and LOS (2.2 ± 0.6 vs. 1.8 ± 0.8 days) were similar for D-test positive and negative patients, respectively. In addition, one (3.1%) patient had documented diarrhea, but there were no reports of *C. difficile*. No patients were readmitted for SSTIs during the study time frame.

**Conclusion.** In our study, clindamycin was effective in treating SSTIs with or without a positive D-test result. More studies are warranted to further evaluate D-test results and their correlation to clinical cure and infection recurrence.

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

### 2361. Factors Associated With Sepsis Development in Cellulitis. A Prospective Analysis of 606 Episodes in Adult Patients

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**Session:** 249. Skin and Skin Structure Infection

**Background.** Cellulitis, a frequent cause of admission of adult patients to medical wards, occasionally evolves to sepsis. In this study, we analyze the factors related to sepsis development.

**Methods.** Prospective and observational study of 606 adult patients with cellulitis admitted to several Spanish hospitals. Comorbidities, microbiological, clinical, laboratory, diagnostic, and treatment data were analyzed. Sepsis was diagnosed according to the criteria of the 2016 International Sepsis Definitions Conference. Multiple logistic regression modeling was performed to determine the variables independently associated with sepsis development.

**Results.** Mean age was 63.4 years and 51.8% were men. Overall 65 (10.7%) patients developed sepsis, 7 (10.8%) of whom died, but only 4 (6.2%) due to cellulitis. Drawing of blood (P = 0.001) or any (P = 0.008) culture, and identification of the agent (P = 0.005) were more likely among septic patients. Septics had also a longer duration of symptoms (P = 0.04), higher temperature (P = 0.03), more extensive cellulitis (P = 0.02), higher leukocyte count (P < 0.0001), and neutrophil (P = 0.001) counts, serum creatinine (P = 0.001), and CRP (P = 0.008) more than non-septics. Regarding therapy, septic patients were more likely to undergo changes in the initial antimicrobial regimen (P = 0.001), received more antimicrobials (P = 0.001), were intravenously treated for longer (P = 0.03), and underwent surgery more commonly (P = 0.01) than non-septics. Death (P = 0.002), leukocyte counts (P = 0.002), serum creatinine (P = 0.003), drawing of blood cultures (P = 0.004), change of the initial antimicrobial regimen (P = 0.007) and length of cellulitis (P = 0.0001) were independently associated with sepsis development in the multivariate analysis. The area under the ROC curve of a formula derived from blood leukocytes and serum creatinine for predicting sepsis development was 0.72 (95% CI 0.65–0.78), P < 0.0001, and its most discriminant cutoff value had a sensitivity 67.7% and specificity 74.4% for this purpose.

**Conclusion.** Death, increased blood leukocytes and serum creatinine, blood culture drawn, modification of the initial antimicrobial regimen, and maximum length of cellulitis were associated with sepsis development in cellulitis patients.

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

### 2362. Emergency Department Resource Utilization After Implementation of a Dalbavancin Pathway for Skin and Soft-Tissue Infections

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**Session:** 249. Skin and Skin Structure Infection

**Background.** Dalbavancin has an extended duration of activity allowing for single-dose treatment of skin and soft-tissue infections (SSTI). An SSTI treatment pathway at the University of Maryland Medical Center (UMMC) Emergency Department (ED) was revised in December of 2016 to add dalbavancin for patients with barriers to treatment adherence as a means of admissions avoidance. The purpose of this study was to describe ED resource utilization and outcomes in the patients who received dalbavancin.

**Methods.** Retrospective evaluation of patients who received dalbavancin in the UMMC ED for an SSTI between December 2016 and March 2018. The primary outcome was 7-day ED revisit after dalbavancin administration for SSTI. Secondary outcomes included immediate hospital admission, 7-day ED revisit for non-SSTI indication, and outpatient follow-up visit attendance.

**Results.** Twenty-four patients received dalbavancin during the study period; 75% were patients who inject drugs (PWID), 46% had a history of prior SSTIs, 17% had HIV/AIDS, 13% were obese. The majority of patients, 22/24 (92%), had CREST classified cellulitis and were not otherwise candidates for admission. Indications for dalbavancin included failure of oral antibiotics (42%), concern for follow-up (33%), and homelessness (25%). In the ED, 11 (46%) patients had imaging, 6 (25%) had bedside incision and drainage, 2 (8%) blood cultures and 5 (21%) wound cultures, of which 2 grew MRSA and 3 streptococci. Seven of the 24 patients (29%) returned to the ED within 7 days of dalbavancin with a chief complaint related to SSTI. Seven (29%) patients attended their scheduled 14-day outpatient follow-up visit. Two patients (8%) were admitted from the ED after dalbavancin administration, and 4 patients (17%) had an ED revisit within 14 days for a non-SSTI-related indication. No patients experienced any adverse events related to dalbavancin administration.

