inappropriate if the sequence differed from the pictogram. Ethics approval was obtained before starting the chart review.

**Results.** A total of 120 patients were identified pre/postintervention. 20% (10/51) had received AB in an incorrect sequence prior to the pictogram implementation compared with 11% (8/70) postintervention. AB prescribed were piperacillin/tazobactam (24%), azithromycin (24%) and vancomycin (18%), ceftriaxone (15%) for sepsis arising from pneumonia, urinary tract, and intra-abdominal infections.

**Conclusion.** The availability of a pictogram to guide the sequence of antibiotic administration in the septic patient can assure its correct administration sequence and potentially affect patient outcomes. An improvement (45%, P < 0.2) was seen post implementation suggesting the pictogram to be a helpful visual aid for nurses. Although not statistically significant, the difference implies a tendency that may be explored in a larger sample size to search for a potential effect.

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244. Impact of Antibiotic Susceptibility Reporting on Broad-Spectrum Antibiotic Use in Serratia and Morganella Bacteremia

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**Session:** 51. Antimicrobial Stewardship: Interventions to Improve Outcomes

**Background.** The increase in antibiotic resistance highlights the necessity of antimicrobial stewardship strategies to guide antibiotic de-escalation. Retrospective data suggest noninferior outcomes with carbapenem-sparing regimens in AmpC-β-lactamase producing *Serratia marcescens* and *Morganella morgani* bacteremia. To minimize broad-spectrum (BS) antibiotic use, our microbiology laboratory recently changed the antibiotic susceptibility reporting for these organisms in blood cultures to narrow spectrum third-generation cephalosporins. We sought to assess the impact of this change on BS antibiotic use and clinical outcomes. We also sought to compare outcomes between BS and narrow spectrum antibiotics in bacteremia caused by these organisms.

**Methods.** We retrospectively reviewed all adult patients with *Serratia marcescens* or *Morganella morgani* in blood culture 2 years pre- and post-change of susceptibility reporting from February 13–February 17. Exclusion criteria included: (1) >1 pathogen found in blood culture, (2) no antibiotic treatment given, (3) death within 48 hours of positive blood culture. The rates of broad-spectrum antibiotic use between the two periods were compared. Secondary outcomes evaluated included in-hospital mortality, clinical response, and microbiologic success.

**Results.** A total of 112 patients were screened. There were 30 patients prechange and 46 patients postchange of reporting included after exclusions. Patients in both groups had similar baseline characteristics. There was a decrease in BS antibiotic use postchange (70% to 54.3%) although this was not statistically significant (P = 0.172). Specifically, cefepime use had decreased significantly from 46.7% to 6.5% (P < 0.001). No significant differences were observed in secondary outcomes between patients pre- and postchange. The use of BS antibiotics was significantly associated with higher in-hospital mortality (100% vs. 55.2%, P = 0.010). No mortality was observed in patients on narrow spectrum antibiotics.

**Conclusion.** BS antibiotic use, specifically cefepime, was reduced after susceptibility reporting changes without affecting outcomes in *Serratia marcescens* and *Morganella morgani* bacteremia. This demonstrates the potential role of selective susceptibility reporting in antimicrobial stewardship.

**Disclosures.** All authors: No reported disclosures.

245. Elimination of Routine Urinalysis Before Elective Orthopedic Surgery Reduces Antibiotic Utilization Without Impacting Catheter-Associated Urinary Tract Infection or Surgical Site Infection Rates

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**Session:** 52. Antimicrobial Stewardship: Special Populations

**Background.** Routine preoperative urinalysis testing has been common practice for the surgical orthopedic population for decades regardless of the presence of symptoms. Studies demonstrate low concordance between bacteria cultured from the surgical wound and those cultured in the urine. In addition, antibiotic overuse is costly and promotes antibiotic resistance. We developed a quality improvement initiative aimed at reducing unnecessary antibiotic use by (1) modifying testing algorithms to target symptomatic and high-risk patients (2) modifying reflex to culture criteria, and (3) developing treatment guidelines for providers.

**Methods.** This pre/poststudy utilized data from our hospitals orthopedic registry to identify all hip and knee arthroplasty and spine fusion procedures for a prepractice and postpractice change period. Univariate analysis compared groups for differences in age, gender, diabetes, procedure mix, Foley catheter utilization, and other variables that may affect the outcomes. Surgical Site Infection (SSI) and Catheter-Associated Urinary Tract Infection (CAUTI) rates were extracted from infection control databases. Urinalysis results, urine culture results, and antibiotic prescriptions were collected retrospectively from every 10th chart from the pre-period, and measured prospectively on all patients for the post-period.

