demographics, comorbidities, central-line characteristics and care, and microbiology. **Results:** The CLABSI SIR was significantly higher during the study period than the control period (0.89 vs 0.52; $P = .03$); the SUR was significantly higher during the study period (1.08 vs 1.02; $P < .01$); the PET completion per 100 central-line days was significantly lower during the study period (23.0 vs 31.5; $P < .01$); and the proportion of traveling nurses was significantly higher during the study period (0.20 vs 0.08; $P < .01$) (Fig. 1). Patients with NHSN CLABSIs during the study period were more likely to have a history of COVID-19 (27% vs 3%; $P = .01$) and were more likely to receive a higher level of care (60% vs 27%; $P = .02$). During the study period, more patients had multilumen catheters (87% vs 61%; $P = .04$). The type of catheter, catheter care (ie, dressing changes and chlorhexidine bathing), catheter duration before CLABSI, and associated microbiology were similar between the study and control periods (Table 1). **Conclusions:** During the SARS-CoV-2 omicron-variant surge, the increase in CLABSIs at our hospital was significantly associated with increased central-line utilization, decreased PET completion, and increased proportion of traveling nurses. Critical illness and multilumen catheters were significant patient-specific factors that differed between CLABSIs from the study and control periods. We did not observe differences in catheter type, duration, or catheter care. Our study highlights key modifiable risk factors for CLABSI reduction. These findings may be surrogates for other difficult-to-measure challenges related to the culture of safety during a global pandemic, such as staff education related to infection prevention and daily review of central-line necessity.

Disclosures: None

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI
Retrospective data analysis of CLABSI rates at Baystate Medical Center during the COVID-19 pandemic
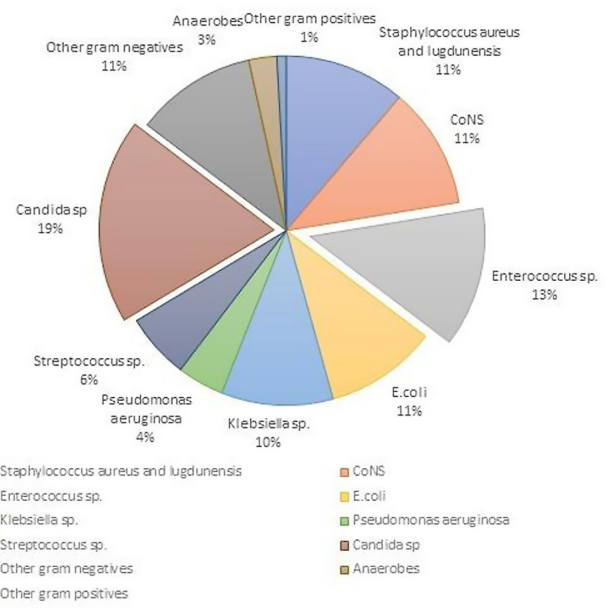Giovanni Satta; Kristin Smith and Jacob Smith

Background: Central-line–associated bloodstream infections (CLABSIs) are an important public health issue. Recent data from the CDC have shown an increase in healthcare-associated infections (including

Periods compared	CLABSI rates	p-value (2-tail)	Rate ratio	Confidence Limits Lower, Upper
2019Q1/PreCOVID	1.71	0.35	1.538	0.6138, 3.855
2020Q1/StartCOVID	1.11			
2019Q1/PreCOVID	1.71	0.77	0.8939	0.4144, 1.928
2021Q1/IntraCOVID	1.91			
2019Q1/PreCOVID	1.71	0.73	1.151	0.5046, 2.624
2022Q1/OmicronCOVID	1.48			
2019Q3/PreCOVID	1.56	0.66	0.8443	0.3878, 1.838
2020Q3/IntraCOVID	1.84			
2019Q3/PreCOVID	1.56	0.53	0.7799	0.3541, 1.718
2021Q3/DeltaCOVID	2.0			
2019Q3/PreCOVID	1.56	0.58	0.8015	0.3639, 1.765
2022Q3/EndCOVID	1.94			

Table 2: Statistical analysis comparing the different periods, pre-COVID and COVID pandemic. The null hypothesis was assuming no difference between the different periods considered (H_0) and the evidence provided by the data is not strong enough to reject the null hypothesis.

