On the CUSP: Stop CAUTI

Where's Your CAUTI Rate?

July 10, 2012

1pm ET/12pm CT

Today’s Presenters

Barb Edson, RN, MBA, MHA
Vice President of Clinical Quality
HRET

Russ Olmsted, MPH,CIC
Director, Infection Prevention
and Control Services
Saint Joseph Mercy Health System

Mary Fine, RNC, QMHP
Director of Quality
Ozarks Medical Center

Jeannie Looper, BSN, MHA, FACHE
Chief Operating Officer
Ozarks Medical Center

Alma Ratcliffe, MD
Exec. VP of Medical Staff & Clinical Quality
Saint Clare’s Health System

Norma Atienza, MPA, RN, CIC, CPHQ
Exec. Director of Quality & Patient Safety
Saint Clare’s Health System

Laura Anderson, MSN, RN, CIC
Infection Control Coordinator
Saint Clare’s Health System

Kathryn L. Hoffman, RN, BSN
Director, Patient Care Services
Women's, Children's, & Specialty Services
Saint Joseph Mercy Hospital

Agenda

Topic	Presenter(s)	Time
National Project Overview	Barb Edson, HRET	5 min
Technical & Socio-Adaptive Aspects of CAUTI Prevention	Russ Olmsted, Saint Joseph Mercy Health System, Michigan APIC representative	10 min
Organizational Commitment	Mary Fine and Jeannie Looper, Ozarks Medical Center, Missouri	10 min
The Importance of Teams	Alma Ratcliffe, Norma Atienza, and Laura Anderson Saint Claire's Health System, New Jersey	10 min
Sustainability and Spread	Katy Hoffman and Russ Olmsted Saint Joseph Mercy Health System, Michigan	10 min
HPOE Action Guide & Wrap-up	Barb Edson, HRET	3 min
Questions	Open Discussion	10 min

National Project Overview

Barb Edson, RN, MBA, MHA

Vice President of Clinical Quality, HRET

Acknowledgments

The Health Research & Educational Trust and HPOE would like to thank:

- Agency for Healthcare Research and Quality
- Michigan Health & Hospital Association Keystone Center for Patient Safety & Quality
- University of Michigan Health System
- St. John Hospital and Medical Center
- Johns Hopkins Armstrong Institute for Patient Safety and Quality
- Extended Faculty Organizations:
  - Association for Professionals in Infection Control and Epidemiology
  - Emergency Nurses Association
  - Society for Healthcare Epidemiology of America
  - Society of Hospital Medicine

On the CUSP: Stop CAUTI Goals

The goals of the national project are to:

- reduce mean CAUTI rates in participating clinical units by 25 percent; and
- improve safety culture as evidenced by improved teamwork and communication by employing CUSP methodology.

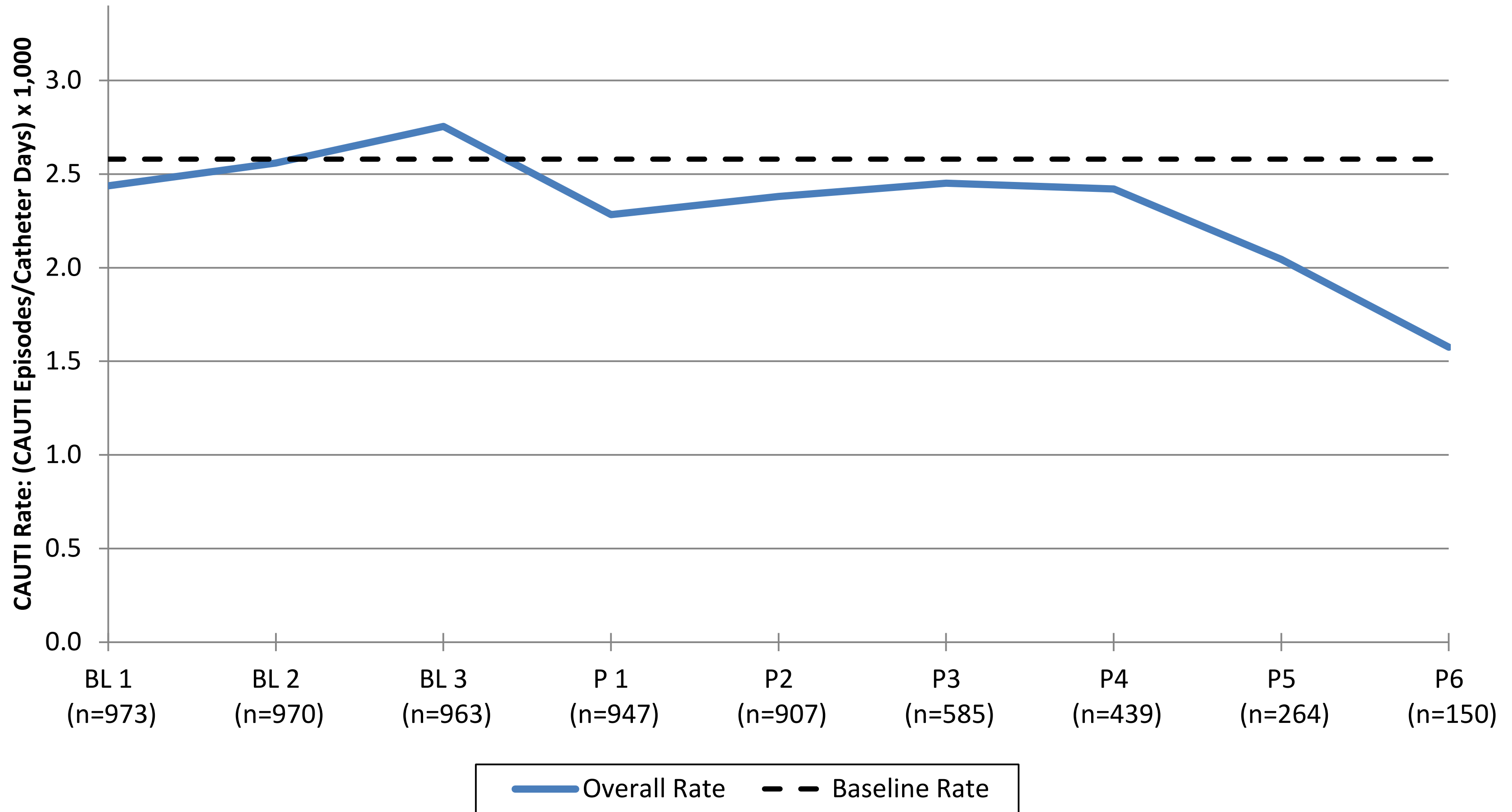
National Project Vitals

- Original Contract -

Cohort	States Participating	Date
1	IL, WA	October, 2010
2	AL, FL, GA, HI, KS, KY, MO, ND, PA, TX, WI	March, 2011
3	NJ, AR, CA, KS, CT, SC, MD	November, 2011
4	AK,AL, AZ, CA, CO, DC, FL, IA, IN, LA, MA, MI, MO, MS, NJ, NV, OH, OK, OR, PR, SC, TX	May, 2012
5	AL, AZ, CO, FL, IL, IN, KS, LA, MO, NE, SD, WV	October, 2013
6	CA, CT, FL, OH, MO, NJ, NV, SC	May, 2013

