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

CAUTI and CLABSI Initiatives

May 24, 2012
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
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
Catheter-Associated Urinary Tract Infection (CAUTI) Initiative

David Calfee, MD, MS
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 CAUTIs\(^1\)
- 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 inappropriate\(^2\)

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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*

*Umscheid C. Infect Control Hosp Epidemiol 2011;32:101-14
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.”

*Cardo D. Infect Control Hosp Epidemiol 2010;31:1101-5
## 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

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* *ED data will not be included in the denominator.*
** *Participants would be expected to implement the CAUTI Bundle of Interventions throughout the hospital, but would only be required to submit data for the initial two units and two additional units, for a total of four units.*
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 (*NHSN*)
  - 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 (*NHSN*)
  - CAUTI rate in the ICU and non-ICU unit (*NHSN*)
  - SIR for CAUTI

- Baseline and follow-up assessments to determine diffusion of the Bundles
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. hospitals\(^1\)
- In ICUs, up to 28,000 patients die from CLABSIs annually\(^2\)
- 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

\(^1\text{Centers for Disease Control and Protection, Morbidity and Mortality Weekly Report, October 14, 2005 / 54(40);1013-1016:}\ 
\text{http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5440a2.htm}

CLABSI is Preventable

- Prevention focuses on:
  - Insertion
  - Maintenance
  - Removal
CLABSI Initiative Goal

- To eliminate central line–associated bloodstream infections
# CLABSI Initiative Objectives

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<thead>
<tr>
<th>By June 2012</th>
<th>Within First 6 Months</th>
<th>By November 2013</th>
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<tbody>
<tr>
<td>Implement the CLABSI <em>Insertion Bundle</em> in the adult ICU setting</td>
<td>Reduce CLABSI by 30% or achieve a SIR of 0.7 or less</td>
<td>Spread the CLABSI <em>Insertion and Maintenance Bundles</em> hospital-wide*</td>
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<tr>
<td>Implement the CLABSI <em>Maintenance Bundle</em> in at least one high-utilization adult ICU and at least one high-utilization adult non-ICU unit</td>
<td>Establish a baseline in at least one adult non-ICU unit</td>
<td>Reduce CLABSI by 50% or achieve a SIR of 0.5 or less hospital-wide</td>
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*Participants would be expected to implement the CLABSI Bundle of interventions throughout the hospital, but would only be required to submit data for the initial two units and two additional units, for a total of four units.*
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 (*NHSN*)
  - Number of CLABSI events (*NHSN*)
  - 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 (*NHSN*)
  - 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 setting
  - 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 use
  - 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

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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.
Point Prevalence Study

Kathi Mullaney, BSN, MPH, CIC, Metropolitan Hospital Center
Barbara Smith, BSN, MPA, St. Luke’s-Roosevelt Hospital Center
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
NYS PARTNERSHIP FOR PATIENTS

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
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 and CLABSI
Team Planning
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
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This requires an interdisciplinary team!
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!
Next Steps and Additional Resources
NYSPFP Next Steps and Resources

- Educational Programming to Address CAUTI and CLABSII
  - Calendar of CAUTI and CLABSII Initiative Events
    - Next Educational Webinar on June 20, 2012 from 1:00 – 2:00 p.m. (CAUTI) and 2:00 – 3:00 p.m. (CLABSII)
- CLABSII 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.onthecusptophai.org/on-the-cuspstop-cauti/)
CLABSI Prevention Resources

- CDC: 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections

- 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-cusps-stop-bsi/)

- GNYHA/UHF Central Line-associated Bloodstream Infection (CLABSI) Toolkit
  (http://gnyha.org/clabsi)
CLABSI Prevention Resources (cont’d)


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/)
Questions ?