

Background: Globally, the 30-day cumulative incidence of surgical-site infections (SSI) was 11% (95% CI, 10%–13%) based on the systematic review and meta-analysis derived from 57 studies. SSIs are poorly studied in the Philippines. Americares and its hospital partner, Camarines Norte Provincial Hospital, Philippines, sought to reduce SSIs through (1) establishing SSI surveillance in the hospitals' surgical departments, (2) implementing quality improvement processes, and (3) developing and implementing an SSI prevention care bundle. **Methods:** A quality improvement methodology was used to introduce SSI surveillance and care-bundle checklist in partnership with Americares. Using paired *t* tests, pre- and posttest scores of the SSI care bundle training were analyzed. SSI surveillance was established based on the adapted CDC criteria. All clean surgeries were monitored except orthopedic surgeries. The number of surgeries performed, monitored, and SSIs identified were documented using the surveillance forms and plotted using Microsoft Excel software. A care bundle based on WHO evidence-based interventions for SSI prevention was designed and implemented. Compliance with the SSI care bundle was documented using Microsoft Excel. The relationship between the use of a care bundle and SSIs was analyzed using the Pearson correlation coefficient. **Results:** An online SSI care bundle training session was conducted. Overall, 150 participants had a mean pretraining test score of +6.46. After the training was conducted, the same participants had a mean posttraining test score of +1.76, a statistically significant increase of 5.29 (95% CI). Thereby, the mean score difference after training showed that knowledge increased overall. These findings show an average of 90.43% compliance with the SSI care-bundle checklist over the 18-month window from May 2021 to November 2022. From a baseline of 0%, compliance increased from 80% upon its introduction in May 2021. Lastly, the SSI incidence rate from May 2021 to November 2022 averaged 1.89%. The days between reported SSIs averaged 16.85. No baseline was available for comparison prior to the introduction of the surveillance and care bundle. A Pearson *r* data analysis (*n* = 1,850) was used to determine the relationship between the use of the care bundle and SSIs. The data illustrated a moderate negative correlation (*r* = −.31). Therefore, higher care-bundle compliance yielded fewer SSI cases. **Conclusions:** The use of an evidence-based care bundle paired with a local quality improvement process significantly improved SSI prevention and surveillance. Future studies are needed that include clean-contaminated, contaminated, and dirty surgical cases to test the degree of SSI reduction possible.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s97–s98

doi:10.1017/ash.2023.368

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: SSI

Perioperative cefazolin prescribing rates following suppression of alerts for non-IgE-mediated penicillin allergies

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Background: Cefazolin is the preferred antimicrobial for prevention of surgical-site infections in most procedures at our institution. Our first alternative is vancomycin which is associated with higher adverse events and infection rates. The presence of penicillin allergies can influence prescribing of vancomycin despite a low risk of cross-reactivity between penicillin and cephalosporins. Nebraska Medicine implemented a systemwide change in April 2022 that suppressed alerts for non-IgE-mediated penicillin allergies in the electronic medical record (EMR, Epic Systems) upon cephalosporin prescribing. We evaluated changes in perioperative antimicrobial surgical infection prophylaxis after this change. **Methods:** We conducted a quasi-experimental study of all patients undergoing procedures for which cefazolin is considered preferred per institutional guidance. Preintervention data were from April 1, 2021, to March 31, 2022, and post-intervention data included patients from April 11, 2022, to October 31, 2022, after guidance was distributed to surgeons, operating room staff, and pharmacists. Patients were excluded if they were aged <19 years,

Table 1. Procedure classifications and rates of penicillin allergies.

Procedure	Pre-intervention (n=4147)	Post-Intervention (n=2529)
Orthopedic (%)	943 (22.7)	583 (23.1)
PCN allergy (%)	99 (10.5)	73 (12.5)
Cardiac (%)	624 (15.1)	359 (14.2)
PCN allergy (%)	82 (13.1)	44 (12.3)
Spinal (%)	512 (12.4)	339 (13.4)
PCN allergy (%)	77 (15.0)	46 (13.56)
Neurological (%)	432 (10.4)	241 (9.5)
PCN allergy (%)	59 (13.7)	38 (15.8)
Vascular (%)	332 (8.0)	192 (7.6)
PCN allergy (%)	52 (15.7)	25 (13.0)
Urological (%)	273 (6.6)	153 (6.0)
PCN allergy (%)	38 (13.9)	17 (11.1)
Thoracic (%)	235 (5.7)	144 (5.7)
PCN allergy (%)	34 (14.5)	23 (16.0)
Gynecological (%)	178 (4.3)	93 (3.7)
PCN allergy (%)	11 (6.2)	8 (8.6)
Abdominal (%)	158 (3.81)	123 (4.9)
PCN allergy (%)	20 (12.7)	17 (13.82)
Head & neck (%)	122 (2.9)	106 (4.2)
PCN allergy (%)	4 (3.3)	7 (6.6)
Kidney transplant (%)	98 (2.4)	62 (2.5)
PCN allergy (%)	3 (3.1)	3 (4.8)
Plastics (%)	82 (2.0)	31 (1.2)
PCN allergy (%)	6 (7.3)	3 (9.7)
General (%)	76 (1.8)	49 (1.9)
PCN allergy (%)	14 (18.4)	8 (16.3)
Flap (%)	46 (1.1)	28 (1.1)
PCN allergy (%)	3 (6.5)	4 (14.3)
Gastroduodenal (%)	33 (0.8)	21 (0.8)
PCN allergy (%)	6 (18.2)	3 (14.3)
Radiation (%)	3 (0.07)	5 (0.2)
PCN allergy (%)	0 (0)	0 (0)

