placed on monitoring established practices, such as temperature in the OR and providing patients with written wound care instructions. From January 1, 2013 until the implementation of the bundle, the SSI rate for this population of patients was 23.5%. After the introduction of these new processes, SSI rates dropped to 12.9%.

ROYAL INLAND HOSPITAL COLORECTAL SSI



As of January 1, 2013 all colorectal cases at RIH were collected (June 2013) RIH SSI Bundle Initiated

ICOUGHsm – A Simple Strategy to Prevent Pneumonia at Richmond Hospital

Richmond Hospital was a statistical pneumonia outlier for the years 2011 and 2012. In September of 2013 its surgical team launched a pneumonia prevention strategy, with the goal of reducing post-op pneumonia rates by 50%. From January 2012 to August 2013, the rate was 0.86%. From September 2013 to June 2014, the rate dropped to 0.36%.

They were able to achieve the goal by developing a strategy that adapted existing protocols to reflect current scientific evidence, employed simple nursing-related care actions and, most importantly, engaged patients and families in their own preventative care plans.

They also personalized the mnemonic device **ICOUGH** as their main communication and education tool. This was based on previous work from Vancouver General Hospital and Boston Medical Centre. This further provided a patient voice in the pneumonia prevention strategy.

I – Breathe In and hold.

C – active Coughing.

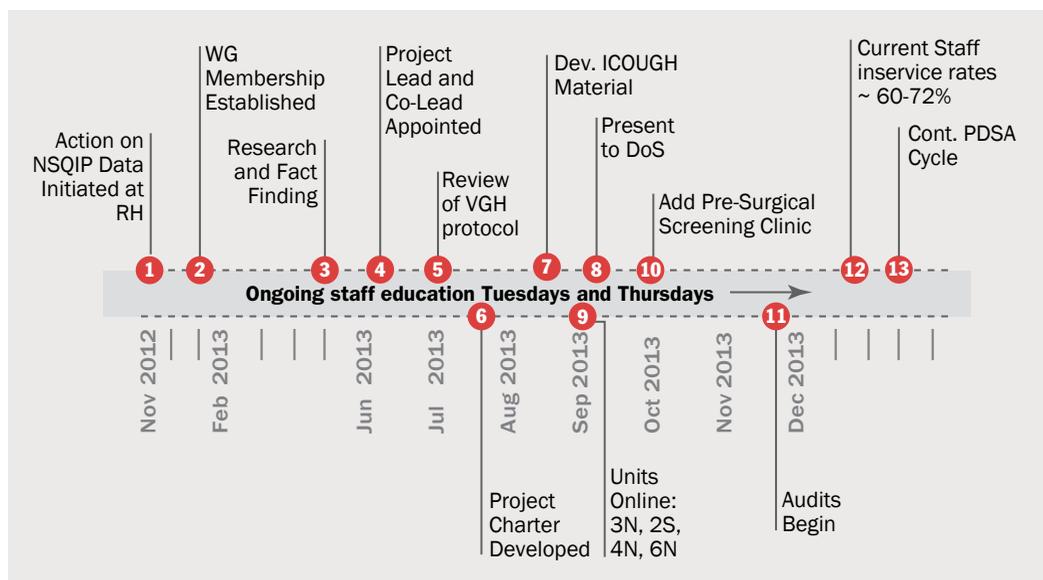
O – Oral Care.

