REDUCING CATHETER RELATED BLOOD STREAM INFECTIONS IN HOME CARE POPULATIONS:
A CHILDREN’S HOSPITAL HOME CARE SHARES ITS STRATEGY

Cincinnati Children’s Home Care Services
Susan Wade Murphy, MSN, RN
NAHC Annual Meeting 2014

Cincinnati Children’s Home Care Services

Full service, nonprofit academic medical center and research institute, 598 registered beds, 14,000 employees

Ranked third overall among 10 Honor Roll hospitals in U.S. News & World Report’s 2014 Survey of Best Children’s Hospitals

Awarded Magnet Status by the American Nurses Credentialing Center

Cincinnati Children’s Campus
Cincinnati Children’s Home Care Services

- Division of Cincinnati Children’s Hospital Medical Center
- Home Care employees - 255
- Average daily census - 400
- Average monthly line days – 8,000
- Departments - Home Health Agency
  - Home Infusion Pharmacy
  - Home Medical Equipment & Rehab Technology
  - Private Duty Nursing
  - StarShine Hospice & Palliative Care

Objectives

1. Describe factors influencing Catheter Related-Blood Stream Infections (CR-BSIs) in the outpatient/home care setting
2. Explain methods for education on central venous catheter care and verification of competence of staff and caregivers
3. Describe mitigation strategies for reducing incidence of CR-BSIs
Today’s Presentation

I. Application of CDC Guidelines for Catheter Related-BSI (CR-BSI) prevention
   • Home Care BSI Prevention Bundle

II. Outpatient/Home Care Factors Influencing CR-BSIs
   • Key Driver Diagram
   • Staff Education – Toyota Training Method
   • Caregiver Education and Observation
   • Prevention Standards In Home Health Care

Today’s Presentation

III. Criteria For Monitoring Patients For Catheter Related-Blood Stream Infections Through Transitions In Care
   • Confidence Score
   • Watcher Patient
   • BSI Precursors
   • Parent Real Time Event Review & Root Cause Analysis

IV. Question and Answer
2011 CDC GUIDELINES FOR PREVENTION OF INTRAVASCULAR CATHETER-RELATED INFECTIONS

- Education/training/staffing
- Hand Hygiene
- Sterile barrier precautions
- CVC dressing recommendations
- CVC securement devices
- Cap change frequency
- Performance improvement “bundle”

Applying the CDC recommendations in Home Care – Creating a Super Bundle

☐ Location
☐ Masks
☐ Hand Hygiene/Gloves
☐ Scrub
☐ Written Instructions
☐ Observation Visits
☐ Independence In Care
Super Bundle Implementation

- Keys To success: standardized process for staff and caregivers providing line care and accountability to the process
- Liaisons (nurse educators in home care) initiate super bundle education with caregiver during hospitalization
- Field RNs reinforce super bundle education in the home, validate caregiver independence and level of confidence

Home Care Knowing Note

Dressing and Cap Changes
- It is important that you leave the dressing on and change your child’s cap for dressing and cap change.
- Your nurse case supply will match you to change the dressing and cap.
- You can wash your hands with soap before putting on the new cap.
- You can change the dressing for dressing and cap change.
- You should be sure to have your supplies.
- Make sure that there are plenty of supplies.
-isse your hands before putting on the new cap.
- Follow instructions: Follow instructions when dressing procedure.
- Observation: A nurse will come to your house in the morning to change your child’s cap and dress.
- Be a “SUPER” Caregiver!

Home Care
Central Line Super Bundle
- Location: Pick a comfortable place in your house to do the care each time. The place needs to be clean, have a place to set up, and be able to close the door to avoid distractions and contamination.
- Field: You have the nurse provided with your home case supplies when doing care for the line. Close the door of the unit with an alcohol product before setting up the area.
- Maintain: Everyone in the room, including your child, wears a mask, including, changing the dressing or cap. Shield your child’s face if they will not wear a mask.
- Hands: Where gloves when doing any care of the internal line.
- Bundle: Wash your hands before you do the dressing or when you have one of your treatment.
- Observation: Follow instructions: Follow instructions when dressing procedure.

When Should I Call the Doctor?
Call right away if your child has any of the following:
- Fever of 101.4 or greater
- Headache
- Seizure
- Chills
- Unusual symptoms

There could be signs of a blood stream infection.

Call if you notice any of the following at the correct time:
- Jaundice
- Diarrhea
- Tremors
- Seizures

There could be signs of a urine infection.
# Outpatient/Home Care Factors Which Influence CR-BSIs

## Key Driver Diagram

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<th>Project Name:</th>
<th>Home Care Healthcare Associated Infection: Blood Stream Infection Reduction</th>
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**SMART AIM**

- Decrease rate of catheter-associated blood stream infections to 0 per 1000 patient days.

**GLOBAL AIM**

- Eliminate catheter-associated blood stream infections at CHC.