Table 2. Rates of perioperative antibiotic prescribing in penicillin allergy patients.

Procedure	Pre-intervention		Post-intervention		p-value
	Cefazolin (n=252)	Vancomycin (n=256)	Cefazolin (n=237)	Vancomycin (n= 82)	
Orthopedic (%)	79 (79.8)	20 (20.2)	61 (83.6)	12 (16.4)	0.559
Cardiac (%)	26 (31.7)	56 (68.3)	34 (77.3)	10 (22.7)	0.0013
Spinal (%)	37 (48.1)	40 (52.0)	30 (65.2)	16 (34.8)	0.0918
Neurological (%)	19 (32.2)	40 (68.0)	29 (76.3)	9 (23.7)	0.0001
Vascular (%)	15 (28.8)	37 (71.2)	14 (56.0)	11 (44.0)	0.0262
Urological (%)	32 (84.2)	6 (15.8)	13 (76.5)	4 (23.5)	0.4792
Thoracic (%)	8 (23.5)	26 (76.5)	11 (47.8)	12 (52.2)	0.0857
Gynecological (%)	10 (90.9)	1 (9.1)	8 (100)	0 (0)	1
Abdominal (%)	7 (35.0)	13 (65.0)	12 (70.6)	5 (29.4)	0.0489
Head & neck (%)	1 (25.0)	3 (75.0)	7 (100)	0 (0)	0.0242
Kidney transplant (%)	3 (100)	0 (0)	3 (100)	0 (0)	1
Plastics (%)	2 (33.3)	4 (66.7)	2 (66.7)	1 (33.3)	0.5238
General (%)	9 (64.3)	5 (35.7)	6 (75)	2 (25.0)	1
Flap (%)	1 (33.3)	2 (66.7)	4 (100)	0 (0)	0.1429
Gastroduodenal (%)	3 (50.0)	3 (50.0)	3 (100)	0 (0)	0.4643
Radiation (%)	0 (0)	0 (0)	0 (0)	0 (0)	1

had a hospital length of stay <24 hours, underwent procedures after their first throughout the time frame, or received both vancomycin and cefazolin. Statistical significance was set at *P* < .05, determined using the Fisher exact test. **Results:** The study included 6,676 patients: 4,147 in the pre-intervention group and 2,529 in the postintervention group. We identified 15 procedure categories, with no significant differences between periods (Table 1). The average age was 61 years. Penicillin allergy was reported

in 508 patients (12.3%) in the preintervention group and in 319 patients (12.6%) in the postintervention group. In individuals with penicillin allergy, cefazolin prescribing increased from 49.6% to 74.3% ($P < .01$) and vancomycin prescribing decreased from 50.4% to 25.7% ($P < .01$). The largest changes occurred in patients undergoing cardiac, spinal, neurological, and vascular procedures. For patients without penicillin allergy, prescribing remained unchanged. Overall, cefazolin prescribing increased from 92.0% to 95.0% ($P < .01$), and the rate of vancomycin prescribing decreased from 8.0% to 5.0% ($P < .01$) in procedures for which cefazolin was preferred. **Conclusions:** Following the suppression of EMR alerts for non-IgE-mediated allergies when ordering cephalosporins, penicillin prescribing rates of cefazolin for surgical infection prophylaxis improved significantly in procedures for which it was the preferred agent. Further research on infection rates and adverse events with these and other alternative agents are needed.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s98–s99

doi:10.1017/ash.2023.369

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Surveillance/Public Health

Assessment of carbapenem-resistant *Acinetobacter baumannii*-colonized patients: Which specimens produce the highest yield?

