DoD NSQIP Overview
DHB Quarterly Meeting San Diego 2018

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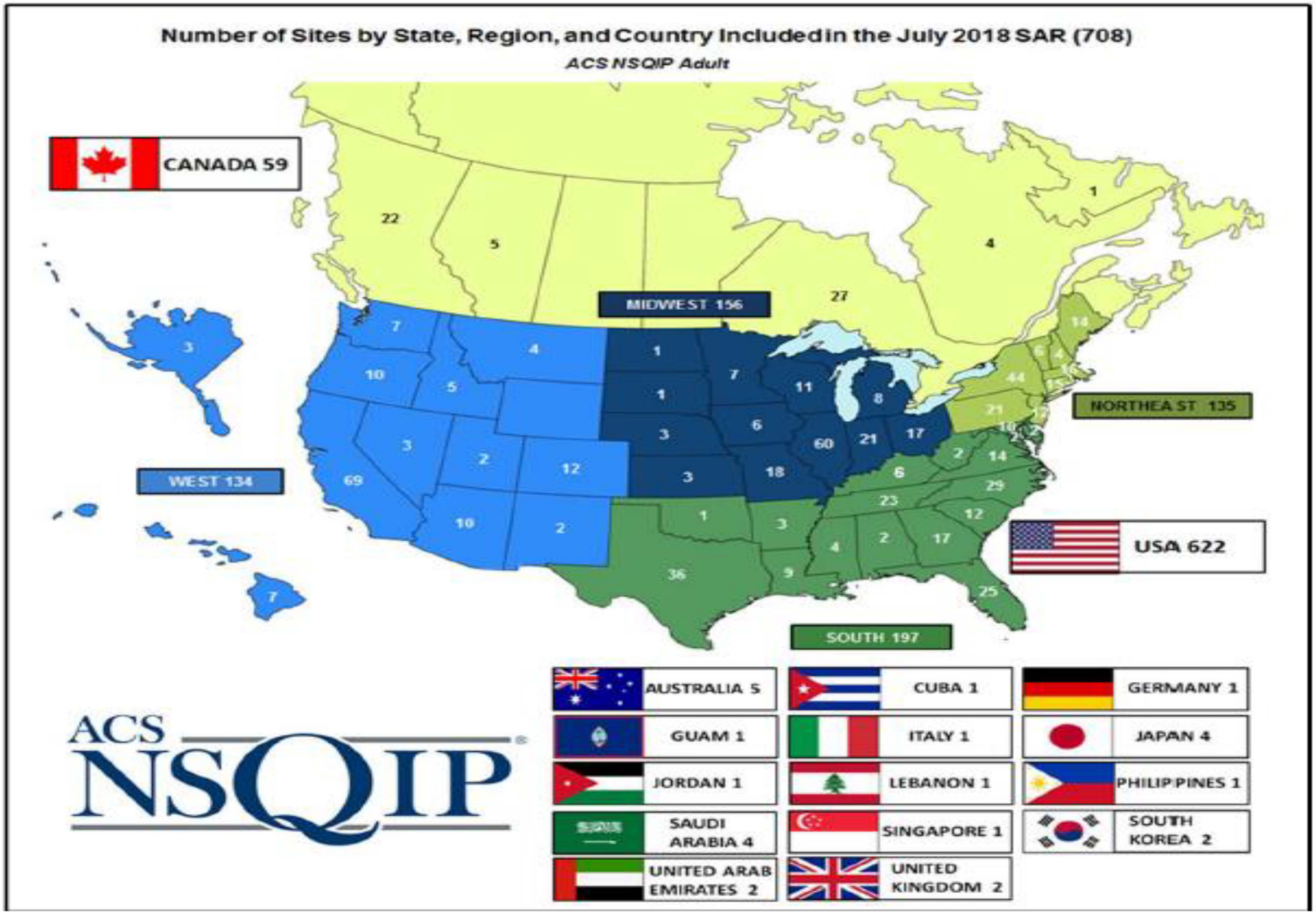
American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) Overview

- ACS NSQIP is a data-driven, risk-adjusted, outcomes-based program whose goal is to measure and improve the quality of surgical care.