- Cohorts 1-6 = 35 state s and Puerto Rico and DC (37 in total)
- Duration – 18 months
- Components (Technical and Adaptive) & Deliverables
- All units & ED
- Expansion Awarded - Aug 15, 2011
  - Base year + 3 option years

CAUTI Rate: Overall

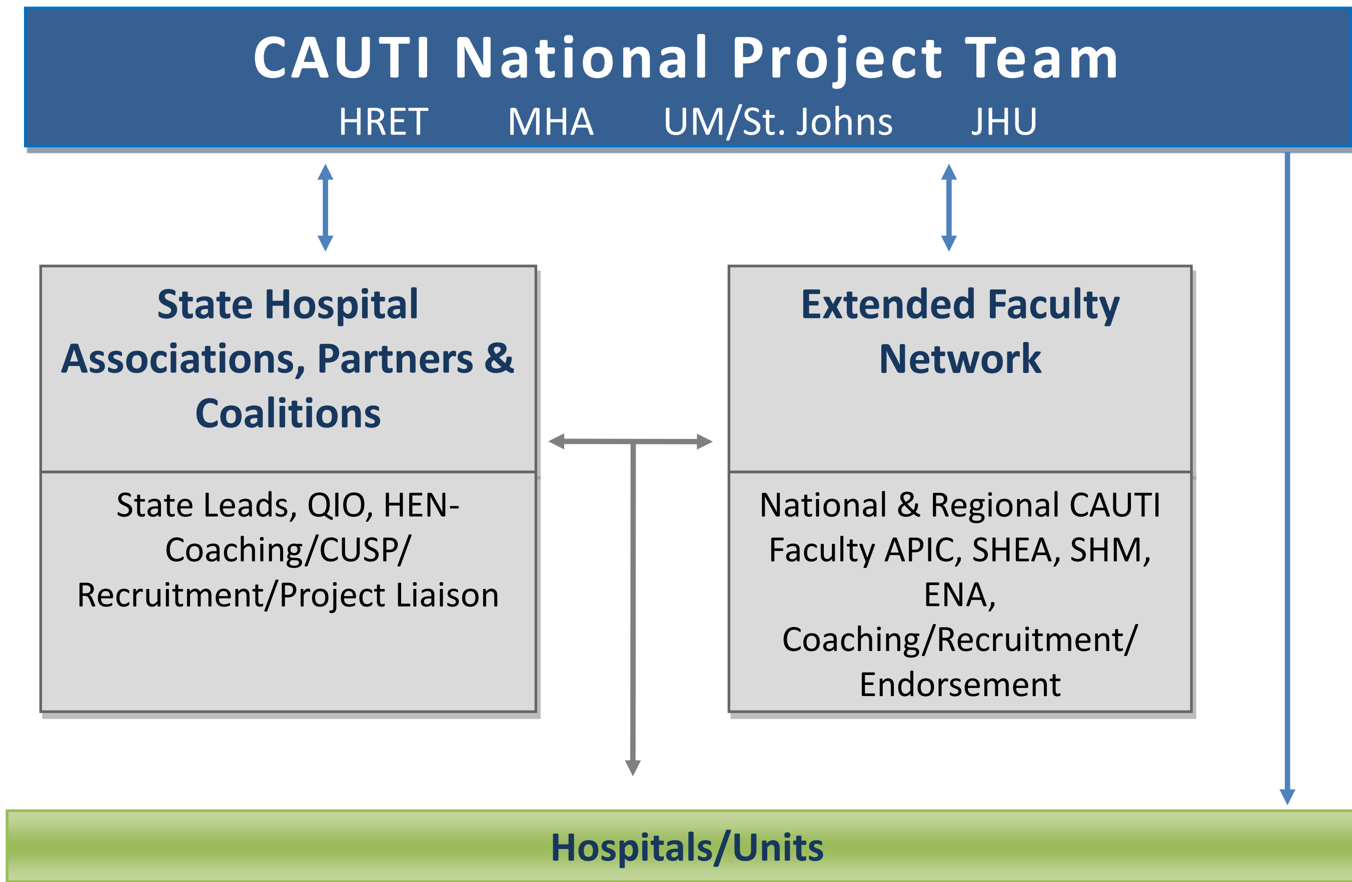


Overall Relative Reduction

	BL (n=990)	P 1 (n=947)	P2 (n=907)	P3 (n=585)	P4 (n=439)	P5 (n=264)	P6 (n=150)
Overall Rate	2.580	2.283	2.381	2.451	2.420	2.044	1.575
Relative Reduction	**NA**	-11%	-8%	-5%	-6%	-21%	-39%

Note: Relative reduction based upon CAUTI rate calculated using NHSN methodology. All reductions are relative to baseline. Cohort 5 is in baseline data collection phase and therefore not reflected in the above calculations.

Partnerships & Dissemination

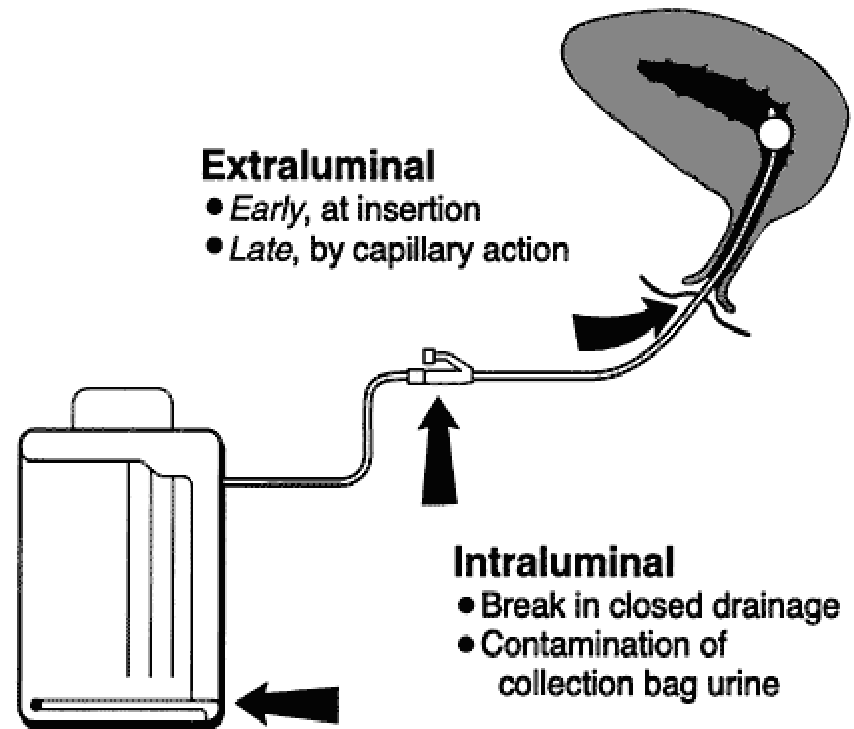


Technical & Socio-Adaptive Aspects of CAUTI Prevention

Russ Olmsted, MPH, CIC
Director, Infection Prevention and Control Services
Saint Joseph Mercy Health System, Michigan

