

# Infection Prevention in the ASC - Leveraging Process Standardization and Quality Performance Management to Improve Patient Care

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# Today's Presenter: Gregory Hickman, MD

- Currently Medical Director/Anesthesia Director at Andrews Institute Ambulatory Surgery Center, one of the leading private sports injury centers in the US
- Received BS in Pharmacy from the University of Tennessee College of Pharmacy and medical degree from the East Tennessee State University College of Medicine
- Dr. Hickman completed his residency at University of Alabama at Birmingham and is board certified in anesthesiology and pain management. After completing his residency, Dr. Hickman has earned roles of increasing responsibility in anesthesia and pain management, starting as a Clinical Instructor in the Acute Pain Service within the Department of Anesthesiology University of Alabama at Birmingham, and leading to Chair the Department of Anesthesia at HealthSouth Medical Center in Birmingham, Alabama in 1994

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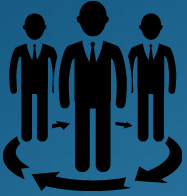
# Learning Objectives

Understand How Standardization Can Help You Meet Your Infection Prevention Goals

Learn How to Apply The “Four E” Process To Drive Standardization of Infection Prevention Practice in the ASC

Higher Quality,  
Better Outcomes

# Standardization Process: The Four E's<sup>1</sup>



Engage the right team, explain why standardization is important



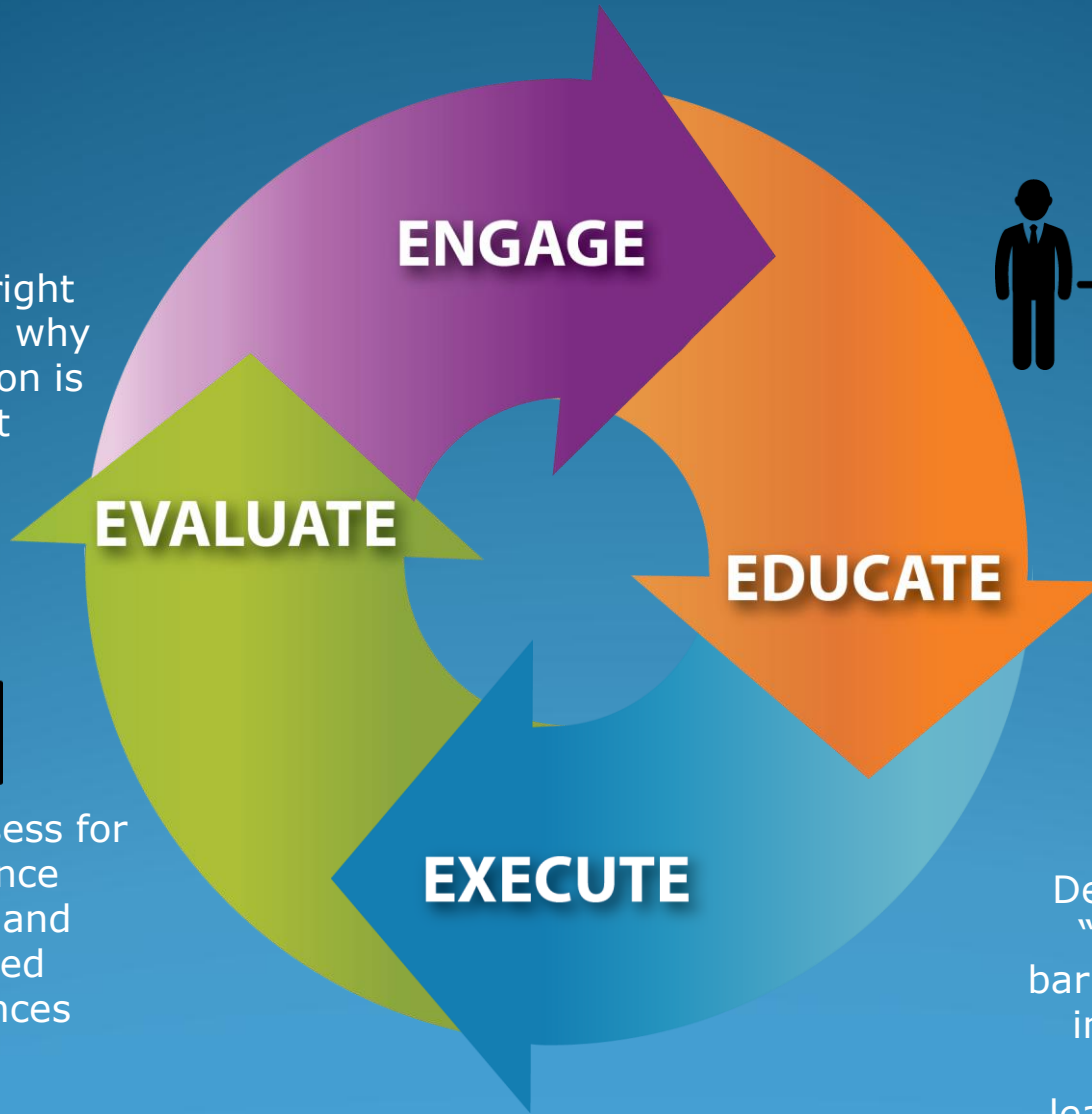
Share the evidence supporting the interventions