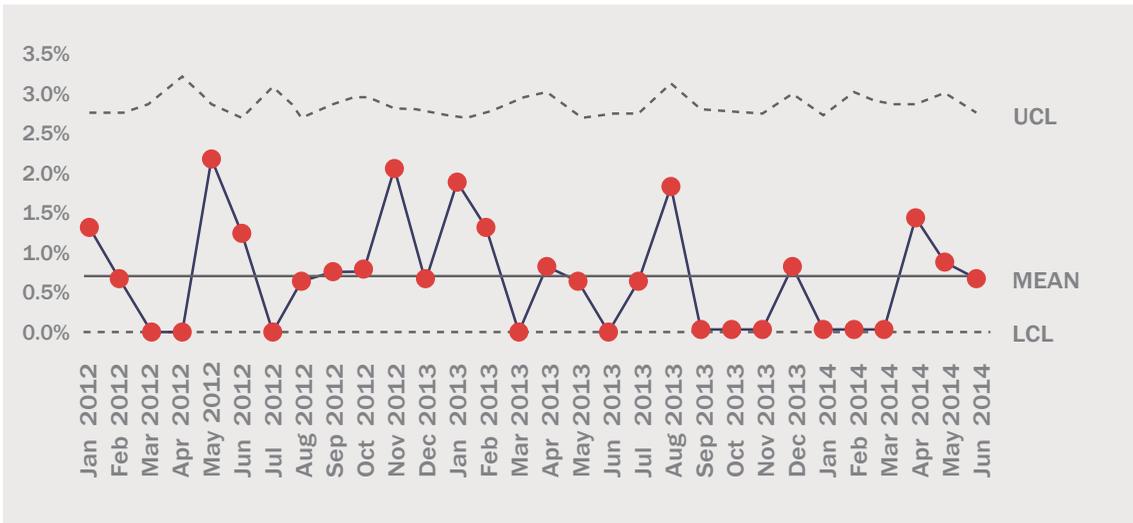
U – Up Head of bed > 30 degrees.

G – Get moving (ambulate as tolerated/per Physician's order).

H – Have a conversation about reducing pneumonia.

RICHMOND HOSPITAL ICOUGH STRATEGY TIMELINE





The strategy was seen as simple and effective enough to warrant hospital-wide implementation. This included pre-op and the emergency room, as **active breathing exercises** dovetail with other pre-habilitation techniques and can reduce pulmonary complications including pneumonia. By partnering with unit educators and established *Releasing Time to Care** huddles, the **staff education** phase was smooth. Addressing **oral care** needs was resolved by providing oral care kits as needed.

*Releasing Time to Care is methodology from NHS England that focuses on improving ward processes and environments to help nurses and therapists spend more time on patient care thereby improving safety and efficiency.



