

evaluated using a negative binomial regression model, which treated patient months as an offset variable and included access type, year, and an access-year interaction variable. **Results:** More than 6,000 outpatient hemodialysis facilities reported 134,961 BSIs from 2014 to 2018. Of these BSIs, 102,505 (76%) were categorized as access related. CVCs were present in 63% of BSIs and 70% of ARBSIs. Pooled mean BSI rates decreased 27% from 0.64 to 0.47 per 100 patient months; rates of ARBSIs decreased 27% from 0.49 to 0.36 per 100 patient months. Significant decreases in event rates occurred across vascular access strata (Fig. 1). The reduction in BSI and ARBSI burden was most pronounced among patients with CVCs. BSI rates in patients with CVCs decreased 32% from 2.16 per 100 patient months to 1.46 (annual average decrease, 9.5%), and ARBSI rates in patients with CVCs decreased 32% from 1.83 per 100 patient months to 1.24 (annual average decrease, 9.4%). **Conclusions:** Substantial reductions in BSI and ARBSI rates among hemodialysis outpatients occurred during this 5-year period, and these reductions appear to be most prominent among CVC and AVF patients. Improvements in infection prevention and control practices, including CVC care, have likely contributed to these reductions. Additional efforts to increase the uptake of known prevention practices and to identify new strategies for prevention might contribute to continued decreases in infections among this highly vulnerable population.

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**Disclosures:** None

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#### Presentation Type:

Poster Presentation

#### Provision of Hepatitis A Vaccine by Paramedics During Noncritical Patient Interactions: Lessons Learned

Christine McGuire-Wolfe, Pasco County Fire Rescue; Timothy Reardon, Pasco County Fire Rescue

**Background:** Hepatitis A cases have been regularly increasing in Florida since 2016, after remaining relatively stable for several years. Between January 1, 2019, and October 19, 2019, 2,847 cases of hepatitis were reported to the Florida Department of Health, including 2,209 hospitalizations and 41 deaths due to infection with hepatitis A1. At least 93% of these cases was acquired within the state of Florida.<sup>1</sup> During this outbreak, Pasco County clearly emerged as a focal point for new cases. As of week 42 of 2019, Pasco County was the second-highest county for new cases ( $n = 484$ ) and the leading county for deaths due to hepatitis A infection ( $n = 8$ ). Risk factors identified from hepatitis A cases reported between January 1, 2019, and October 19, 2019, included any drug use (57%), injection drug use (37%), noninjection drug use (35%), homelessness (22%), and being a man who had sexual intercourse with other men (MSM, 4%).<sup>1</sup> Moreover, 33% of newly reported cases were interviewed and denied risk factors; 1 (20%) had recently been incarcerated or was currently incarcerated.<sup>1</sup> Individuals with these risk factors are often individuals who also require emergency medical services (EMS). On August 1, 2019, a public health emergency (PHE) was issued for the entire state of Florida. The existence of a PHE allows for paramedics to administer vaccine (with the approval of the fire rescue medical director). Pasco County Fire Rescue routinely operates 28 advanced life support (ALS) ambulances with either a crew of 2 paramedics or a paramedic/EMT pair. On October 7, 2019, the Pasco County Board of County Commissioners (BCC) approved a Memorandum of Understanding between the Florida Department of Health in Pasco County, the Pasco County Fire Rescue Medical Director, and the

BCC for ALS crews to provide hepatitis A vaccination to noncritical (ie, basic life support) patients during routine contact. This effort appears to be the first within the of Florida. Pasco County Fire Rescue (PCFR) began stocking hepatitis A vaccine on January 1, 2020 and ceased participation in the program on March 1, 2020. During the window of participation, PCFR responded to approximately 6,570 calls in which the patient would have been non-critical and eligible for hepatitis A vaccination. Twelve hepatitis A vaccinations (0.18%) were administered. Crews verbalized concerns about adding vaccination to their job description, feelings of being overwhelmed with existing emergency medical services (EMS) responsibilities, apathy regarding the potential benefit of provision of vaccine, and perception that successful participation in a vaccine campaign would lead to additional community paramedicine responsibilities. The vaccine program was terminated early due to the significant demands on EMS as SARS-CoV2 impacted Pasco County. This trial highlights the need for crew investments and buy-in for future partial or full community paramedicine initiatives.

