



**Indiana Patient
Safety Center**

of the Indiana Hospital Association

Surgical Safety & Surgical Site Infection Prevention

March 12, 2019

IHAconnect.org/Quality-Patient-Safety

Welcome & Housekeeping

- Today's webinar is being recorded and the link along with the slide deck will be sent to attendees within a few days.
- Utilizing the chat feature, please type your name, title and organization.
- Polling questions are included with the presentation. If unable to use the voting feature, please utilize the chat to respond.
- All lines are open for comment HOWEVER, when not speaking, please place telephone line on mute and do NOT place your line on hold as this will disrupt the audio.

Our Mission

- Engage and inspire health care providers
- Create safe cultures
- Create reliable systems of care
- Prevent patient harm in Indiana

We partner under the key principle that
we don't compete on patient safety

A State of Mind

Painting created by Regina Holliday during
the 2018 Indiana Patient Safety Summit

Program Intent

Advance the conversation among Indiana hospitals around surgical safety and preventative measures to avoid surgical site infections (SSI)

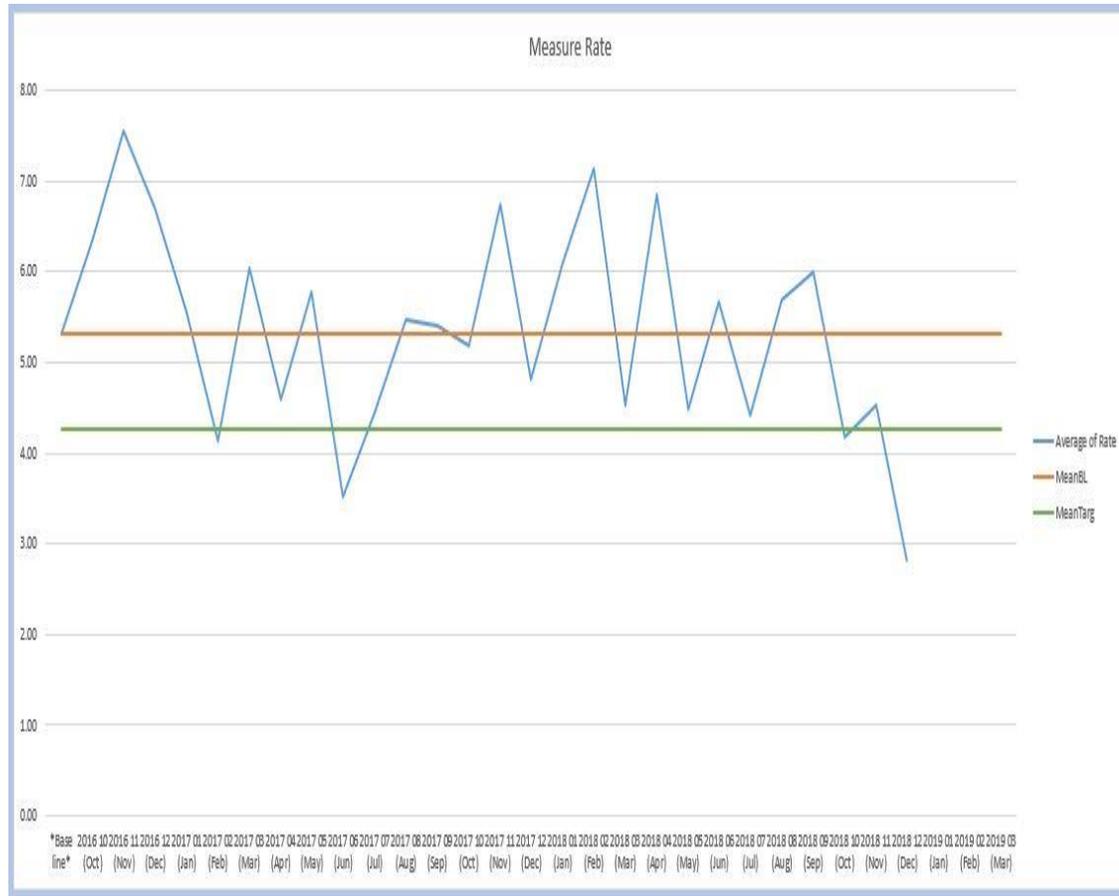


Polling Question #1

Who is with us today?

