(18% in 2018). **Conclusions:** Ongoing CLABSI surveillance has shown stable rates of CLABSI in adult ICUs from 2011 to 2018. The causative microorganisms have changed, with CONS decreasing from 31% to 18%.

Presentation Type:
Poster Presentation
Changes in Nursing Team Composition and Risk of Device Associated Infection in Intensive Care Units

Hirsh Shah, Virginia Commonwealth University Meha Srivastava, 2000; Shelley A Knowlson, VCU Health; Audrey Roberson, Virginia Commonwealth University Medical Center Sherry Lockhart, Virginia Commonwealth University Medical Center Rachel Pryor, Virginia Commonwealth University Health System Shirley Beavers, Virginia Commonwealth University Medical Center Wesley McKinney, Virginia Commonwealth University Medical Center Kaila Cooper, Nursing VCU Health; Emily Godbout, Children's Hospital of Richmond at VCUHS; Michael Stevens, Virginia Commonwealth University School of Medicine; Gonzalo Bearman, Virginia Commonwealth University VCUHS Epidemiology and Infection Control; Michelle Elizabeth Doll, Virginia Commonwealth University

Background: The relationship between nursing staffing and healthcare-associated infections (HAIs) has been explored previously, with conflicting results. Intensive care units increasingly struggle to maintain trained staff. In May 2019, clinical coordinator (CC) roles changed to include 50% of time in direct patient care rather than supportive roles. In this study, we used shift records to explore the impact of staffing on HAI risk. **Methods:** Daily staffing records from December 2018 August 2019 for the medical-respiratory unit (MRICU) and the cardiac surgery unit (CSICU) were reviewed. Both units staff a fixed 2:1 patient:nurse ratio (1:1 for specific cardiac surgeries). Staff deficiency was defined as assignments filled by nurses pulled from other units/supplemental/or CC roles. Staff support comprised nursing assistants and unit secretaries. Census, admissions, and complexity score for number of devices were used to estimate care acuity. In CSICU, additional points were added for continuous renal replacement therapy, extracorporeal membrane oxygenation, ventricular assist devices, transplant, operative cases. NHSN definitions were used for central-line–associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs). The Spearman correlation coefficient was used to determine relationship between staffing, acuity, and risk window for HAI (days 1–10 preinfection). Linear regression was used to determine whether staffing deficiencies and/or support associate with the risk window prior to HAI. The final model included census and complexity score as control variables. The statistical analysis was performed using SAS version 9.4 software (Cary, NC). **Results:** Overall, 8 HAIs occurred in the study period: medical-respiratory intensive care unit (MRICU: 3 CAUTIs and 1 CLABSI) and cardiac surgery intensive care unit (CSICU: 1 CAUTI and 3 CLABSIs). Staffing and census fluctuated daily (Table 1). Total number of nurses correlated with complexity scores ($r = 0.35$; $P < .0001$) and daily

Table 1. Variability in Daily Nursing Staffing and Acuity

Variable	MRICU		CSICU	
	Mean (SD)	Range	Mean (SD)	Range
Total nurses	29.1 (1.8)	[19–35]	15.8 (1.7)	[8–21]
Support	6.5 (1.4)	[4–11]	1.9 (0.8)	[0–4]
Deficiency	1.5 (0.9)	[0–4]	1.1 (0.12)	[0–6]
Census	29.5 (2.0)	[23–36]	12.9 (1.4)	[6–14]
Complexity	51.0 (8.9)	[28–72]	31.2 (7.1)	[11–51]

Note. MRICU, medical-respiratory intensive care unit; CSICU, cardiac surgery intensive care unit; SD, standard deviation.

census ($r = 0.31$; $P < .0001$) in the CSICU, and the census ($r = 0.12$; $P = .04$) in the MRICU. Nursing deficiencies correlated with days 1–10 before infection ($r = 0.20$; $P = .0013$) in the CSICU. In the regression model for the CSICU, nursing deficiencies increased in the time prior to HAI ($P = .004$), and support staff decreased in the time prior to HAI ($P = .034$) while controlling for census and complexity. These relationships were not significant in the MRICU. **Conclusion:** The lack of core nurses to support the staffing structure in CSICU correlated with periods prior to CLABSI or CAUTI in this small, unit-based study. Failure to recruit and retain highly skilled core staff may produce HAI risks, particularly for CLABSI in specialized units.

Presentation Type:
Poster Presentation
Characterization of Ceftazidime-Avibactam-Resistant Carbapenem-Resistant Enterobacteriaceae, United States, 2015–2017

Uzma Ansari, Division of Healthcare Quality and Promotion, Centers for Disease Control and Prevention; Hannah E. Reses, Centers for Disease Control and Prevention; Julian Grass, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention Sandra Bulens, Centers for Disease Control and Prevention; Joelle Nadle, California Emerging Infections Program; Sarah J. Janelle; Chris Bower, Georgia Emerging Infections Program/Foundation for Atlanta Veterans' Education and Research/Atlanta VA Medical Center; Jesse Jacob, Emory University; Elisabeth Vaeth, Maryland Department of Health; Lucy Wilson; Annastasia Gross; Ruth Lynfield; Medora Witwer, Minnesota Department of Health; Emily Hancock, University of New Mexico; Erin C. Phipps; Suzanne Dale, ACM Global Laboratories; Dwight Hardy; Ghinwa Dumyati, University of Rochester; Zintars Beldavs, Oregon Public Health Division; P. Maureen Cassidy; Daniel Muleta, Tennessee Department of Health; Maria Karlsson; Nadezhda Duffy, Centers for Disease Control and Prevention; Isaac See, Centers for Disease Control and Prevention; Joseph Lutgring, Centers for Disease Control and Prevention

Background: Carbapenem-resistant Enterobacteriaceae (CRE) are a major public health problem. Ceftazidime-avibactam (CZA) is a treatment option for CRE approved in 2015; however, it does not have activity against isolates with metallo-β-lactamases (MBLs). Emerging resistance to CZA is a cause for concern. Our objective