Technical: Pathogenesis of CA-UTI

- Source: colonic or perineal flora or hands of personnel
- Microbes enter the bladder via extraluminal {around the external surface} (proportion = 2/3) or intraluminal {inside the catheter} (1/3)
- Daily risk of bacteriuria with catheterization is **3% to 10%**; by day 30 = 100%
  - Maki DG EID 2001



MDROs[1]

CAUTI

Pressure ulcers

Increased Length of Stay

Urinary Catheter Harm

Venous thrombo-embolism?

Immobility

Patient dignity*

Trauma

Falls?

*Saint S, Ann Intern Med 2002; 137: 125-7

1. Multidrug-resistant organisms

The Urinary Catheter: Not So Innocuous

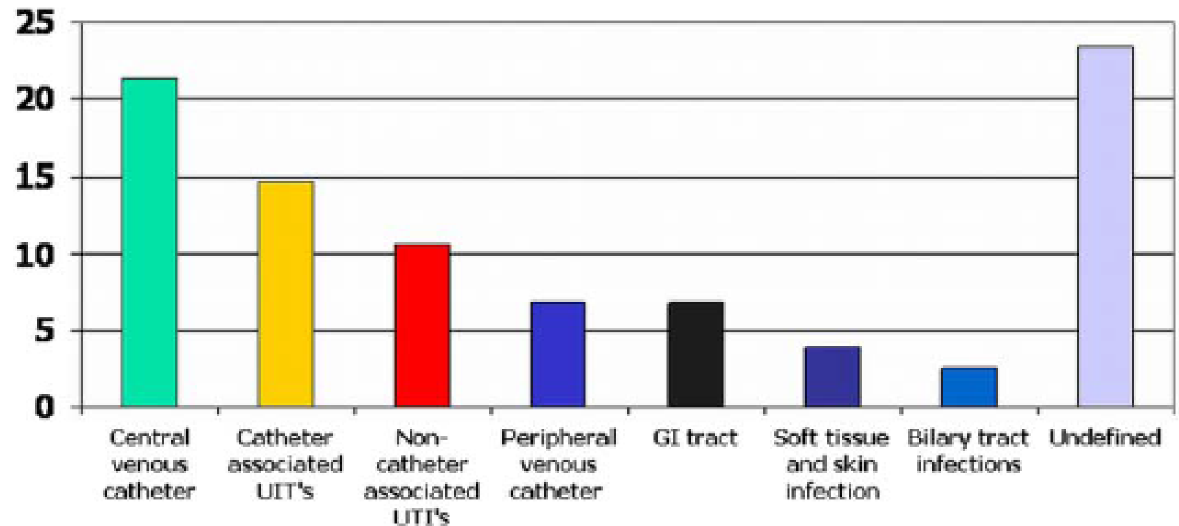
CAUTI-Associated Bloodstream Infection:

7- & 30-day mortality > 30%

Over 25% caused by MDROs

Outcomes in UK patients with hospital-acquired bacteraemia and the risk of catheter-associated urinary tract infections. Mark Melzer, Catherine Welch. Postgrad Med J 2013

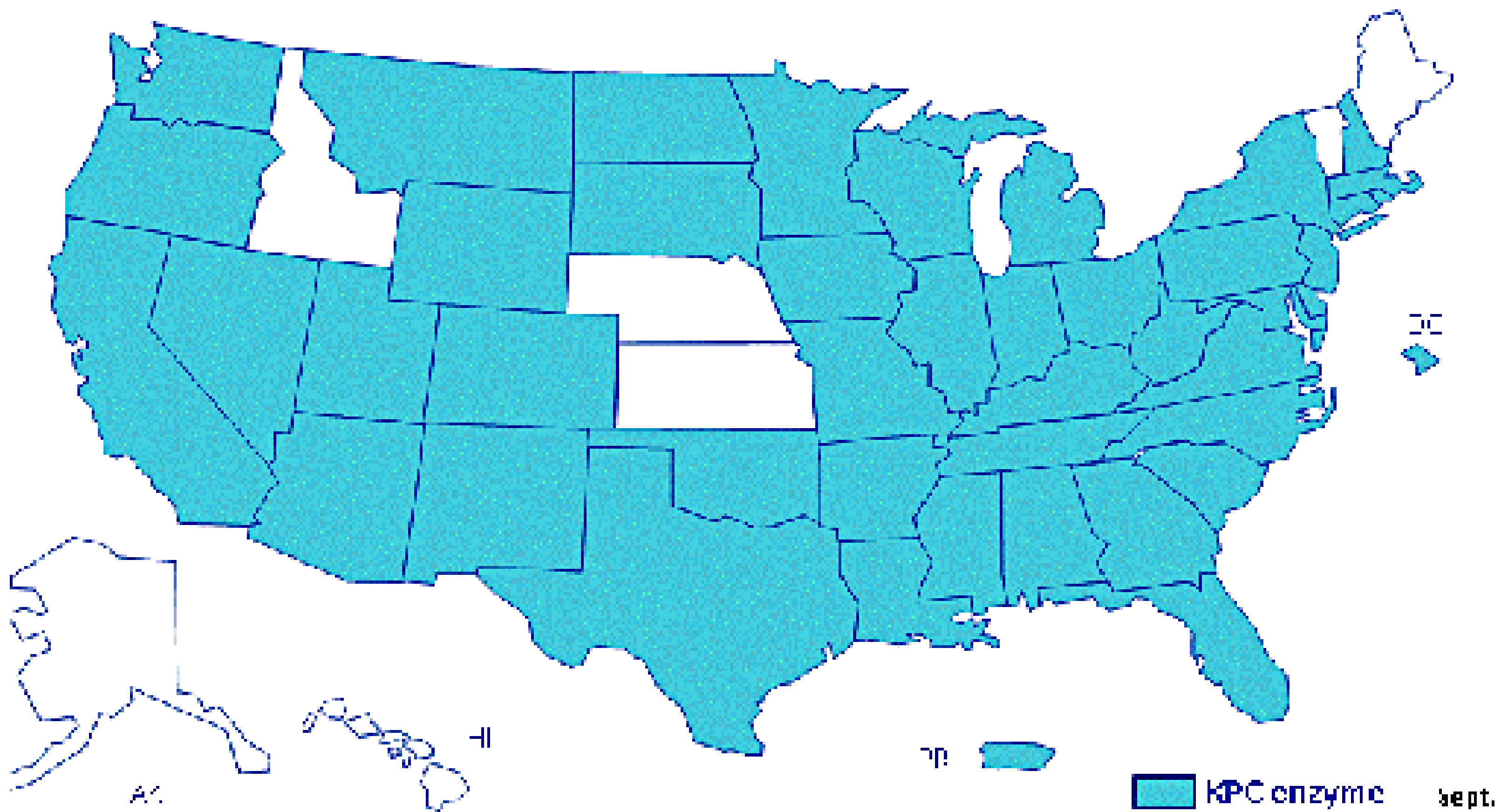
Figure 1 Sites of infection in consecutive patients with hospital-acquired bacteraemia, expressed as percentages. This figure is only reproduced in colour in the online version.