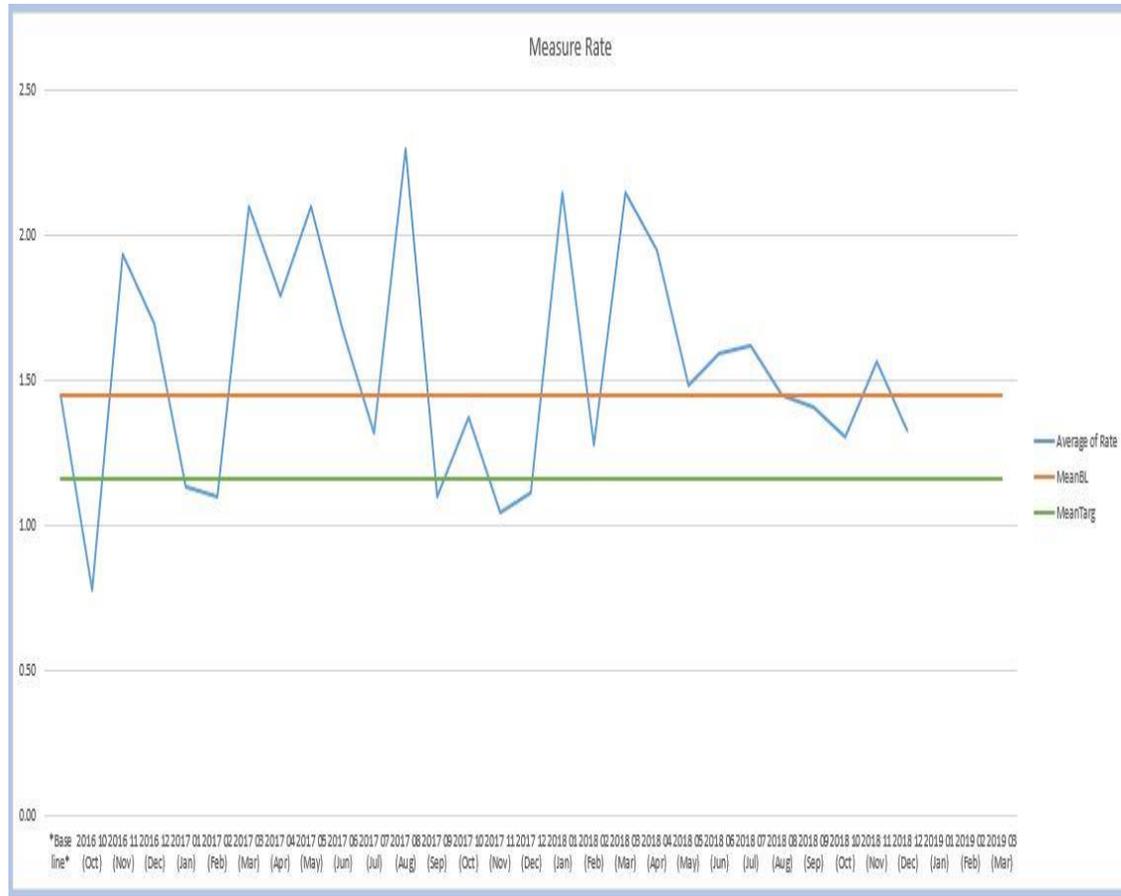
- OR
- Pre-op
- PACU
- Nursing (non surgery team)
- Infection Prevention
- Environmental Services
- Central Processing/Central Sterile
- Pharmacy
- Other –utilize the chat box with your role/discipline, if not listed above

