susceptibility data were available for 4,620 samples: 3,558 adult (77.0%) and 1,062 pediatric (23.0%). The predominant adult and pediatric ribotypes (RT) were 106 (12.2/16.2%), 027 (11.4/3.2%), and 014 (8.8/8.2%). Overall, RT027 prevalence significantly decreased from 17.9% in 2015 to 3.2% in 2022 (p=0.003), while RT106 increased from 8.5% to 14.4%. Resistance rates among adult and pediatric isolates were similar for all antimicrobials tested except moxifloxacin (16.2% vs. 6.2%, p < 0.0001, respectively). Adult moxifloxacin resistance decreased from 30% to 6.3% from 2015 to 2022 (p=0.006). Adults with moxifloxacin-resistant CDI were older (median: 74 vs. 69 years, p < 0.001) and had higher thirty-day all-cause mortality (13% vs. 9.8%, p=0.041) and recurrence (10% vs. 5.7%, p < 0.001) compared to those with moxifloxacin non-resistant CDI, while these trends were not observed in pediatric patients. Among RT027 strains, moxifloxacin resistance decreased from 91.0% in 2015 to 7.1% in 2022. There was one metronidazole-resistant pediatric sample in 2018 and no resistance to vancomycin or tigecycline in either population. **Conclusion:** We have found differences in the epidemiological and molecular characteristics of adult and pediatric CDI, with higher thirty-day all-cause mortality among adults. Overall, RT106 has replaced RT027 as the predominant ribotype with a concomitant decrease in fluoroquinolone resistance.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s10–s11

doi:10.1017/ash.2024.108

Presentation Type:
Poster Presentation - Top Poster Abstract
Subject Category: CLABSI

Impact of Vascular Access Teams on Central Line Associated Bloodstream Infections

Shelley Kester, Atrium Health; Katie Passaretti, Atrium Health; Mindy Sampson, Stanford University; Anupama Neelakanta, Carolinas HealthCare System; Robert Rose, Atrium Health; David Tincopa, Atrium Health; Johnna Parsons, Atrium Health Cabarrus; Audrey Weaver, Atrium Health; Abby Avery, Atrium Health; Barbi Mills, Atrium Health and Candice Dickerson, Vascular Access RN

Background: During the COVID-19 pandemic, rates of central line bloodstream infections (CLABSI) increased nationally. Studies pre-pandemic showed improved CLABSI rates with implementation of a standardized vascular access team (VAT).[PL1] [PL2] [mi3] Varying VAT resources and coverage existed in our 10 acute care facilities (ACF) prior to and during the pandemic. VAT scope also varied in 1) process for line selection during initial placement, 2) ability to place a peripherally inserted central catheter (PICC), midline or ultrasound-guided peripheral IV in patients with difficult vascular access, 3) ownership of daily assessment of central line (CL) necessity, and 4) routine CL dressing changes. We aimed to define and implement the ideal VAT structure and evaluate the impact on CLABSI standardized infection ratios (SIR) and rates prior to and during the pandemic. **Methods:** A multidisciplinary workgroup including representatives from nursing, infection prevention, and vascular access was formed to understand the current state of VAT responsibilities across all ACFs. The group identified key responsibilities a VAT should conduct to aid in CLABSI prevention. Complete VAT coverage[mi4] was defined as the ability to conduct the identified responsibilities daily. We compared the SIR and CLABSI rates between hospitals who had complete VAT (CVAT) coverage to hospitals with incomplete VAT (IVAT) coverage. Given this work occurred during the pandemic, we further stratified our analysis based on a time frame prior to the pandemic (1/2015 – 12/2019) and intra-pandemic (1/2020 - 12/2022). **Results:** The multidisciplinary team identified 6 key components of complete VAT coverage: Assessment for appropriate line selection prior to insertion, ability to insert PICC and midlines, daily CL and midline care and maintenance assessments, daily assessment of necessity for CL, and weekly dressing changes for CL and midlines[NA5] . A cross walk of VAT scope (Figure 1) was performed in October 2022 which revealed two facilities (A and E) which met CVAT criteria. Pre-pandemic, while IVAT CLABSI rates and SIR were

