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CAUTI and CLABSI Initiatives

May 24, 2012

*A partnership of the Healthcare Association of New York State
and the Greater New York Hospital Association*

Objectives

- NYSPFP Background
 - Why focus on CAUTIs and CLABSIs?
 - Overview of the CAUTI and CLABSI Initiatives
 - Goals
 - Objectives
 - Insertion and Maintenance Bundles
 - Measurement strategy/data collection
 - Interdisciplinary team
 - Added benefit to participation in NYSPFP CAUTI/CLABSI Initiatives
 - Point prevalence study
 - CAUTI and CLABSI assessments of current practice
 - CAUTI and CLABSI team planning
 - Next steps and additional resources
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NYSPFP Background

Timeline for Implementation of HAI Initiatives

CAUTI and CLABSI

- June 2012 – February 2013
 - Hospitals begin 6-month implementation period
 - Initial educational Webinar series
 - Technical Support
- February – April 2013
 - Targeted education, based on implementation experience and hospital needs supporting hospital-wide spread
- April – November 2013
 - Ongoing, sustained project management support and technical assistance

VAP and SSI

- Fall/Early Winter
 - VAP measurement education
- November 2012
 - Kick-off of VAP and SSI initiatives

Factors Contributing to the Overall Design

- The Joint Commission
 - National Patient Safety Goal 07.06.01 (CAUTI) and 07.04.01 (CLABSI)
 - CMS
 - Value-based purchasing
 - Inpatient Quality Reporting Program
 - NYSPFP Infection Prevention Clinical Workgroup
 - 16 members
 - Consensus model to develop CAUTI and CLABSI program design and measurement strategy
 - Input from you
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Catheter-Associated Urinary Tract Infection (CAUTI) Initiative

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New York-Presbyterian Hospital/Weill Cornell Medical Center and Co-Chair, NYSPFP Infection Prevention Clinical Workgroup

Are you doing hospital-wide surveillance of CAUTIs?

- A. Yes
- B. No
- C. I don't know

Why focus on CAUTIs?

- About 40% of all nosocomial infections are CAUTIs¹
- 80% of healthcare-associated UTIs are caused by a urinary catheter
- More than 500,000 patients suffer from CAUTIs annually, costing hospitals an estimated \$400 million
- 5% of all deaths from healthcare-associated infections are associated with urinary catheters
- According to one study, about 40% of patients with a urinary catheter experienced at least 1 inappropriate catheter-day and 31% of the urinary catheter-days were inappropriate²

CAUTI is Preventable

- Proper management and use of catheters could prevent infections
- 65-75% of CAUTIs may be preventable*
- CAUTIs may be the most preventable HAI*

CAUTI Initiative Goals

- To reduce unnecessary catheter utilization
- To eliminate and sustain reductions in catheter-associated urinary tract infections
 - Elimination of HAIs has been defined as “maximal reduction of the incidence of infection in a defined geographical area as a result of deliberate efforts; continued measures to prevent reestablishment of transmission are required.”*

CAUTI Initiative Objectives

By June 2012

- Implement the CAUTI Bundles:
 - 1) In at least one high-utilization adult ICU, and
 - 2) In at least one high-utilization non-ICU unit
 - 3) In the Emergency Department (ED)

Within First 6 Months

- Reduce catheter utilization in one high-utilization ICU by at least **10%**
- Establish baseline CAUTI and catheter utilization data in at least one high-utilization non-ICU unit
- Reduce catheter utilization in the ED*
- Reduce CAUTIs in the high-utilization ICU by **20%** or achieve a standardized infection ratio (SIR) of **0.8** or less

By November 2013

- Spread the CAUTI *Insertion and Maintenance Bundles* hospital-wide**
- Reduce catheter utilization hospital-wide by **15%**
- Reduce CAUTIs by **40%** or achieve a SIR of **0.6** hospital-wide