### Interventions

| **1. Staff, patient, family, and caregiver knowledge and compliance with prevention standards** |
| **2. Staff/patient/regular engagement in CLABSI education** |
| **3. Availability & standardization of required equipment, supplies & work space** |
| **4. Mitigation of precursor events** |
| **5. Optimal pre/post-discharge educational tools** |

### FY 14 BSIs: 60

| **1. d) Subject matter experts: observation & real-time coaching on CLABSI prevention, standard care provided by staff (2)** |
| **2. d) Observation & real-time coaching of CLABSI prevention, standard care provided by caregivers (2)** |

| 3. a) Standardize CVC & Port kits to prevent adding items (2) |
| b) Standardize in-home supply kit (cap, tattoo, bag, etc.) for all patients (2) |
| c) Standardize in-emergency process (BPR) (2) |

| 4. a) Staff effectively eliminate precursors by following home care (CLABSI) prevention standard/education tool (2) |
| b) Develop a home care CLABSI prevention standard/education tool for caregivers (2) |

| 5. a) Develop new-in-scope prevention training modules for care staff (1) |
| b) Update educational tools to meet prevention standards (1) |
| c) Transcribe educational materials (1) |
| d) Develop a YouTube video on safety & emergency care & backwards (1) |

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## Staff Education - Applying a Toyota Training Model to CR-BSI

### Prevention Standard

- Clarify the ‘bundle’
- List the Key Process
- Pick out the Details
- Summarize the Rationale
- Identify Tips for Practice

### Other important aspects

- Keep language as simple as possible
- Obtain agreement from key stakeholders on content
Applying a Toyota Training Model
To CR-BSI

Job Instruction
☐ List the major steps (what to do)
☐ Pick out the key points (how to do it)
☐ Summarize the reasons for key points (why)
☐ Illustrate the steps (pictures)

Other important aspects
❖ Keep language as simple as possible
❖ Obtain agreement from key stakeholders on content

Toyota Training: How To Instruct
Toyota Training: How To Instruct

**STEP 1  PREPARE TEAM MEMBER**
- Put team member at ease
- State the job
- Find out what team member already knows about it
- Get team member interested in learning the job
- Place team member in the correct position

**STEP 2  PRESENT OPERATION**
- Tell, show and illustrate one major step at a time
- Stress each Key Point and explain reasons
- Instruct clearly, completely and patiently
- Present no more than team member can master

**STEP 3  TRY OUT PERFORMANCE**
- Have team member do the job; correct errors
- Have team member explain major steps
- Have team member explain each Key Point and reason as job is done again

**STEP 4  FOLLOW UP**
- Put the team member on own
- Designate to whom to go for help and where
- Check frequently
- Encourage questions
- Give any necessary extra coaching and taper off the follow-up
Monitoring Employee Compliance with Prevention Standards

- Quarterly employee observations during home visit by manager
- Standardized CR-BSI prevention standard safety rounds survey tool
- Evaluate - number of central lines, types of central lines, increased risk for CR-BSI, precursors present, mitigation plan in place for CR-BSI risk
- Escalate – to Vascular Access Team, to physician, to Watcher status

Education of Caregivers: Prevention Standards

- Standardized training packets
- Central line, PICC, PORT and related infusions
- Learning environments – bedside, Family Learning Center
- Individualized to the learner caregiver
Home Care BSI Prevention Standards

The Challenges

- Cleanliness of home
- Supply storage
- Product changes and re-education
- Translation of educational materials
- Precursors to BSI events

Observation of Caregivers: Prevention Standards

- Frequency of in-home observations
- Additional home care visits scheduled if caregiver determined ‘not’ independent in care
  - Definition of Independent In Care – “Demonstrates the procedure without prompts and without breach in technique”.
Documentation Of Observation Of Care

**Epic**  CLABSI Prevention Standard – Independent Caregiver

### Initial Skill Compliance Observation visit due:
Completed by Coordinator at validation. Parameter is within initial certification period.

### F/U Skill Compliance Observation visit due:
Completed by Coordinator at recertification. The parameter is within each subsequent certification period.

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Non-Compliance While Performing Multiple Procedures

If you are observing a caregiver perform multiple procedures, their NON-compliance on an item would cross all procedures with that item.

Ex: You observe a Cap change and Dressing change and the caregiver is NON-compliant with "Sterile Gloving." Sterile Gloving would be selected in both the Cap change and Dressing change sections.

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Tracking Caregiver Independence

**Epic**  CLABSI Prevention Standard – Independent Caregiver

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11/29/2014
Observation Of Caregivers: The Challenges

- Willingness to be observed
- Availability of caregivers
- Observing all caregivers for all procedures
- Caregivers training family members
- Children participating in care

Caregiver Observation Metric

| Month-Years | Number Observed Correct | Total Number Observed | Month
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Number Observed Correct, Total Number Observed, Month-Year
Monitoring Caregiver Confidence

• Evaluation prior to discharge and during every home care visit:
• Questions:
  – On a scale from 1 to 10, how confident are you that you can manage your child’s care?
  – What do you think would help you reach a score of 10? (very confident in managing your child’s care)

Watcher Patient
Requiring Care Team Notification

• Field RN contacts clinical coordinator to make patient a “Watcher” for CVC concerns
• Coordinator contacts parent daily for 72 hours to assess risk for BSI; escalation to Vascular Access Team or physician PRN
• Watcher status discontinued after 72 hours if afebrile and no concerns with CVC site
Watcher Patient Algorithm

Blood Stream Infection Precursor Events

- Non-occlusive dressing
- Wet or contaminated dressing
- Unsecured line
- Contaminated or cracked cap
- Child participating in care
- Increasing EVL
- Inability to flush or aspirate
Monitoring BSI Precursors and Mitigation Strategies

- Standardized definition for precursors
- Standardized practice tips with rationale
- Ongoing PDSA with clinical coordinators and field staff for CVC watcher patients
- Defined when to call vascular access team, clinical coordinator and care team

Root Cause Analysis

- Analysis of every infection
- Real time event review
  - Caregiver interviewed while child hospitalized with BSI
  - Field nurse interview
- Interdisciplinary event review
- Utilize learning to understand future mitigation
Cincinnati Children’s Home Care BSI Rate

“Because Kids Belong At Home”

- Questions and Answers
- Thank you for providing us with this opportunity to present our story

Cincinnati Children’s Hospital Medical Center
Cincinnati, OH
Reference Slide

- North America Productions Support Center (NAPSC), Toyota Training Method