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### Implementing Strategies to Reduce Central Line-Associated Blood Stream Infections on an Inpatient Pediatric Unit

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# Implementing Strategies to Reduce Central Line-Associated Blood Stream Infections

Last Updated: 9/19/2018

Executive Sponsor: Mark Parker, MD Facilitator: Sherryann St. Pierre, Suneela Nayak, Stephen Tyzik, Ruth Hanselman, Amy Sparks

Team Members: Barbara Bush Nurses, Nicole Manchester, Melanie Lord and Jessica Howe

## Problem/Impact Statement:

Every Central Line-associated Bloodstream Infections (CLABSI) lead to poor outcomes and increased mortality for thousands of patients each year. It is estimated CLABSI's cost the U.S. healthcare system billions each year. With diligent oversight and the use of current evidenced based practices, CLABSIs are preventable. The Barbara Bush Children's Hospital's (BBCH) inpatient unit at Maine Medical Center (MMC) frequently admits and cares for pediatric oncology and pulmonology cystic fibrosis patients, who all have central lines. These high risk patients often refuse infection prevention interventions and would benefit tremendously from improvement in CLABSI prevention practices. <https://www.cdc.gov/hai/bsi/bsi.html>

## Scope:

**In Scope:** MMC's Barbara Bush inpatient unit patients who have a central line

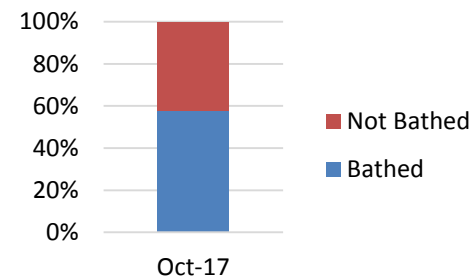
**Out of Scope:** All other MMC patients with or without central lines

## Goals/Objectives:

- 100% of the time patients with a central line will bathe daily- either with Chlorhexidine (CHG) or soap and water
- 100% of the time, all patients with a central line will be educated about the importance of daily bathing and daily oral care to prevent infection
- Reduce the number of central line infections

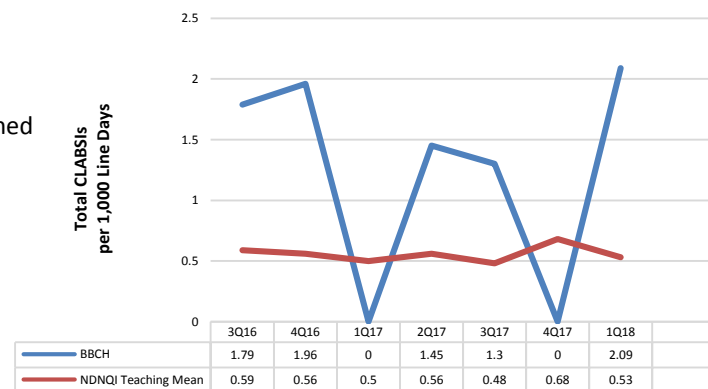
## Baseline Metrics/Current State:

Daily bathing by Central Line Patients



Research shows that bacteria burden on the skin greatly increases a patient's risk for CLABSI. Bacteria burden is easily decreased by daily bathing.