CAUTI Improvement Bundles

Stage 1- Appropriate Use and Insertion

- Avoid unnecessary urinary catheters; insert urinary catheters in the presence of an appropriate indication:
 - Peri-operative use for selected surgical procedures
 - Urine output monitoring in critically ill patients
 - Managing acute urinary retention and urinary obstruction
 - Assisting with pressure ulcer healing for incontinent patients
 - As an exception, at patient request to improve comfort
- Insert urinary catheters using aseptic technique (catheter insertion kits)

Stage 2 – Catheter Maintenance

- Maintain urinary catheters based on recommended guidelines:
 - Tamper-evident seal is intact
 - Collection bag is not on the floor
 - Collection bag is secured to the leg
 - Every patient with a catheter has a labeled urine collection container at the bedside
- Review urinary catheter necessity daily and remove promptly

CAUTI Initiative Measurement

- Monthly data collection
 - Indwelling catheter days (*NHSM*)
 - CAUTI events in the intervention ICU(s) and non-ICU unit(s)
 - Documentation of appropriate indication for urinary catheter, assessed at least one day per week.
 - # of patients on unit with urinary catheter for which there is appropriate indication / # of patients on unit with urinary catheter
- Monthly calculations using data collected
 - Device utilization ratio (*NHSM*)
 - CAUTI rate in the ICU and non-ICU unit (*NHSM*)
 - SIR for CAUTI
- Baseline and follow-up assessments to determine diffusion of the Bundles



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Central Line-associated Bloodstream Infections (CLABSI) Initiative

Ghinwa Dumyati, MD

University of Rochester Medical Center and Co-Chair,
NYSPFP Infection Prevention Clinical Workgroup

Are you doing hospital-wide surveillance of CLABSIs?

- A. Yes
- B. No
- C. I don't know

Why focus on CLABSIs?

- Nearly 250,000 CLABSI cases occur in U.S. hospitals¹
- In ICUs, up to 28,000 patients die from CLABSIs annually²
- According to the CDC Vital Signs March 2011 Issue:
 - About 41,000 bloodstream infections occur in hospital patients with central lines annually
 - 58% fewer bloodstream infections occurred in hospital ICU patients with central lines in 2009 than in 2001: decreased from 43,000 to 18,000
 - In 2009: About 23,000 CLABSI occurred outside the ICU
 - In 2009 alone, reducing infections saved about 3,000-6,000 lives and about \$414 million in extra medical costs compared with 2001
- At this point, the burden on CLABSI is outside the ICU

¹Centers for Disease Control and Protection, Morbidity and Mortality Weekly Report, October 14, 2005 / 54(40);1013-1016:
<http://www.cdc.gov/mmwrR/preview/mmwrhtml/mm5440a2.htm>

²Berenholtz S.M., et al.: *Eliminating catheter-related bloodstream infections in the intensive care unit*. Crit Care Med 32:2014–2020, Oct. 2004.

CLABSI is Preventable

- Prevention focuses on:
 - Insertion
 - Maintenance
 - Removal

CLABSI Initiative Goal

- To eliminate central line–associated bloodstream infections

CLABSI Initiative Objectives

By June 2012

- Implement the CLABSI *Insertion Bundle* in the adult ICU setting
- Implement the CLABSI *Maintenance Bundle* in at least one high-utilization adult ICU and at least one high-utilization adult non-ICU unit

Within First 6 Months

- Reduce CLABSIs in the adult ICU setting by **30%** or achieve a SIR of **0.7** or less
- Establish a baseline in at least one adult non-ICU unit

By November 2013

- Spread the CLABSI *Insertion* and *Maintenance Bundles* hospital-wide*
- Reduce CLABSIs by **50%** or achieve a SIR of **0.5** or less hospital-wide

CLABSI Improvement Bundles

CLABSI Insertion Bundle

- Perform hand hygiene
- Ensure maximal sterile barrier precautions
- Apply chlorhexidine skin antisepsis
- Select an optimal catheter insertion site, avoiding the femoral vein for central venous access in adult patients whenever possible
- Review line necessity daily and promptly remove unnecessary lines

CLABSI Maintenance Bundle

- Perform hand hygiene
- Proper dressing change
- Aseptic technique for accessing and changing needleless access device
- Standardize tubing change
- Review line necessity daily and promptly remove unnecessary lines