**Results.** A total of 9,949 people met criteria for inclusion in the study. Baseline demographics were similar between study groups, with the exception of catheter-utilization which decreased by 0.06 device days/patient day between periods (P < 0.05). During the pre-practice change period, 160/5,340 (3.0%) patients were treated preoperatively for a positive urine culture, 40/160 (25%) of whom had urinary symptoms. During the post-practice change period, 10/4,609 (0.2%) patients were treated preoperatively (P < 0.05), all of whom had urinary symptoms. The SSI rate was 0.34/100 procedures in the pre-practice change period, 10/4,609 (0.2%) of whom had urinary symptoms. During the post-practice change period, 10/4,609 (0.2%) patients were treated preoperatively (P < 0.05). All patients in the pre-period and one patient in the post-period developed CAUTI (P = 0.92).

**Conclusion.** Elimination of routine urinalysis before orthopedic surgery resulted in no change in SSI or CAUTI rates, but 93% reduction in antibiotic utilization.

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246. Antimicrobial Stewardship Program (ASP) Efforts to Reduce Antimicrobial Usage in Geriatric Patients without Affecting Outcomes

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Session: 52. Antimicrobial Stewardship: Special Populations

Thursday, October 4, 2018: 12:30 PM

Background. There is limited literature evaluating ASP outcomes in patients 65 years and older. The primary objective of this study was to show that ASP efforts to deescalate and/or discontinue antimicrobial therapy in older patients did not lead to an increased rate of 30-day hospital readmissions due to treatment failure. The secondary objective was to show a decrease in antimicrobial expenditure per adjusted patient day (APD).

Methods. A retrospective chart review was performed to compare the rates of 30-day readmissions of patients 65 years and older who received ASP interventions between January and June 2017 with a control sample who received antibiotics between January and June 2015 (pre-ASP). Patients were included if they received antibiotic for pneumonia (PNA), urinary tract infection (UTI), acute bacterial skin and skin structure infection (ABSSSI) and complicated intra-abdominal infection (cIAI). The ASP team met daily to review patients identified by the clinical pharmacist. ASP interventions consisted of de-escalation of empiric or definitive therapy, change in the duration of therapy or discontinuation of therapy. Treatment failure was defined as admission due to re-infection or a new infection (e.g., Clostridium difficile).

Results. Overall, 461 patients (150 control; 311 intervention) were included. The 30-day readmission rate for all infections decreased during the intervention period (10.7% vs. 3.9%, P = 0.004). There was a statistically significant decrease in 30-day readmission rates of patients 65 years and older who received ASP interventions (12.5% vs. 4.7%, P = 0.007, and no statistically significant change in the ABSSSI (5.6% vs. 8.6%, P = 0.694) and cIAI (20.8% vs. 6.7%, P = 0.233, CI) subgroups. The total APD was $379,643 ($23.33/APD) and $293,604 ($19.49/APD) in control and intervention groups, respectively ($86,039, 95% CI $61.33 - $110.74, P = 0.001). The number of UTI patients (12.5% vs. 4.7%, P = 0.007) and cIAI (20.8% vs. 6.7%, P = 0.233, CI) subgroups. The total APD was $379,643 ($23.33/APD) and $293,604 ($19.49/APD) in control and intervention groups, respectively ($86,039, 95% CI $61.33 - $110.74, P = 0.001).

Conclusion. ASP efforts did not lead to an increase rate of 30-day readmissions due to treatment failure. Furthermore, there was a statistically significant decrease in readmission rates in the intervention group as well as a large decrease in antimicrobial expenditure per APD.

Disclosures. All authors: No reported disclosures.

247. Sustaining Excellence of Care During a Fluid Shortage: Snapshot of Antimicrobial Mitigation Strategies Following Hurricane Maria

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Session: 52. Antimicrobial Stewardship: Special Populations

Thursday, October 4, 2018: 12:30 PM

Background. Invasive (IV) antibiotics (ABX) are standard for treatment of many inpatient infections. A devastating Puerto Rico hurricane in September 2017 resulted in critical shortages of IV ABX and fluids. In response, a comprehensive review of viable mitigation strategies related to antimicrobials was coordinated at our center to ensure continued fluid conservation efforts for an antimicrobial perspective.