Surgical Site Infections – Colon Indiana Impact



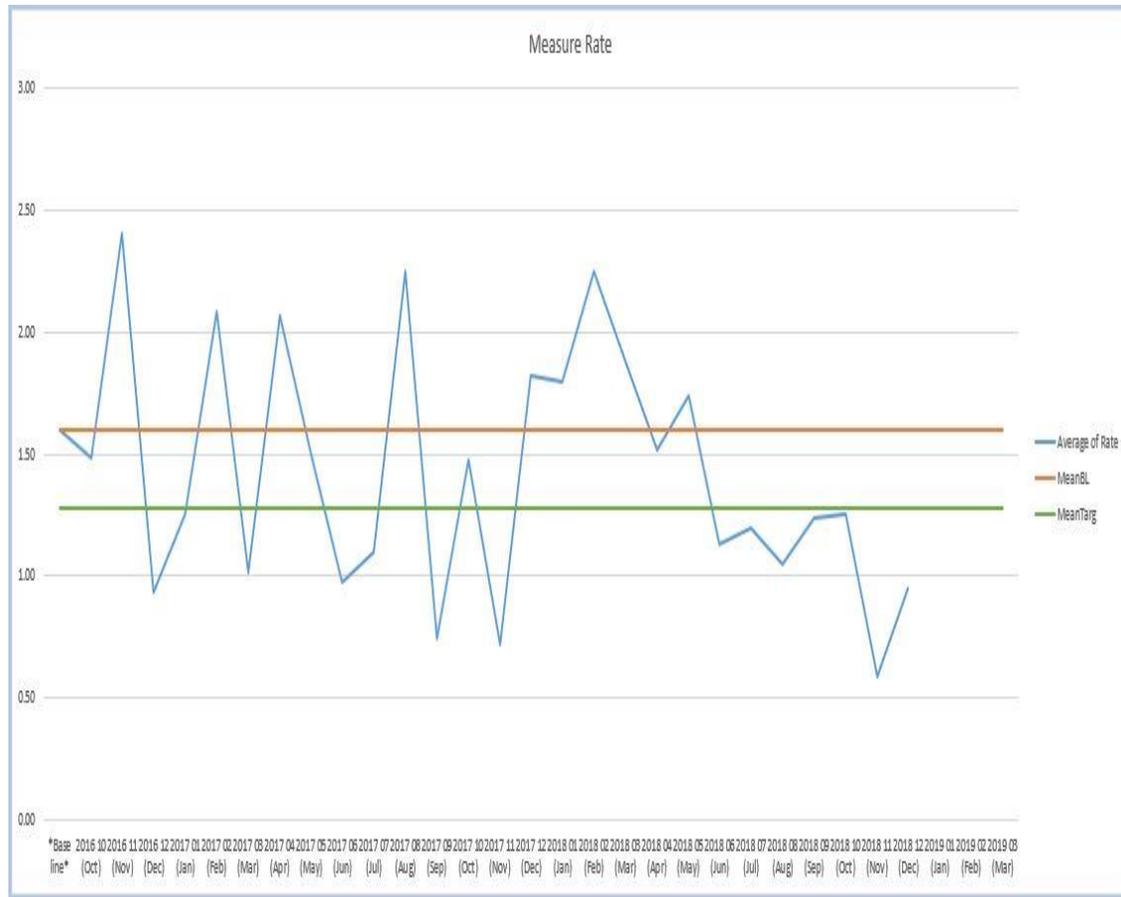
- *Baseline Rate per 100 discharge: 5.33*
- *Current project to date rate per 100 discharge: 5.41*
- *Total cost to Indiana: \$1,039,149*
- *Total infections to date: 704*

Surgical Site Infection: Abdominal Hysterectomy Indiana Impact



- **Baseline Rate per 100 discharge: 1.45**
- **Current project to date rate per 100 discharge: 1.54**
- **Total cost to Indiana is \$214,709**
- **Total infections to date: 194**

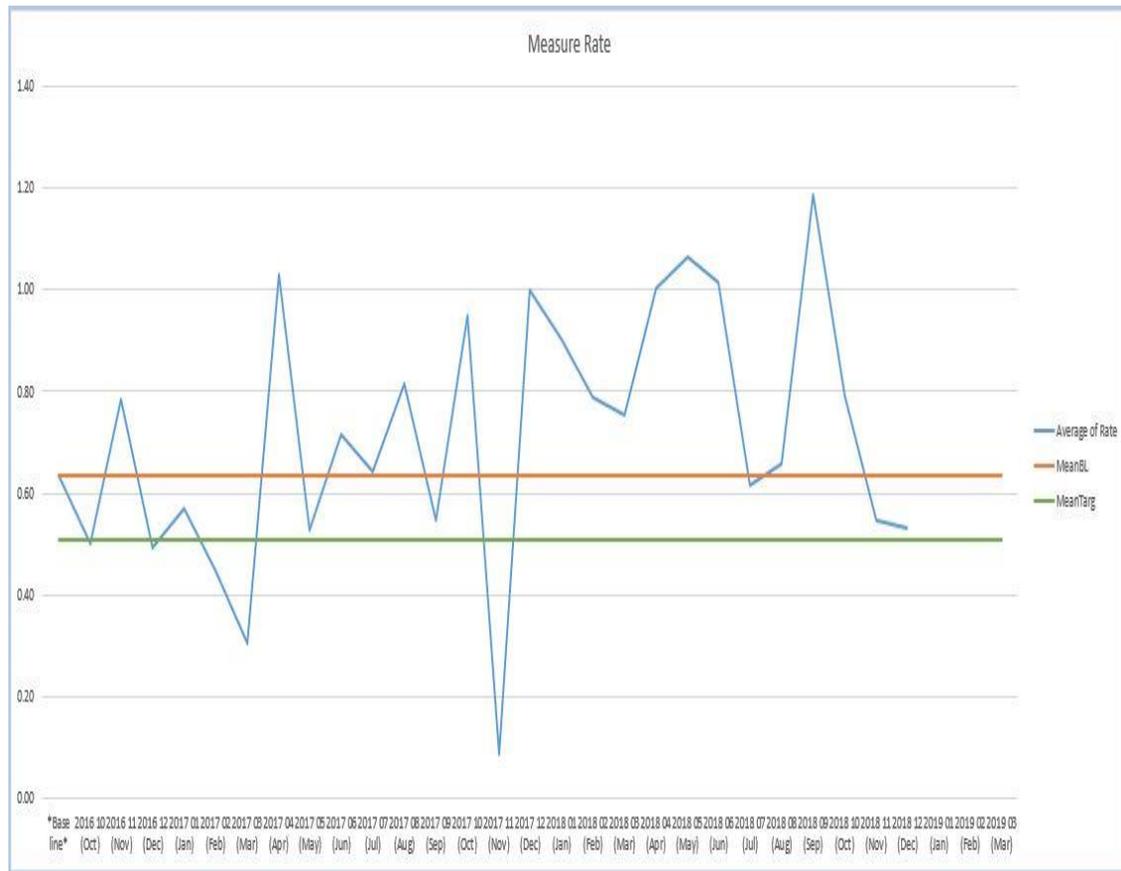
Surgical Site Infection: Hips Indiana Impact