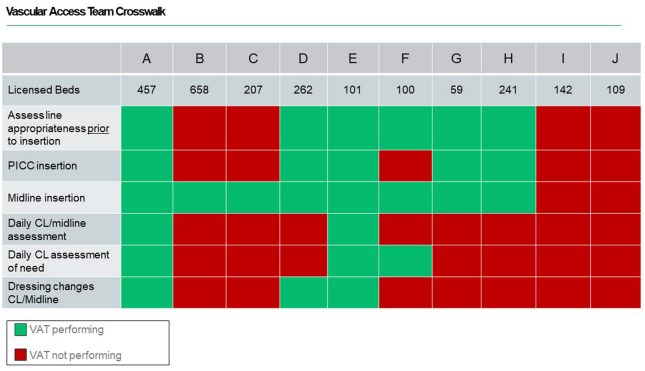

Table 1: Comparison of Central Line Utilization Ratios, CLABSI Standardized Infection Ratios and CLABSI Rates prior to and during the COVID-19 Pandemic Stratified by Vascular Access Team Coverage

	CL Standardized Utilization Ratio (SUR)				CLABSI Rate per 1000 CL Days				CLABSI Standardized Infection Ratio (SIR)			
	CVAT	IVAT	Rate Ratio IVAT compared to CVAT (95% CI)	*P* Value	CVAT	IVAT	Rate Ratio IVAT compared to CVAT (95% CI)	*P* Value	CVAT	IVAT	Relative Ratio IVAT compared to CVAT (95% CI)	*P* Value
Pre-pandemic	**0.63**	**1.15**	**1.8 (1.80, 1.84)**	**<0.001**	0.95	1.03	1.1 (0.7, 1.7)	0.7	1.05	1.22	1.2 (0.8 , 1.7)	0.5
Intra-pandemic	**0.65**	**0.81**	**1.26 (1.25,1.27)**	**<0.001**	**0.95**	**1.38**	**1.5 (1.1-2.0)**	**0.01**	**1.05**	**1.48**	**1.4 (1.1-1.9)**	**0.02**

CL Central Line, CVAT Complete Vascular Access Team Facility, IVAT Incomplete Vascular Access Team Facility, 95% CI 95% Confidence Interval, p value considered significant if p < 0.05

higher than in CVAT units, the difference was not statistically significant. During the pandemic, however, CLABSI rates and SIR were 40-50% higher in IVAT compared to CVAT facilities (Incident Rate Ratio 1.5, 95% CI 1.1-2.0 and SIR Relative Ratio 1.4, 95% CI1.1-1.9 respectively) (Table 1). **Conclusions:** CLABSI rates were lower in facilities with complete VAT coverage prior to and during the COVID-19 pandemic suggesting a highly functioning VAT can aid in preventing CLABSIs, especially when a healthcare system is stressed and resources are limited.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s11

doi:10.1017/ash.2024.109

Presentation Type:
Poster Presentation - Top Poster Abstract
Subject Category: COVID-19

The Impact of COVID-19 on Healthcare-Associated Infections: A Survey of Acute Care Hospitals

Monika Pogorzelska-Maziarz, Thomas Jefferson University; Julia Kay, Thomas Jefferson University, College of Nursing; Tara Schmidt, Rutgers, the State University of New Jersey; Anika Patel, Rutgers, the State University of New Jersey and Pamela De Cordova, Rutgers, the State University of New Jersey

Background: The COVID-19 pandemic has placed an enormous strain on the healthcare system, including infection prevention and control. The response to the COVID-19 pandemic required extraordinary resources, which were often diverted from routine infection prevention and control activities and may have contributed to increased rates of HAI in the acute care setting. However, the impact of the COVID-19 pandemic on infection prevention and control departments, including staffing and resources, and on routine infection prevention and control activities is not well-described. The objective of this study was to describe the impact of the COVID-19 pandemic on IPC departments and department response to the pandemic. **Methods:** Between August and December of 2023, we conducted an electronic survey of all acute care facilities participating in the National Healthcare Safety Network. Survey data were analyzed using descriptive statistics. **Results:** Over 594 infection control departments participated in the survey, representing 1,400 NHSN facilities (20% response rate based on number of eligible NHSN facilities). Half of the respondents reported that their hospital experienced increases in the following HAI rates during the first two years of the pandemic: central-line associated bloodstream