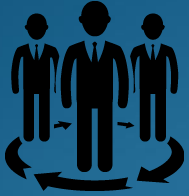
Regularly assess for performance measures and unintended consequences



Design an intervention "toolkit" targeted at barriers, standardization, independent checks, reminders, and learning from mistakes



# Standardization Process: The Four E's<sup>1</sup>

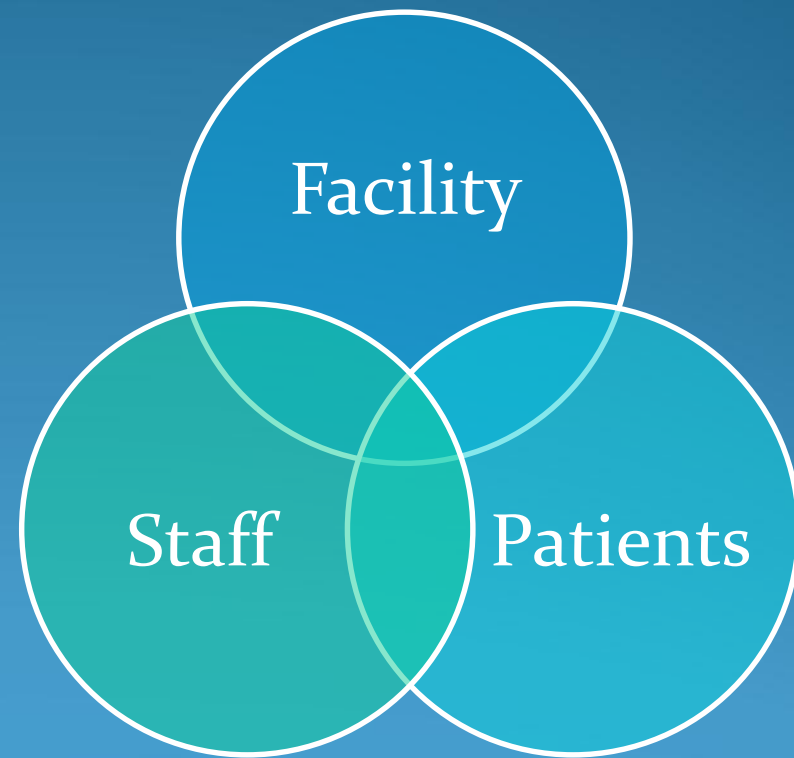


Engage the right team, explain why standardization is important

**ENGAGE**

# Who Should Be Engaged?

- Infection preventionists
- Board of Directors
- Administrator
- Nurse managers
- Nurses
- Anesthesia staff
- Surgeons
- Surgical techs
- Reprocessing techs
- Patients, patients families



# How Do We Engage Stakeholders?

- Share the Statistics
- Discuss the Regulatory Requirements
- Encourage Them to Share Their Own Concerns



# Healthcare-Associated Infection (HAI) Statistics In The USA



- According to U.S. Centers for Disease Control and Prevention (CDC) <sup>2</sup>
  - 1.7 million people acquire HAIs each year
  - Approximately 271 deaths/day
  - 1 out of 20 hospitalized patients affected
- One-third of HAIs are considered preventable<sup>3</sup>
  - Approximately 566,000 preventable HAIs
- Attributed costs: \$25-31.5 billion annually<sup>4</sup>

# Infection Outbreaks in Outpatient Settings Have Drawn Public Attention<sup>5</sup>

- At least 41 outbreaks from 2001-2011
  - 18 viral hepatitis (HBV and/or HCV)
    - >50% involved administration of anesthetic/analgesic
  - 23 bacterial
    - 30% in pain remediation clinics
    - >50% of case-patients required hospitalization
- Common breaches:
  - Reuse of syringes and/or needles for >1 patient or to reenter medication vials used for >1 patient
  - Use of single-dose vials or saline bags for >1 patient
  - Low adherence to hand hygiene and aseptic technique

# Overall Results Of 3-State Pilot Infection Control Assessments<sup>6</sup>

## Infection Control Category Assessed

## Number of Facilities with Lapses Identified

- |   |               |
|---|---------------|
| • <i>Hand Hygiene and Use of Gloves</i>                 | • 12/62 (19%) |
| • <i>Injection Safety and Medication Handling</i>       | • 19/67 (28%) |
| • <i>Equipment Reprocessing</i>                         | • 19/67 (28%) |
| • <i>Environmental Cleaning</i>                         | • 12/64 (19%) |
| • <i>Handling of Blood Glucose Monitoring Equipment</i> | • 25/54 (46%) |