- *Baseline Rate per 100 discharge: **1.6***
- *Current project to date rate per 100 discharge: **1.44***
- *Total savings to Indiana is **\$508,896***
- *Total infections to date: **235***

Data retrieved from the HRET Comprehensive Data System with impact calculations from the HRET Improvement Calculator

Surgical Site Infection: Knees Indiana Impact



- *Baseline Rate per 100 discharge: **0.64***
- *Current project to date rate per 100 discharge: **0.72***
- *Total cost to Indiana is **\$837,055***
- *Total infections to date: **192***

Data retrieved from the HRET Comprehensive Data System with impact calculations from the HRET Improvement Calculator

Collective Impact to Indiana

- **Total Cost to Indiana** due to Surgical Site Infections from the HIIIN since October of 2016 to December of 2018: **\$1,582,017**
- **Total Surgical Site Infections** for procedures of colons, abdominal hysterectomies, knees, and hips: **1,325**

Welcome Barb DeBaun



Barbara DeBaun, RN, MSN, CIC
Improvement Advisor
Cynosure Health

SSI Event #1 Polling Recap

Who from our team is responsible for assigning wound classification for surgical cases?

57% *Nursing*

40% *Surgeon*

3% *Other*

We have hardwired practices to ensure administration of the right antibiotic, weight based and re-administered, if indicated?

72% *Yes*

28% *No*

SSI Event #1 Polling Recap

How are you communicating your hospital's SSI activity and outcomes?

56% Collect data & share in committee meetings

44% Collect data & share with all stakeholders including surgeons



Our colorectal surgery team:

45% Changes gloves and uses instruments that have not been used during surgery for closing

14% Does not change gloves but uses instruments that have not been used during surgery for closing

3% Does not use "new" instruments for closing but changes gloves

38% I'm not sure what they do

Call to Action

- Conduct gap analysis – where are your opportunities?
- Evaluate your wound classification process
 - Is it working well?
 - Have you validated the process accuracy?
- Does your antibiotic administration practice follow evidence-based practice?
- Does your bowel prep include mechanical, oral antibiotic or both?
- Are there opportunities to better communicate among your team not only SSI outcomes but process improvement opportunities?
- Prepare to share your findings during our next SSI Prevention event



What did you do?



