



To examine the incidence of central-line-associated bloodstream infection (CLABSI) over time and to determine risk factors for CLABSI in hospitalized children” Carter et al (2016).

Abstract:

OBJECTIVE: To examine the incidence of central-line-associated bloodstream infection (CLABSI) over time and to determine risk factors for CLABSI in hospitalized children.

DESIGN: Prospective cohort study.

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SETTING: Pediatric tertiary care referral center in Halifax, Nova Scotia, serving a population of 2.3 million.

PARTICIPANTS: Patients ages 0-18 years with central venous catheters (CVCs) inserted at this facility between 1995 and 2013.

METHODS: Participants were followed from CVC insertion to CLABSI event or until CVC removal. Data were prospectively collected by clinicians, infection prevention and control

staff, and nursing staff for the purposes of patient care, surveillance, and quality improvement. Cox proportional hazards regression was used to identify risk factors for CLABSI.

RESULTS: Among 5,648 patients, 385 developed CLABSI (0.74 CLABSI per 1,000 line days; or 3.87 per 1,000 in-hospital line days). Most infections occurred within 60 days of insertion. CLABSI rates decreased from 4.87 per 1,000 in-hospital line days in 1995 to 0.78 per 1,000 in-hospital line days in 2013, corresponding to an 84% reduction. A temporal association of CLABSI reduction with a hand hygiene promotion campaign was identified. CVC type, number of lumens, dressing type, insertion vein, and being in the critical care unit were statistically significantly associated with CLABSI.

CONCLUSIONS: Hospital-wide surveillance over an 18-year period identified children at highest risk for CLABSI and decreasing risk over time; this decrease was temporally associated with a hand hygiene campaign.

Reference:

Carter, J.H., Langley, J.M., Kuhle, S. and Kirkland, S. (2016) Risk Factors for Central Venous Catheter-Associated Bloodstream Infection in Pediatric Patients: A Cohort Study. *Infection Control and Hospital Epidemiology*. May 3rd. .

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