# CMS, CDC and States' Actions To Address These Findings Since 2009<sup>7</sup>

Several ASC health and safety standards updated

CMS and CDC enhanced their surveyor training

All states required to use the infection control audit tool and case tracer method

CMS committed to inspect one-third of all ASCs

Updated analysis of ASC infection control practices to be made

CMS made the ASC infection control audit tool available on-line to assist ASCs

Failure to correct serious deficiencies risks termination of participation in Medicare



# CMS Conditions For Coverage<sup>8</sup>

- “The ASC must maintain an infection control program that seeks to minimize infections and communicable diseases” (416.51)
- Key elements include:
  - A quality assessment and performance improvement (QAPI) program
  - Maintenance of a sanitary environment
  - Development/implementation of IC measures related to ASC personnel
  - Mitigation of risks associated with patient infections present upon admission
  - Mitigation of risks contributing to HAIs
  - Active surveillance and more

# Regulatory and Accreditation Agencies Requiring Stricter Infection Prevention Standards in ASCs

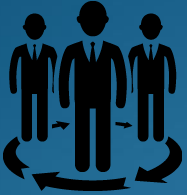
Agency/Organization	Requirements
State	30 states and DC now require ASCs to report HAIs to NHSN <sup>9</sup>
CMS	CMS Conditions for Coverage (CfC) include multi-point infection prevention program, CMS requires all states to use the infection control audit tool, case tracer method for ASC inspections and QAPI <sup>8</sup>
OSHA	OSHA has both State and Federal requirements, e.g. avoidance of bloodborne pathogens <sup>10</sup>
CDC	CDC HICPAC Guidelines <sup>11</sup>
NQF	Voluntary consensus standards for infection prevention and reporting <sup>12</sup>
Accrediting Organizations	AAAASF, AAAHC, Joint Commission



# How Have HAI Rates in ASCs Been Affected Since These Interventions?

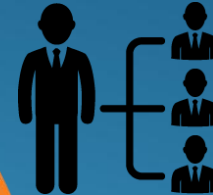
- In a 2010 study, 35 surgery centers reported 100 HAIs across 100,000 procedures (0.1% infection rate)<sup>13</sup>
  - Half the HAIs occurred in multispecialty ASCs
  - Orthopedic procedures had higher rates; 0.3%
- Although these data weren't compared to hospital stats, they suggest HAI rates in ASCs are low

