

Impact of Quality Improvement Initiative on Post-surgical Outcomes:

A National Surgical Quality Improvement Program (NSQIP) Evaluation Study, Alberta

Habib F, Gerrits K, Roberts T, Park R, Branicki K, Litvinchuk S

THE NEED



Improve quality of care by reducing the rate of post-surgical complications

AHS spends approximately \$ 1 billion on surgery-related activities annually (Source: AHS Finance 2015). There are surgical complications that are preventable, and are significant and costly to both patients and the healthcare system.



Limited clinical data on surgery-related activities to inform clinicians and the system as to how well they are performing.



The Idea!!

National Surgical Quality Improvement Program (NSQIP) implementation

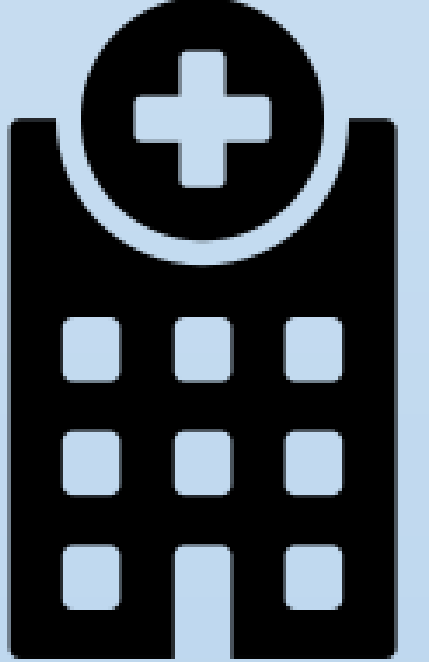
- Outcome based program aimed to improve quality of surgical care
- Provides risk adjusted morbidity & mortality data
- International, National and Provincial Benchmarking
- Cost effective
- Improves accuracy of organizational and public performance reporting data



The Pilot

Alberta, June 2015

AHS + Surgery Strategic Clinical Network (SSCN) + American College of Surgeons (ACS)



- Rockyview General Hospital –Calgary (RGH)
- University of Alberta Hospital- Edmonton (UAH)
- Queen Elizabeth II Hospital- Grande Prairie (QEII)
- Red Deer Regional Hospital Centre- Red Deer (RDRHC)
- Chinook Regional Hospital- Lethbridge (CRH)



The Program

Data collection	Data Monitoring & Validation	Report Generation	Data Analysis
<ul style="list-style-type: none"> • Preoperative risk factors • Intraoperative variables • 30-day postoperative mortality & morbidity outcomes 	<ul style="list-style-type: none"> • Trained Surgical Clinical Reviewers (SCR) • Data submission through secure web based system 	<ul style="list-style-type: none"> • Comprehensive semi annual reports • Real time reports • Online national and site specific benchmarking reports 	<ul style="list-style-type: none"> • Risk adjusted 30 day morbidity and mortality outcomes • Systems focused

- ✓ Identification and implementation of QI initiatives
- ✓ Multi-disciplinary teams include Surgeons, Anesthesiologist, Site Administrative Leader and SCRs
- ✓ Plan-Do-Study-Act (PDSA) cycles based on Learning Collaborative and Scorecard methodology
- ✓ Education & Training

THE EVALUATION



PATIENT SAFETY



Pre NSQIP Implementation Period: Oct 1st, 2013 to Dec 31st, 2015
 Post NSQIP Implementation Period: Jan 1st, 2016 to Jan 31st, 2017

