Reducing Surgical Site Infection (SSI)

Celebrating 10 Years of Collaboration

MSQC 2005 2015

SSI Total = Superficial, Deep, & Organ/Space

Superficial Incisional SSI

Denominator: All Cases

Numerator: Infection occurs within 30 days of the procedure and involves only skin and subcutaneous tissue of the incision and patient has at least 1 of the following:

a. purulent drainage from the superficial incision

b. organisms isolated from an aseptically-obtained culture of fluid or tissue from the superficial incision

c. superficial incision that is deliberately opened by a surgeon and is culture-positive or not cultured and patient has at least one of the following signs or symptoms of infection: pain or tenderness; localized swelling; redness; or heat. A culture negative finding does not meet this criterion

d. diagnosis of superficial incisional SSI by the surgeon or attending physician or other designee

Deep Incisional SSI

Denominator: All Cases

Numerator: Infection occurs within 30 days of the procedure *and* involves deep soft tissues of the incision (e.g., fascial and muscle layers) *and* patient has at least one of the following:

a. purulent drainage from the deep incision

b. a deep incision that spontaneously dehisces or is deliberately opened by a surgeon, attending physician or other designee and is culture-positive or not cultured *and* patient has at least one of the following signs or symptoms: fever (>38°C); localized pain or tenderness. A culture-negative finding does not meet this criterion.

c. an abscess or other evidence of infection involving the deep incision is found on direct examination, during invasive procedure, or by histopathologic examination or imaging test.

d. diagnosis of a deep incisional SSI by a surgeon or attending physician or other designee

Organ/Space SSI

Denominator: All Cases

Numerator: Infection occurs within 30 days of the procedure *and* infection involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure *and* patient has at least 1 of the following:

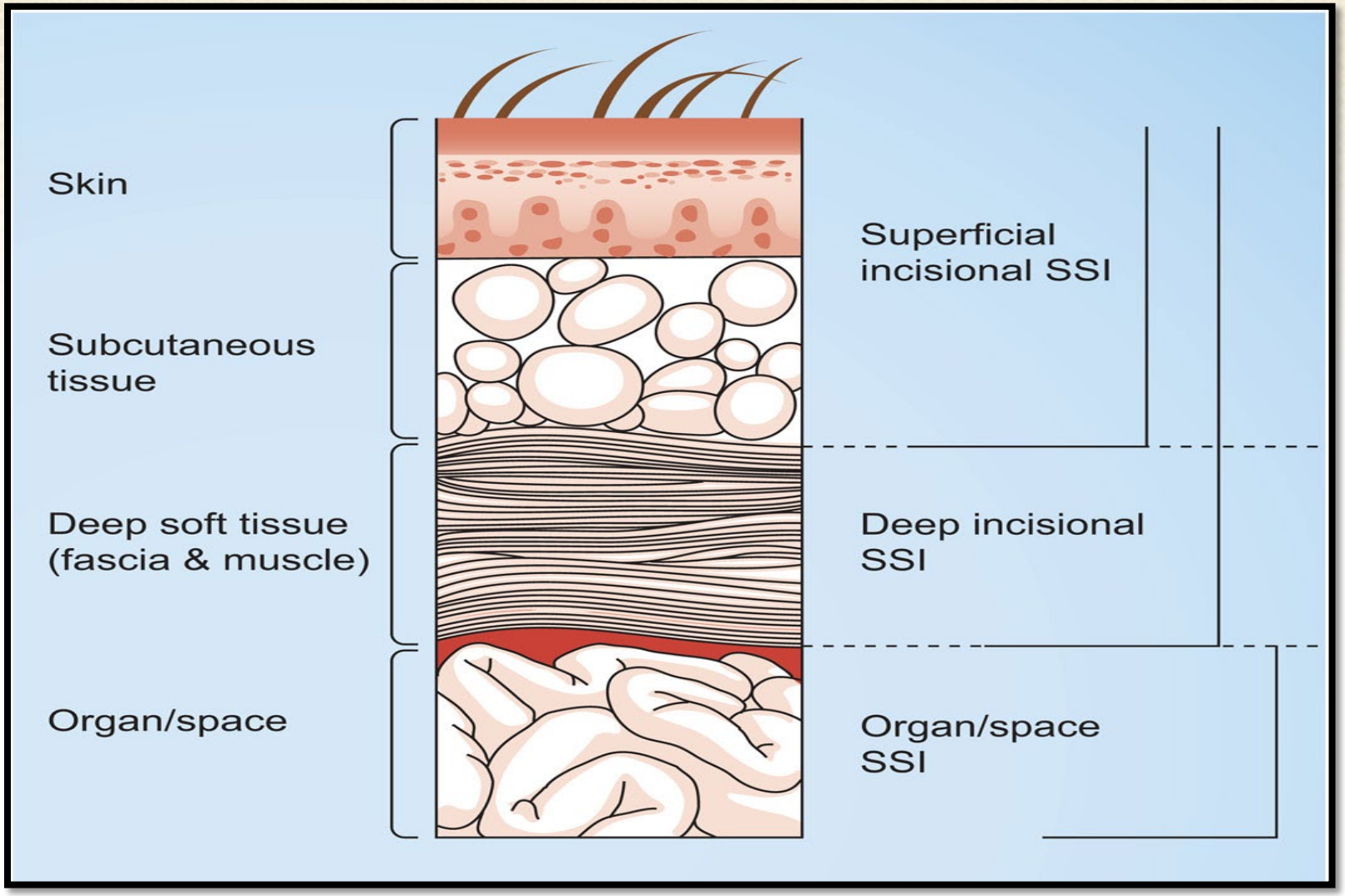
a. purulent drainage from a drain that is placed into the organ/space