- Provides ***facility-based*** assessments of surgical outcomes

- Direct Benefits of Participation include:
  - Identifying areas that require increased attention to quality improvement
  - Targeted decision making
  - Comparison of quality outcome data to like institutions
  - Access to participating institutions approaches to similar quality challenges
  - Improving patient care and patient outcomes
  - Decreasing institutional healthcare costs

Current Participants



NSQIP Methodology

Each facility requires a Surgeon Champion and a Surgical Case Reviewer (SCR)

SCR trained to abstract clinical information about preoperative risk factors and post-operative events based on strict definitions – **key to data quality**

Case selection is governed by strict inclusion/exclusion criteria and abstraction cycles (8-day cycle) to maintain some degree of random selection

1 FTE SCR should be capable of abstracting ~1600 cases annually (influenced by experience, IT challenges, etc.)

NSQIP Methodology cont…

Case selection also influenced by the type of program in which facility enrolls:

- Essentials program – broad multispecialty for larger facilities, abstracting a subset of cases (at least 10%)
- Procedure targeted – broad multiservice with emphasis on specific procedures but still targeting at least 10% of cases
- Small/Rural – all eligible cases

Cases must be fully abstracted and closed within 90 days of index procedure. Outcomes are 30-days.

NSQIP Methodology cont…

Data is entered into a secure registry, and risk-adjusted models for postoperative events are generated

Critical component of risk-adjustment comes from the type of operation performed, as designated by CPT code

Models are used to generate adjusted observed vs expected event odds ratios

Reports generated by NSQIP will report aggregate odds ratios by outcome, specialty, and in some cases, procedure classes, along with 95% confidence intervals

Available Statistical Models – 540+

Outcomes

- Mortality
- Morbidity
- Cardiac
- Pneumonia
- Unplanned Intubation
- On ventilator >48 Hours
- VTE
- Renal Failure
- UTI
- SSI
- Sepsis
- C.diff colitis
- Return to OR
- Readmission
- LOS

Subsets

- General
- Vascular
- Orthopedics
- Neurosurgery
- Plastics
- Gynecology
- Urology
- ENT
- Cardiac
- Thoracic
- Elderly
- Colorectal
- Procedure Specific

Semiannual Report (SAR)

Statistical gold standard is the Semiannual Report (SAR)

- Models are completely recalculated and facility performance can be compared to NSQIP population
- Last case in the report was performed 6 months prior to the report and reports are only generated in January and July

Interim Semiannual Reports are generated in April and October but do not undergo complete model regeneration as performed for SARs, and data is still 6 months old