**Conclusion.** While the majority of patients did not have a 7-day ED revisit for SSTI after administration of dalbavancin, ED revisits regardless of indication, and loss to follow-up were common. Dalbavancin may facilitate treatment adherence; however, barriers to successful treatment remain problematic, particularly in a large urban center where patients’ socioeconomic considerations limited the benefit.

**Disclosures.** E. Heil, ALK-Abelló: Grant Investigator, Research grant. K. Claeys, Nabriva: Scientific Advisor, Consulting fee. Melinta: Scientific Advisor, Consulting fee.

### 2363. Identification of Risk Factors to Predict *Pseudomonas aeruginosa* and Methicillin-Resistant *Staphylococcus aureus* in Patients With Injured Chronic Foot Ulcers

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**Session:** 249. Skin and Skin Structure Infection

**Background.** *Pseudomonas aeruginosa* and methicillin-resistant *Staphylococcus aureus* (MRSA) have traditionally been considered prevalent pathogens in foot infections. Whether empiric therapy directed against these organisms is necessary, and in which specific patient population, remains unclear. The aim of this study was to identify risk factors to forecast the probability of isolating *P. aeruginosa* or MRSA in these infected wounds.

**Methods.** We reviewed the records of 140 patients with infected chronic foot ulcers. Data on baseline demographic, clinical, surgical, microbiology, and treatment parameters were collected. Multivariable logistic regression models were validated via bootstrapping methods, were used to establish risk factors associated with isolation of these organisms. We then used these models to build predictive nomograms for clinical use, and to calculate sensitivity, specificity, positive and negative predictive values.

**Results.** A total of 307 bacterial isolates were identified, most frequently *MRSA* (24.3%). *P. aeruginosa* was found in 14.3% of these cultures. Amputation (OR 5.75, 95% CI 1.48–27.63) and renal disease (OR 5.46, 95% CI 1.43–25.16) were associated with higher *P. aeruginosa* isolation, whereas, diabetes (OR 0.07, 95% CI 0.01–0.34) and S aureus (OR 0.02, 95% CI 0.00–0.65) were associated with lower odds (Figure 1). Analysis for MRSA showed that amputation was associated with lower odds (OR 0.29, 95% CI 0.09–0.79) risk, while history of MRSA infection (OR 5.63, 95% CI 1.56–20.63) was associated with higher odds of isolating this organism (Figure 2). The models’ ability to discriminate was found to be reasonable to strong, as evidenced by the optimism-corrected C statistic of 0.81 and 0.69, respectively.

**Conclusion.** We developed easy to use nomograms based on logistic regression models with strong predictive performances to forecast risk of drug-resistant pathogens. They may be used in clinical practice to judge the probability of isolating these two resistance prone organisms.

**Disclosures.** All authors: No reported disclosures.
2364. Evaluation of Renal Function Changes in Patients With Prolonged Telavancin Therapy (>21 Days): Results From the Telavancin Observational Use Registry (TOUR®)
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Session: 249. Skin and Skin Structure Infection Saturday, October 6, 2018: 12:30 PM

Background. Telavancin (TLV) is a lipoglycopeptide antibacterial active against a wide range of Gram-positive organisms, including methicillin-susceptible and methicillin-resistant Staphylococcus aureus. New onset or worsening renal impairment was observed in phase 3 clinical trials. This analysis was conducted to better understand changes in renal function from real-world experience during prolonged TLV therapy.

Methods. Data from the Telavancin Observational Use Registry (TOUR®)—a multicenter chart review to characterize types of infection, pathogens, and outcomes of patients treated with TLV in clinical practice—were used to characterize a subset of patients with prolonged TLV therapy duration defined as treatment >21 days. Patient demographics, pathogens, outcomes, and adverse events (AEs) were analyzed. Clinical outcomes were determined by investigator assessment. Creatinine clearance (CrCl) was estimated by Cockcroft-Gault for all patients with serum creatinine measurements at baseline and end of TLV therapy. CrCl values were grouped as ≤30, >30–50, >50–80, and >80 mL/minute; categorical changes from baseline were classified and compared.

Results. A total of 308 (1063) patients were treated with TLV for >21 days. At baseline, patients had a mean CrCl of 113.4 mL/minute. Median TLV dose was 750 mg (range 254–1,500 mg) or 8.3 mg/kg (range 2.2–15.0 mg/kg); and median treatment duration was 38 days (range 22–185 days). The 2 most commonly treated infection types were bone and joint infections (55.2%) and complicated skin and skin structure infections (46.6%). Of the 312 (39.3%) patients with known methicillin-resistant S. aureus, most (202, 64.6%) did not use TLV as second-line or greater therapy in 235 (76%) patients, and the majority of patients (65.6%; n = 202) were treated as outpatients prior to starting TLV. Of the 308, 134 reported baseline and end of TLV therapy CrCl. CrCl was unchanged in the majority of patients (68.7%; n = 92), 9 (6.6%) improvement of CrCl decreased in 33 (24.6%) patients. A total of 25 (8.1%) patients reported renal AEs.