1. Florida Department of Health, Hepatitis A Surveillance State Report, Week 42.

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**Disclosures:** None

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#### Quality Improvement Measures to Reduce Central-Line-Associated Bloodstream Infections (CLABSIs) in a Neonatal Intensive Care Unit (NICU)

Tamika Anderson, Ascension St John Hospital; Michelle Flood, Ascension St John Hospital; Susan Kelley, Ascension St John Hospital; Lea Ann Pugh, Ascension St John Hospital; Renato Casabar, Ascension St John Hospital; Mamta Sharma, St John Hospital; Rebecca Battjes, Ascension St John Hospital

**Background:** Central-line-associated bloodstream infections (CLABSIs) are a significant contributor to morbidity and mortality for neonates; they also increased healthcare costs and duration of hospitalization. This population is susceptible to infections because of their undeveloped immune systems, and they require intravenous access until they can tolerate enteral feedings, which for extremely premature infants can take several weeks (if not months) to achieve. Our hospital is a regional-referral teaching hospital with 772 licensed beds. The neonatal intensive care unit (NICU) is a

Figure 1.

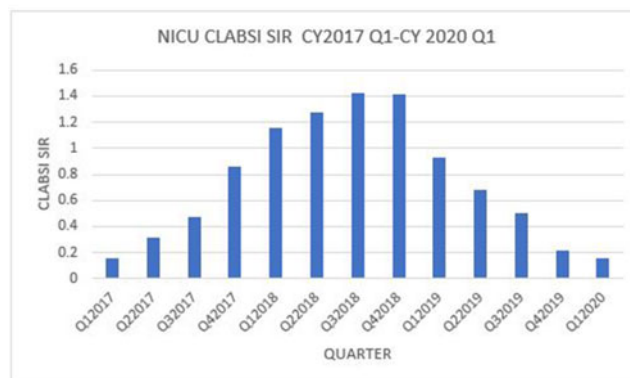


Fig. 1.

level 3, 35-bed unit where the most critically ill neonates receive care. After a sustained 3-year period of zero CLABSIs, we identified 10 infections between September 2016 through April 2018.

**Methods:** A multidisciplinary team known as the neonatal infection prevention team (NIPT) was reinstated. This team included members from nursing and infection prevention (IP) and from NICU Shared Governance, as well as a neonatal nurse practitioner (NNP) and a neonatologist to review these CLABSIs. Evidence-based practices, policies, and procedures were implemented to help reduce CLABSIs. Nurse educators provided education and training. The infection prevention team reinstated and modified the central-line maintenance and insertion tools to document compliance and to identify any gaps in care. Nurses were expected to document line maintenance once per shift (A.M. and P.M.). All CLABSIs were entered into the CDC NHSN and the hospital's safety event reporting system, which required follow-up by a clinical manager. The infection prevention team monitored NHSN standardized infection ratios (SIRs) monthly. The SIR is the number of observed events divided by the number predicted (calculated based on national aggregate data). **Results:** The highest reported quarterly SIR was 1.423, which occurred in the third quarter of 2018 (Fig. 1). Overall compliance with line maintenance protocols was 86% on the morning shift and 89% on the afternoon shift. With implementation of an evidence-based bundle, the NICU had a rolling 12-month SIR of 0.00 as of October 2019. **Conclusions:** Multidisciplinary team development, implementation of evidence-based bundle elements, and education on catheter care contributed to the long-term success in decreasing CLABSI rates in our NICU. Although this implementation achieved a zero CLABSI rate, we experienced some barriers, including compliance issues with staff not completing the audit tools, staff turnover, and high patient census.

