

**Table 2: Univariate Predictors of Deep and Organ/Space Post-CABG SSI**

Variable n (%)	SSI (n=19)	No SSI (n=1533)	p value
Female gender	11 (57.9)	305 (19.9)	0.0003
Age ≥ 75	9 (60.0)	388 (26.4)	0.0065
Extreme Obesity (BMI ≥ 40)	4 (21.1)	63 (4.1)	0.008
White	15 (79.0)	1066 (69.5)	0.50
Diabetes	17 (89.5)	726 (47.4)	0.0002
Ever smoker	7 (36.8)	641 (41.8)	0.82
Pedicle harvest technique	14 (73.7)	1009 (65.8)	0.62
BIMA graft	6 (31.6)	334 (21.8)	0.28
Discharge to rehab	14 (77.8)	564 (36.8)	0.0007

CABG=coronary artery bypass graft, SSI=surgical site infection, BIMA=bilateral internal mammary artery

between July 2017 and June 2020. Additional data on potential risk factors for SSI were obtained electronically from hospital data marts and the Division of Cardiac Surgery database, including demographics, comorbidities, number of arterial grafts, surgical approach, surgeon, and discharge location. Using standard NHSN definitions, infection control practitioners identified post-CABG deep and organ-space SSIs. Patient and procedure characteristics were evaluated as potential risk factors for deep and organ-space SSI using the Fisher exact test. **Results:** Of 1,591 CABG procedures performed during the study period, 1,244 (78.2%) were performed using a SIMA technique and 347 (21.8%) were performed using a BIMA technique. The overall post-CABG SSI incidence was 1.2 per 100 procedures, with 1.0 SSIs per 100 SIMA procedures and 1.7 SSIs per 100 BIMA procedures. Table 1 demonstrates an increase over time in proportion of CABG procedures performed using SIMA and skeletonized IMA grafts. We also observed a decrease in overall SSI incidence over this period. See Table 2 for univariate predictors of post-CABG SSI. **Conclusions:** Female sex, BMI ≥40, age ≥75 years, diabetes, and discharge to a rehabilitation setting were associated with development of post-CABG SSI. Although the overall incidence of deep and organ-space SSI in our cohort was very low, making it difficult to draw conclusions about potentially modifiable risk factors, an increase in the use of SIMA and skeletonized grafts appears to be accompanied by a decrease in SSI incidence. More data from our institution and others are needed to determine the significance of this trend.

**Funding:** No

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2021;1(Suppl. S1):s77–s78

doi:10.1017/ash.2021.152

### Presentation Type:

Poster Presentation

### Subject Category: SSI

#### The Impact of Narrowing Perioperative Antibiotic Prophylaxis for Left-Ventricular-Assist Device Implantation

Lauren Allen; Rachel Bartash; Kelsie Cowman; Yi Guo; Grace Minamoto; Snehal Patel; Sasha Vukelic; Daryl Nnani and Daphenie Fauvel

**Background:** Left-ventricular-assist device (LVAD)-related infections occur in 20%–40% of LVAD recipients and may result in up to 10% of LVAD-related deaths. Optimal surgical infection prophylaxis for LVAD implantation is not well defined. Our institution historically used a 4-drug surgical infection prophylaxis regimen of fluconazole, ciprofloxacin, rifampin, and vancomycin as recommended by the device manufacturer. In January 2020, a 2-drug surgical infection prophylaxis regimen of vancomycin and cefazolin was implemented to reduce broad-spectrum antibiotic use while preserving gram-positive coverage. The primary objective of this study was to compare LVAD-associated infection rates before and after changing surgical infection prophylaxis.