b. organisms isolated from an aseptically-obtained culture of fluid or tissue in the organ/space

c. an abscess or other evidence of infection involving the organ/space that is found on direct examination, during invasive procedure, or by histopathologic examination or imaging test

d. diagnosis of an organ/space SSI by a surgeon or attending physician or other designee *and* meets at least one criterion for a specific organ/space infection site listed in ***Table 1 - See MSQC Operational Manual***

Diagram of SSIs



CDC & Prevention's NHSN classification for SSI Source: Anderson, et al

SSI Statistics

MSQC QI NEWS

THE WORLD'S FAVORITE NEWSPAPER

- Since 2005

Surgical Site Infections

- **Between 2% - 5% surgical patients acquire SSI (between $160,000 and $300,000/year)**
- **60% of SSIs have been estimated to be preventable**
- **Account for 20% of the HAIs in hospitalized patients**
- **Each SSI is associated with an additional 7-11 post-operative hospital days**
- **Patients with SSIs have a 2-11 times higher risk of death**
- **Accounts for $3.5 Billion to $10 billion annually in healthcare expenditures**
- **Most estimates do not account for re-hospitalization, outpatient treatment, post-discharge expenses, quality of life for the patient, or any long term disability costs**

Anderson, et al

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4267723/

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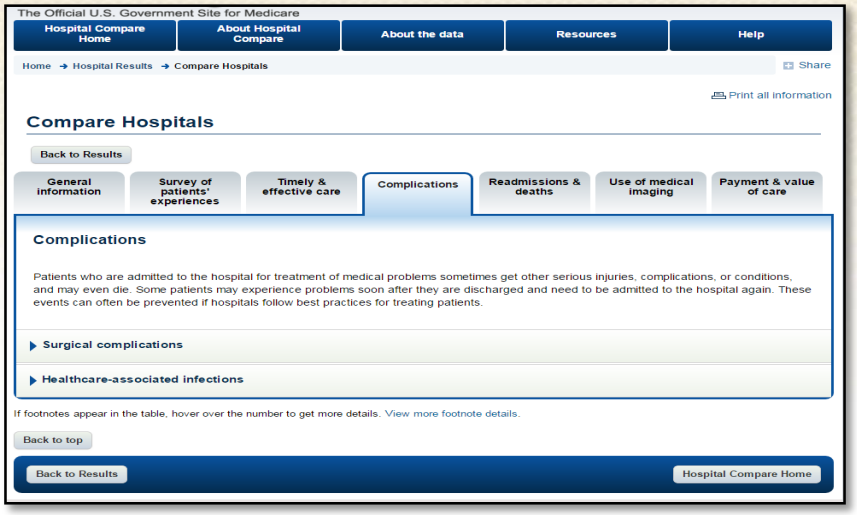
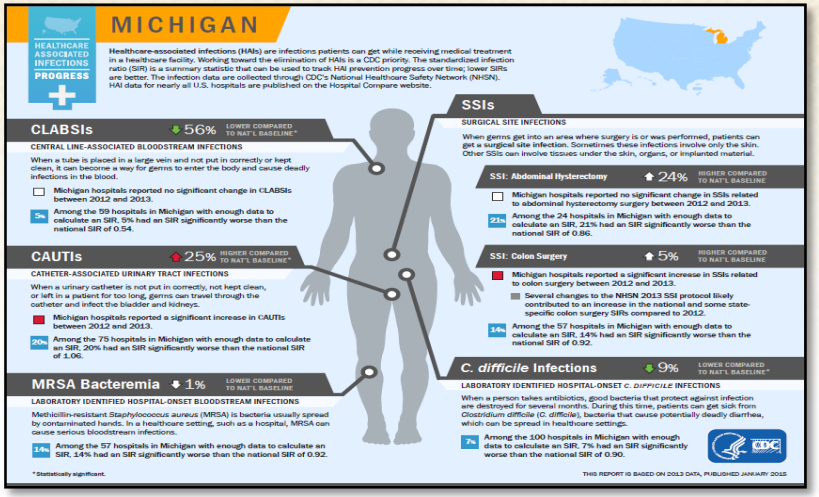
Who Knows Your Data?

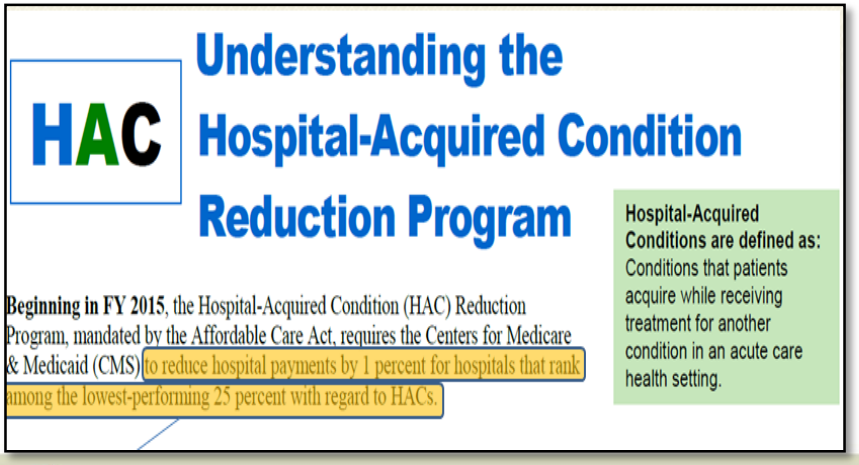
Hospital Compare (medicare.gov)



CDC/NHSN (National Healthcare Safety Network



Accountable Care Organizations (ACO)