# Standardization Process: The Four E's<sup>1</sup>



Engage the right team, explain why standardization is important

**ENGAGE**

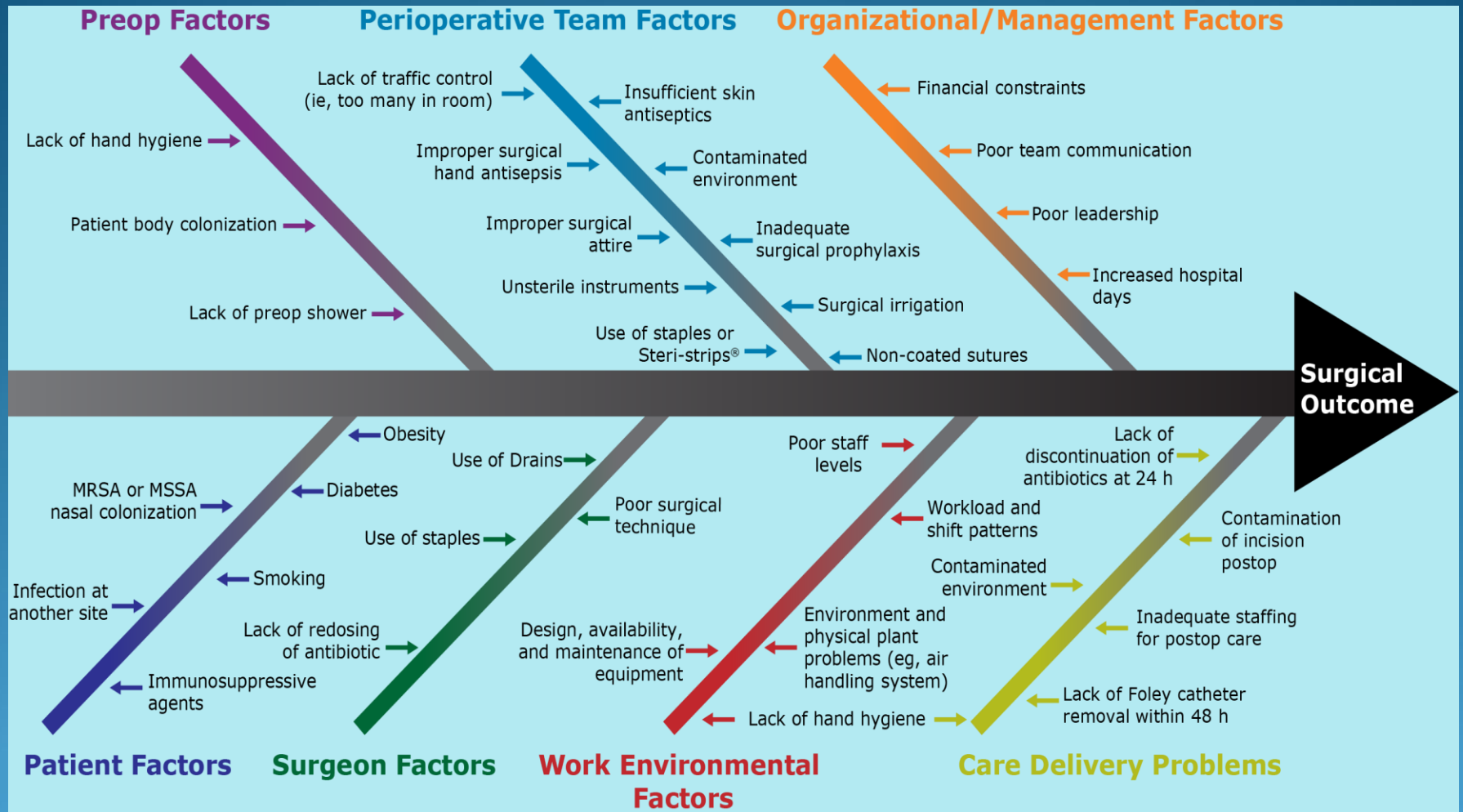


Share the evidence supporting the interventions

**EDUCATE**



# Many Variables Contribute to Risk of HAI<sup>14</sup>



*Failure To Manage A Single Variable Could Lead To Poor Outcome*

# Challenges In Standardizing ASC Infection Control Protocols

- Numerous variables and inconsistencies :
  - Many different doctors
  - Surgeries can span many different sub-specialties
  - Sub-specialties may have different habits or methods
- Surveillance is challenging because:
  - Patient encounters may be brief or sporadic
  - Evaluation and treatment of consequent infections may involve different healthcare settings (e.g., hospitals)

# Share Your Observations With Your Team

- Have you observed lapses in infection prevention policies?
- Has an infection or outbreak occurred?
- Have you observed too much individual variability in some infection prevention techniques?
- Share these observations and their implications with the Infection Prevention Steering Committee

# Case Example For Standardization: Patient Preoperative Skin Prep

- Critically important in reducing the risk of HAIs
- Key factors include:
  - Antiseptic agent
  - Application method
  - Dry time
- Numerous choices available, which can lead to confusion in the OR
- Opportunity to standardize procedures and reduce variability

# Differing Application Instructions Among Patient Skin Prep Agents

	CHG/IPA	Iodine/ IPA	Aqueous CHG	Iodine Scrub/Paint
Example	Chloraprep <sup>a</sup>	DuraPrep <sup>™b</sup> Prevail-Fx <sup>®c</sup>	Exidine <sup>®e</sup>	Wet PVP-I Tray <sup>f</sup>
Application method	Gentle back and forth strokes	Paint in concentric circles	Swab back and forth	Scrub and paint in concentric circles
Application time	0.5-2 min	≥0.5 min <sup>d</sup>	4 min	5 min <sup>g</sup>
Dry time <sup>*</sup>	≥3 min	≥2-3 min	Blot	~2-3 min

\*On hairless skin.

a. CareFusion. Chloraprep labeling

b. 3M<sup>™</sup> DuraPrep<sup>™</sup> Surgical Solution labeling

c. CareFusion. Prevail-Fx<sup>®</sup> In-Service Video. Available at: <http://www.carefusion.com/medical-products/infection-prevention/skin-preparation/surgical-trays-brushes-bulk-solutions/prevail-fx-in-service-video.aspx>. Accessed April 4, 2014.

d. Jeng DK. *Am J Infect Control*. 2001;29:370-6.

e. CareFusion. Exidine<sup>®</sup> 2% CHG Scrub Solution labeling

f. CareFusion. Scrub & Pain In-Service Video.