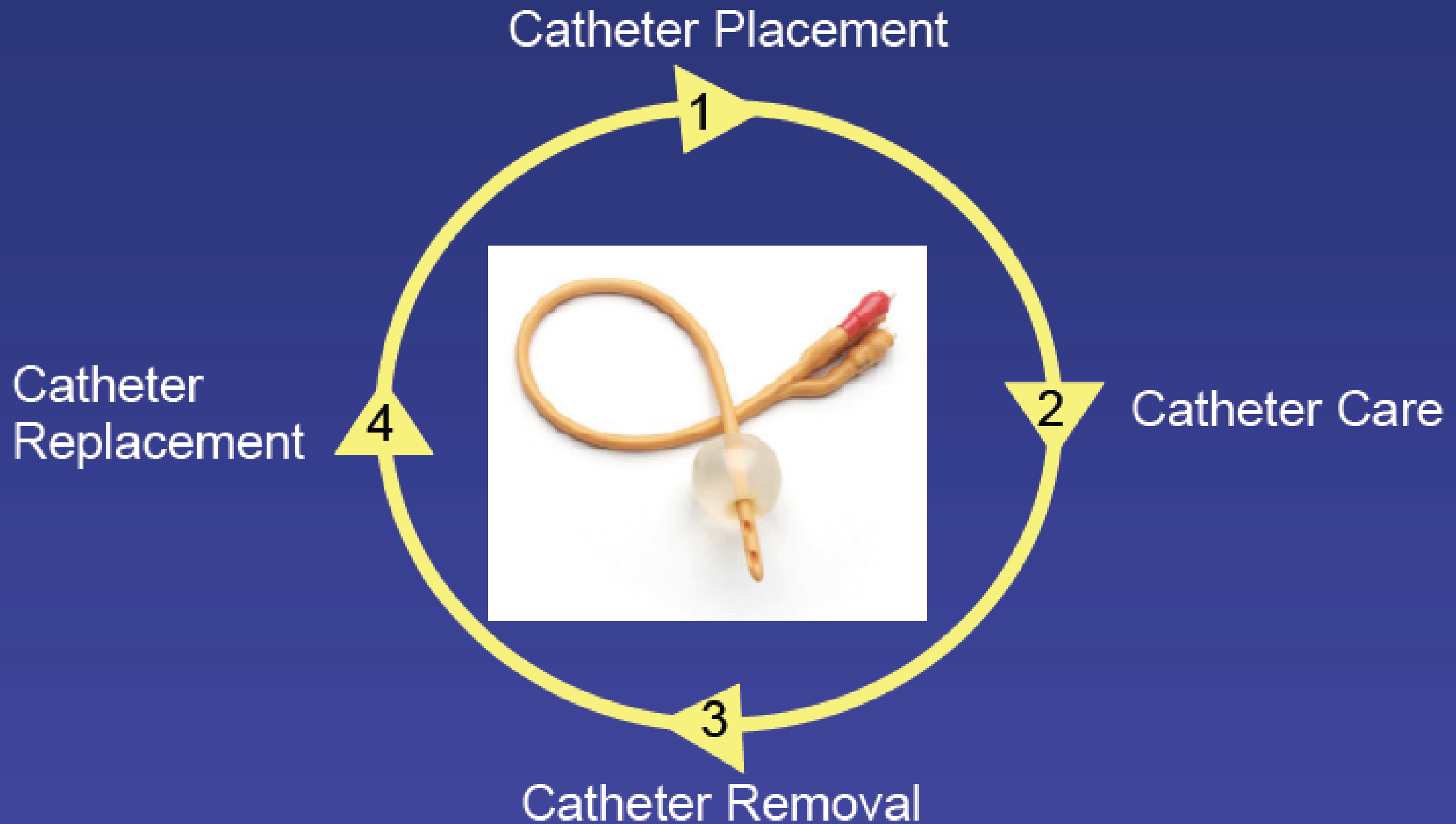
CMS: Reporting & Payment Impact… the new frontier of population health

Measure	Hospital Inpatient Quality Reporting Program		Value-Based Purchasing		Health IT
	Reporting Effective Date	Affects APU	Reporting Effective Date	Affects Reimbursement	Included in Meaningful Use
SCIP-Infection-9 Postoperative urinary catheter removal on post operative day 1 or 2	Ongoing	Ongoing	April 2012	FY2014	2014
Catheter-Associated Urinary Tract Infection Expand to include some non-ICU wards	Jan 2012 Expand Jan 2014	FY 2014 Expand FY 2015	Jan 2014	FY 2016	

Extent of Dissemination of Carbapenem-Resistant Enterobacteriaceae (CRE), U.S., 2012



In 2001 = only 1 state. *Bad Bugs & No Drugs*



Meddings J, Saint S. Clin Infect Dis 2011;52:1291 available at:
http://www.catheterout.org

Critical Control Points for Block & Tackle of CAUTIs

Avoid use unless appropriate indication

Promptly remove of catheter when no longer indicated

Reduction in Inappropriate Urinary Catheter Use

Clear Identification of what is considered an appropriate indication

REMOVAL ALERT: FOLEY CATHETER

Discern: Open Chart (1 of 2)

Cerner

Foley Removal

Detail: has a Foley Catheter that was inserted on February 03, 2013 06:13:57 EST

Action Required: Physician order is needed to continue or discontinue.