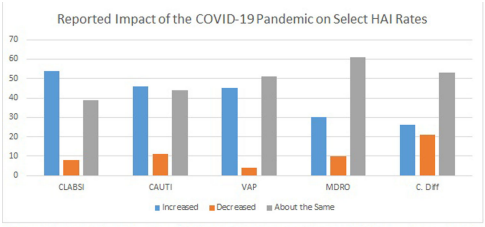

Figure. Reported Impact of the COVID-19 Pandemic on Select HAI Rates during the First Two Years of the Pandemic

infections (54%), catheter-associated urinary tract infections (46%) and ventilator associated pneumonia (45%). When asked to identify the top three contributors to increased HAI rates in their facility, respondents cited the following factors: staffing shortages (70%), patient acuity (69%), use of travel nurses (48%), increased device utilization (37%), and reduced bedside acuity (31%). Respondents reported that their department utilized the following actions to decrease these HAI rates: increased rounding and monitoring of IPC procedures (81%), reeducation of frontline staff on IPC policies and procedures (77%), environmental care rounds (69%), monitoring of isolation compliance (66%), HAI Task Force/Committee (57%), nurse-driven catheter removal protocols (53%), and insertion prevention protocols (53%). When asked if the department experienced applied pressure or attempts to influence HAI reporting due to the increase in HAI rates in the facility experienced in the wake of the pandemic, 19% of respondents reported increased pressure from management/C-suite and 7% reported increased pressure from providers. **Conclusion:** The COVID-19 pandemic had a substantial impact on IPC departments in acute care hospitals and had a profound effect on IPC staffing, resources and routine IPC activities. Future work needs to identify best practices and lessons learned from the pandemic to inform future pandemic preparedness.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s11–s12
doi:10.1017/ash.2024.110

Presentation Type:
Poster Presentation - Top Poster Abstract
Subject Category: Decolonization Strategies

Temporal decreases in pathogen colonization and infection among hospitalized neonates following routine skin antisepsis with chlorhexidine gluconate: Botswana 2022 – 2023

Chimwemwe Tembo, Botswana-University of Pennsylvania partnership; Jonathan Strysko, Children's Hospital of Philadelphia; Boingotlo Gopolang, Botswana-University of Pennsylvania partnership; Tshiamo Zankere, Botswana UPenn Partnership; Teresia Gatonye, Botswana UPenn; Tlhalefo Dudu Ntereke, Ministry of Health and Wellness-Botswana; Kgomotso Kgomanyane, Ministry of Health and Wellness-Botswana; Janet Thubuka, Dept Paediatric and Adolescent Health, Univ Botswana; Britt Nakstad, Dept Paediatric and Adolescent Health, Univ Botswana; Susan Coffin, Children's Hospital of Philadelphia; Carolyn McGann, Children's Hospital of Philadelphia; Corrado Cancedda, University of Pennsylvania; Ebbing Lautenbach, University of Pennsylvania, Perelman School of Medicine; Naledi Betsi Mannathoko, University of Botswana; Melissa Richard-Greenblatt, Hospital for Sick Children; David Goldfarb, BC Children's Hospital; Ashley Styczynski, Centers for Disease Control and Prevention; Gemma Parra, University of Arizona; Rachel Smith, Centers for Disease Control and Prevention; Kagiso Mochankana, Nurses & midwifery association of Botswana; Neo Mogotsi, Nurses & midwifery association of Botswana and Tapoloso Keatholetswe, Nurses & midwifery association of Botswana