Available at: <http://www.carefusion.com/medical-products/infection-prevention/skin-preparation/surgical-trays-brushes-bulk-solutions/scrub-and-pain-in-service-video.aspx>. Accessed April 4, 2014.

g. Scrub Care<sup>®</sup> Povidone Iodine Cleansing Solution labeling

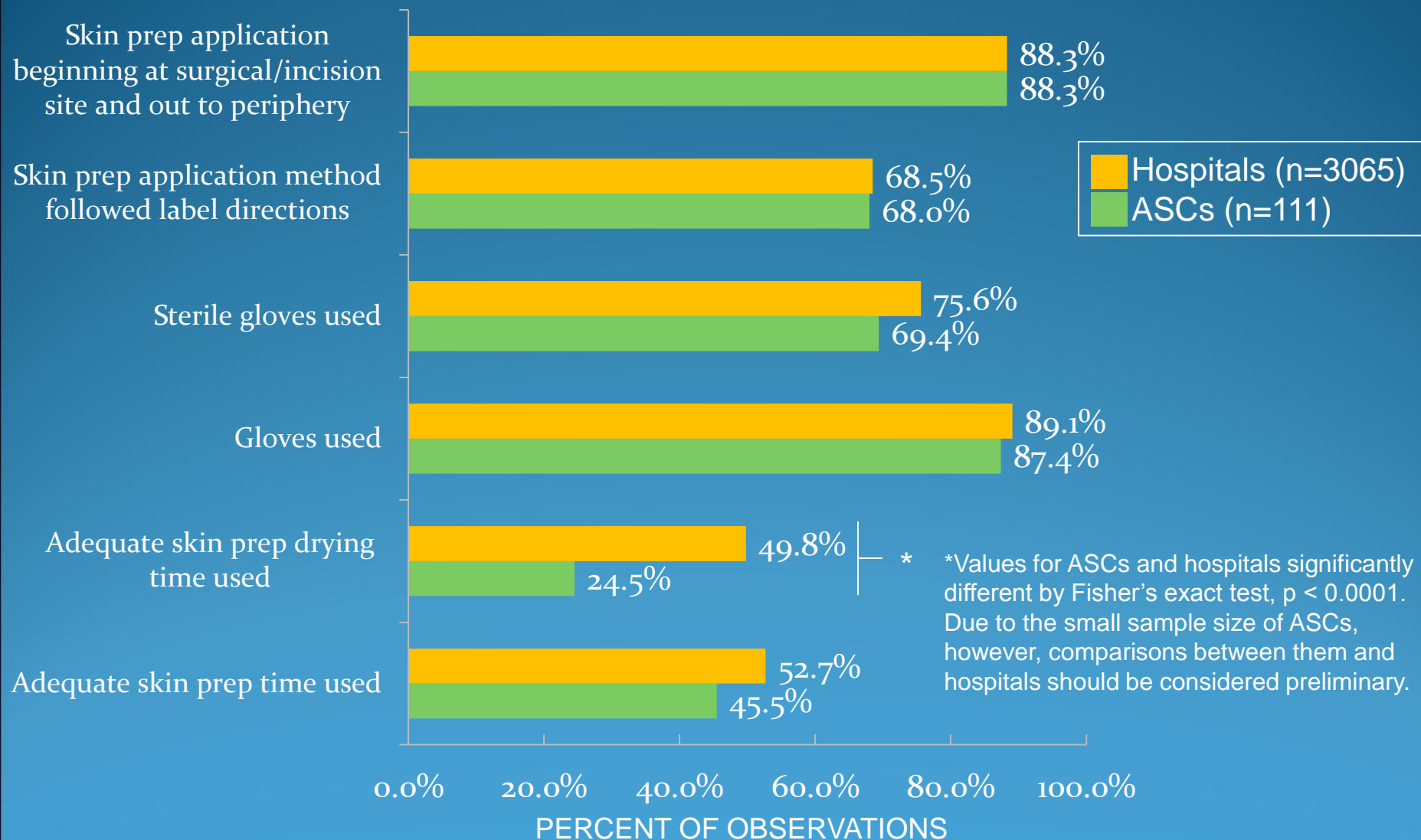
# A Recent Study Aimed At Identifying the Variations In Skin Prep At Hospitals and ASCs<sup>15</sup>

- Open label, iPad-based observation program
- 172 facilities
- Conducted by CareFusion Oct 1, 2013 to July 10, 2014
- 3176 observations of various procedures
  - 111 from ASCs, 3065 from hospitals



# Directions For Use (DFUs) For Skin Preparation Products Are Followed Only Half The Time<sup>15</sup>

## Overview of Skin Prep Procedure Compliance



# Findings Suggest Product Directions For Surgical Skin Preps Often Are Not Followed

- Surgical skin prep s are often improperly applied<sup>15</sup>
  - Close to 50% of the time, practice is non-compliant with labeled skin prep time and prep dry times
  - ASCs in particular appear to be non-compliant with skin prep dry times ~75% of the time

These data demonstrate a strong rationale for education and standardization in the ASC

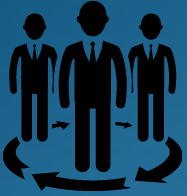


## Next Step:

# Make Your Standardization Proposal

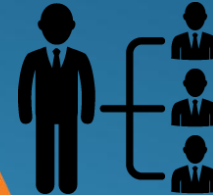
- You've explained why, now...
  - Have champion to support you
  - Clearly articulate your standardization proposal
    - Who will be involved?
    - What type of training will occur?
    - How will the intervention be measured?
    - How long will it take?
    - What tools will be used?
    - What will the intervention will achieve?