"OK" takes you past the alert to the chart

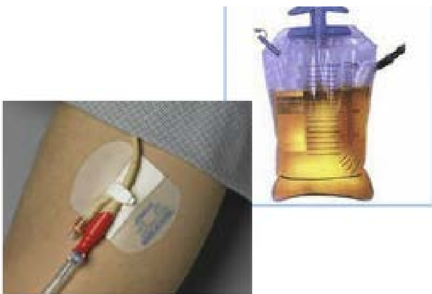
OK

Awareness from reminders/stop orders to clinicians of presence of a UC can reduce incidence of CAUTI by over 50%

Meddings J, et al. Clin Infect Dis 2010; 51:550-

Nurse-Led Initiative to Prevention CAUTI – Implementation Science in Action

- *Nurse-directed interventions to reduce catheter-associated urinary tract infections.* Oman KS, et al. Am J Infect Control 2012;40:548-53.
- Methods: Pre/Post intervention, quality improvement project, academic medical center, Aurora, CO. Aim = reduce CAUTIs in med-surg. population
- Findings:
  - Decreased mean number of UC days 3.01 – 2.2 (p=0.18) [Surgery] & 3.53 to 2.7 (p= 0.076) [Medicine]
  - No significant drop in CAUTI rates – baseline too low to detect significance
  - Product cost savings = $52,000 USD/year



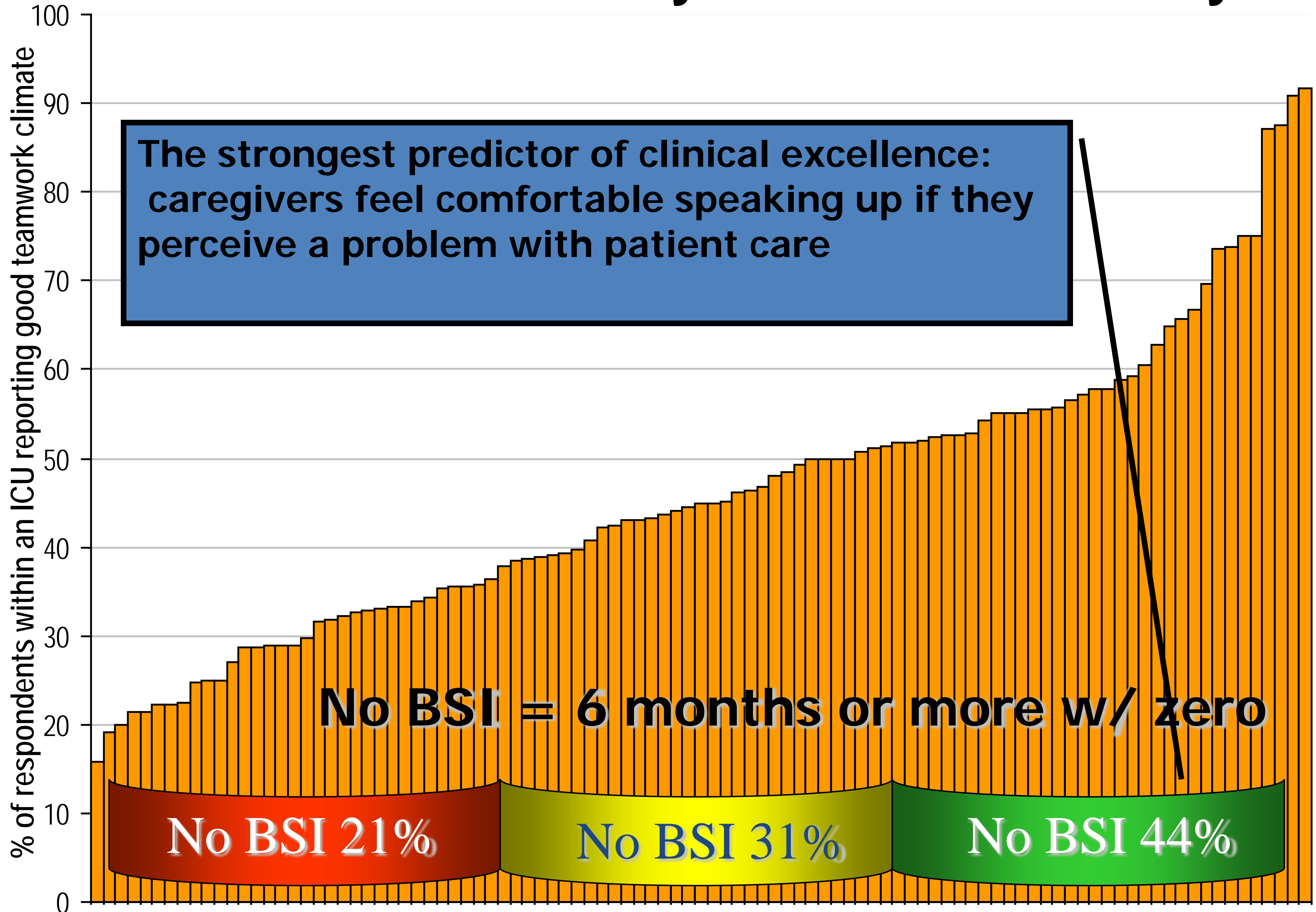
Interventions included engaging patients and their families in CAUTI Prevention.

Socio-adaptive Aspects of CAUTI Prevention:

Understanding attitudes, beliefs & actions of healthcare personnel

- *Barriers to Reducing Urinary Catheter Use.* Krein SL, et al. JAMA Intern Med 2013;173:881-6.
- Methods: semi-structure & in-person interviews
- Findings: Barriers to CAUTI Prevention using the "Bladder Bundle"
  - Problems with nurse-physician engagement
  - Patients or family requested a urinary catheter (UC)
  - The "virtual" appearance of a UC during Emergency Dept to inpatient admission
- <u>Gaining Knowledge from interviews</u>:
  - "Nurses, I believe, truly care about the patients in. . .their area. [For example], on [one] unit, they're getting [patients] out of bed sooner. . .[for] increased mobility which may in turn decrease the length of stay. . .if you let [nurses] know what the benefits could be, not just all, "Hey, our patients may not get a UTI."