CLABSI Initiative Measurement

- Monthly data collection
 - Central line days (*NHSM*)
 - Number of CLABSI events (*NHSM*)
 - Documentation of review of line necessity, assessed at least one day per week
 - # of patients on unit with central line for which there is documented review of line necessity / # of patients on unit with central line
- Monthly calculations using data collected
 - CLABSI rate (*NHSM*)
 - SIR for CLABSI
- Baseline and follow-up assessments to determine diffusion of the Bundles

Evidence for Central Line Necessity Process Measure Focus

- Each day a central line is in place increases the risk of a CLABSI
- Academic medical center study of idle central venous catheters (CVC) outside of the ICU setting¹
 - PICC lines retain longer than other CVCs and are used for sequential days of IV access alone, when a peripheral intravenous catheter might suffice
 - Outside of the ICU setting, significant CVC days were unjustified
 - Reduction in idle CVC days could potentially reduce CLABSI risk
- Hospital-wide survey on CVC use²
 - Unnecessary catheter days were higher in non-ICU settings compared to ICU
 - In the non-ICU setting, 8% of the time, nurses and treating physicians could not justify why the catheter was in place

22 ¹Tejedor SC, et al. *Temporary Central Venous Catheter Utilization Patterns in a Large Tertiary Care Center: Tracking the “Idle Central Venous Catheter.”* Infection Control and Hospital Epidemiology 2012; 33: 50-57.

²Zingg W, et al. *Hospital-wide Survey of the Use of Central Venous Catheters.* Journal of Hospital Infection 2011; 77: 304-308.

Who is on your interdisciplinary team to reduce CAUTIs? *(Check all that apply)*

- A. Infection Preventionists/Epidemiologists
- B. Physicians on the unit
- C. Nurses on the unit
- D. Hospital leadership representative
- E. Other

Who is on your interdisciplinary team to reduce CLABSIs? *(Check all that apply)*

- A. Infection Preventionists/Epidemiologists
- B. Physicians on the unit
- C. Nurses on the unit
- D. Hospital leadership representative
- E. Other

Interdisciplinary Team Dynamic

- Create an interdisciplinary CAUTI/CLABSI Team, which may include:
 - Day-to-day liaison
 - Unit-specific physician and nursing champions (e.g., ED)
 - Infection prevention representative
 - Senior administrative and clinical leadership
 - CAUTI and/or CLABSI data lead
 - IV or PICC team
 - Support staff (e.g., materials management)

This requires an interdisciplinary team!

Identify and engage appropriate stakeholders early in the process.



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Point Prevalence Study

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Center

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Point Prevalence Study Feedback

- May 2 Webinar described the point prevalence study
 - Hospitals were asked to conduct the point prevalence study on units hospital-wide during week of May 14, 2012 (recommendation was to pick 1-2 dates)
 - **Note:** If your institution had an established process to conduct a point prevalence study or if you routinely collect device-days on a hospital-wide basis, you did **NOT** need to change your methodology
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Has your hospital conducted the point prevalence study for NYSPFP to identify your high utilization units for urinary catheter and/or central lines?

- A. Yes
- B. No
- C. Not applicable

Who collected the data for the point prevalence study?

- A. Infection Preventionist
- B. Nurse Manager
- C. Other

For hospitals that have not conducted the point prevalence study for NYSPFP, did you:

- A. Already have an existing procedure to identify high utilization units for urinary catheters and/or central lines?
- B. Get direction from leadership about which units should be included?
- C. Not have time to complete it?
- D. What is a point prevalence study??
- E. Not applicable

How do you identify high utilization units?