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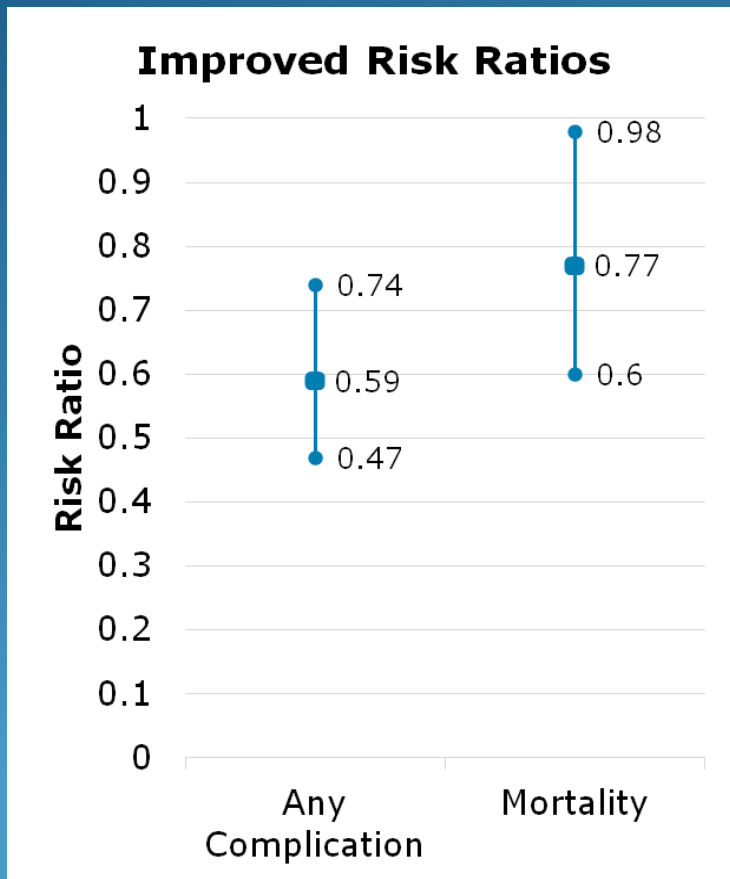
**EDUCATE**



Design an intervention "toolkit" targeted at barriers, standardization, independent checks, reminders, and learning from mistakes

**EXECUTE**

# Checklists Can Help Drive Standardization And Improve Clinical Outcomes



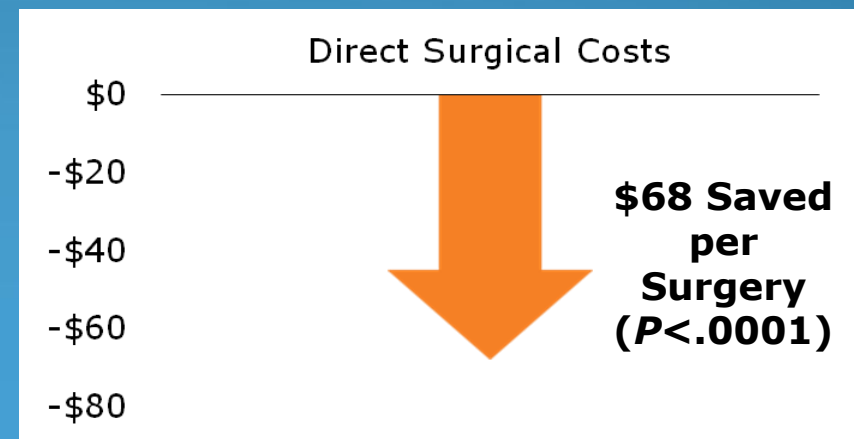
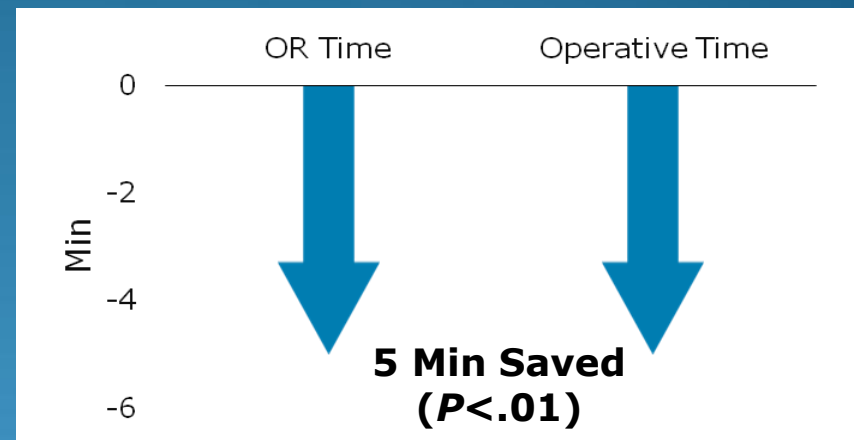
- Recent meta-analysis of 7 studies that evaluated the WHO Surgical Safety Checklist<sup>16</sup>

