



To assess the burden of bloodstream infections (BSIs) among pediatric hematology-oncology (PHO) inpatients, to propose a comprehensive, all-BSI tracking approach, and to discuss how such an approach helps better inform within-center and across-center differences in CLABSI rate” Gaur et al (2017).

Abstract:

OBJECTIVE: To assess the burden of bloodstream infections (BSIs) among pediatric hematology-oncology (PHO) inpatients, to propose a comprehensive, all-BSI tracking approach, and to discuss how such an approach helps better inform within-center and across-center differences in CLABSI rate.

DESIGN: Prospective cohort study.

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SETTING: US multicenter, quality-improvement, BSI prevention network.

PARTICIPANTS: PHO centers across the United States who agreed to follow a standardized central-line-maintenance care bundle and track all BSI events and central-line days every

month.

METHODS: Infections were categorized as CLABSI (stratified by mucosal barrier injury-related, laboratory-confirmed BSI versus non-MBI-LCBI) and secondary BSI, using National Healthcare Safety Network (NHSN) definitions. Single positive blood cultures (SPBCs) with NHSN defined common commensals were also tracked.

RESULTS: Between 2013 and 2015, 34 PHO centers reported 1,110 BSIs. Among them, 708 (63.8%) were CLABSIs, 170 (15.3%) were secondary BSIs, and 232 (20.9%) were SPBCs. Most SPBCs (75%) occurred in patients with profound neutropenia; 22% of SPBCs were viridans group streptococci. Among the CLABSIs, 51% were MBI-LCBI. Excluding SPBCs, CLABSI rates were higher (88% vs 77%) and secondary BSI rates were lower (12% vs 23%) after the NHSN updated the definition of secondary BSI ($P < .001$). Preliminary analyses showed across-center differences in CLABSI versus secondary BSI and between SPBC and CLABSI versus non-CLABSI rates.

CONCLUSIONS: Tracking all BSIs, not just CLABSIs in PHO patients, is a patient-centered, clinically relevant approach that could help better assess across-center and within-center differences in infection rates, including CLABSI. This approach enables informed decision making by healthcare providers, payors, and the public.

Reference:

Gaur, A.H., Bundy, D.G., Werner, E.J., Hord, J.D., Miller, M.R., Tang, L., Lawlor, J.P. and Billett, A.L. (2017) A Prospective, Holistic, Multicenter Approach to Tracking and Understanding Bloodstream Infections in Pediatric Hematology-Oncology Patients. *Infection Control and Hospital Epidemiology*. April 12th. .

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