Bacterial pathogens associated with CLABSI

- Staphylococcus aureus and lugdunensis 11%
- CoNS 11%
- Enterococcus sp. 13%
- E.coli 11%
- Klebsiella sp. 10%
- Pseudomonas aeruginosa 4%
- Streptococcus sp. 6%
- Candida sp 19%
- Other gram negatives 11%
- Anaerobes 3%
- Other gram positives 1%

CLABSI) during the COVID-19 pandemic. Therefore, the main aim of this project was to analyze the epidemiology of central-line–associated bloodstream infection during different periods at the Baystate Medical Center (Springfield, MA) before, during, and after COVID-19 peaks of infection. **Methods:** Two specific periods were considered during the year (quarter January–March and quarter July–September) to consider potential seasonal variations, and the incidence of CLABSI during those 2 quarters was analyzed for 4 different years: 2019 (prepandemic), 2020–2021 (intrapandemic), and 2022 (postpandemic). An analysis of the microbial pathogens causing line infections was also performed to investigate differences described by other authors. **Results:** In total, 97 CLABSI (all from different patients) were reported into the NHSN website during the 8 periods considered. The average age of the patients was 55 years, with a male:female ratio of 57%:43%, and 14 renal patients were on dialysis. The CLABSI rates ranged from a minimum of 1.11 in Q1 of 2020 (start of COVID) to a maximum of 2 in Q3 of 2021 (SARS-CoV-2 delta variant) (Table 1). A statistical comparison of the pre–COVID-19 period with the respective quarters during the pandemic years (2020, 2021, and 2022) did not show any significant differences (Table 2). In term of microbiological data, of the 97 patients

Period	# CLABSI	# CL Days	CLABSI Rate	Average age	Gender M/F (%)	# Dialysis patients
2019Q1/PreCOVID	13	7624	1.71	54 (one missing)	46%/54%	1
2019Q3/PreCOVID	11	7064	1.56	48	55%/45%	0
2020Q1/StartCOVID	7	6315	1.11	51	71%/29%	1
2020Q3/IntraCOVID	15	8133	1.84	58	47%/53%	3
2021Q1/IntraCOVID	13	6815	1.91	56 (one missing)	85%/15%	5
2021Q3/DeltaCOVID	14	7012	2.00	49 (four missing)	50%/50%	2
2022Q1/OmicronCOVID	10	6749	1.48	62	60%/40%	1
2023Q3/ EndCOVID	14	7206	1.94	43	50%/50%	1
Total or average	97	56918	1.69	55 (six patients missing)	57%/43%	14

Table 1: Absolute number of CLABSI per period, number of line days, CLABSI rate, average age (please note some missing data), gender, number of patients on dialysis.

with CLABSIs, most of the patients (n = 70) had only 1 pathogen isolated, 14 patients had 2 pathogens, and 3 patients had 3 pathogens, bringing the total number of bacteria cultured to 117. *Candida* spp and *Enterococcus* spp were the most frequently isolated pathogens at 19% and 13%, respectively (Fig. 1). There was no statistically significant difference between the pre–COVID-19 and intra–COVID-19 periods for *Candida* spp (rate ratio, 1.391; 95% CI, 0.5477–3.533; $P = .48$) or *Enterococcus* spp (rate ratio, 2.385; 95% CI, 0.8365–6.798; $P = .09$). **Conclusions:** The COVID-19 pandemic did not seem to have an impact on the local epidemiology at Baystate Medical Center in terms of CLABSI rates or type of pathogens causing infections, but the sample size taken into consideration may not have been powerful enough to detect statistical significance.

Note. This project was carried out as part of Dr Satta's MPH requirements at UMass.

Disclosures: None

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI
Evaluating racial disparities in central-line–associated bloodstream infections for Tennessee hospitals, 2018–2021
Simone Godwin; Erika Kirtz and Christopher Wilson

Background: Central-line–associated bloodstream infections (CLABSIs) significantly burden the US population and healthcare system. Reporting facilities in Tennessee consistently omit race and ethnicity data in the NHSN despite having the option to enter. Racial and ethnic disparities are well documented across many health outcomes, including patient safety. CLABSIs were compared among 3 racial groups to better understand the impact of race on CLABSI incidence in Tennessee. **Methods:** CLABSI data from NHSN were linked with records from the TN Hospital Discharge Data System (HDDS) for 2018–2021. A multivariable linear regression model was used to determine relative risk (RR) between racial groups for contracting a CLABSI after controlling for confounding variables including Charlson comorbidity index (CCI) and social vulnerability index (SVI) scores. Statistical significance was set at $P < .05$. Data linkage and statistical analyses were performed in SAS version 9.4 software. **Results:** In Tennessee between 2018 and 2021, 342 (17.2%) of the 1,980 CLABSI events had race documented, and no ethnicity variables exist in the NHSN. The data linkage process yielded a 72% match (1,426 CLABSIs). The remaining 28% were excluded from the analysis. Per 1,000 central-line days (CL days) for all races, white patients had the highest CLABSI rate (17.5), followed by Black patients (1.36), and Native American or Alaskan Native patients (0.68). Per 1,000 admissions by race, Black patients had a higher CLABSI rate (1.26) than Native American/Alaskan Native patients (0.85) and white patients (0.75). The risk of contracting a CLABSI was 79% higher in Black patients than in white patients (RR, 1.79; 95% CI, 1.55–2.07; $P < .0001$) when controlling for CCI, age group, and SVI. **Conclusions:** These results suggest that racial disparities between Black and white patients are present in Tennessee hospitals regarding CLABSIs. Although most CLABSI events were linked to HDDS patients, there were limitations in the ability to match all cases and calculate CL days by race. This study highlights the need for complete race and ethnicity data in the NHSN. Further studies should examine infection types at the regional and facility levels to target interventions for reducing HAI inequities in Tennessee.