Antimicrobial Efficacy of Culture of Safety



The Ozarks Medical Center Story: Organizational Commitment

Mary Fine, RNC, QMHP

Director of Quality

Jeannie Looper, BSN, MHA, FACHE

Chief Operating Officer

Ozarks Medical Center, West Plains, Missouri

Executive Partnership

- Marcia Robson, CNO

Staff nurse on Medical-Surgical floor

House Supervisor

Interim DON

Nurse Manager of OB

Director of Women's services, ES, Dietary, ED, Sleep lab, Lab, OR, and Cath Lab

Chief Nursing Officer

Executive Support

- Chief Nursing Officer rounds with staff, asks “how will the next patient be harmed?”
- Chief Nursing Officer, Chief Operating Officer, and Chief Executive Officer participates in staff recognition
- Chief Executive Officer spoke to staff, giving encouragement to speak up and serve as patient advocates

Reporting & Accountability

How to Sustain Success

- Quality is a top pillar for our organization
- Implemented rounding
- Reward and recognition
- Leadership commitment

Key Lessons

- **Change the Culture**

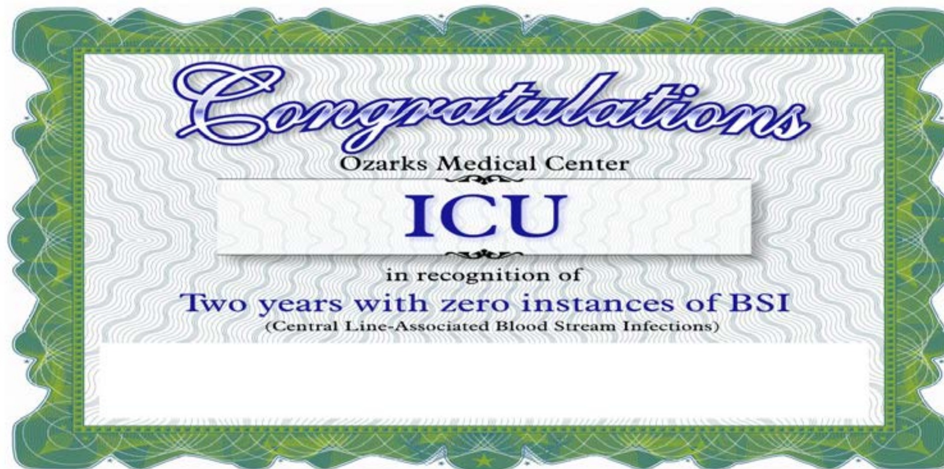
➢ Empower frontline staff

➢ Huddle Boards

➢ Everyone is responsible for safety

➢ Proactive approach

Reward and Recognition



The Saint Clare's Health System Story: The Importance of Teams

Alma Ratcliffe, M.D.
Executive VP of Medical Staff and Clinical Quality

Norma Atienza, MPA, RN, CIC, CPHQ
Executive Director of Quality & Patient Safety

Laura Anderson, MSN, RN, CIC
Infection Control Coordinator

Saint Clare's Health System, Denville, New Jersey

How We Did It

- Saint Clare's has three acute care facilities. Infection Control department used to own the responsibility of decreasing CAUTI in our hospitals.
- In 2009, that practice was changed. Developed a coordinated CAUTI reduction plan for the organization and implemented EBP Practices.
- CAUTI Team was developed with a team leader, appointed members based on their expertise, and an executive sponsor.
- Action plan was established using WWW (What, Who, When) format, and meetings were held regularly for progress report, updates, barriers and concerns.

Team at Work

- Teams work best for Saint Clare's improvement initiatives
- It is a process that is built where members are accountable and responsible for delegated or assigned functions
- Members work and collaborate with one another to be successful and work assigned is mostly based on one's expertise
- With common goal and common purpose – the team brings great positive results

Activities for Improvement

- Reviewed current policy, practices and products that are being used
- Developed educational and communication tools for employees, physicians, patients, and families (available in Spanish)
- Improved standing order for indwelling urinary catheter – now in CPOE
- Worked with IT to capture appropriate documentation and to help compliance monitoring
- Guidance and re-reinforcement of EBP practices in the care and management of patients with indwelling catheters
- Continuous education and annual competency requirements for nurses and nursing assistants