Patients

SOURCE: http://www.cdc.gov/hai/pdfs/stateplans/factsheets/mi.pdf

Blue Cross Blue Shield Blue Care Network of Michigan

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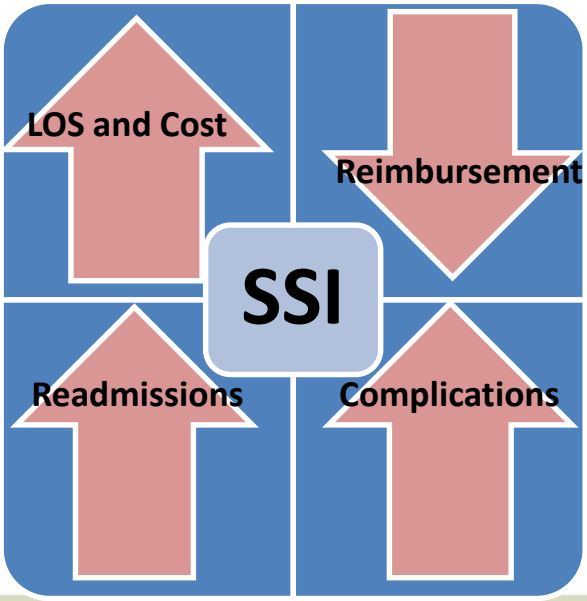
Impact of Increased SSI Occurrence

On average, a single **Surgical Site Infection (SSI)** costs **$18,902 - $22,667***, making this the ***3rd most expensive Health Care-Associated Infection***



Accountable Care Organization

ACO

DECREASED SHARED SAVINGS

Readmissions resulting from SSI affect ACO Quality Measure #8: Risk Standardized, All Condition Readmissions

Hospital Value-Based Purchasing

VBP

DECREASED REIMBURSEMENT

SSI following colon and abdominal hysterectomy procedures affect measures within the VBP Outcome Domain (FY 2016)

Hospital Compare

www.medicare.gov

QUALITY OF CARE INFORMATION

- ✓ *HCAHPS*
- ✓ *Timely and Effective Care*
- ✓ *Readmissions, Complications, and Deaths*

Hospital –Acquired Condition Reduction Program

HAC

REDUCE HOSPITAL PAYMENT BY 1%

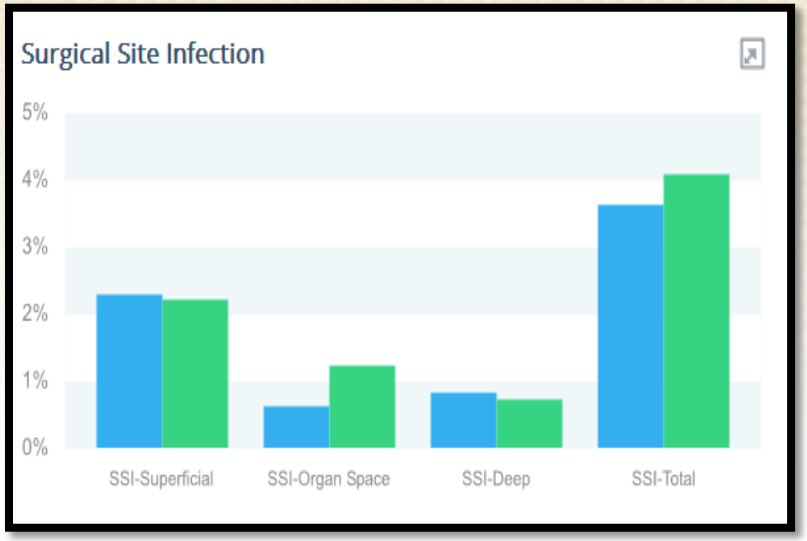
for hospitals that rank among lowest performing 25%