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**Quality of Hospital Infection Control Programs in Low- and Middle-income Countries: A National Survey** André Alvim, Centro Universitário UNA; Andrea Gazzinelli, Universidade Federal de Minas Gerais – UFMG; Bráulio Couto, Centro Universitário de Belo Horizonte - UniBH

**Background:** One of the strategies to reduce healthcare-associated infections (HAIs) and promote the quality of disease prevention and control actions is the creation of a hospital infection control program. This program is a set of deliberately and systematically developed actions aimed toward reducing the incidence and severity of infections to the maximum extent possible. In Brazil, studies on the subject still need to be improved; they focus on structural and process assessments, especially the survey of continuing education indicators as a quality requirement for the prevention of HAIs. The organizational context does not contribute to the success of the program, and difficulties remain in implementing recommendations and in implementing patient safety policies. **Objective:** To analyze hospital infection control programs in relation to quality components. **Methods:** This cross-sectional epidemiological study was conducted in health services located in the 5 official regions of Brazil: Midwest, Northeast, North,

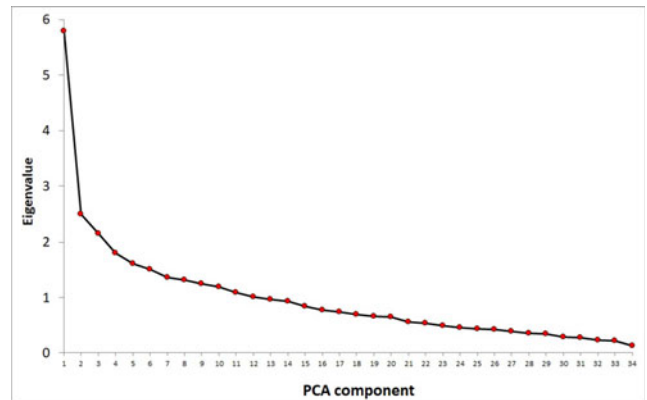


Fig. 1.

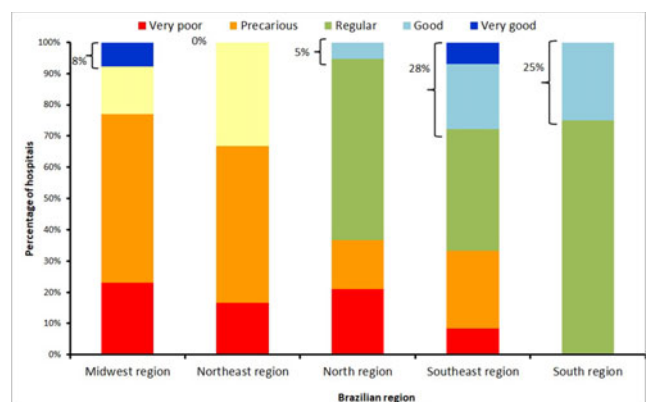


Fig. 2.

Southeast, and South. To select the study sites, nonprobabilistic sampling using the snowball technique was used. The potential study population consisted of 114 hospital infection control services. Health professionals responded to the structured instrument sent electronically via e-mail, and other health services near their locality, until reaching a national proportion. We used the "Hospital Infection Control Program Evaluation Questionnaire"; it consists of 36 multiple-choice questions. This tool was validated by 96 expert judges using the Cronbach's alpha test (0.82) and the content validity index (0.88). A data analysis was performed using the multivariate principal component analysis technique (PCA). **Results:** Overall, 13 PCA components (Fig. 1) were used to build a score for measuring the performance of the hospital infection control program (ie, IQPC score). The Southern region had the best performance of the hospital infection control program ( $mi = 1.50; P = .02$ ) (Fig. 2), private administration ( $mi = 0.45; P = .05$ ), of hospitals that contained 300 beds or ( $mi = 1.38; P < .01$ ), hospitals that used the NHSN criterion for HAI surveillance ( $mi = 2.12; P < .01$ ), and those who searched prospective activity as a surveillance method ( $mi = 0.51; P < .01$ ). **Conclusions:** The quality of nosocomial infection control programs still needs to be improved among health services, highlighting the need to invest in small, publicly managed hospitals that use retrospective active surveillance methods.

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