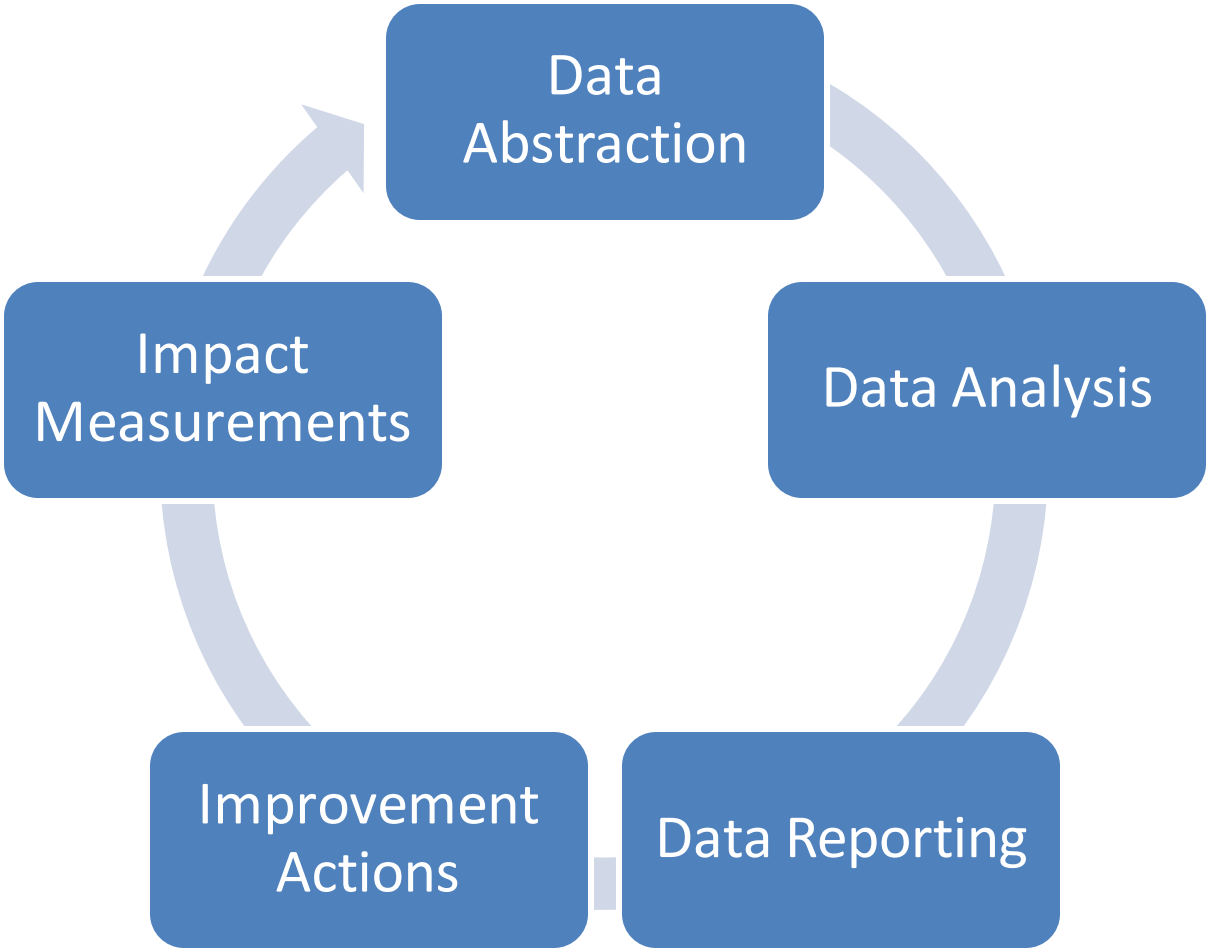
Additional NSQIP Reports

"On-demand", risk-adjusted rates can be generated which provide information <6 months old

Raw data reports from ACS NSQIP Workstation

Ad hoc reports from ACS

Participant User File (PUF) – Contains all cases reported from 2004 to date for research


Data Abstraction
Data Analysis
Data Reporting
Improvement Actions
Impact Measurements

NSQIP Capabilities

What is it good for?

Provides generalized, benchmarked assessment of surgical quality at MTFs

Reasonably broad acceptance of risk adjustment validity

Identifies "burning platforms" for urgent intervention

Can provide actionable data for selected procedures given adequate numbers

Meets multiple regulatory requirements for quality tracking (MOC, JC)

Best practice guidelines

Risk calculator http://riskcalculator.facs.org/RiskCalculator/

NSQIP Capabilities

Where is it limited?

Gives you the data, but not necessarily the solution

Unlikely to provide actionable data for procedures with low numbers

Not highly effective for individual surgeon performance at larger facilities due to sampling methodology

NSQIP can provide aggregate collaborative reports but only for certain outcomes – not yet able to provide more granular data (e.g., "How does the DOD do with bariatric surgery?")