Methods. A multidisciplinary mitigation task force (MTF) was established to begin immediate fluid conservation efforts from an antimicrobial perspective.

Results. First, ABX regimens were converted to oral equivalents where clinically appropriate. Second, the ABX stewardship team (ASP) offered alternatives to IV ABX that required a large volume of fluid for reconstitution (e.g., ampicillin-sulbactam (A/S, 400 mL fluid/day), meropenem (MER, 300 mL fluid/day). Third, through prospective audit and feedback (PAF), we transitioned patients from A/S (n = 37), cefazolin (n = 21), and IV doxycycline (n = 4) to either oral or alternative IV therapies. We completed additional PAF transitions of IV metronidazole (n = 15) and MER (n = 7). Lastly, 24 ABX products were transitioned to alternative routes of delivery or to diluent fluids. Products were transitioned from mini bags to IV push (n = 10) and IV syringe pump (n = 10). Each product transition required coordinated efforts from 10 teams including electronic ordering. Education consisted of 20 newsletters created for nursing and 10 order verification packets created for pharmacists. Metrics were established to ensure sustained impact through bi-weekly ABX scorecards. After 6 days of IV metronidazole ASP restriction, use decreased 52% from baseline. With the transitions in place, an average of approximately 100 liters of fluid was conserved per week.

Conclusion. The immediate and collective response of the MTF allowed for the continued capability to provide IV ABX for patient care as supplies fluctuated. Antimicrobial use for suspected UTI is independently associated with bacteriuria or candiduria, which may focus on implementing ASP strategies to reduce the impact of the fluid shortage on patient outcomes once critical supply levels have resolved. These efforts establish a foundation for ongoing initiatives after shortages are resolved.

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248. Antimicrobial Therapy for Suspected Urinary Tract Infection in Advanced Cancer Patients Transitioning to Comfort Measures

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Session: 52. Antimicrobial Stewardship: Special Populations

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Background. Antimicrobials for suspected urinary tract infection (UTI) in advanced cancer patients transitioning to comfort measures (CM) may benefit from stewardship intervention.

Methods. We identified adults ≥ 25 years with advanced cancer who had ≥1 urine culture obtained during admission to Yale New Haven Hospital from July 2014 to October 2016 that involved transition to CM. We evaluated whether patients met 2017 National Healthcare Safety Network criteria for symptomatic urinary tract infection (UTI). Antimicrobials for suspected UTI and total calendar days of therapy including postdischarge days were evaluated. Factors associated with antimicrobial use were assessed using Y or Fisher’s exact testing and fitted in a modified multivariable Poisson regression model.

Results. We identified 327 adults with advanced cancer and ≥1 urine culture obtained during admission involving transition to CM. Median age was 74 years (range, 65–99), 48% (N = 157) were male, and 73% (N = 239) had solid tumors, 21% (N = 70) had liquid tumors, and 6% (N = 18) had unknown primary tumors. Overall, 306 (94%) patients with suspected UTI did not meet criteria for symptomatic UTI. Of these, 14% (N = 43/306) received antimicrobials for suspected UTI resulting in 273 total calendar-days of therapy. Antimicrobial use for suspected UTI was associated with asymptomatic or symptomatic bacteriuria or candiduria (Table 1). In a multivariable model adjusted for gender, length of stay, liquid tumor, and UTI signs or symptoms, antimicrobial use remained associated with bacteriuria or candiduria (RR = 2.90, 95% CI 11.6, 72.6).

Conclusion. In advanced cancer patients transitioning to CM, inappropriate antimicrobial use for suspected UTI is independently associated with bacteriuria or candiduria but not with UTI signs or symptoms. These findings highlight a potential target for diagnostic (i.e., restricting urine culture orders) and antimicrobial stewardship in this population to promote comfort at the end of life.

Table 1: Antimicrobial Use for Suspected UTI According to Urine Culture and Associated Signs or Symptoms

| Antimicrobial Use | P value |
|-------------------|---------|
| UTI culture       |         |
| Yes (N = 43)      | 0.001   |
| No (N = 263)      |         |
| Growth*           | 38      |
| No growth         | 30      |
| UTI signs or symptoms | 233 |<.001|
| Present           | 6       |
| Absent            | 37      |

*Bacterial or fungal growth.

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