Central Line-Associated BSI, BBCH, Pediatrics



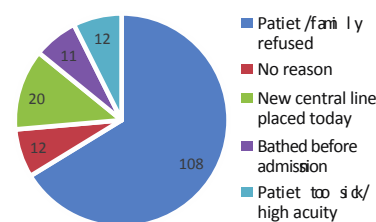
Cost per CLABSI ≈\$45,814

# CLABSI at MMC in 2017=5 (mucosal and non-mucosal)

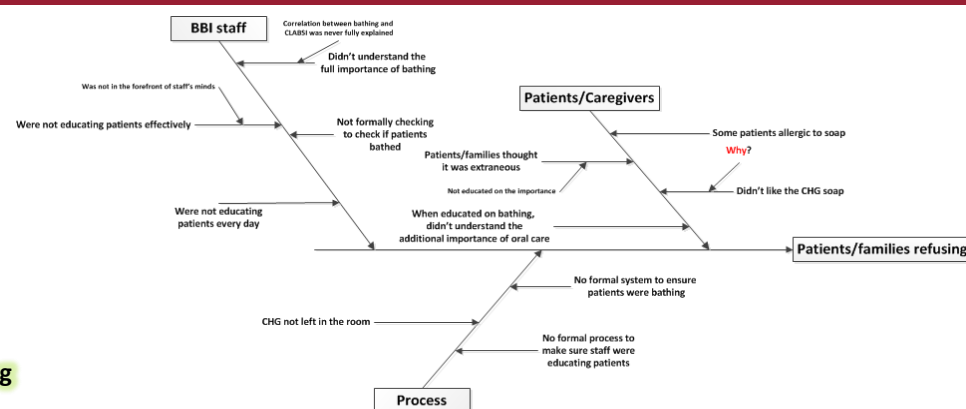
Soft cost of CLABSI to MMC in 2017= **\$229,070**

## Root Cause Analysis:

Why patient did not bathe



Root Cause: patient/family refusing



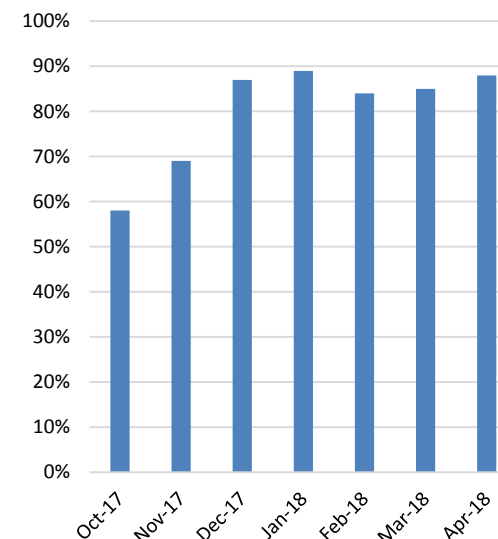
## Countermeasures

Action	Owner	Due Date	Status
Instituted KPI to have patients bathe daily	Sherryann St. Pierre	10/19/17	Completed
Oncologists, residents, and nursing asked to discuss daily bathing during bedside rounds each day	Sherryann St. Pierre	10/20/17	Completed
Email sent out to staff asking the CHG wipes be placed in each room for all patients admitted/receiving central line	Sherryann St. Pierre	11/2/17	Completed
CHG wipes approved for use- product ordered via VAC nurse	Sherryann St. Pierre	11/20/17	Completed
CHG wipes put into stock, RN's education started	Sherryann St. Pierre	1/8/18	Completed
SBAR with scripting for importance of bathing to be used during rounds disseminated to Interprofessional teams on BBCH	Sherryann St. Pierre	1/16/18	Completed
Central line rounds initiated by leadership to check on the patients with central lines and make sure they are bathing and using CHG wipes	Sherryann St. Pierre		Completed
Instituted KPI to educate patients on the importance of daily bathing and daily oral care to prevent infection	Sherryann St. Pierre	4/13/18	Completed

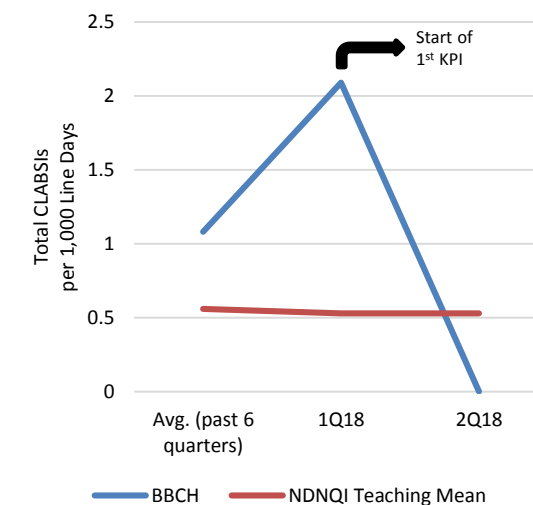
Do

## Outcomes

Daily bathing by central line patients



Central Line-Associated BSI, BBCH, Pediatrics



3 CLABSI at MMC in FY 2018 (2 mucosal, 1 non-mucosal)  
Soft savings= **\$91,628**

Study

## Next Steps

- Continue and improve upon central line leadership rounds
- Change to only using CHG wipes after a daily soap and water bath, as many kids are not using the foam soap correctly
- Model for other departments/hospitals to follow

Act

Plan