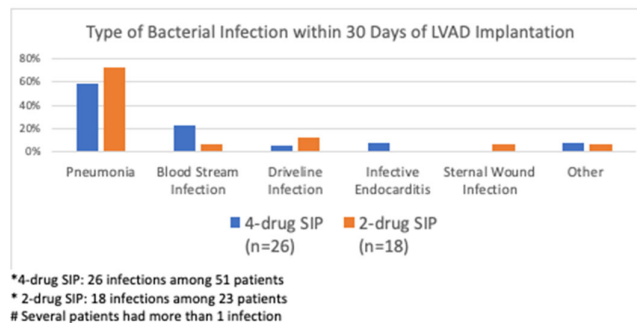
**Methods:** A retrospective review of patients who underwent LVAD implantation between January 2018 and January 1, 2021, was performed. Definitions of LVAD-associated infections and non-LVAD infections were based on the International Society for Heart and Lung Transplantation guidelines. Infection rates at 2 weeks and 30 days after implantation and 30-day mortality were compared between the 4-drug surgical infection prophylaxis regimen (January 2018–December 2019) and the 2-drug regimen (January 2020–January 2021). Additional data collected included demographics, cause of

© The Author(s), 2021. Published by Cambridge University Press on behalf of The Society for Healthcare Epidemiology of America. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

S78 2021;1 Suppl 1

**Table 1. Infection rate among LVAD recipients receiving 4-drug vs 2-drug SIP**

	2-week		P-value	30-day		P-value
	4-drug (N=51)	2-drug (N=23)		4-drug (N=51)	2-drug (N=23)	
Number of Patients with Infection, n (%)	16(31)	11(48)	0.17	18(35)	12(52)	0.17
Number of Patients with LVAD-Associated Infection, n (%)	7(13.7)	1(4.3)	0.42	9(17.6)	4(17.4)	0.99

**Figure 1. Type of Infection**

cardiomyopathy, type of infection, and causative organism. **Results:** In total, 51 patients were in the 4-drug surgical infection prophylaxis group and 23 patients were in the 2-drug surgical infection prophylaxis group. Baseline characteristics between the groups were similar. The cause of cardiomyopathy in both groups was predominantly nonischemic (67% vs 70%, = .81), and most patients received a Heartmate III device (84% vs 100%,  $P = .06$ ). There was no statistical difference between infection rates in the 4-drug and 2-drug prophylaxis groups at 2 weeks or 30 days (Table 1). The 30-day mortality rate was 4% in the 4-drug group versus 13% in the 2-drug group ( $P = .17$ ). No deaths were due to infections. Gram-negative and fungal LVAD-associated infections were rare: 4% versus 4% ( $P = .99$ ) for gram-negative infections and 2% versus 0% ( $P = .99$ ) for fungal infections. The most commonly isolated organisms were *Staphylococcus aureus* and coagulase-negative *Staphylococcus* in both groups. Pneumonia was the most common infection in both groups (Figure 1). **Conclusions:** We did not observe a significant increase in infection or mortality with narrowing of perioperative antibiotics. However, these results should be interpreted cautiously given the small sample size. Larger studies are needed to confirm these findings.

**Funding:** No

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2021;1(Suppl. S1):s78

doi:10.1017/ash.2021.153

### Presentation Type:

Poster Presentation

### Subject Category: Surveillance/Public Health

#### Prevalence of Healthcare-Associated Infections at the National Hospital During the COVID-19 Pandemic in Peru

Jussara Huamani and Walter Prudencio

**Background:** Healthcare-associated infections are important because they constitute a public health problem due to the increase in morbidity and mortality that they produce in hospitalized patients, increased hospitalization costs due to prolonged stay, expensive antibiotic treatments and surgical reinterventions, not counting the social costs due to loss of wages and production, among others. **Methods:** We report the specific prevalence of healthcare-associated infections (HAIs) in Edgardo Rebagliati Martin National Hospital, Perú, in 2020. We performed a descriptive cross-sectional study from July 27 to July 31, 2020. The medical records of hospitalized patients were reviewed according to the inclusion criteria. STATA software was used for descriptive statistical analyses. **Results:** In total, 1,217 hospitalized patients were included in the study. The prevalence of HCAI was 12.2% (149 patients). The prevalence of HCAI in areas where patients with the diagnosis of COVID-19 were hospitalized was higher (8.1%) than in common hospitalization areas (4.1%). Men represented 92% of the total

number of patients with HCAs. The most frequent infections were clinically defined pneumonia (30.9%) and bloodstream infections (20.1%). The most frequently isolated microorganism was *Pseudomonas aeruginosa*. **Conclusions:** The prevalence of HCAI was 12.2%. The most frequent HCAs were pneumonia and bloodstream infection.