• NSQIP IN THE DOD

History of DoD NSQIP

1991	• Department of VA develops the early form of VASQIP
2004	• NSQIP piloted in selected university medical centers and in 3 MTFs (NMC-SD, WRAMC, WHMC)
2005	• NSQIP made available to civilian hospitals
2009	• DoD NSQIP program officially started
2014	• 17 DoD MTFs participating in NSQIP; 90-day MHS Review published
2015	• Steering Panel and Working Group created to oversee expansion of NSQIP to all inpt surgical MTFs
2018	• Expansion to 48 MTFs completed

DoD NSQIP is a Shared Resource Program

DHA

MTF Membership Fees

SCR Training

Program Management

Contract COR

Services

- 1 FTE Surgical Nurse Reviewer (SCR)
- Active Duty Surgeon Champion
- Travel for Surgeon Champion and SCR to attend annual ACS Safety and Quality Conference
- Annual Hospital Participation Agreements are signed by MTF commander/director

Current Governance Structure to DoD NSQIP

DoD NSQIP Steering Panel

Voting members include a designated service SC and a service SCR for each of Army, Navy, Air Force, and NCR

Each service differs in how the Service SC and SCR are selected

SC and SCR co-chair the panel and are selected by peers from the steering panel

Originally purposed to coordinate the expansion, now more focused on sustaining effective use of NSQIP across DoD

Report data/updates: DHA Clinical Quality Integration Board, Deputy Medical Operations Group