“NSQIP has emerged as a rigorous, valid and impressive methodology for the tracking of surgical complications. The American College of Surgeons should consider expanding the program to include what it currently excludes (trauma, transplant, etc.) to allow for a comprehensive analysis of surgery as a whole because high risk specialties are being omitted. Since what gets measured has the ability to be managed, the change management aspect of ‘managing’ culture at the institutional level remains an opportunity that the ACS should embrace.”

Jugpal Arneja, Plastic Surgeon, BC Children’s Hospital

Morbidity – Addressing a Summative Variable at Penticton Regional Hospital

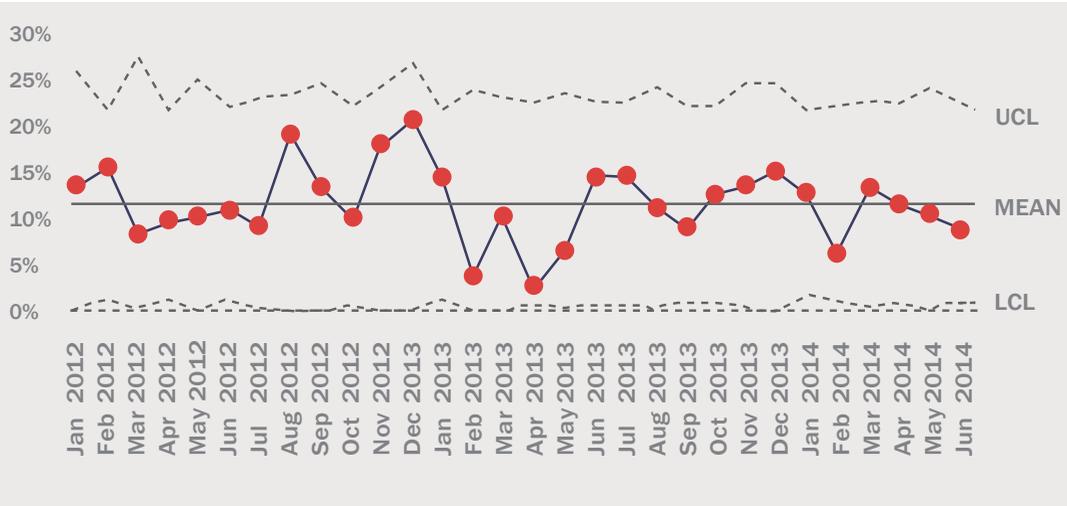
In 2012, Penticton Regional Hospital’s risk-adjusted data showed that they were an outlier in the tenth decile for Death and Serious Morbidity (DSM) and Elderly DSM, but has improved to the ninth decile for both categories in 2014. As they move forward with implemented actions, it is hoping to see continued improvement in decile standings in future reports.