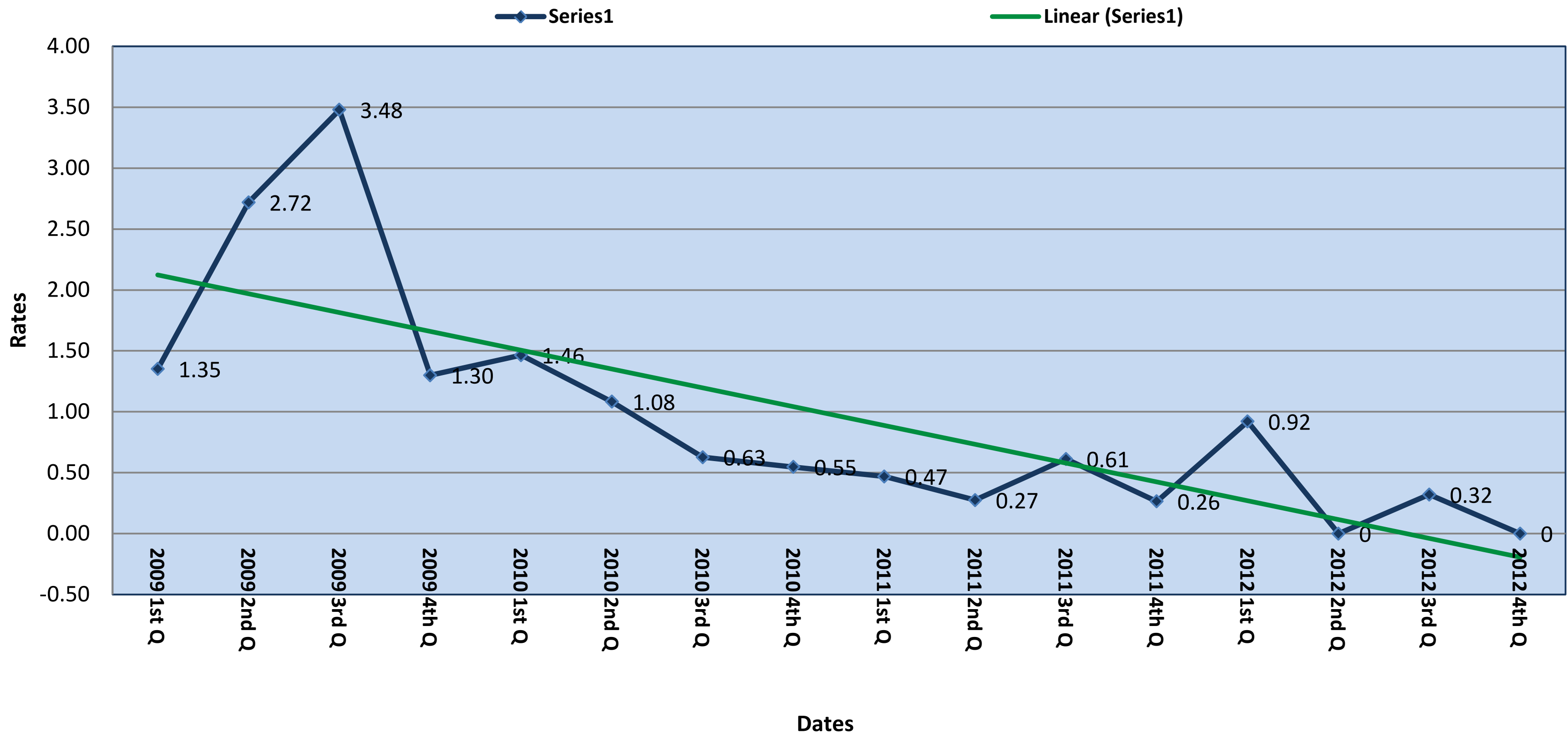
Measures of Success

- The hospital-wide number of CAUTI infections has declined steadily since 2009 and continues to sustain improvements:
  - CY 2008: 55 CAUTIs (rate NA)
  - CY 2009: 29 CAUTIs, rate 2.2
  - CY 2010: 14 CAUTIs, rate 0.96
  - CY 2011: 6 CAUTIs, rate 0.40
  - CY 2012: 4 CAUTIs, rate 0.30

    (rate = # of infections/# of device days x 1000

- 7/8 Nursing Units had “zero” CAUTI for 12 months
- One ICU has sustained “zero” CAUTI greater than 20 months

Progress through the years



Critical Success Factors

- Building a team that is passionate about quality and patient safety
- Strong leadership support and team accountability
- Engaging physicians, staff, and patients
- Measuring indicators, sharing outcomes, continually correcting and improving processes
- Development of Indwelling Catheter Use Standing Order, now computerized (CPOE)
- Daily surveillance and review of all CAUTI cases by Infection Preventionists (IPs)
- Celebrating and recognizing successes at all unit levels—Acknowledging the work of CAUTI teams

The St. Joseph Mercy Story: Sustainability and Spread

Katy Hoffman, RN, BSN, NE-BC

Director, Patient Care Services

Women's, Children's, and Specialty Services

Russ Olmsted, MPH,CIC

Director, Infection Prevention and Control Services

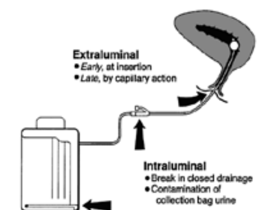
St. Joseph Mercy Health System, Ann Arbor, Michigan

Spread & Sustain At Saint Joseph Mercy Health System (SJMHS)

- Setting: 537 bed community teaching hospital part of regional healthcare delivery network (6 hospitals); member of Trinity Health/Catholic Health East
- Start Small: Identify pilot unit: engage & then establish unit-based CAUTI Prevention Team.
- Unit-based team: multi-disciplinary membership
- Spread was facilitated by Trinity Health Performance Improvement Collaborative; sharing process/outcome data across all member hospitals.
- Support from Organizational Leaders: Keystone ICU CLABSI as a case study;
  - key success factor = CEOs signed pledge to assure chlorhexidine gluconate available for antiseptic skin prep at site of insertion

Engage:
Set the Stage for CAUTI Reduction

- Build a team: Executive and Physician Leader(s), Nurse Champion, Nurse Manager(s), Infection Preventionists, Performance Improvement Leaders (six sigma/black belt), Urology NP, and Front-line nursing and assistive staff. 16 Members in All!
- Know and Share the CAUTI Evidence
- CDC/HICPAC Guidelines: Understand and agree on the indications
- Establish buy-in/Create shared vision: Both physician and nursing
- Identify defects, look for opportunities to improve, "easy wins"
- Empower caregivers



Saint S, et a. J Comm J Qual Patient Saf 2009;35:449-55

Engaging The Team Members: Reasons for Them to Support the Champion

Infection preventionists	Case managers
• Prevent CAUTI = Better CMS IQR SIR. • Reduce antibiotic use. • Reduce potential of increased resistance and *Clostridium difficile* infection.	• Less complications (mechanical or infectious)= lower cost • Early removal of catheter may reduce length of stay
Nurse manager	**Chief Nursing Officer**
• Leader and supporter to the bedside nurse (empowers the nurse) • Makes the appropriate urinary catheter use a priority and a safety issue • Addresses any barriers encountered by the bedside nurse	• Optimize efficient use of Nursing Services • Improve patient outcomes • Recognition of Nursing Excellence: • Magnet, NDNQI, Beacon Award • Comply with The Joint Comm. NPSG

Physician-Specific Business Case: or why should I care?

Infectious Disease Specialist

- Reduce CAUTI.
- Reduce antibiotic use.
- Avoid selection of multidrug-resistant organisms(MDROs)
- Avoid *Clostridium difficile* infections

Urologist

- Reduce trauma (mechanical complications):
  1. Meatal and urethral injury
  2. Hematuria
- Do not remove caths. without my OK
- Worried about calls for re-insertion

Hospitalists

- Infect.& mechanical complications.
- Prolonging length of stay.
- Broad scope of care – can facilitate CAUTI prevention on many units

Chief Medical Officer

- Enhance Patient Safety
- Optimize SCIP 9 (remove by postop day 2) Score
- Promote as part of standard work by clinical team, incl. Adv. Practice Prof.

Educate:
Adaptive and Technical Principles

- Share the vision: Reduce CAUTI rates by 25%
- CUSP: Science of Safety and risk for harm
- Review and Revise Policy/Procedures for alignment with CDC/HICPAC recommendations
- Clearly define expectations for insertion, maintenance, and removal
- Share Stories: "Debunk" myths and challenge "status quo"
  - Change mental model from medical equipment to invasive device
  - Investigate options for patients with epidurals
- Yearly competencies, quarterly updates to nursing and leadership teams
- Involve patients/families

Execute:
Adaptive and Technical Interventions

- Simplify/Automate:
  - Standard form (paper or electronic) for documentation of insertion/removal
  - Automatic stop orders
  - Required fields in physician orders and nursing documentation
- Standard Order Sets
- Build in Redundancy: Daily Reminders
- Standardize supplies (insertion kits, securing devices)
- Ensure availability of alternatives to indwelling urethral catheters: ISC, Condom Catheters, Bedside Commodes, bladder scanners
- Incorporate into standard work: huddles, rounds

