Presentation Type:
Poster Presentation

Variations in Concurrent Central-Line Use Among Central-Line–Associated Bloodstream Infection (CLABSI) Patients by National Healthcare Safety Network (NHSN) Location Type

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Background: Current NHSN denominator reporting for central-line–associated bloodstream infection (CLABSI) counts each patient day with *n* central lines as 1 central-line day. The NHSN does not directly adjust for potential increased risk of CLABSI from concurrent central lines, but the current NHSN standardized infection ratio (SIR) methods may account for differences in concurrence by adjusting for location type. **Objective:** We examined differences in central-line concurrence by NHSN location type among CLABSI patients. **Methods:** In a retrospective cohort of adults with CLABSI at 4 hospitals from 2012 to 2017, we linked central-line data to encounter and CLABSI data. Central lines were considered concurrent if they overlapped for >1 day. We calculated proportion of patients with concurrence at both NHSN location and SIR group levels; risk ratios for concurrence between NHSN location types within each SIR group (ie,, locations defined by SIR models as equal "risk") were determined. **Results:** In total, 930 CLABIs were identified from 19 NHSN-defined locations that map to 7 SIR groups. Most CLABSIs occurred in locations mapped to either of 2 SIR groups: wards (227, 16% concurrence) and ICUs (294, 33% concurrence). The ward group had 3 NHSN locations (median, 78 CLABSIs) with concurrence range 8% (medical-surgical ward) to 20% (surgical ward). The ICU group had 6 NHSN locations (median, 47.5 CLABSIs) and concurrence ranged from 20% (neurosurgical ICU) to 39% (medical ICU). Despite the noted variations, no risk ratio was statistically different within each SIR group (Table 1). **Conclusions:** In patients with CLABSIs, the frequency of concurrence varied up to 2-fold between location types within the current NHSN SIR groups, though not statistically significantly. Assessing whether this difference in magnitude persists in all patients with central lines is an important next step in refining risk adjustment methods to account for concurrent central-line use.

Funding: None
Disclosures: Scott Fridkin reports that his spouse receives consulting fees from the vaccine industry.
Doi:10.1017/ice.2020.1191

Presentation Type:
Poster Presentation

VRE Screening and Isolation: One Size Does Not Fit All

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Background: The need for screening and isolation for patients colonized with vancomycin-resistant *Enterococcus* (VRE) remains controversial. In this study, we examined the effects of discontinuation and reinstatement of these practices on VRE infection and colonization incidence within a multisite, tertiary-care hospital center, including its effects on specific at-risk groups. **Methods:** We retrospective analyzed VRE clinical isolate, infection, and bacteremia incidence rates at our hospital (1) prior to discontinuation of universal screening and isolation (January 2010–June 2012), (2) during discontinuation (July 2012–April 2017), and (3) after reinstatement of screening and isolation in high-risk wards (intensive care and multiple-organ transplant units, June 2017–April 2019). Monthly incidence rates were calculated for each of 3 sites at our tertiary-care hospital: site A, which includes the transplant program, site B, an adult cancer hospital, and site C, which includes orthopedic and neurology programs. To understand the differential effect of screening and isolation on various risk groups, incidence rates were also calculated for individual programs within our hospital, including medicine, surgery, intensive care, oncology, and transplant programs. **Results:** During the period of study, 3,167 cases of VRE isolates were identified. Patient colonizations of VRE across the institution increased throughout the study period, with the monthly number of newly colonized patients increasing from 10.4 in the first period of study to 20.6 in the last period. The overall VRE clinical isolate, infection, and bacteremia incidence rates did not increase following the cessation of VRE

Table 1. Central line concurrence among CLABSI patients.