Current Governance Structure to DoD NSQIP

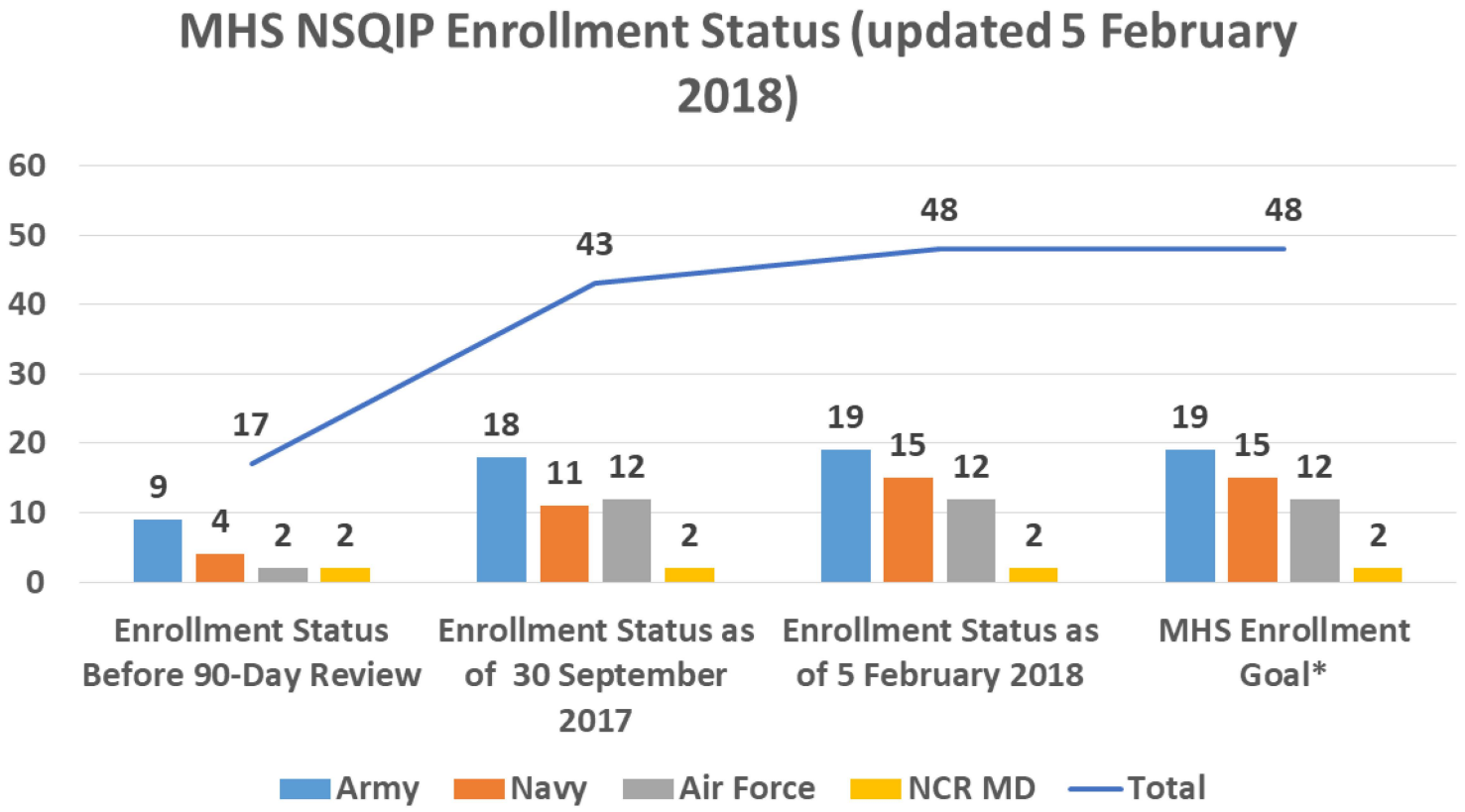
DoD NSQIP Working Group

SCs and SCRs from each participating site

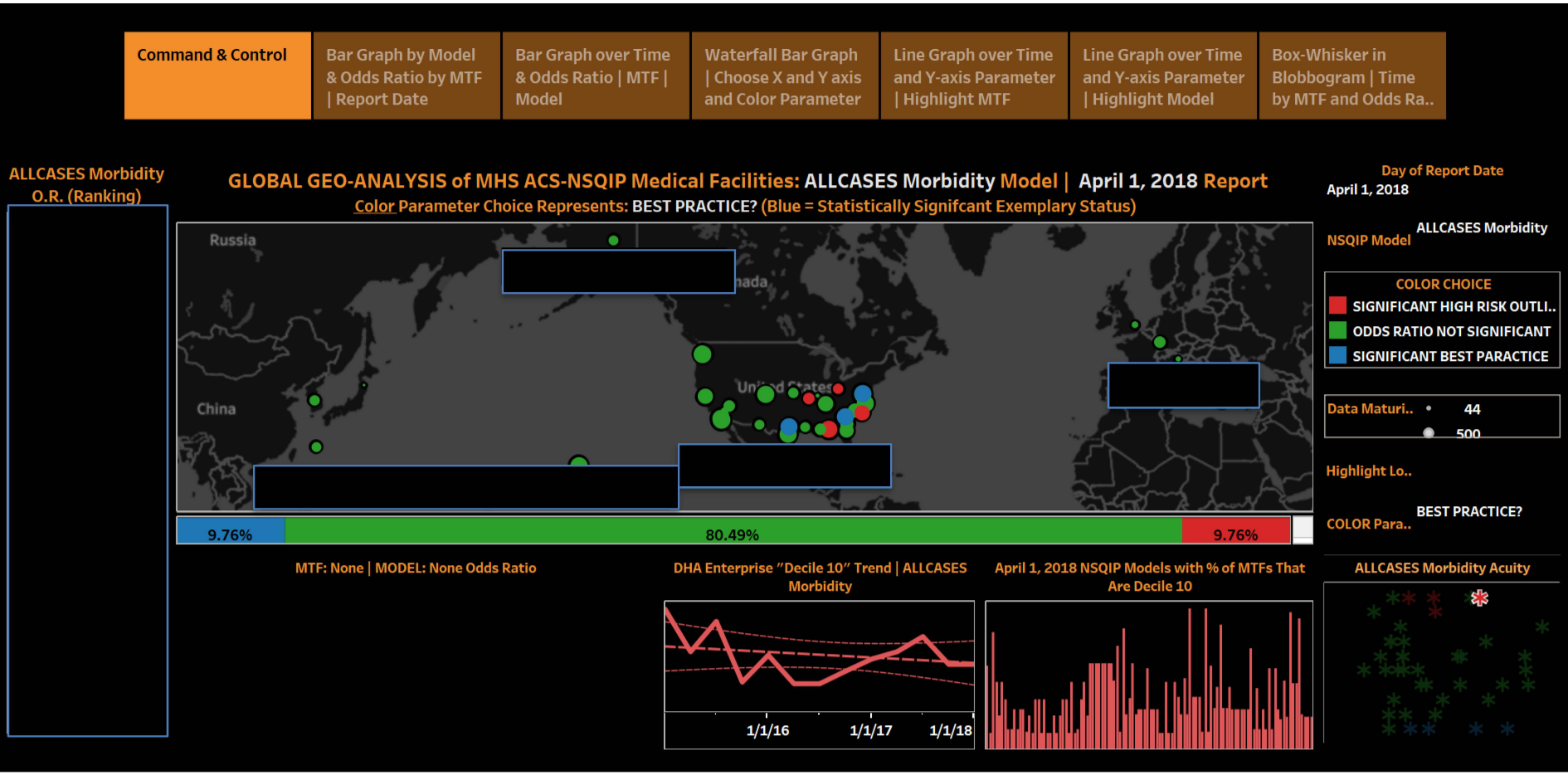
Provides a forum for knowledge dissemination