Penticton Regional Hospital started work with the NSQIP risk calculator in 2012 with one surgeon and has since provided education and evaluated the viability of its use for a larger group of physicians who work in surgery, internal medicine and as family physicians. The goal is to promote the use of the ACS NSQIP Risk Calculator pre-operatively, to help the physician determine the level of risk and to frame the conversation regarding risks with the patient and family.

Additionally, in 2013 a formalized system in their Pre-Surgical Screening Clinic was developed to identify surgical patients with co-morbid conditions who would benefit from a pre-operative assessment by Internal Medicine to ensure optimization prior to surgery. In collaboration with the Department of Internal Medicine, team members created a physician call group and electronic flagging system to ensure Internal Medicine is notified of the admission of these higher risk surgical patients, to allow for initial post-operative review and medical involvement as required during their post-operative.

A tracking system to monitor the frequency of requests for Internal Medicine assessments pre-operatively via the Pre-Surgical Screening Clinic, as well as number of patients flagged for Internal Medicine was recently developed. An exciting result from preliminary data shows that surgeons are beginning to refer patients to Internal Medicine, earlier, allowing greater time for health optimization. The Pre-Surgical Screening Clinic is seeing fewer patients who would benefit from an initial Internal Medicine assessment than when the hospital began this initiative.

PENTICTON REGIONAL HOSPITAL
DEATH AND SERIOUS MORBIDITY

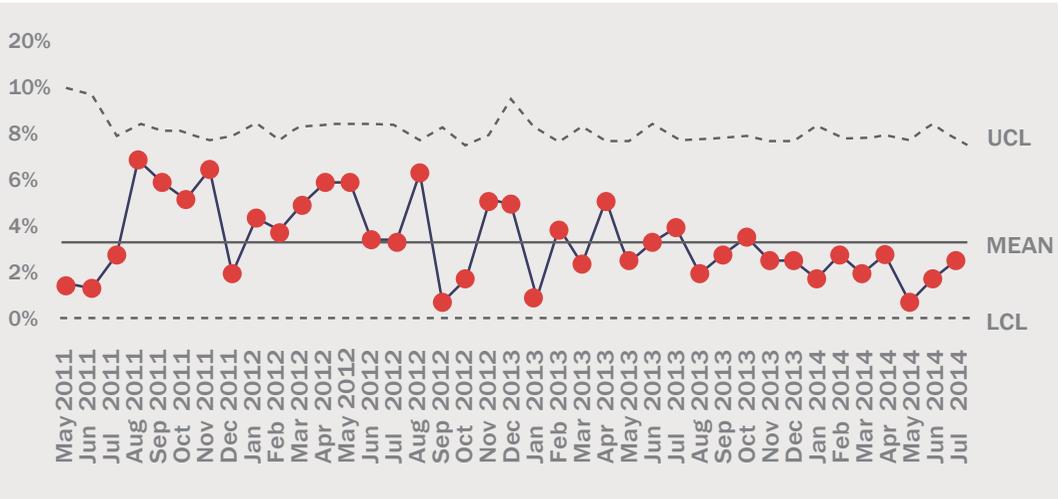


UTI and SSI - Focused Work in Two Areas Leads to Huge Gains at Providence Health

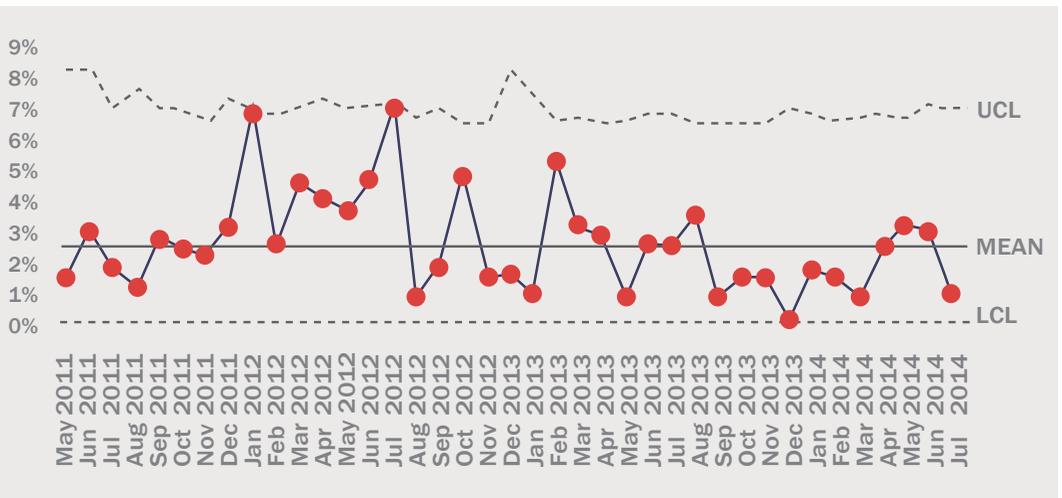
Providence Health Care has been focusing on reducing UTIs at its two sites (St Paul's Hospital and Mount St Joseph Hospital) since the spring of 2012. They are now coming close to attaining their UTI reduction goals and are happy to report that they have moved out of the 'needs improvement' category for UTIs on their risk-adjusted reports.

The hospitals are moving on to the sustaining phase of the UTI projects. In February 2013, Providence Health Care began meeting to address SSI rates. From October 2013 into the spring of 2014, newly developed SSI bundles were gradually introduced with auditing beginning in summer 2014.

