Title of Abstract:

"Beyond the Bundle" - A Single-Center's Experience with a CLABSI Prevention Bundle and Dedicated Central Line Team

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Abstract Description:

Objectives:

1. To measure changes in the rate of CLABSI after implementation, ongoing education and maintenance of a CLABSI prevention bundle.

2. To demonstrate a reduction in CLABSI after the development of a nurse-based central line team that monitors all central line maintenance and daily central line checks by the staff.

Background:

Central line associated bloodstream infections (CLABSI) are a preventable cause of patient morbidity and mortality. Bundles, checklists, and dedicated central line teams have been associated with decreased rates of CLABSI in intensive care units.

Methods:

A single-center, retrospective study was used to measure changes in CLABSI rates, pre- and post-implementation of a CLABSI prevention bundle and dedicated central line team. The combined intervention was called "Beyond the Bundle", and was implemented in 2011. All NICU patients with a central line (PICC, UVC, UAC) inserted January 2008 to December 2016 were included in the study. CLABSI rates were measured for the study period, and pre- and post-intervention rates were compared with each other, and with benchmark data from the National Healthcare Safety Network (NHSN).

Outcomes:

The rates of CLABSI in the NICU decreased from a combined pre-intervention rate of 5.27 per 1,000 central line days January 2008 and December 2010, to a combined post-intervention rate of 0 per 1,000 central line days in January 2011 and December 2016. This rate is lower than the NHSN benchmark rate for level III NICUs. The total number of central line days in January 2008 to December 2010 was 1,074 and the total number of central line days January 2011 to December 2016 was 7,137. Despite the dramatic increase of the total central lines days post-intervention, the CLABSI rate has remained zero.

Implications:

These findings support the benefit of an all-inclusive central line bundle, a dedicated central line team, and on-going staff education for CLABSI reduction and prevention. Sustainability has been achieved thus far, and is dependent on continued data surveillance, knowledge of best practices, and biennial staff education. The interventions established are applicable to other populations and areas of inpatient care.

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