- A. Units with high urinary catheter and/or central line utilization
- B. Units with high CAUTI and/or CLABSI rates
- C. Both A and B

What units have you identified as the starting units for your work in NYSPFP? *(Check all that apply)*

- A. Medical ICU
- B. Surgical ICU
- C. Medical Unit
- D. Med/Surg Unit
- E. Surgical Unit
- F. Specialty Unit
- G. Stepdown Unit
- H. Other Unit



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CAUTI and CLABSI Assessments of Current Practices

CAUTI and CLABSI Assessments of Current Practices

- Purpose
 - Assess existing practices
 - Guide the development of educational programming
 - Provide a baseline assessment for post-intervention comparison
 - Can be found through this link:
<http://nyspfp.org/Members/myData.aspx>
 - Each hospital to complete and submit **one** electronic survey
 - Can use a paper version of the survey before entering your responses online
 - CAUTI:
http://nyspfp.org/Materials/CAUTI_Assessment_of_Current_Practices.pdf
 - CLABSI:
http://nyspfp.org/Materials/CLABSI_Assessment_of_Current_Practices.pdf
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CAUTI and CLABSI Team Planning

Interdisciplinary Team Dynamic

- Create an interdisciplinary CAUTI/CLABSI Team, which may include:
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Identify and engage appropriate stakeholders early in the process.

Develop Hospital-Specific Action Plan

- What are you trying to accomplish?
- What are your goals?
- What is your team's strategy to implement this work on the initial units of focus in NYSPFP?
 - **What** will you do?
 - **How** will you do it?
 - **Who** will be involved?
 - **When** will you start?
 - **What** will you do to obtain feedback from your team and review progress?

Next Steps for Team Planning

- Develop your hospital's goals and action plan
- Identify potential challenges
- Think about: What will you do immediately with your team to begin this work?
- Work with your project manager to assist!



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Next Steps and Additional Resources

NYSPFP Next Steps and Resources

- Educational Programming to Address CAUTI and CLABSI
 - Calendar of CAUTI and CLABSI Initiative Events
 - Next Educational Webinar on **June 20, 2012** from **1:00 – 2:00 p.m. (CAUTI)** and **2:00 – 3:00 p.m. (CLABSI)**
- CLABSI and CAUTI Descriptions
- Team Planning Worksheet
- Examples of Data Collection Tools
 - Review Urinary Catheter Necessity
 - Review Central Line Necessity

CAUTI Resources

- CDC Guidelines for Prevention of Catheter-associated Urinary Tract Infections
(http://www.cdc.gov/hicpac/cauti/001_cauti.html)
- SHEA and IDSA Compendium on CAUTI
(<http://www.jstor.org/stable/10.1086/591066>)
- On the CUSP: Stop CAUTI
(<http://www.onthecuspstophai.org/on-the-cuspstop-cauti/>)

CLABSI Prevention Resources

- CDC: 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections
(<http://www.cdc.gov/hicpac/BSI/BSI-guidelines-2011.html>)
- CDC: Central Line-associated Bloodstream Infections
(<http://www.cdc.gov/HAI/bsi/bsi.html>)
- SHEA and IDSA Compendium on CLABSI:
(<http://www.jstor.org/stable/10.1086/591059>)
- On the CUSP: Stop BSI
(<http://www.onthecuspstophai.org/on-the-cuspstop-bsi/>)
- GNYHA/UHF Central Line-associated Bloodstream Infection (CLABSI) Toolkit
(<http://gnyha.org/clabsi>)

CLABSI Prevention Resources (cont'd)

- Krein SL, et al. *The Influence of Organizational Context on Quality Improvement and Patient Safety Efforts in Infection Prevention: A Multi-Center Qualitative Study*. Social Sciences & Medicine 2010; 71: 1692-1701.
 - Tejedor SC, et al. *Temporary Central Venous Catheter Utilization Patterns in a Large Tertiary Care Center: Tracking the “Idle Central Venous Catheter”*. Infection Control and Hospital Epidemiology 2012; 33(1): 50-57.
 - Zingg W, et al. *Hospital-wide Survey of the Use of Central Venous Catheters*. Journal of Hospital Infection 2011; 77: 304-308.
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Education on Insertion and Maintenance

- Education of clinicians inserting CVCs:
 - (<http://content.nejm.org/cgi/video/356/21/e21/>)
 - Education of nurses on CVCs maintenance – web-based computer module:
 - (<http://www.urmc.rochester.edu/community-health/central-line-education/>)
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Questions ?