Disclosures. E. Molnar, Merck: Grant Investigator, Research grant. J. Gallagher, Merck: Consultant, Grant Investigator, Scientific Advisor and Speaker’s Bureau, Consulting fee, Educational grant and Speaker honorarium. Allergan: Scientific Advisor and Speaker’s Bureau, Consulting fee and Speaker honorarium. Astellas: Scientific Advisor and Speaker’s Bureau, Consulting fee and Speaker honorarium. Achaogen: Scientific Advisor and Consulting fee. Cidara Consulting fee. Theravance: Scientific Advisor, Consulting fee. Paratek: Scientific Advisor, Consulting fee. The Medicines Company: Scientific Advisor, Consulting fee.

790. Treatment of Carbapenem-Resistant Enterobacteriaceae Infections with Ceftazidime-Avibactam
Elhara Rahmati, MTV; Emily Blodgett, MD; Rosemary C. She, MD; Jennifer Cupo Abbott, PharmD; Robert A. Bonomo, MD and Brad Spellberg, MD;
1Infectious Diseases, USC+LAC Medical Center, Los Angeles, California,
2Microbiology, USC+LAC, Los Angeles, California, 3Pharmacy, USC+LAC, Los Angeles, California, 4Department of Molecular Biology and Microbiology, Case Western Reserve University School of Medicine, Cleveland, Ohio

Session: Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. CRE is an urgent threats to public health with a high mortality estimated at >30-50%. Until recently, polymyxin-based antibiotics were the only available options. However, a new therapeutic option has become available: ceftazidime-avibactam. We sought to describe outcomes from these infections treated with ceftazidime-avibactam.

Methods. From 9/2015 to 12/ 2016, we reviewed charts of 11 patients infected with CRE who received ceftazidime-avibactam at USC (Los Angeles, CA). Sixteen isolates analyzed. All isolates were resistant to meropenem (MIC ≥ 16). Carbapenemase production confirmed by TEM assay and detection of blaKPC+.

Results. Clinical success defined as clinical improvement, lack of recurrence, and survival in 90 days. Recurrence defined as clinical signs of infection and recovery of CRE after ≥ 7 days of treatment.

Conclusion. CRE-infected patient treated with ceftazidime-avibactam, the overall mortality rate was 27% with the highest mortality among those receiving renal replacement therapy which was comparable to a prior studies. Additional research is needed to optimize the use of ceftazidime-avibactam to treat CRE infections.

Disclosures. All authors: No reported disclosures.

791. Health Outcomes from Multi-Drug-resistant Salmonella Infections in High-Income Countries: A Systematic Review and Meta-Analysis
Andrea Parisi, MBBS;1 John A. Crump, FIDSA;2 Martyn Kirk, PhD;2 Kathryn Glass, PhD;3 Raman Pillai, MBBS FRCP ENTCH, PhD;4 Thomas Reeves, MBBS FRACP ENTD, PhD;4 Luis Furuya-Kanamori, MBBS, MPhi, MPH;2 and Samantha Vilkus, BSc;2
1Research School of Population Health, Australian National University, Canberra, Australia, 2Colorado School of Public Health, University of Colorado, CO, 3Centre for International Health, University of Torino, Turin, Italy, 4Microbial Diagnostics Unit, Parkville VIC, Australia, 5Department of Public Health, Qatar University, Doha, Qatar

Session: Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Salmonella is a leading cause of foodborne enterocolitis world-wide. Nontyphoidal Salmonella (NTS) infections that are Multi-Drug-resistant (MDR) (non-susceptible to ≥2 antimicrobial categories) may result in more severe health outcomes, although these effects have not been systematically examined. We conducted a systematic review and meta-analysis to examine impacts of MDR NTS on disease outcomes in high-income settings.

Methods. We systematically reviewed the literature from scientific databases, including PubMed, Scopus and grey literature sources, using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We included case–control studies, cohorts, outbreaks, and theses, imposing no language restriction. We included only publications from 1 January 1990 through 15 September 2016 from high-income countries as classified by the World Bank, and extracted data on duration of illness, hospitalization, morbidity and mortality of MDR and susceptible NTS infections.