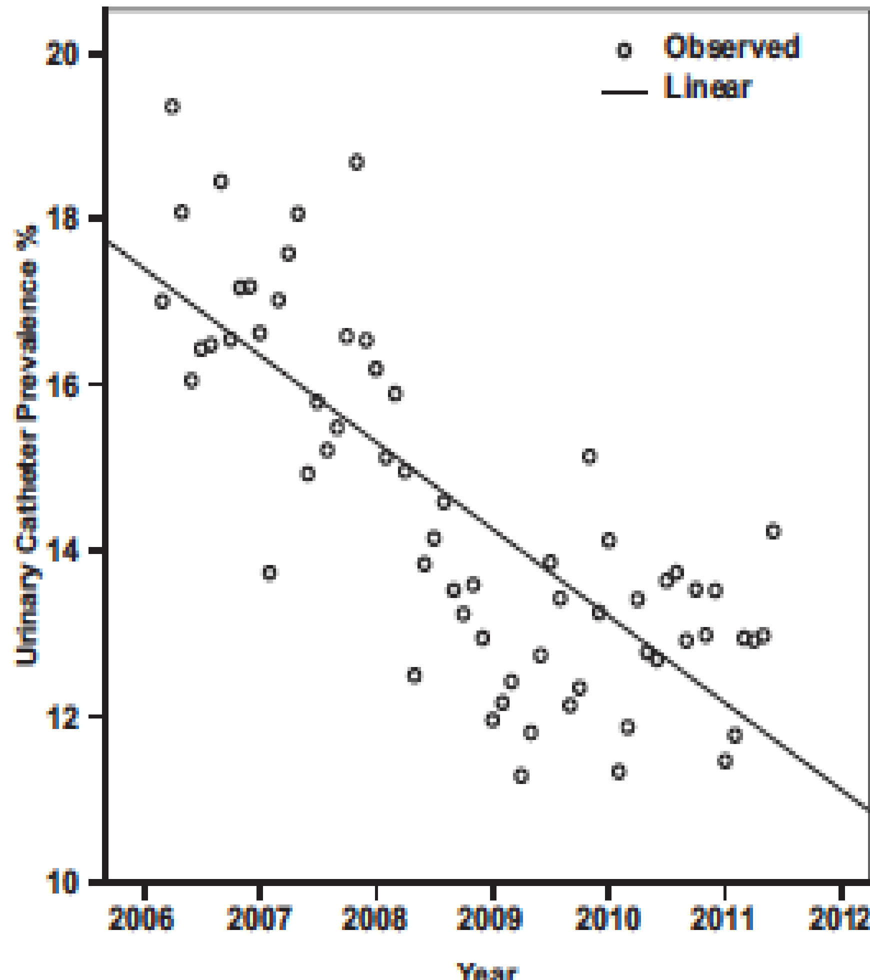
Evaluate: Adaptive and Technical Intervention Outcomes

- Safety Culture: AHRQ Results
- Collect and Disseminate Data
  - Inappropriate use: Catheters not indicated
  - Process measures: insertion and maintenance technique
  - Outcome measures: Catheter Days and CAUTI rates
- Identify defects
- Learn from Defects

Factors that Influence Sustainability

- Effectiveness
- Routinization and integration with existing programs/services (institutionalization)
- Program champions/leadership (building capacity)
- Socio-political considerations

Can Improved Urinary Catheter Stewardship be Sustained?



Yes! Significant Reduction over 5 yrs.

Key Focal Areas:

1) Bladder Bundle
2) ED-based program to improve appropriate use
3) Twice/week UC prevalence with feedback to non-ICU units

Fakih MG, et al. AJIC 2013

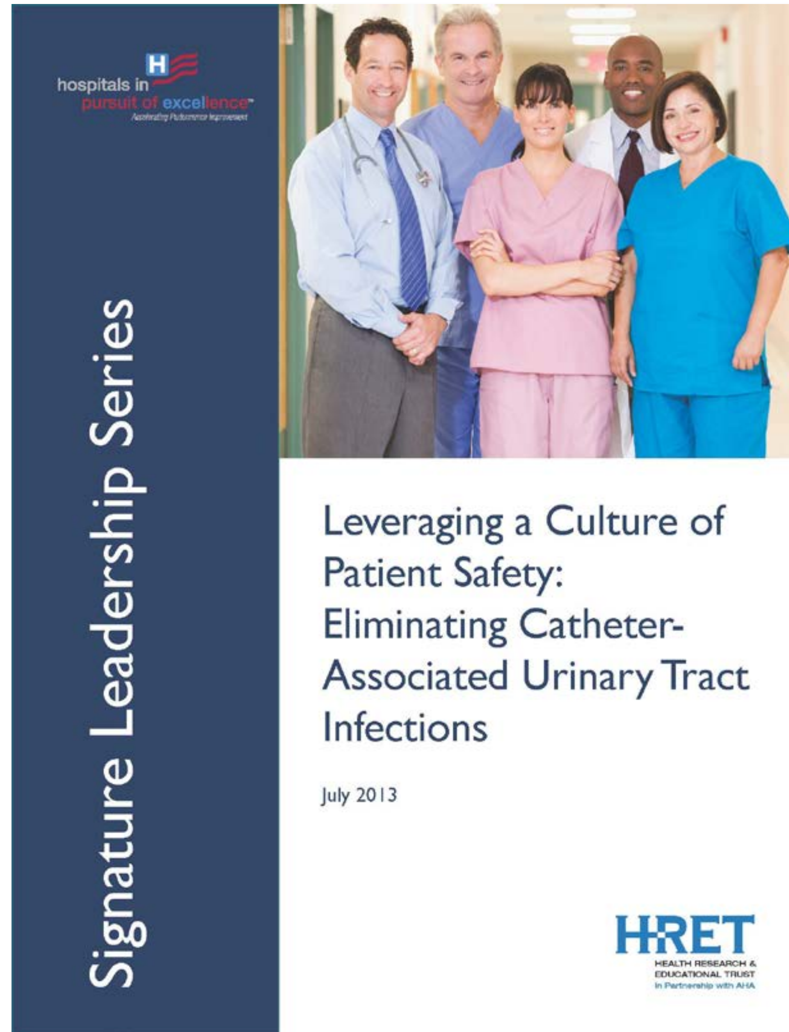
HPOE Action Guide & Wrap-up

Barb Edson, RN, MBA, MHA

Vice President of Clinical Quality, HRET

HPOE Action Guide

Approximate release date:
July, 2013



Eliminating Catheter-Associated Urinary Tract Infections: A Safety Improvement Journey

- Combining technical improvements with culture
- Ten focused tasks to launch or revitalize CAUTI reduction, divided into three “Steps”:
  - Step 1: Communicate that CAUTI reduction is an organizational priority.
  - Step 2: Provide resources for CAUTI reduction.
  - Step 3: Celebrate success, and support sustainability and spread.
- Case studies of the three successful CAUTI reduction projects highlighted today

Wrap-up

For more information of the *On the CUSP: Stop CAUTI* project, please visit:

http://www.onthecuspstophai.org/on-the-cuspstop-cauti/

Questions?