9 MONTHS without a NICU Central Line Infection…and Counting!
The NICLIP Experience

Sustaining Change Award

The Problem

Over the last 2 years we observed a rise in our NICU CLABSI (Central Line-associated bloodstream infection) rate up to 4 infections/1000 line days. This was above the NHSN threshold and also higher than other Massachusetts NICUs.

- Our NICU did not have a central line bundle
- We believed that central line infections for our patients were largely preventable and impacted the safety for our patients
- We recognized that a culture of safety needed to be raised for our NICU community

Aim/Goal

To organize a task force to rapidly assess the problem and implement a bundle with the goal of reducing NICU CLABSIs to ZERO.

The Team

NICU Central Line Infection Prevention (NICLIP) Task Force

Rosanne Buck NP and Brenda Sheridan RN Chairs

RNs: Melissa Adams, Radka Arnold, Meg Dalton, Jen Harris

NPs: Rachel Copertino, Mary Quinn, June Rivers, Laura Tannenbaum, Mary Whitlock

NICU Leadership: Jane Smallcomb RN, Susan Young RN

RT: Candace Buckley MDs: Dmitry Dukhovny, Munish Gupta

Infection Control: Fatima Muriel MT (ASCP), David Yassa MD

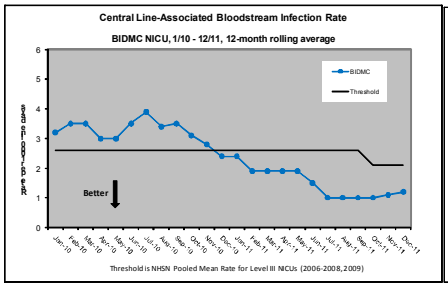
Central Line Clinical Specialist: Blanche Murphy RN

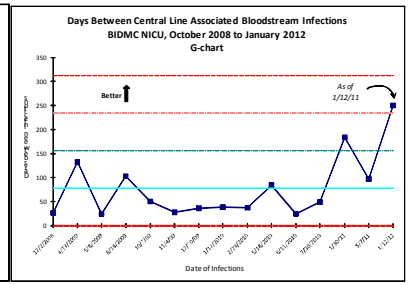
The Interventions

Meetings began May 2011. Central Line Bundle was developed and introduced in the NICU on July 15th 2011, including:

- Insertion Checklist with new assistant/observer role during central line placement
- Maintenance Checklist completed on daily rounds noting condition of site, dressing integrity, frequency of line access, and complications
- Institution of On-Line Root Cause Analysis Tool for MD/NP/RN for any bacteremia
- Systems issues such as more hooks in med room for hanging TPN tubing and more timely delivery of TPN from West Campus addressed
- On-going performance measurement and prospective monitoring

The Results/Progress to Date





- Last CLABSI in NICU: 5/7/2011 (250 days as of 1/12/12)
- Current CLABSI rate: < 1 per 1000 line days (12-month rolling average, 12/31/11)

Lessons Learned/Shared

- Change was hard! The newly created observer role was new for RNs and added a staffing burden during admissions and PICC placements.
- NICLIP hosted a unit-wide celebration the week of November 7th, celebrating 6 months free of CLABSIs.
- A poster detailing our accomplishments was presented at the Vermont Oxford Quality Congress December 4th, 2011. Many NICUs face similar challenges with CLABSIs. Copies of our Insertion and Maintenance checklists were shared with over 30 NICUs.
- Since the start of NICLIP, the opportunity to join a National NICU CLABSI project arose. Our NICU along with 8 Massachusetts NICUs has joined. Many of the recommended practices had already been adopted by NICLIP interventions. Through this project, we will continue to measure our compliance with insertion and maintenance checklists, and compare our performance with NICUs across the country.

Next Steps

Ongoing goals for NICLIP:

- implementation of additional bundle items re: tubing, CVL carts, closed medication administration system for PICCs
- recruit a parent volunteer/advisor for NICLIP Task Force
- continue with our goal to ZERO CLABSIs for our NICU!!

Beth Israel Deaconess Medical Center | A teaching hospital of Harvard Medical School | The Silverman Institute For Healthcare Quality and Safety

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