SSI Guidelines

JAMA Surgery | Special Communication

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

Sandra I. Berrios-Torres, MD; Craig A. Umscheid, MD, MSCE; Dale W. Bratzler, DO, MPH; Brian Leas, MA, MS; Erin C. Stone, MA; Rachel R. Kelz, MD, MSCE; Caroline E. Reinke, MD, MSHP; Sherry Morgan, RN, MLS, PhD; Joseph S. Solomkin, MD; John E. Mazuski, MD, PhD; E. Patchen Dellinger, MD; Kamal M. F. Itani, MD; Elle F. Berbari, MD; John Segretti, MD; Javad Parvizi, MD; Joan Blanchard, MSS, BSN, RN, CNOR, CIC; George Allen, PhD, CIC, CNOR; Jan A. J. W. Kluytmans, MD; Rodney Donlan, PhD; William P. Schecter, MD; for the Healthcare Infection Control Practices Advisory Committee



**Wisconsin Division of Public Health Supplemental
Guidance for the Prevention of Surgical Site Infections:
An Evidence-Based Perspective**
January 2017 (Rev. 5/2017)

P- 01715



Interventions for All Procedures



antimicrobial
prophylaxis
(AMP)



glycemic
control



normothermia



oxygenation



antiseptic
prophylaxis



Today's Conversation Partner



Columbus Regional Hospital
Columbus, Indiana

160 bed acute care hospital

Kim Reed, RN MSN FNP-C

Nurse Practitioner

Nurse Manager Surgical Services Quality Outcomes

Polling Question #2

I am fully confident that we provide the right antibiotic, at the right time, in the right dose/frequency for our surgical patients.

- Yes
- No
- Not sure

Antimicrobial Prophylaxis

- Only when indicated
- Selection
- Time
- Weight based
- No re-dosing after incision is closed, even in presence of a drain (clean and clean-contaminated)



Preoperative Antimicrobial Agents

HICPAC SSI Prevention Guidelines

- No recommendation for weight based dosing
- No recommendation for intra operative redosing

WDPH SSI Prevention Guidance

- Follow the 2013 American Society of Health-System Pharmacists (ASHP) guidelines
- Give based on BMI or weight in kilograms
- Base re-dosing on drug half-life and duration of surgery

Discussion



Polling Question #3

We have a system in place to measure glucose levels for ALL surgical patients.

- Yes
- No
- Not sure

Glycemic Control

- Maintain perioperative blood glucose levels <200mg/dl in **ALL** surgical patients
NOT ONLY DIABETICS



Glycemic Control

HICPAC SSI Prevention Guidelines

- No recommendation regarding the safety and effectiveness of lower or narrower BG target levels and SSI
- No recommendation for hemoglobin A1C target levels and risk of SSI

WDPH SSI Prevention Guidance

- Avoid increased risk of hypoglycemic events and increased mortality associated with tight glycemic control
- Maintain hemoglobin A1C level <6.7