Disclosures: None

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI
Epidemiology of central-line–associated bloodstream infection mortality in Canadian NICUs before and after 2017

Maria Spagnuolo; Anada Silva; Jessica Bartoszko; Linda Pelude; Blanda Chow; Jeannette Comeau; Chelsey Ellis; Charles Frenette; Lynn Johnston; Kevin Katz; Joanne Langley; Bonita Lee; Santina Lee; Marie-Astrid Lefebvre; Allison McGeer; Dorothy Moore; Senthuri Paramalingam; Jennifer Parsonage; Donna Penney; Caroline Quach; Michelle Science; Stephanie Smith; Kathryn Suh and Jocelyn Srigley

Background: The Canadian Nosocomial Infection Surveillance Program (CNISP) observed increased mortality among neonatal intensive care unit (NICU) patients with central-line–associated bloodstream infection (CLABSI) starting in 2017. In this study, we compared NICU patients with CLABSIs before and after 2017, and quantified the impact of epidemiological factors on 30-day survival. **Methods:** We included 1,276 NICU patients from 8–16 participating CNISP hospitals from the pre-2017 period (2009–2016) and the post-2017 period (2017–2022) using standardized definitions and questionnaires. We used Cox regression modeling to assess the impact of age at date of positive culture, sex, birthweight, CLABSI microorganism, region of the country, and surveillance period (before 2017 vs after 2017) on time to 30-day all-cause mortality from date of positive culture. Gestational age was not available for this analysis. We reported model outputs as hazard ratios with 95% CIs. **Results:** In total, 769 (60%) NICU CLABSIs were reported in the pre-2017 period and 507 (40%) in the post-2017 period. The 30-day all-cause mortality rate was 8% (n = 100 of 1,276) overall, and significantly higher after 2017 (12%, n = 61 of 507) than before 2017 (5%, n = 39 of 769) ($P < .001$). During the post-2017 period, cases were significantly younger: 16 days (IQR, 9–33) versus 21 days (IQR, 11–49) ($P = .002$). Median days from ICU admission to infection were shorter: 14 (IQR, 8–31) versus 19 (IQR, 10–41) ($P < .001$). More gram-negative CLABSIs were identified (29% vs 24%; $P = .040$) and fewer gram-positive CLABSIs were identified (64% vs 72%; $P = .006$) compared to the pre-2017 period. Mortality was higher in CLABSIs caused by gram-negative bacteria (15%, n = 50 of 328) than gram-positive bacteria (4.4%, n = 39 of 877) ($P < .001$), and mortality was higher in neonates with birthweight <1,000 g (11%, n = 71 of 673) compared to those weighing ≥1,000 g (5%, n = 28 of 560) ($P < .001$). Adjusting for all other factors, survival modeling indicated that NICU CLABSIs identified in the post-2017 period had 2.12 (95% CI, 1.23–3.66) times the hazard ratio of 30-day all-cause mortality compared to those before 2017 ($P < .006$). Those identified with a gram-positive bacterium had a 0.28 hazard ratio (95% CI, 0.12–0.65) of 30-day mortality compared to those with a gram-negative bacterium or fungus ($P = .003$). In the fully adjusted model, age, sex, and birthweight were not significantly associated with NICU CLABSI survival. **Conclusions:** NICU patients with CLABSIs had significantly higher all-cause mortality between 2017–2022 compared to 2009–2016, and those who acquired gram-positive–associated CLABSIs had improved survival compared to other organisms. Further work is needed to identify and understand factors driving the increased mortality among NICU CLABSI patients from 2017–2022.

Disclosures: None

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: CLABSI
Examining CLABSI rates by central-line type
Lauren DiBiase; Shelley Summerlin-Long; Lisa Stancill; Emily Sickbert-Bennett Vavalle; Lisa Teal and David Weber

Background: Central-line–associated bloodstream infections (CLABSIs) are linked to increased morbidity and mortality, longer hospital stays, and significantly higher healthcare costs. Infection prevention guidelines recommend line placement in specific insertion locations over others because of the relative risk of infection. The purpose of this study was to assess CLABSI rates by line type to determine whether some central lines had a lower risk of infection and should be recommended over others given