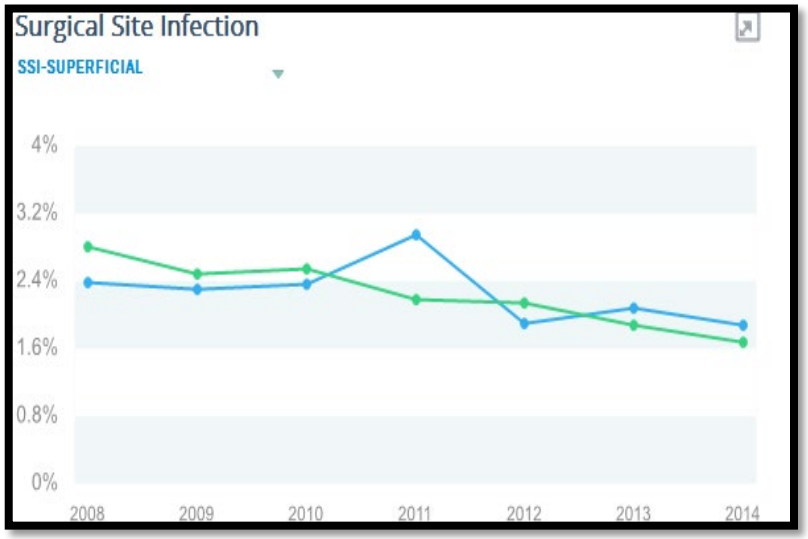
*Zimlichman et al (2013)

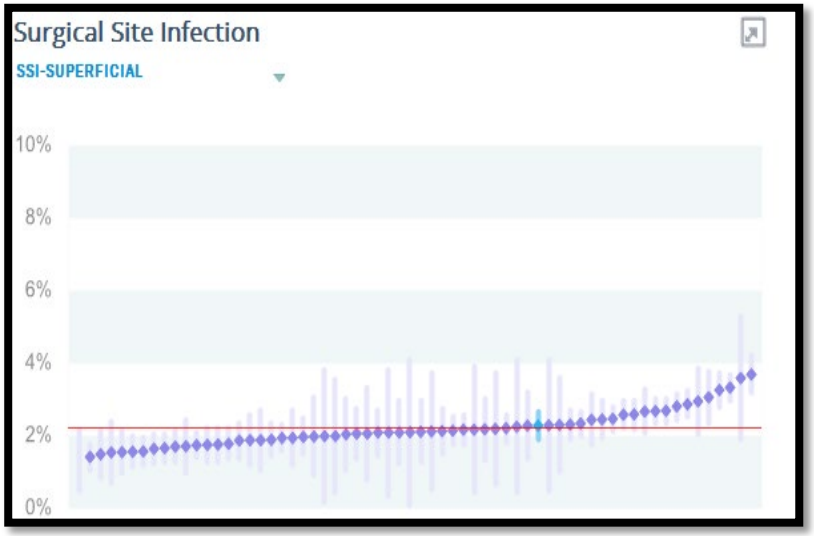
Patient Safety Listed PSO Organization

Blue Cross Blue Shield Blue Care Network of Michigan

Your Hospital's SSI Rates (Insert Here)







Actions to Achieve Successful Improvements

Commitment from Leadership

Formation of Steering Committee

Action Plan with clear expectations

Effective communication of plan

Protocol, integrated into order sets

Education of staff

Mechanisms to hold staff accountable

Continuous evaluation of efforts and outcomes

Assess Culture

Safety Culture is **the way safety is perceived, valued and prioritized in an organization. It reflects the real commitment to safety at all levels in the organization.** It has also been described as "how an organization behaves when no one is watching".

Source: http://www.skybrary.aero/index.php/Safety_Culture

Engage Physicians

Make physicians partners not customers
Identify what is important to them: ❖ Improved patient outcomes (evidence based: data-driven) ❖ Reduced difficulties & wasted time
Understand the existing culture (beliefs, norms, values)
Understand legal barriers & opportunities

Surgeon Champion/Project Lead
Respected as a physician
Excellent Communication skills
Strong social & leadership skills
Committed to the project (shows courage)

Use "Engaging" Improvement Methods
Standardize what is "standardizable" - no more
Generate light, not heat with data (use data sensibly)
Make the right thing easy to do