Strong correlation between decreased complications and adherence to the checklist  
( $Q=0.82, P=.042$ )

# Checklists Can Also Improve Efficiency and Costs

- Study at a tertiary-care hospital in Texas<sup>16</sup>
  - 17,204 surgeries pre-checklist vs 18,366 post-checklist
- WHO checklist only takes 2 min to complete
  - Despite perception by some that it is too time-consuming

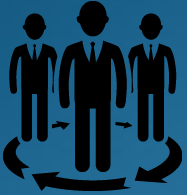
## General Surgery



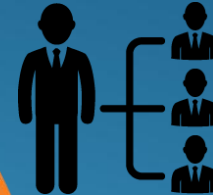
# Sources for Infection Prevention Checklists and Tools to Help Drive Regulatory Compliance and Standardization

- CMS: ASC Infection Control Surveyor Worksheet  
[http://cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107\\_exhibit\\_351.pdf](http://cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107_exhibit_351.pdf)
- CDC: Infection Prevention Checklist For Outpatient Settings: Minimum Expectations For Safe Care  
<http://www.cdc.gov/HAI/pdfs/guidelines/ambulatory-care-checklist-07-2011.pdf>
- WHO: Surgical Safety Checklist  
[http://www.who.int/patientsafety/safesurgery/tools\\_resources/SSL\\_Checklist\\_finalJuno8.pdf?ua=1](http://www.who.int/patientsafety/safesurgery/tools_resources/SSL_Checklist_finalJuno8.pdf?ua=1)
- AORN: A variety of useful tools and checklists can be found at:  
[http://www.aorn.org/Clinical\\_Practice/ToolKits/Tool\\_Kits.aspx](http://www.aorn.org/Clinical_Practice/ToolKits/Tool_Kits.aspx)

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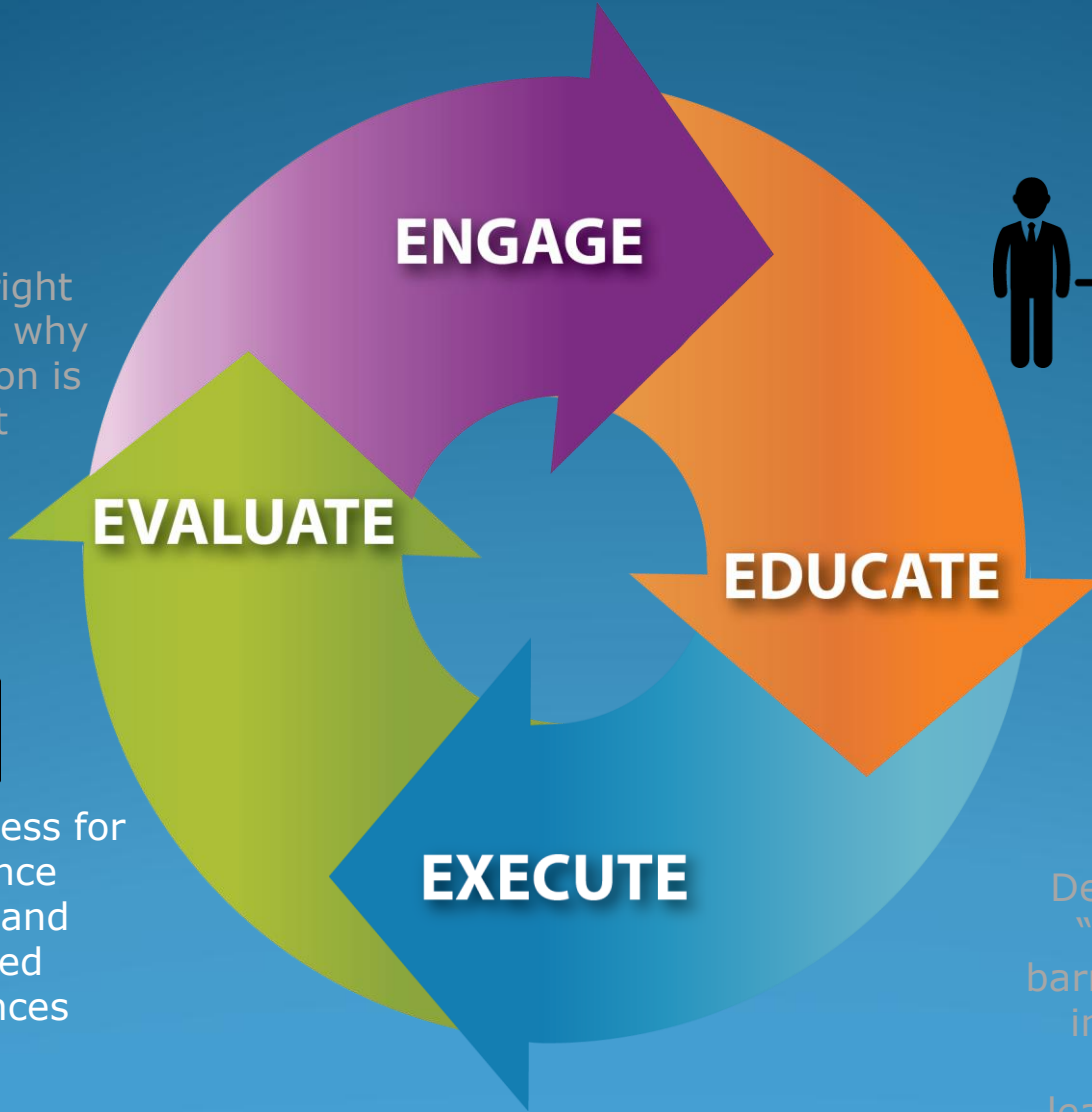
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# Measuring Results Is Critical To Demonstrating Effectiveness