Results. After we removed duplicates, the initial search revealed 4 258 articles. After further screening, we identified 16 eligible studies for the systematic review, but due to inconsistency in the compared groups, only 9 of these were included in the meta-analysis. NTS serotypes differed among the reported studies but serotypes Typhimurium, Enteritidis, Newport, and Heidelberg were the most often reported MDR pathogens. Salmonella infections that were MDR were associated with excess bloodstream infections (OR 1.73; 95% CI 1.32–2.27), excess hospitalizations (OR 2.51; 95% CI 1.38–4.58), and higher mortality (OR 3.34; 95% CI 1.01–11.40).

Conclusion. The results of this meta-analysis suggest that MDR NTS infections have more serious health outcomes compared with susceptible isolates. With the emergence of MDR Salmonella strains in high-income countries, it is crucial to restrict the use of antimicrobials in animals and humans, and intervene to prevent foodborne infections.

Disclosures. All authors: No reported disclosures.

792. Comparison of Rates of Acute Kidney Injury with Vancomycin/Piperacillin-Tazobactam vs. Vancomycin/Meropenem Combination Therapy
Sonia Pernia, PharmD;1 Jamie Hopkins, PharmD;2 and David Kuhl, PharmD;2
1Tyton-Madelson County General Hospital, Jackson, TN, 2Pharmacy Practice, University of Mississippi Medical Center, Jackson, TN

Session: Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Vancomycin is historically correlated with renal toxicity, especially in patients receiving other nephrotoxic medications. Recent reports have identified nephrotoxicity associated with vancomycin in conjunction with β-lactam antibiotic therapy, reporting increased rates of acute kidney injury (AKI) with vancomycin/piperacillin-tazobactam (VPT) therapy as compared with vancomycin monotherapy. Similarly, increased rates of AKI have been reported with VPT as compared with vancomycin/cephalothin. Little data exists comparing VPT to the combination of vancomycin/meropenem (VM).

Purpose of this study was to compare the incidence of nephrotoxicity between these two antibiotic combinations.

Methods. A single-center, retrospective cohort study was performed at a large tertiary care community hospital utilizing retrospective review of electronic medical records. Adult in-patients treated from June to October of 2015 were included. Evaluable patients received at least 48 hours of either VPT or VM combination therapy and were followed for up to 10 days of combination therapy. Data collection included patient demographics, AKI risk factors, days of antibiotic therapy, and serum creatinine. The primary endpoint was incidence of AKI as defined by the Kidney Disease Improving Global Outcomes (KDIGO) criteria. Secondary endpoints included time to AKI and incidence of nephrotoxicity.

Results. Of 564 patients screened, a total of 202 patients met inclusion criteria, with 101 patients in each combination therapy group. Baseline serum creatinine and estimated creatinine clearance were not different between groups. The incidence of AKI was higher in the VPT group as compared with the VM group (17.82% vs. 4.95%, respectively, P = 0.004). Time to AKI onset was longer in the VPT group compared with the VM group (3.2 days vs. 1.4 days, P = 0.045). Patients in the VM group had a higher incidence of ICU admissions (56.4% vs. 46.0%, P = 0.024) and mean arterial pressure (MAP) less than 65mmHg (60.4% vs. 46.6%, P = 0.029). No patients in either group developed new dialysis therapy.

Conclusion. Despite a greater incidence of AKI risk factors in the VM group, VPT therapy was associated with an increased risk of AKI as compared with VM therapy. Prospective studies are needed to further evaluate this finding.

Disclosures. All authors: No reported disclosures.