SIR Group, NHSN Location	No Concurrence (n=288)	Concurrence (n=133)	Total (n=229)	Risk Ratio (95% CI)
Wards, No. (%)				
Medical/Surgical	35 (92)	3 (8)	38	**Referent**
Medical	83 (80)	21 (20)	104	2.56 (0.81, 8.09)
Neurosurgical	6 (86)	1 (14)	7	1.58 (0.19, 13.33)
Surgical	66 (85)	12 (15)	78	1.95 (0.58, 6.50)
ICUs, No. (%)				
Neurosurgical	32 (80)	8 (20)	40	**Referent**
Medical Cardiac	36 (65)	19 (35)	55	1.73 (0.84, 3.54)
Medical	42 (61)	27 (39)	69	1.96 (0.99, 3.89)
Medical/Surgical	22 (69)	10 (31)	32	1.56 (0.70, 3.50)
Surgical Cardiothoracic	43 (69)	19 (31)	62	1.53 (0.74, 3.16)
Surgical	23 (64)	13 (36)	36	1.81 (0.85, 3.85)

screening and isolation precautions; however, a significant increase was seen among the patients at site B (Fig. 1, infection rates). Furthermore, there was a significant decrease in VRE clinical isolate, infection, and bacteremia incidence following the reinstatement of screening in the ICU and transplant programs at site A, but no effect was seen in the other programs (Fig. 2, infection rates). **Conclusions:** The risk associated with discontinuing VRE screening and isolation measures appears depend on the subgroup of patients within a hospital environment. Furthermore, risk-based or unit-based VRE screening and isolation appears to be effective at controlling VRE incidence, even after measures had previously been discontinued. Additional study of other inpatient settings is warranted to determine the effects of screening and isolation for VRE on other patient subgroups.

Funding: None

Disclosures: Susy Hota reports contract research for Finch Therapeutics.

Doi:10.1017/ice.2020.1192

Presentation Type:
Poster Presentation

When Legionnaires' Disease Isn't: Case Presentation and Implications of the Council of State and Territorial Epidemiologists (CSTE) Changes to Case Definitions

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Background: Most cases of Legionnaires' disease are diagnosed by the urinary antigen test (UAT). Single cases of suspected healthcare-acquired Legionnaires' disease are often investigated by local and state health departments. Such investigations can result in disruptive and expensive interventions. We report a case of a urine-antigen–positive patient whose clinical presentation was inconsistent with Legionnaires' disease. Within the same year, an employee at this hospital was diagnosed with presumed community-acquired Legionnaires' disease; however, the case was considered by the health department to be healthcare acquired. The

Fig. 1.

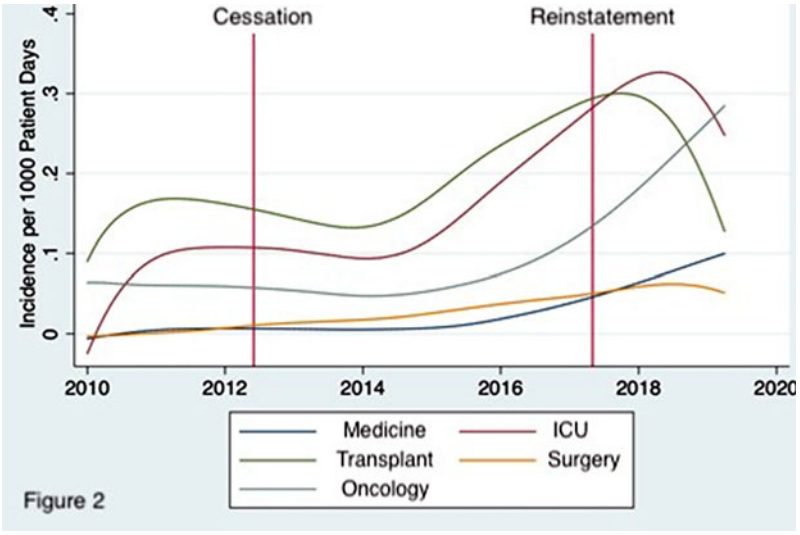

Fig. 2