- Alignment- remind staff why you're piloting this standardization project and how it may benefit patient care and business
- Transparency - make sure your staff understands what you're tracking and how
- Communication – ensure staff knows what will be reported, when, where and how

# Look To These Partners For Surveillance and Tracking Tools

- A comprehensive resource for choosing surveillance technology can be found on the APIC website:
  - <http://www.apic.org/Professional-Practice/Practice-Resources/Surveillance-Technology>
- CareFusion OR Observation Tool is an iPad-based app that allows direct observation capture and analysis of infection prevention practices in the OR
  - Contact Mora Thompson at [mora.thompson@carefusion.com](mailto:mora.thompson@carefusion.com)
- ASC Quality Collaboration provides tool kits to enhance your infection prevention practice
  - [http://www.ascquality.org/advancing\\_asc\\_quality.cfm](http://www.ascquality.org/advancing_asc_quality.cfm)



# Quality Assessment & Performance Improvement (QAPI): A Key CMS Condition for Coverage (CfC)

*The ASC must develop, implement and maintain an ongoing, data-driven quality assessment and performance improvement (QAPI) program*

## 416.43 Key QAPI Requirements

- Center Must
  - Measure
  - Analyze
  - Track quality indicators
  - Adverse patient events
  - Infection Control
  - Data must be used to monitor effectiveness & safety of services provided
- Identify opportunities for improvement
  - Focus on high risk, high volume, problem-prone areas
- Number of scope projects conducted annually must reflect complexity of ASC's services

# More Information On Developing and Submitting QAPI Programs to CMS

- CMS:  
[http://www.cms.gov/Medicare/Health-Plans/HealthPlansGenInfo/downloads/op\\_guide.pdf](http://www.cms.gov/Medicare/Health-Plans/HealthPlansGenInfo/downloads/op_guide.pdf)
- ASCA:  
<http://www.ascassociation.org/AboutUs/LatestNews/July2013/ComparingPerformanceandFocusingQAPI/>
- AAAASF: <http://www.aaaasf.org/>
- AAAHC:  
<http://www.aaahc.org/en/education/Webinars/Past-Webinars-x/>
- CareFusion:  
Ryan Lipe: [ryan.lipe@carefusion.com](mailto:ryan.lipe@carefusion.com)

## Quality Assurance and Performance Improvement Program (QAPI)

QAPI program champion:

Title:


Organization:

Department:

1. The purpose of the QAPI study and the significance of the problem(s) or concern(s) have been identified.

2. Performance measures, goals and objectives are identified and compared to existing processes or performance.

3. Methodology

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# Conclusions

- We are required to give HAIs our continued attention in the ASC!
- Reducing variability in practices improves quality of care
- Standardization of skin related preparation may aid quality initiatives in surgical care
- “Evaluate, engage, educate and execute” (4 E’s) is the key process for quality culture change
- We can leverage resources available for 4 E’s in standardizing skin-related preparation
- Standardization goes hand-in-hand with QAPI

This Presentation Was Made Possible By Support From



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