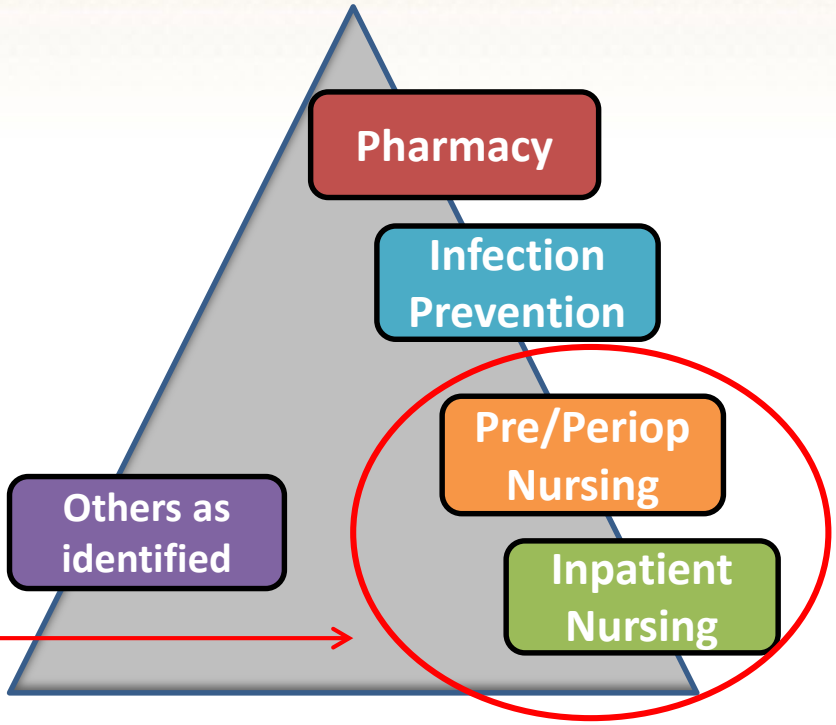
Reinertsen JL, Gosfield AG, Rupp W, Whittington JW. *Engaging Physicians in a Shared Quality Agenda.* IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for **Healthcare** Improvement; 2007. (Available on www.IHI.org)

Form an SSI Team

Core Membership (Leadership)

- Surgeon Champion
- Anesthesiology Physician Champion
- MSQC - SCQR
- Quality Leadership
- Hospital Administration Leadership
- Nursing Leadership

Integral Members (Managers & Staff)



Establish SSI Team Goals

State the Problem/ Purpose

* Provide data to support the problem or purpose.

* Why is a team necessary?

Define the Scope of the Project

* Define inclusions (a specific procedure i.e. colectomy, or ALL surgical cases)

* Set time frame

Define the Goal Statement

Must be:

* Specific
* Measurable
* Realistic

Develop the Action Plan

* Establish priorities- what are you going to do & how are you going to do it?

*Identify the steps in the process

*Identify process owners /key team members

*Develop Timeline

Assign Team Roles

*Champion(s)

*Facilitator

*Recorder

*Timekeeper

Enhanced Recovery Program

Optimal Preparation for Surgery:

Patient Education

- Smoking cessation
- Incentive spirometry
- Progressive ambulation
- Nutrition
- Glycemic Control

Advances in Anesthesia Management

Specific Quality Improvement protocols

Prevention of post operative complications *

- Pneumonia ($40,184)
- Wound infection ($20,785)
- Sepsis ($38,900)