Discussion



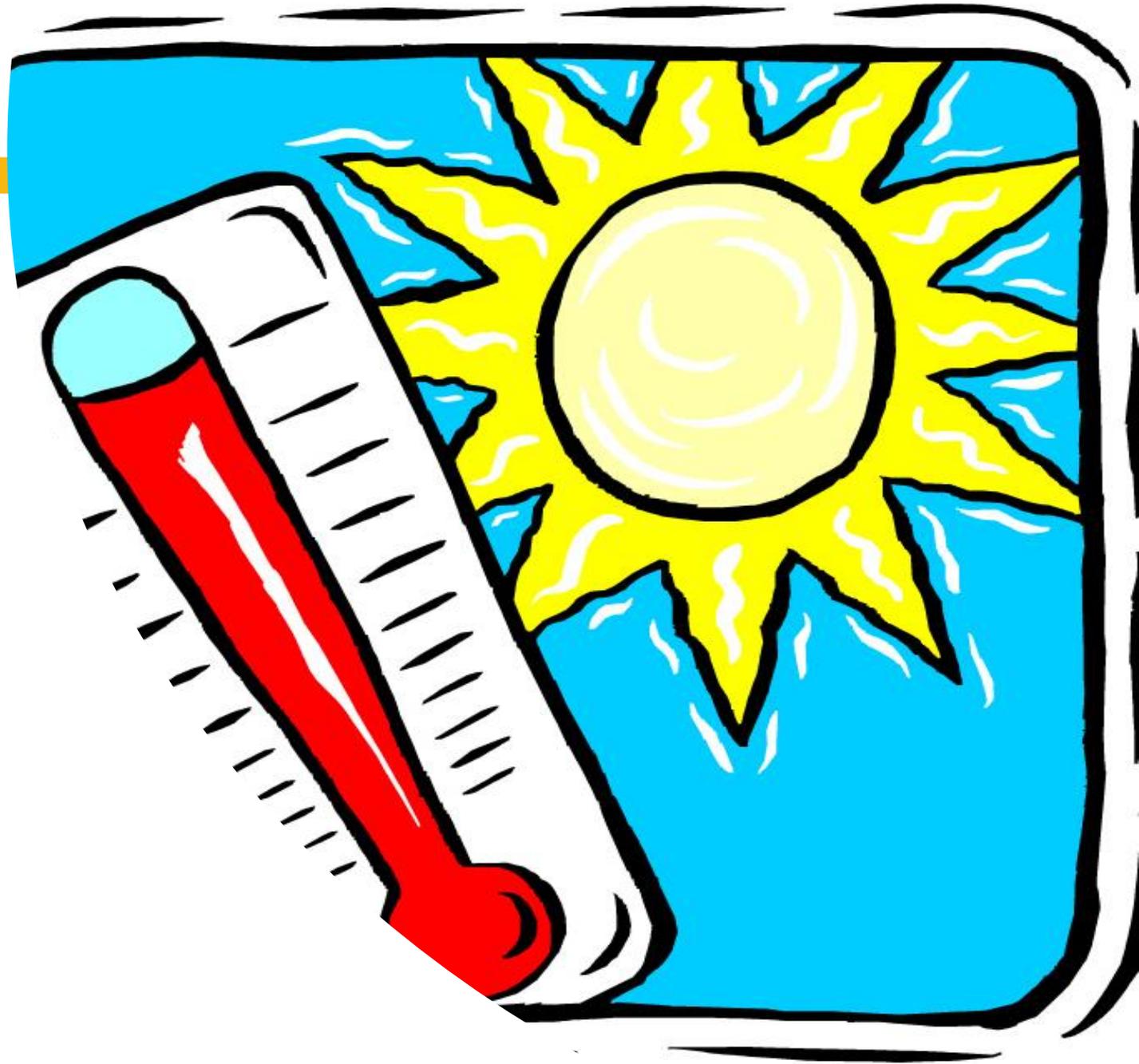
Polling Question #4

We have a process in place to assure normothermia for all surgical patients.

- Yes
- No
- Not sure

Normothermia

- 35.5 C or more
- Mild degrees of hypothermia can increase SSI risk
- Impacts circulation, coagulation, medication metabolism and wound healing



Normothermia

HICPAC SSI Prevention Guidelines

- No recommendation regarding safety or efficacy of normothermia strategies, ranges or duration

WDPH SSI Prevention Guidance

- Consider use of forced-air warming to reduce incidence of SSI's

Discussion



Polling Question #5

We utilize oxygen supplementation for our colon surgery patients.

- Yes
- No
- Not sure

Oxygenation

- Pre/intra/post operatively
- Optimizes tissue oxygenation and reduces SSI risk
- Low cost and simple



Oxygenation

HICPAC SSI Prevention Guidelines

- No recommendation for high oxygen supplementation

WDPH SSI Prevention Guidance

- Consider use of high oxygen supplementation as an SSI risk reduction strategy during colorectal procedures

Discussion



Polling Question #6

We have a reliable process in place to provide pre-operative skin antisepsis to our surgical patients.

- Yes
- No
- Not sure

Antiseptic Prophylaxis



Pre-op and
Perioperatively



Antiseptic Prophylaxis

HICPAC SSI Prevention Guidelines

- Advise patients to shower or bathe (full body) with either soap (antimicrobial or non-antimicrobial) or an antiseptic agent on at least the night before the operative day

WDPH SSI Prevention Guidance

- Ensure that all patients undergoing elective surgical procedures involving skin incisions undergo a standardized preadmission shower/cleansing with 4% aqueous or 2% (cloth coated) CHG