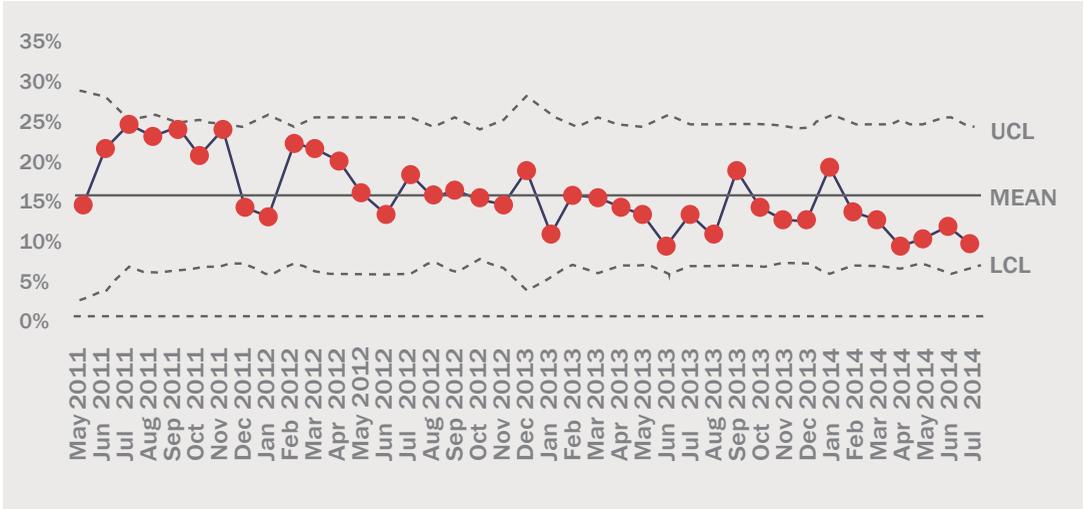
ST. PAUL'S HOSPITAL SURGICAL SITE INFECTION RATES



MOUNT ST JOSEPH'S SURGICAL SITE INFECTION RATES



The improvements in both UTI and SSI have resulted in a decreasing shift in overall morbidity. Morbidity is a summative measure that is affected by multiple factors and even large gains in single outcome rates do not always affect overall morbidity rates. The combined work in two key outcomes areas is making a difference in outcomes for patients of Providence Health Care.



“The Providence Health Care SSI Reduction Working Group has truly been a multidisciplinary effort. The working group team is composed of very dedicated and talented people from different areas that have come together and have greatly improved the surgical experience for our shared patients.”

Alex Seal, MD, FRCSC, University of British Columbia,
Plastic and Reconstructive Surgery

Measuring the Immeasurable: Teamwork and Satisfaction

While a reduction in complication rates is the end goal of most improvement initiatives, NSQIP sites across BC have found an added advantage to focusing on patient care. Some hospitals have used their data collection and action teams as an opportunity to include an additional goal of improving teamwork and acknowledging the hard work of hospital staff.

A Team Effort: Peace Arch Hospital's Comprehensive Unit-based Safety Program (CUSP)

Peace Arch Hospital decided to form a CUSP team to strengthen teamwork and communications in the OR and improve surgical patients' outcomes. In the first five months the CUSP team has sought and received recommendations for preventing harm from 80 percent of the OR nurses, PACU nurses, as well as surgeons and anesthesiologists.

Orthopaedic instrument sets had been wrapped in linen prone to developing tears and contamination of the sterile field. New heavy cotton "K" wrappers that are resistant to tearing are now used. Other interventions include: minimizing traffic in the total joint room, keeping OR doors closed during cleaning to maintain positive pressure, working with vendors to resolve an issue with non-sterile medication ampoules, and creation of a "Great Catches" board highlighting harms prevented. While it is too soon to examine how initiative has affected infection rates, the CUSP team continues to monitor outcomes and improve patient care.



Wall of Pride – Burnaby Hospital

Most people go into the nursing profession because they want to help people, to make a difference. The administrators of Burnaby Hospital invited the surgery inpatient units to build a “Wall of Pride” that showcases the surgical in-patient units. In response, a team of frontline nurses developed a poster based on what their patients and patients’ families had to say about the patient experience in surgery. The words come from patients’ cards and letters to the unit. Together, they paint a picture of a caring culture that places the patient at the centre.



Burnaby Hospital Staff

“You all do heroes’ work in less than ideal circumstances. We will always remember your great care with gratitude and fondness.” Patient Feedback at Burnaby Hospital

Call to Care

In September 2013, Royal Jubilee Hospital’s Surgical Day Care introduced the “Call to Care,” where all surgical day care patients are called by a nurse the day after they are released from hospital. The purpose of the call is to answer any questions the patient may have, support a safe transition from hospital to home, and reinforce discharge instructions and information, thereby improving the patient experience and potentially preventing visits to the emergency department.

Preliminary results show that more than 80% of patients had no problems or questions after being discharged and were pleased to receive a follow up phone call. The remaining patients had questions about discharge instructions in the areas of pain management, dressing changes, and what to expect after surgery. Nurses receive ‘real time’ quality improvement feedback and kudos for the care they delivered. Discharge phone calls are a common part of health care in other systems and the value of the follow-up is being recognized. There is interested in expanding the project beyond daycare patients and to other hospitals.