793. Risk Factors and Outcomes of Vancomycin-Resistant vs. Vancomycin-Sensitive Enterococcal Blood Stream Infections in Patients with Acute Myeloid Leukemia
Anteneh Addisu, MD, PhD;2 Noah Hackney, MS;3 Sonnya Nanjappa, MD;3
4Anteneh, Ho, MD; FACP;5 Infectious Diseases, University of South Florida, Tampa, Florida, 2Medicine, University of South Florida, Tampa, Florida, 3Internal Medicine, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida, 4Internal Medicine, University of South Florida, Tampa, Florida, 5Infectious Diseases, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida

Session: Treatment of Resistant Infections - Clinical Analyses
Thursday, October 5, 2017: 12:30 PM

Background. Enterococci are commensal of the gastrointestinal tract known to cause blood stream infections (BSIs). Studies have shown increased mortality from enterococcal BSIs in AML patients, indicating Vancomycin-resistant Enterococcal (VRE) infections causing increased mortality. Whether these differences in mortality apply to AML patients is unknown. The objectives of this study are to compare the risk factors and outcomes between VRE & VSE BSIs in AML patients.

Methods. We conducted a single center, retrospective cohort study of patients with enterococcal BSIs at H. Lee Moffitt Cancer Center from July 2011 to October 2015. Records were searched to identify AML patients with enterococcal BSIs. Enterococcal species, neutropenia duration, Vancomycin exposure, VRE colonization, and 30 day mortality, age, sex, length of stay, stem cell transplant & central line status were compared. We conducted statistical tests and Kaplan-Meier plot to analyze mortality trends. AML risk-factor were a total of 25 AML factors. From two (54.5%) were caused by VRE. E. faecalis and E. faecium accounted for 28.5% and 62.3% of VRE BSIs. Recent Vancomycin use and VRE colonization were significantly associated

Disclosures. All authors: No reported disclosures.
with VRE BSI. There were no significant differences in duration of bacteremia, length of stay and 30-day mortality between VRE vs. VSE BSI.

**Conclusion.** *Enterococcal* infections among AML patients are significantly more likely to be caused by Vancomycin-resistant *E. faecium*. The risk is increased by VRE colonization and Vancomycin exposure. The absence of statistical difference in 7 of 30-day mortality between VRE and VSE enterococcal BSI in our AML patients could indicate that in a homogeneous group of patients, host and treatment-related factors may influence mortality more than species or susceptibility of the isolates. Our finding confirms VRE colonization as risk factor of VRE BSI for AML patients. This finding is important for future patient education and development of preventive and treatment protocols.

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

794. Retrospective Study of Linezolid vs. Daptomycin for the Treatment of Vancomycin-resistant Enterococcal Bloodstream Infection

Bena Raif, PharmD1; Sanjeev N Mody1; Avanti Vaidya, PharmD Candidate 20201; Avant Desai, MD2; Tanaya Bhowmick, MD2; Melvin Weinstein, MD2 and Navaneeth Narayanan, PharmD, BCPS3; Rutgers University, Ernest Mario School of Pharmacy, Piscataway Township, New Jersey. *Infectious Disease, Rutgers- Robert Wood Johnson University Medical School, New Brunswick, New Jersey, *Rutgers- RWJMS, New Brunswick, New Jersey, *Pharmacy, Rutgers University, Piscataway, New Jersey, *Ernest Mario School of Pharmacy, Rutgers University, Piscataway, New Jersey

**Session:** 76. Treatment of Resistant Infections - Clinical Analyses

**Thursday, October 5, 2017:** 12:30 PM

**Background.** Due to acquired resistance with *Enterococcus*, antibiotic therapy for vancomycin-resistant enterococcal (VRE) bloodstream infections (BSI) is limited. Current recommendations for the treatment of VRE BSI include either linezolid or daptomycin. The objective of this study was to compare clinical outcomes of VRE BSI in patients treated with linezolid or daptomycin.

**Methods.** This was a retrospective cohort study of inpatients from January 2010 to August 2015 conducted at a large academic medical center. Charts for review were selected based on data from the microbiology laboratory. Adult patients (≥ 18 years old) with VRE BSI treated with linezolid or daptomycin for at least 48 hours were included. Patients treated with linezolid and daptomycin combination therapy or any other enterococcal agent were excluded. The primary outcome measure was 14-day in-hospital mortality. Secondary outcomes included time to blood culture clearance, microbiologic failure, antibiotic failure, and BSI relapse. A multivariable logistic regression model was performed to adjust for potential confounders.