Background: Multidrug-resistant Gram-negative bacteria are a major cause of sepsis among hospitalized neonates globally. Aqueous chlorhexidine gluconate (CHG) skin antisepsis has been shown to be safe for use in infants; however, its sustained effectiveness in preventing Gram-negative pathogen colonization, bloodstream infection (BSI), and mortality is unclear. **Methods:** We conducted a period prevalence survey, with 26 sampling events over 12 months (18 October 2022 – 31 October 2023) at a 33-bed neonatal unit in a tertiary public hospital in Botswana where ESBL-producing Klebsiella pneumoniae and carbapenem-resistant Acinetobacter baumannii are leading causes of BSI. Perirectal and periumbilical skin swabs were collected every two weeks from all inpatients. Swabs were inoculated onto chromogenic media selective and differential for extended-spectrum beta-lactamase producing Enterobacterales (ESBL-E) and Acinetobacter spp. (CHROMagar™ ESBL, Acinetobacter). Colonization status was determined based on culture growth and colony morphology. Contemporaneous data on all-cause mortality and BSI were abstracted from routine surveillance records. Pre- and post-CHG prevalences were compared using a simple Chi-square test. During the surveillance period, an outbreak of K. pneumoniae linked to contaminated multi-use vials was detected, thus BSIs and deaths during the outbreak period (2 February–6 April, 2023) were excluded. In February 2023, the hospital infection prevention and control (IPC) team introduced twice-weekly whole-body cleansing with commercially available 2% aqueous CHG, performed by caregivers and healthcare workers on neonates >24 hours old and weighing ≥1 kg until discharge. **Results:** There were significant decreases in ESBL-E and Acinetobacter skin and perirectal colonization following the CHG intervention (Table 1; Figure 1). After the CHG intervention, the incidence of Acinetobacter BSIs declined significantly and there was a trend toward a decline in other BSIs and mortality. No adverse events associated with CHG were reported. **Conclusions:** Twice-weekly CHG application was temporally associated with significant reductions in neonatal ESBL-E and Actinetobacter skin and perirectal colonization and Acinetobacter BSI. This analysis was limited by a short pre-intervention surveillance period and thus may have been influenced by confounders such as seasonality, and intensified IPC efforts following the outbreak. Analysis of the routine CHG use in other settings and over longer surveillance periods are needed to better understand its effectiveness as an IPC strategy in settings where neonatal sepsis incidence is high. Table 1. Colonization prevalence, BSI incidence, and mortality surrounding introduction of CHG skin cleansing in a neonatal unit, 18 October 2022 – 31 October 2023.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s12
doi:10.1017/ash.2024.111

Table 1. Colonization prevalence, BSI incidence, and mortality surrounding introduction of CHG skin cleansing in a neonatal unit, 18 October 2022 – 31 October 2023"

	Pre-CHG**, % (n) (n=229)	Post-CHG, % (n) (n=578)	OR (95%CI)
Colonization prevalence (skin or peri-rectal)†			
ESBL-E: Skin or perirectal	63% (145)	45% (262)	**0.43 (0.31-0.60)**
ESBL KEC: Skin or perirectal	55% (126)	37% (215)	**0.48 (0.35-0.66)**
Acinetobacter: Skin or perirectal	29% (66)	12% (68)	**0.33 (0.22-0.49)**
BSI incidence & Mortality*	(n=229)	(n=467)	
Any BSI	11% (26)	7% (32)	0.57 (0.32-1.03)
Acinetobacter spp. BSI	3% (7)	0.4% (2)	**0.14 (0.01-0.72)**
KEC BSI	4% (9)	2% (8)	0.42 (0.14-1.26)
All-cause mortality	30%(68)	22%(103)	0.67 (0.46-0.98)

†Peri-rectal and skin colonization decreased significantly in all stratified analyses (data not presented here)
*BSIs and deaths during outbreak period excluded
**Twice-weekly CHG introduced February 2023
ESBL-E=Extended spectrum beta-lactamase producing Enterobacterales; KEC= *Klebsiella*, *Enterobacter*, or *Citrobacter* spp.

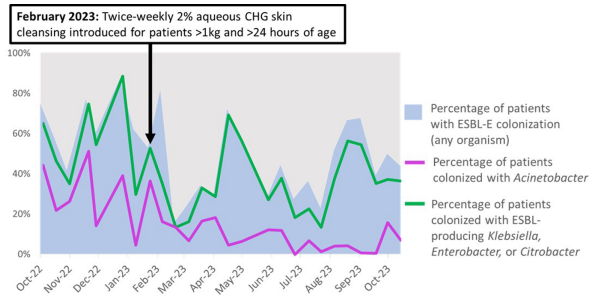

Figure 1. Prevalence of colonization (skin or perirectal) among hospitalized neonates (October 2022 – October 2023)