The Future: Front Line Engagement

Varying approaches are gaining momentum in BC as passionate providers are trying to identify good ideas and solutions to their complex problems.

Enhanced Recovery Spreading

Enhanced recovery protocols aim to improve patient outcomes by implementing and monitoring best practice. Through the implementation of these processes, patients are seeing fewer infections, reduced length of stay and are more satisfied with their operative experience. A province-wide Enhanced Recovery Collaborative, run by the Specialist Services Committee and The Doctors of BC, has brought together established and novice enhanced recovery sites to focus on a common goals and action. While many sites are starting with colorectal surgeries as a primary focus, enhanced recovery program have already been expanded to include additional surgical subspecialties and surgeries at some hospitals in BC.

OR Team Training and Coaching

The BCPSQC is offering a new resource for improving teamwork! Recent literature and experiences are indicating that an effective way to change culture is through observations, peer-coaching, and developing team-based non-technical skills. We are working with early adopters of clinical front line teams to embed regular peer-observations and training into day-to-day surgical operations so that operative effectiveness, safety and team situation awareness are ingrained.

The BCPSQC is offering an array of items of support to surgical departments across the province:

- General education by understanding what your culture is like and how to take advantage of healthcare as a complex adaptive system,
- Assessing culture through the Safety Attitudes Questionnaire and understanding where your culture is now,
- Team building games and activities that help engage clinical teams and provide an opportunity for interactive coaching,
- Learning more about teams through shadowing observations and how to provide feedback and mentorship through these observations,
- And creating peer coaching teams to support non-technical skills in the operating room.

By developing a support network for specialists' groups (surgeons, anesthesia, and nursing) in all health authorities, we strive to support their personal and professional commitment to provide the best care.

Frontline Teams Thinking of the Ideas and the Execution! CUSP and TPOT

Fourteen CUSP teams are asking front line staff and physicians what they struggle with every day! The two CUPS questions: *How can we harm the next patient? How can we prevent this from happening?* have created a frontline movement. The teams are demonstrating success through reduction in UTIs and the implementation of ERAS on their surgical units. Teams are learning from their “missteps”; the risks of not aligning with administrative priorities, how too much rigidity can backfire, and how looking at outcome data too early can cause confusion. The key elements to energize the improvement teams in this initiative were: no predetermined focus area; site visits from provincial lead; energetic face to face meetings and one on one coaching with administrative leaders. More CUSP teams are popping up every month.

Three hospitals have embraced “The Productive Operating Theatre” (TPOT). These teams have shed light on duplication of work and how simple measures can guide their work. The ownership of the issues by nurses and physicians is contributing to sustained energy and commitment. The data collected by NSQIP is being used to monitor outcomes as the teams expand to other areas of the patient’s surgical journey. Plans are in place to spread to more surgical areas in the near future.

The Elephant in the Room

More than ever we have recognized the need to address “the elephant in the room” which often is closely connected to culture. BCPSQC has assisted 20 operating rooms across the province to measure their culture using the “safety attitudes questionnaire”. The survey results are proving to be a key tool for leaders as they address the issues that are front line teams to plan and implement improvements.

Check out a new video and resources at ShiftCulture.ca



“NSQIP needs to stop being a side project, and become a focus of OR Management”

Curt Smecher, Anesthesiologist, Abbotsford Regional Hospital

Recap

The journey of the 25 NSQIP sites in BC has informed us that the data is the only the foundation for improvement. The hard work is now underway as front-line staff commitment and energy identify and implement solutions. There are many improvement methods that are fruitful; however it is the frontline staff commitment and energy that is essential to execute the good ideas.

“Genius is 1% inspiration, and 99% perspiration”

Thomas Edison



The NSQIP team at Royal Inland Hospital celebrates their hard work and success by sharing results and cookies with the frontline teams. Cheryl Sibbelee (picture of Tom Wallace), Kecia Turunen, Kerry Cardwell and Julie Wootten (picture of Denise Chartrand).

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