**Results.** A total of 93 patients, 62 treated with linezolid and 31 with daptomycin. Median daptomycin dose was 6.14 mg/kg (IQR, 5.98-6.71). Outcome of 14-day in-hospital mortality was not significantly different for patients treated with linezolid and daptomycin (17.7% vs. 29%, P = 0.21, respectively). Median time to blood culture clearance was not significantly different for linezolid vs. daptomycin therapy (3.0 days vs. 3.7 days, P = 0.78, respectively). All other secondary outcomes were not significantly different between treatment groups. Multivariate logistic regression analysis indicated 14-day in-hospital mortality was independently associated with Pitt bacteremia score (adjusted OR 1.48. 95% CI: 1.2-1.97) but showed no significant association with daptomycin treatment (adjusted OR 1.54, 95% CI: 0.46-5.14).

**Conclusion.** There were no significant differences in clinical outcomes for patients treated with linezolid or daptomycin for the treatment of VRE BSI. Additional prospective studies with larger sample sizes are needed to further validate these conclusions. Role of daptomycin dose on outcomes requires further study.

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

795. Mortality Impact of CLI5 Carbapenem Breakpoint Changes in Enterobacteriaceae Bloodstream Infections: A Patient-level Analysis of Published Data

J Nicholas O’Donnell, PharmD, MSc1; Nathaniel Rhodes, PharmD, MSc2; Lauren R Biehle, PharmD3; Twisha Patel, PharmD2; Milena McLaughlin, PharmD, MSc, BCPS-AQ ID, AAHIVP3; John Esterly, PharmD, HCV/HIV4 and Elizabeth B. Hirsch, PharmD, BCPS1; Pharmacy Practice, Albany College of Pharmacy and Health Sciences, Albany, New York, *Department of Pharmacy, Northwestern Medicine, Chicago, IL, *University of Wisconsin, Laramie, Denver, Colorado, *Michigan Medicine, Ann Arbor, Michigan, *Northwestern Memorial Hospital, Chicago, Illinois, *Merck, Chicago, Illinois, *Department of Pharmacy, Beth Israel Deaconess Medical Center, Boston, Massachusetts, Networthwestern University, Boston, Massachusetts

**Session:** 76. Treatment of Resistant Infections - Clinical Analyses

**Thursday, October 5, 2017:** 12:30 PM

**Background.** In 2010, the Clinical and Laboratory Standards Institute (CLSI) lowered susceptibility breakpoints for carbapenem agents, though few studies have evaluated the clinical impact of these changes. The objective of this study was to determine whether a clinical breakpoint exists for carbapenems in patients with Gram-negative bloodstream infections (GNBSIs).

**Methods.** Patient-level data from 4 publications (Rhodes JN 2016, Biehle LR 2015, Patel TS 2015, Esterly JS 2014) reporting outcomes for GNBSIs treated with carbapenems for 24 hours were compiled. Patients with an MIC ≥16 mg/L to both imipenem (IMI) and meropenem (MER) were excluded. Classification and Regression Tree (CART) analyses were used to determine optimal splits for carbapenem MIC with respect to 30-day all-cause mortality. Univariate and multivariate regression analyses were conducted using Stata 14.

**Results.** A total of 194 patients were extracted. *Klebsiella pneumoniae* was the most common pathogen (70.1%) followed by *Escherichia coli* (15.0%). Primary bacteremia/unknown and urinary tract were the most common sources of GNBSI (31.4% and 28.5%, respectively). MER MICs were available for 144 patients (74.2%) and 138 patients (71.1%), respectively. Carbapenem agent used was known for 141 patients, of which 94 received MER, 24 received eteperam, 12 received doripenem, and 11 received IMI. CART analysis identified a significant difference in mortality between patients infected with organisms having MER MICs ≤ 1 mg/L (n = 10/121, 4.3%) vs. those with >1 mg/L (n = 7/21, 33.3%; P = 0.01) regardless of carbapenem used. This breakpoint was also identified in the subgroup of patients with available MER MICs who were treated with MER (n = 5/64, 7.8% vs. 7/19, 36.8%; P < 0.01). In multivariable logistic regression, MER MIC > 1 mg/L was associated with increased odds of 30-day mortality after controlling for ICU admission in the any carbapenem treatment (OR 5.0, 95% CI 1.63-15.6; P < 0.01) and MER treated populations (OR 7.16, 1.88-27.3; P < 0.01).