Conclusion. In the subset of patients with baseline and end of TLV therapy CrCl, renal function was unchanged in the majority of patients with prolonged TLV therapy >21 days.

Disclosures. A. Hassoun, Theravance Biopharma, US: Speaker’s Bureau, Speaker honorarium. M. Lacy, Theravance Biopharma, US: Employee and Shareholder. Salary. C. Barnes, Theravance Biopharma, US: Employee and Shareholder. Salary. B. Castaneda Ruiz, Theravance Biopharma, US: Employee and Shareholder, Salary.

2365. Post-operative Vertebral Osteomyelitis—A Disease With Distinct Clinical and Microbiological Characteristics
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Session: 249. Skin and Skin Structure Infection Saturday, October 6, 2018: 12:30 PM

Background. A relevant subgroup (10–14%) of patients with vertebral osteomyelitis (VO) has a history of spine surgery. Infection in these patients is often caused by coagulase-negative staphylococci (CoNS) might be clinically different from native VO. Patients with NVO more often have comorbidities, have mainly S. aureus as causative pathogen and a 3-fold increased 2-year mortality risk compared with patients with post-operative VO (9 vs. 0%, P = 0.002).

Methods. Data from phase 3 clinical trials and real-world analysis revealed that patients with NVO had a 3-fold increased mortality compared with patients with prior surgery (HR, 3.3, 95% CI, 1.4–7.9, P = 0.006).

Conclusion. NVO and post-operative VO show distinct disease characteristics. Patients with NVO more often have comorbidities, have mainly S. aureus as causative pathogen and a 3-fold increased 2-year mortality risk compared with patients with post-operative VO.

Disclosures. H. Seifert, Accelerate Diagnostics Inc: Research Contractor, Research grant.

2366. Treatment Characteristics and Predictors of Mortality in Patients With Infected Chronic Pressure Ulcers in Detroit
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Session: 249. Skin and Skin Structure Infection Saturday, October 6, 2018: 12:30 PM

Background. Infected chronic pressure ulcers (ICPUs) are difficult to treat and associated with increased mortality. The objective of this study was to describe ICPU management characteristics and to identify risk factors for all-cause 30-day mortality at a large urban health system.

Methods. This was an IRB approved, cross-sectional study of adult patients with an ICPU diagnosis who were hospitalized and treated with systemic antimicrobials from June 2013–June 2017. The primary study endpoint was all-cause 30-day mortality after or on discharge. Patient, infection, and treatment characteristics were compared between groups.

Results. 225 patients were included: median (IQR) age was 69 (55–83) years and 54% were male. 192 (85%) patients had at least 1 infection-related symptom. Most common ICPU sites were: 132 (59%) sacrum, 31 (14%) lower extremity, 29 (13%) ischium, 4 (2%) other location, and 19 (9%) multiple sites. 207/92% of ICPUs were staged in the medical record: 10 (4%) stage II, 26 (12%) stage III, 112 (50%) stage IV, and 68 (30%) stageable. 189 (84%) patients had ICPU cultures obtained: 107 (56%) were quality cultures, 48 (25%) were superficial/unknown culture type, and 35 (18%) had both. 161 (71%) patients underwent concomitant surgical intervention, and 144 (64%) received empiric antibiotic therapy with anti-MRSA (210, 93%) and anti-pseudomonal (186, 83%) agents. Quinolones were identified in 131 (58%) patients, and antimicrobial de-escalation was performed in 38 (40%) patients without cultures or who were culture-negative. The median (IQR) duration of antibiotic treatment was 18 (10–36) days. 46 (20%) patients died within 30-days of or on discharge. When accounting for severity of illness and functional status, obtaining quality ICPU cultures was protective against 30-day all-cause mortality (Table 1). Of eligible patients, 58/183 (32%) were re-hospitalized for any reason 30-days post discharge, and 21/58 (36%) were re-hospitalized secondary to ICPU.

Conclusion. General ICPU management is varied and empiric broad-spectrum antimicrobials are frequently used. Obtaining quality ICPU cultures was associated with decreased mortality and may help clinicians guide appropriate antimicrobial therapy.

Disclosures. S. L. Davis, Achaogen: Scientific Advisor, Consulting fee. Allergan: Scientific Advisor, Consulting fee. Melinta: Scientific Advisor, Consulting fee. Nabriva: Scientific Advisor, Consulting fee. Zavante: Scientific Advisor, Consulting fee.

2367. Infection Incidence and Utilization of Antimicrobials in Physician Office Infusion Centers (POICs)
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Session: 249. Skin and Skin Structure Infection Saturday, October 6, 2018: 12:30 PM

Background. POICs offer a controlled setting for safe and effective outpatient treatment of patients with infections with intravenous antimicrobial agents (IVAs) and agents used in treatment of Clostridium difficile infection (CDI). These therapies are provided via in-office or home administration. This study provides an overview of nationwide incidence of outpatient infections and utilization of IVAs through POICs.