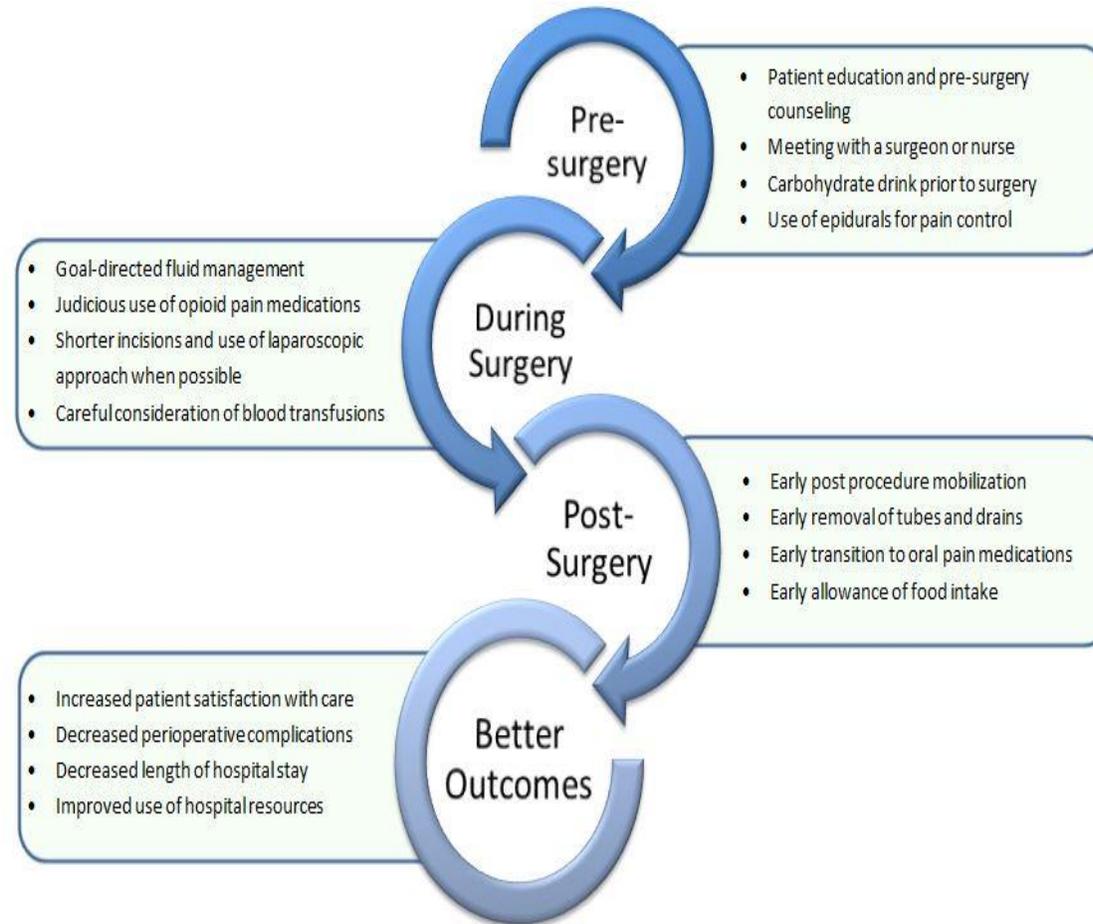
Patient Family Engagement



Barriers: How to get over them



Enhanced Recovery After Surgery



Polling Question #7

Traffic in our surgical suites is:

- Totally under control
- Totally out of control
- Could be better

Discovery



Red Cap



Surgical Care Bundle

Table II. Selective elements of the surgical care bundle from the evidence-based literature⁸³⁻⁹¹

Appropriate antimicrobial prophylaxis	Antimicrobial (triclosan) sutures
Weight-based dosing	Smoking cessation
Glycemic control	Staphylococcal surveillance (cardiothoracic and orthopedic procedures)
Normothermia	Oral antibiotics plus mechanical bowel preparation (colorectal)
Appropriate hair removal	Minimally invasive surgery
Supplemental O ₂ (colorectal procedures)	Short duration of surgery
Use of wound edge protectors	Glove change prior to fascia and skin closure
Dedicated wound closure tray for fascia and skin	Limit traffic in the operating room
Pre-operative 4% CHG shower or 2% CHG cleansing	CHG cleansing of surgical wound
70% alcohol with 2% CHG perioperative skin preparation	Keep sterile dressing intact for first 48 hours

HRET HIIN Resources

<http://www.hret-hiin.org/topics/surgical-site-infection.shtml>

PART 5: APPENDICES

APPENDIX I: SURGICAL SITE INFECTION (SSI) TOP TEN CHECKLIST

Associated Hospital/Organization: HRET HIIN

Purpose of Tool: A checklist to review current or initiate new interventions for SSI prevention in your facility

Reference: www.hret-hiin.org

Surgical Site Infections (SSI) Top Ten Checklist

- ▶ Develop and follow standardized order sets for each surgical procedure to include antibiotic name, timing of administration, weight-based dose, re-dosing (for longer procedures) and discontinuation.
- ▶ Ensure pre-operative skin antisepsis (e.g., basic soap and water shower; antiseptic agent).
- ▶ Develop standardized peri-operative skin antiseptic practices utilizing the most appropriate skin antiseptic for the type of surgery performed.
- ▶ Develop a standardized procedure to ensure normothermia by warming all surgical patients.
- ▶ Develop and implement protocols to optimize glucose control in all surgical patients.
- ▶ Administer supplemental oxygen during the pre-operative, intra-operative and post-operative periods.
- ▶ Develop a protocol to screen and/or decolonize selected patients with *Staphylococcus aureus*.
- ▶ Adhere to established guidelines (e.g., HICPAC, AORN) to ensure basic aseptic techniques (e.g., traffic control, attire) are adhered to uniformly.
- ▶ Utilize a Safe Surgery Checklist to drive development of a culture of safety that provides an environment of open and safe communication among the surgical team.
- ▶ Establish a system where surgical site infection data is analyzed and shared.