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Background: Carbapenem-resistant *Acinetobacter* (CRA) bacteria are an urgent public health threat. Accurate and timely testing of CRA is important for proper infection control practices to minimize spread. In 2017, the CDC estimated 8,500 CRA cases among hospitalized patients, 700 deaths, and \$281 million in attributable healthcare costs. Treatment options are extremely limited for carbapenem-resistant *Acinetobacter baumannii* (CRAB) infections, making CRAB a unique concern. Colonization screening is a valuable tool for containment but requires sampling of 4 body sites. Identifying a reliable specimen collection site for CRAB is important to inform public health recommendations as screening can cost healthcare facilities valuable time and resources. **Methods:** Results of all screening specimens of patients with at least 1 site positive for CRAB on a unique collection date were extracted from the Southeast Regional data of Antimicrobial Resistance Lab Network (SEARLN) data. Non-CRAB screening and screenings that did not yield at least 1 positive result on a single collection date were excluded. We also limited our data to include only the following screening sites, which have been validated by the Tennessee Department of Health's State Public Health Laboratory: axilla and groin, rectal, sputum, and wound. For each specimen source, we calculated the percentage of positive specimen among CRAB-colonized patients. Data were extracted and analyzed using SAS version 9.4 software. **Results:** The SEARLN data contained 594 CRAB screening specimens collected over 4 years, 2018 through 2021, and 486 of those specimens yielded CRAB. For CRAB-colonized patients screened in this study, wound specimens had the highest positivity rate at 93.4% (95% CI, 89.9%–96.9%) of samples culturing CRAB. Sputum followed at 87.7%, then axilla and groin at 77.6% and rectal at 59.7%. **Conclusions:** Wound specimens produced the highest proportion of positive cultures among CRAB-positive patients, making them the sample type with the highest prevalence in our study. For healthcare facilities with limited time and resources seeking to optimize their CRAB screening process, wound specimens may be the most reliable single site for detecting CRAB colonization in patients with an open wound. When a wound is not present, sputum may be a good alternative single-source collection site. More research should be conducted before CRAB screening recommendations are updated.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s99

doi:10.1017/ash.2023.370

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Surveillance/Public Health

Candida auris screening practices at healthcare facilities in the United States: A survey of the Emerging Infections Network

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Background: *Candida auris*, an emerging fungal pathogen, is frequently drug resistant and spreads rapidly in healthcare facilities. Screening to identify patients colonized with *C. auris* can prevent further spread by prompting aggressive infection prevention and control measures. The CDC recommends *C. auris* screening based on local epidemiological conditions, patient characteristics, and facility-level risk factors; such screening might help facilities in higher burden areas to mitigate transmission and those in lower-burden areas to detect new introductions before spread begins. To describe US screening practices and challenges, we surveyed a network of infection disease practitioners, comparing responses by local *C. auris* case burdens. **Methods:** In August 2022, we emailed a survey about *C. auris* screening practices to ~3,000 members of the IDSA Emerging Infection Network. We describe survey results, stratifying findings by whether the healthcare facility was in a region where *C. auris* is frequently identified (tier 3 facility) or not frequently identified (tier 2 facility), based on CDC assessment using existing multidrug-resistant organism containment guidance (<https://www.cdc.gov/hai/containment/guidelines.html>). **Results:** We received 253 responses (tier 3 facilities: 119, tier 2 facilities: 134); overall, 37% performed screening. Tier 3 facilities more frequently performed screening than tier 2 facilities (59% vs 17%). Among facilities that performed screening, tier 3 facilities, compared with tier 2 facilities, more frequently screened patients on admission (84% vs 55%) and used an in-house laboratory for testing (68% vs 29%), most often with culture-based methods. Tier 2 facilities more frequently screened patients already admitted in the facility (eg, in response to cases or as part of point-prevalence surveys) compared with tier 3 facilities (59% vs 49%). Among facilities performing screening, 72% had identified ≥ 1 case in the previous year (tier 3 facilities, 85%; tier 2 facilities, 33%). Barriers to screening included limited laboratory capacity, long testing turnaround times, and the perception that screening was not useful. **Conclusions:** Most facilities surveyed did not perform *C. auris* screening. However, most facilities that performed screening, including those in regions of higher and lower *C. auris* burden, detected cases during the previous year. Admission screening, which might help detect new introductions before spread begins, was uncommon in facilities in lower-burden areas. Improving ease of *C. auris* screening through access to in-house laboratory testing with rapid turnaround times might increase the adoption of *C. auris* screening by facilities, thereby increasing detection and preventing spread.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s99

doi:10.1017/ash.2023.371

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Surveillance/Public Health

Contact tracing using a real-time location system in a tertiary-care hospital in Singapore

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Background: Densely populated metropolitan cities like Singapore are susceptible to emerging infectious disease (EID) outbreaks. Singapore's pandemic control measures include running biennial simulation exercises for all public hospitals on EID case management, in which a key assessment