Delivering Excellence at a Value

SURGICAL
Initiatives

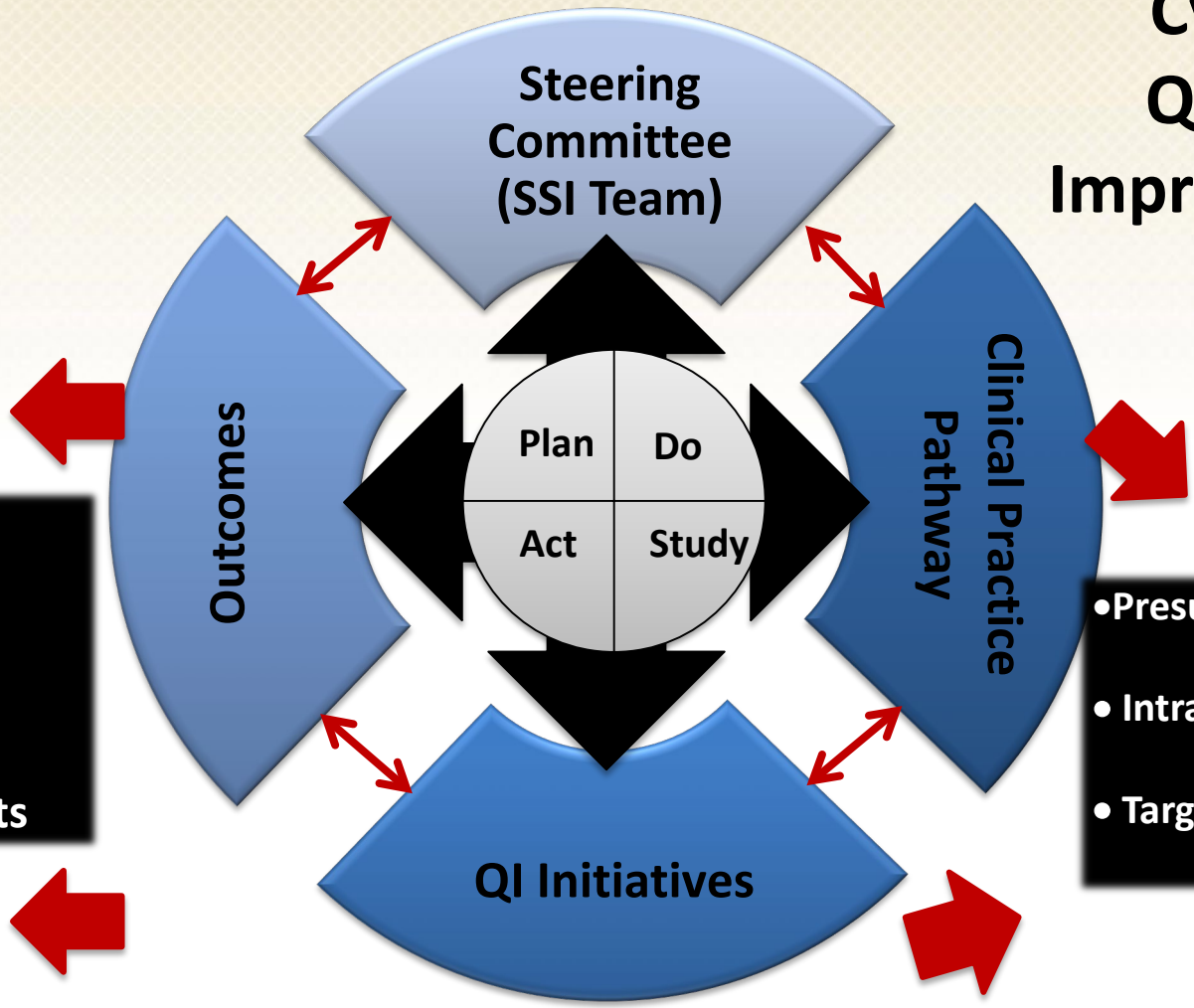
ANESTHESIA
Initiatives

HOSPITAL
Initiatives

SSI

Evaluate Progress

Cycling Quality Improvement



- Morbidity
- Mortality
- SSI rates
- LOS
- Readmissions
- Postop ED visits

- Presurgical Preparation & Intervention
- Intraoperative Efficiency
- Targeted Post-op Intervention

Adapted from IHI Process Improvement Model


Change is a process,
not an event