**Funding:** No  
**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2021;1(Suppl. S1):s78–s79  
 doi:10.1017/ash.2021.154

**Presentation Type:**  
 Poster Presentation

**Subject Category:** Surveillance/Public Health  
**Multifacility Outbreak of NDM/OXA-23–Producing *Acinetobacter baumannii* in California, 2020–2021**

Diana Holden; Tisha Mitsunaga; Denise Sanford; Tanya Fryer; June Nash; Emily Schneider; Rituparna Mukhopadhyay; Erin Epton and Matthew Sylvester

**Background:** NDM/OXA-23 carbapenemase-producing *Acinetobacter baumannii* isolates have been reported worldwide, but rarely in the United States. A California acute-care hospital (ACH) A identified 3 patients with pan-nonsusceptible *A. baumannii* during May–June 2020, prompting a public health investigation to prevent further transmission among the regional healthcare network. **Methods:** A clinical isolate was defined as NDM/OXA-23–producing *A. baumannii* from a patient at ACH A or B, or an epidemiologically linked patient identified through colonization screening during May 2020–January 2021. ACHs A and B are sentinel sites for carbapenem-resistant *A. baumannii* surveillance through the Antibiotic Resistance Laboratory Network (AR Lab Network), where isolates are tested for carbapenemase genes. The California Department of Public Health with 3 local health departments conducted an epidemiological investigation, contact tracing, colonization screening, and whole-genome sequencing (WGS). **Results:** In total, 11 cases were identified during May 2020–January 2021, including 3 cases at ACH A during May–June 2020, and 8 additional cases during November 2020–January 2021: 5 at ACH A, 1 at ACH B, and 2 at skilled nursing facility (SNF) A. Isolates from ACHs A and B were identified through testing at the AR Lab Network. Of the 11 patients (including the index patient), 4 had exposure at SNF A, where 2 cases were identified through colonization screening. Screening conducted at ACH A and 5 other long-term care facilities (LTCFs) identified no additional cases. WGS results for the first 8 cases identified showed 2–13 single-nucleotide polymorphism differences. Antibiotic resistance genes for all isolates sequenced included NDM-1 and OXA-23. On-site assessments related to a COVID-19 outbreak conducted at ACH A identified infection control gaps. **Conclusions:** Hospital participation in public health laboratory surveillance allows early detection of novel multidrug-resistant organisms (MDROs), which enabled outbreak identification and public health response. A high COVID-19 burden and related changes in infection control practices have been associated with MDRO transmission elsewhere in California. This factor might have contributed to spread at ACH A and hampered earlier screening efforts at SNF A, likely leading to undetected transmission. Extensive movement of positive patients among a regional healthcare network including at least 6 ACHs and 7 LTCFs likely contributed to the prolonged duration of this outbreak. This investigation highlights the importance of enhanced novel MDRO surveillance strategies coupled with strong infection prevention and control practices as important factors in identifying outbreaks and preventing further transmission in regional networks.

**Funding:** No  
**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology* 2021;1(Suppl. S1):s79  
 doi:10.1017/ash.2021.155