HRET  **2018 UPDATE**

PREVENTING SURGICAL SITE INFECTIONS

>>>

SURGICAL SITE INFECTIONS *CHANGE PACKAGE*

PROMOTE SAFETY ACROSS THE BOARD

>>>

DATE OF LAST SSI:

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- ▶ Establish a system where surgical site infection data is analyzed and shared.

SSI Prevention Podcasts



- Focus on the important role that patient and family engagement has in reducing SSI harms
- Practical tips for how to promote practices designed to prevent Surgical Site Infections

[SSI Prevention: We Can't Do It Without the Patient and Family](#)



[SSI Prevention: A Simple Way to Measure Process](#)

[SSI Prevention: Making the Right Thing the Easy Thing To Do](#)

APIC Indiana



APIC Indiana Spring Preconference and Conference

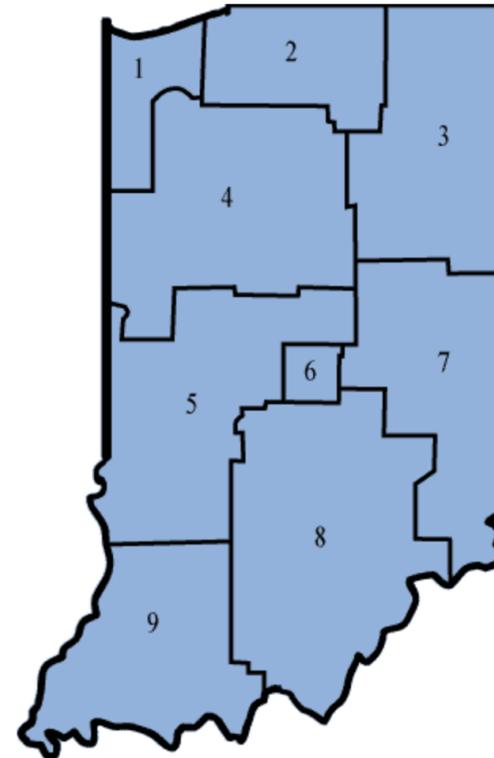
April 25 and 26 2019

Immi Conference Center

Westfield, Indiana

[Click here for registration](#)

Region Map and Directors



Regional meetings provide an opportunity to meet and network with other infection preventionists in our areas of the state. Meeting schedules vary by region.

Maintaining contact with our regional representatives also provides a way for state and national information to reach our members. It also is a way information gets back to the board of directors. In order to be included on your region's e-mail list, receive updates and current information, please contact your regions representative and make sure you are on their regional roster.

When contacting your regional representative, you can also let them know:

- If you have internet access and your e-mail address if you have one.
- Any information or service that APIC Indiana can do to make the practice of infection prevention better for you and your fellow APIC members.

Regional Directors listed on the [Board of Directors Page](#)

Quality and Patient Safety Team



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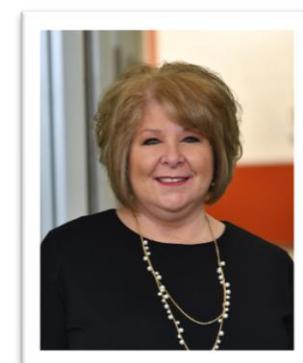
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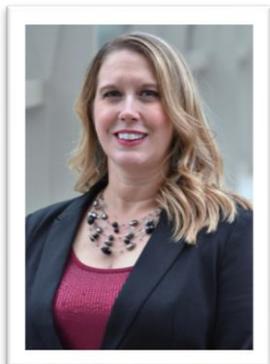
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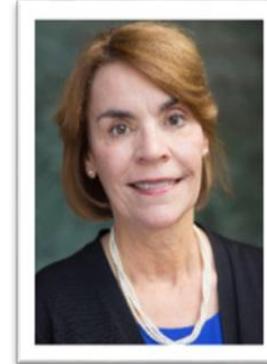
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