The Impact*



✓ 7 % reduction in Length of Stay (LOS) > 5 days



✓ 13% reduction in Post-surgical complications at RDRHC



✓ 14% reduction in LOS > 5 days at RDRHC

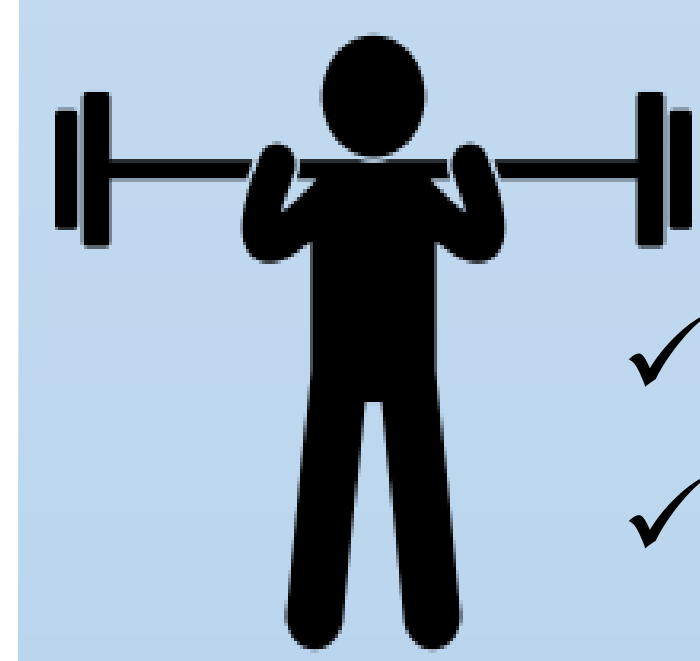
✓ 13% reduction in LOS > 5 days at RGH

✓ 12% reduction in Readmissions within 30 days at RGH

✓ 7% reduction in LOS among patients undergoing General Surgery

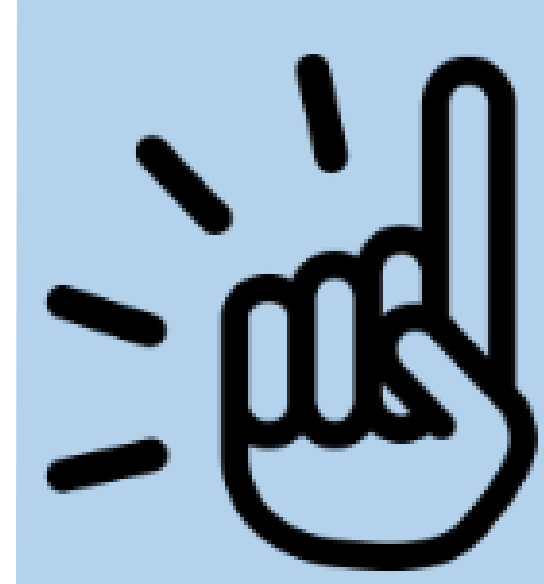
✓ 8% reduction in LOS among patients undergoing Orthopedic Surgery

*Multivariable model was adjusted for patient's gender and age at the time of admission
 Data source: Discharge Abstract Database (DAD)



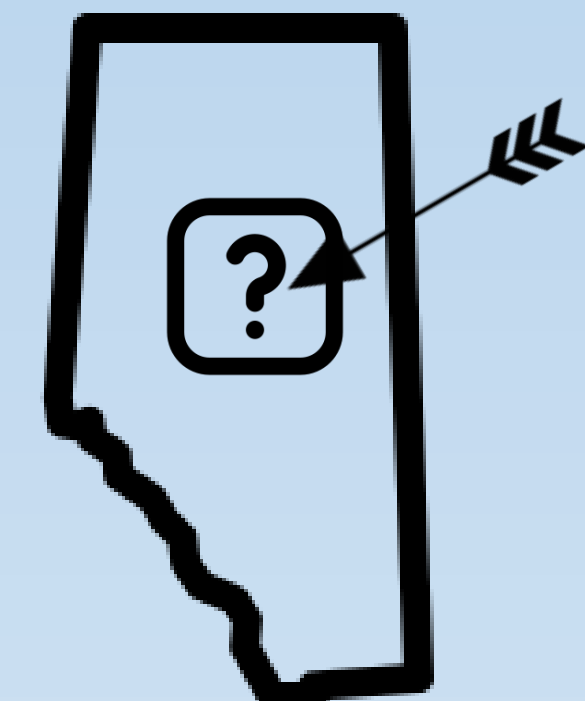
The Strengths

- ✓ Crude and Adjusted statistical analysis
- ✓ Findings reflect the effectiveness of NSQIP implementation LOS > 5 days post discharge
- ✓ AHS data source (DAD)
- ✓ Results showed impact by mode of surgery and by facility breakdown



Lessons Learned.....

✓ Refinement of the clinical outcomes
 Based on preliminary findings there is evidence for the capacity to improve surgical outcomes within AHS via dedicated quality improvement initiatives.



What's next?.....
 Continued implementation on pilot sites