**Presentation Type:**

Poster Presentation

**Subject Category:** Surveillance/Public Health

**Surveillance of Candidemia in Connecticut: An Epidemiological Comparison Between Two Periods**

Johanna Gleason-Vergados; David Banach; Paula Clogher and James Meek

**Background:** Candidemia is the fourth most common bloodstream infection in hospitalized patients in the United States, with an attributable mortality rate between 30% and 50%. Understanding the epidemiology of candidemia is critical due to its prevalence and association with extended hospital stays, high treatment cost, and significant morbidity and mortality. In 2019 the Connecticut Department of Public Health deemed candidemia a mandatory reportable condition and began state-wide surveillance in conjunction with the CDC's Emerging Infections Program (EIP). Previously, the EIP had conducted population-based statewide surveillance of candidemia in Connecticut from 1998 to 2000, allowing an opportunity to assess how the epidemiology of candidemia has evolved. The goal of this study is to compare state-wide Connecticut EIP candidemia data from 2 periods (1998–2000 and 2019) to identify trends in infections and incidence, providing insight for potential improvements to current prevention measures and treatments. **Methods:** The sample population included all Connecticut residents aged ≥20 who tested positive for a candidemia infection during 1998–2000 and 2019. Patients who had positive blood cultures for *Candida* spp but were < 20 years old or were not Connecticut residents were excluded. Connecticut EIP candidemia case report forms from each time period were compared and matching fields were chosen as variables for univariate analysis to search for statistically significant differences. Selected variables include: *Candida* species present in blood culture, patient demographics, previous exposures to healthcare settings, length of stay, presence of central venous catheter (CVC), and location of the patient at diagnosis (community vs. hospital onset). De-identified patient-level information was provided by the EIP. **Results:** In total, 381 candidemia episodes from 1998–2000 were compared to 247 episodes in 2019. The proportion of *C. albicans* species in 1998–2000 was 49.9% and declined to 40.5% of cases in 2019 ( $P = .02$ ). Outcomes improved as well, with 65.2% of patients in 2019 having survived compared to 51.4% in 1998–2000 ( $P = .001$ ). Other findings indicate that patients with candidemia in 2019 were less likely to have a central venous catheter, less likely to have undergone a recent surgery, and were more likely to have community-onset infection (all  $p < 0.05$ ). **Conclusions:** The epidemiology of candidemia has changed over the past 20 years, with significant improvements in patient survival and a shift toward community-onset infections and non-

**Table 1.**

	YEAR		Chi-Square P-Value		
	1999–2000	2019			
Candida species present in blood culture	C. albicans	190 (49.9%)	100 (40.5%)	0.021	
	Non-C. albicans	191 (50.1%)	147 (53.8%)		
	Total	381	247		
Patient Outcome	Died	183 (48.6%)	86 (34.8%)	0.001	
	Survived	196 (51.4%)	161 (65.2%)		
	Total	381	247		
Length of Stay	< 21 days	173 (45.4%)	140 (56.7%)	0.006	
	≥ 21 days	208 (54.6%)	107 (43.3%)		
	Total	381	247		
Surgery 3 months preceding culture	No	176 (46.2%)	180 (72.9%)	<0.001	
	Yes	205 (53.8%)	67 (27.1%)		
	Total	381	247		
Did the patient have a catheter at time of candidemia episode	No	26 (6.8%)	118 (47.8%)	<0.001	
	Yes	355 (93.2%)	129 (52.2%)		
	Total	381	247		
Hospital ward of patient at time of candidemia episode	Inpatient	367 (96.3%)	195 (78.9%)	<0.001	
	Outpatient	14 (3.7%)	52 (21.1%)		
	Total	381	247		
Time from admission to culture	< 17 days	255 (66.9%)	194 (78.5%)	0.002	
	≥ 17 days	126 (33.1%)	53 (21.5%)		
	Total	381	247		
Number of comorbid conditions	< 3 conditions	91 (23.9%)	159 (64.4%)	<0.001	
	≥ 3 conditions	290 (76.1%)	88 (35.6%)		
	Total	381	247		
Sex	Female	180 (47.2%)	101 (40.9%)	0.118	
	Male	201 (52.8%)	146 (59.1%)		
	Total	381	247		
Age	20–44	50 (13.1%)	38 (15.4%)	0.425	
	Other	331 (86.9%)	209 (84.6%)		
	45–64	100 (26.2%)	80 (32.4%)		0.096
	Other	281 (73.8%)	167 (67.6%)		
Sex	65+	231 (60.6%)	129 (52.2%)	0.038	
	Other	150 (39.4%)	142 (48.6%)		