**Conclusion.** This pooled patient-level analysis of GNBSIs treated with carbapenems represents the largest of its kind to date. A significant increase in mortality was identified in patients with MER non-susceptible isolates as defined by the 2010 CLSI breakpoints.

**Disclosures.** T. Patel, Merck: Grant Investigator, Research grant. J. Esterly, Merck Employee, Salary. E. B. Hirsch, Merck: Grant Investigator, Grant recipient. The Medicines Company: Speaker’s Bureau, Speaker honorarium

796. Carbapenem vs. Piperacillin-tazobactam for the Treatment of Ceftriaxone-Resistant Gram-Negative Bacteremia: Matched Cohorts by Propensity Score

Soumanti Rajagopal, MD1 and G. Thomas Ray, MBA1; *Division of Infectious Disease, Kanawha-Perkins Medical Center, Oakland, California, *Kaiser Permanente, Oakland, California, *Kaiser Permanente Northern California

**Session:** 76. Treatment of Resistant Infections - Clinical Analyses

**Thursday, October 5, 2017:** 12:30 PM

**Background.** Treatment of bacteremia caused by ESBL producing organisms remains controversial.

**Methods.** Kaiser Permanente Northern California delivers care to 4 million members and is served by a centralized microbiological laboratory and an electronic medical record system. We identified patients hospitalized with a positive blood culture for ceftraxone-resistant *Escherichia coli*, *Klebsiella species* and Proteus mirabilis between January 2008 and December 2015.

**Results.** There were a total of 93 patients, 62 treated with linezolid and 31 with daptomycin. Median daptomycin dose was 6.14 mg/kg (IQR, 5.98-6.71). Outcome of 14-day in-hospital mortality was not significantly different for patients treated with linezolid and daptomycin (17.7% vs. 29%, P = 0.21, respectively). Median time to blood culture clearance was not significantly different for linezolid vs. daptomycin therapy (3.0 days vs. 3.7 days, P = 0.78, respectively). All other secondary outcomes were not significantly different between treatment groups. Multivariate logistic regression analysis indicated 14-day in-hospital mortality was independently associated with Pitt bacteremia score (adjusted OR 1.48, 95% CI: 1.2-1.97) but showed no significant association with daptomycin treatment (adjusted OR 1.54, 95% CI: 0.46-5.14).

**Conclusion.** There were no significant differences in clinical outcomes for patients treated with linezolid or daptomycin for the treatment of VRE BSI. Additional prospective studies with larger sample sizes are needed to further validate these conclusions. Role of daptomycin dose on outcomes requires further study.

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

797. Real-world Analysis of Prescribing Patterns and Susceptibility of Cefteolozane/Tazobactam (C/T) Treatment using an Electronic Medical Record (EMR) Database in the United States

Jason M. Pogue, PharmD1; Laura Puzniak, PhD, MPHP2; Sanjey Merchant, PhD3; Kahlil Samagarm, MBA, B.E4 and Elizabeth Rhee, MD1; *Detroit Medical Center, Detroit, Michigan, *Merck & Co., Inc., Kenilworth, New Jersey, *Accenture, Bangalore, India, *Merck & Co. Inc., Kenilworth, New Jersey

**Session:** 76. Treatment of Resistant Infections - Clinical Analyses

**Thursday, October 5, 2017:** 12:30 PM

**Background.** *C. tae* is a novel antipseudomonal cephalosporin, combined with tazobactam, an established β-lactamase inhibitor. C /T is approved for treatment of complicated urinary tract (cUTI) and complicated intraabdominal infections.