Bimonthly telcons

No formalized empowerment to effect changes beyond influence of local SC and SCR


MHS NSQIP Enrollment Status (updated 5 February 2018)
60
50
40
30
20
10
0
9
4
2
2
17
18
11
12
2
43
19
15
12
2
48
19
15
12
2
48
Enrollment Status Before 90-Day Review
Enrollment Status as of 30 September 2017
Enrollment Status as of 5 February 2018
MHS Enrollment Goal*
Army
Navy
Air Force
NCR MD
Total

NSQIP Tableau



Due to its scope, DoD NSQIP has become a de facto surgical collaborative community

- Issues on which NSQIP SP has been consulted:
- Transparency of NSQIP data
- Recommendations for next project for Institute of Healthcare Improvement strategic partnership
- Low volume, high risk procedure outcomes
- Perioperative workflows in new EHR, including checklists and DVT prophylaxis

- Issues tackled with peer guidance by working group members:
- DVT reduction
- SSI reduction
- Enhanced recovery after surgery (ERAS) protocols
- Implementation of preoperative huddles

Future State for DoD NSQIP

- Mature the collaborative community
  - Increase mentorship of new personnel to minimize instability *(requires continued support of collaborative meetings for face-to-face training and networking)*
  - Increase broader impact with consensus practice recommendations and MHS-wide implementations *(requires empowered Surgeon Champions)*
- Increase data analysis capabilities *(requires dedicated analytics support)*

- NSQIP: NMCSD

DSS Improvement Initiatives

- DSS Quality Working Group
- Institute for Healthcare Improvement (IHI) Surgical Quality Learning Partnership (SQLP)- October 2016-October 2017
  - Improvement focus: VTE
  - PDSAs through DSS
  - Align with NSQIP outcomes
  - Catalyst/tool to accomplish surgical quality improvement
  - Multidisciplinary team led by General Surgeon
  - Select improvement effort
- IHI SQLP 2.0 pending
  - Aim > Preop Huddle
- Quarterly NMW RQC briefs > Collaboration
- Standardizing ERAS preoperative process
  - Varied stages of ERAS – Colorectal, Bariatric, Urology, GYN, Plastics, Ortho
  - combined surgery/anesthesia patient care pathway

Future improvements…

- IHI SQLP MHS Option Year 2
  - Tentative start January 2018
- DSS Surgical Quality Day
- Collaborate with CUSP teams
- Revisit UTI improvements
- Sharing with LSS Green Belt projects as applicable
- ERAS continuing…..
- Infection Control liaisons in each clinic partner with Command IC

Thank you