During the intervention, ASP pharmacists made 81 recommendations (93.8% accepted).

A post hoc analysis was conducted due to the 35.8% increase in ID consults with the intervention. A significant decrease of 18.5% in in-hospital mortality (P = 0.041) and 21.7% in 30 day mortality (P = 0.009) with ID involvement was seen.

Conclusion. SAB management bundle development with PAF by ASP pharmacists significantly improved adherence rates to evidence based recommendations in SAP inpatients. This simple yet effective ASP intervention can ensure consistent management of a highly morbid infection.

Disclosures. C. Cervera, Sunovion Scientific Advisor, Consulting fee.

1583. Impact of an Antimicrobial Stewardship Bundle of Rapid Identification of Methicillin Susceptible and Active Intervention on Treatment of Staphylococcus aureus Bacteremia

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Background. Staphylococcus aureus bacteremia (SAB) is a major source of morbidity and mortality. Studies show rapid initiation of appropriate antibiotic therapy is essential to treatment and optimal therapy depends upon antibiotic susceptibility.

Methods. Using a quasi-experimental pre-post intervention study we evaluated a bundled antimicrobial stewardship rapid identification and susceptibility testing protocol. The pre-intervention group included all patients treated for SAB at our hospital between April and Sept 2015; the post-intervention group was between April and Sept 2016. We implemented combined rapid identification by MALDI-TOF with a modified immunochromatographic assay for penicillin-binding protein 2a to differentiate MSSA and MRSA. Department consultation and susceptibility results were communicated to the primary team per usual protocol and to an antimicrobial stewardship pharmacist for intervention. The primary outcome was time to optimal antibiotic therapy calculated as the difference in time from the first dose of antibiotic therapy to the discontinuation time of the non-optimal antibiotic, for patients receiving combination therapy or first dose of optimal therapy, determined using a predefined protocol developed in collaboration with the Infectious Diseases (ID) consult service. Additional outcomes included time to pathogen identification, time to ID consult, time to source control, length of hospital stay (LOS), intensive care unit LOS, inpatient-days of therapy, and in-hospital mortality. Outcomes were compared using the t-test, or Student’s t-test for independent samples.

Results. 74 pre-intervention and 55 post-intervention patients were included. Time in days to optimal therapy (1.7±1.2 vs. 2.5±1.6, P = 0.003), total time to pathogen identification (1.5±0.5 vs. 2.7±0.6, P <0.001) and time to ID consult (1.6±1.5 vs. 2.8±2.4, P < 0.001) were significantly shorter in the intervention group. All other outcomes were not statistically significantly different between groups.

Conclusion. We demonstrate significant improvement in time to pathogen identification and susceptibility testing coupled with antimicrobial stewardship pharmacist intervention.

Disclosures. E. Ernst, Merck Sharp and Dohme: Consulting, Consulting fee.

1584. Use of Diagnosis-related Group-Based Days of Therapy to Evaluate Fluoroquinolone Use Optimization Across a Large Healthcare System

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Background. Optimal use of fluoroquinolones (FQ) is a common antimicrobial stewardship program (ASP) target based on well-cited risk for Clostridium difficile colitis and has gained national attention in the setting of recent FDA warnings about serious side effects. Identifying appropriate metrics for benchmarking poses a significant challenge. Diagnosis-related group (DRG) can be leveraged to focus large volumes of patient data to derive DRG-based days of therapy (DOT). Novant Health identified an opportunity to improve FQ use among patients with COPD and pneumonia (PNA) across the health system and created a FQ use optimization initiative based on inter-facility data that would otherwise not have been possible using the standard DOT per 1000 patient-days (PD) metric.

Methods. A staged approach to optimizing FQ use was developed through a multidisciplinary, system-level ASP, and system-specific benchmarks for FQ use among patients with PNA and COPD DRGs were established. 10 facilities ranging in size from 60 to 900 beds were included in the intervention. We evaluated FQ use at the system and facility level using both standard (DOT/1000 PD) and novel metrics (DRG-specific DOT/1000 PD and percentage of antibiotic use attributed to FQ within each DRG). In addition to providing feedback on performance relative to other facilities, the intervention also included provider education and targeted infectious diseases pharmacist review and feedback.

Results. Percentages of FQ use among patients with PNA DRGs decreased from 20% to 9%, while use in COPD DRGs decreased from 38% to 12% over 15 months (55% and 68% reductions in FQ use, respectively). System-wide FQ utilization decreased by 38% over the same 15 month time period, from a peak of 114 DOT/1000 PD to 71 DOT/1000 PD.

Conclusion. Decreases in overall FQ utilization were influenced by DRG-specific benchmarking and inter-facility comparisons. Traditional DOT/1000 PD metrics are plagued with variance in patient characteristics (e.g., disease state variation and comorbidity) and infection severity.

Disclosures. All authors: No reported disclosures.

1585. Impact of an Emergency Medicine Pharmacist on Appropriate Empiric Antibiotic Prescribing for Community-Acquired Pneumonia and Intra-Abdominal Infections

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Background. Antibiotics are the second most common drug class prescribed in the Emergency Department (ED); therefore, it is critical to engage ED providers in antimicrobial stewardship programs (ASP). Emergency medicine pharmacists (EMP) are unique partners with providers to choose the most appropriate antimicrobial agent, dose, and duration. This study aimed to determine the impact of an EMP on appropriate empiric antibiotic prescribing for community-acquired pneumonia (CAP) and community-acquired intra-abdominal infections (CA-IAI).

Methods. A retrospective cohort study was conducted evaluating adult patients admitted with a diagnosis of CAP or CA-IAI. The primary outcome of this study was to compare guideline-concordant empiric antibiotic prescribing when an EMP was present vs. absent. We also aimed to compare the impact of an EMP in a new ASP (2014-2016) vs. established ASP (2016). Secondary outcomes included in-hospital mortality and hospital acquired Clostridium difficile infection (CDI).

Results. 320 patients were included in the study (EMP n = 185; no-EMP n = 135). Empiric antibiotic selection was more likely to be guideline-concordant when an EMP was present (78% vs. 61%, P = 0.001). Guideline-concordant empiric prescribing occurred more often when an EMP was present in the subgroup of CAP patients (95% vs. 79% P = 0.005) as well as in the subgroup of CA-IAI patients (62% vs. 44% P = 0.025). Overall guideline-concordant prescribing significantly increased between the new ASP and established ASP (60% vs. 82.5%, P < 0.001) and was more likely when an EMP was present (new ASP 68.3% vs. 45.8%, P < 0.005; established ASP 90.5% vs. 73.7%, P = 0.005). Patients receiving guideline-concordant antibiotics in the ED were continued on appropriate therapy on admission 82.5% of the time vs. 18.8% if the ED antibiotic was inappropriate (P < 0.001). The presence of an EMP did not impact hospital acquired CDI (1.1% vs. 1.5%, P = 1.0) or in-hospital mortality (4.3% vs. 1.5%, P = 0.2).

Conclusion. The presence of an EMP significantly improved guideline-concordant empiric antibiotic prescribing for CAP and CA-IAI. This impact was demonstrated in both a new and established ASP. Inpatient orders were more likely to be guideline-concordant if appropriate therapy was ordered in the ED.

Disclosures. All authors: No reported disclosures.

1586. Is More Always Better? Effect of a Combination Pseudomonas Antibiomarker on Levofloxacin Use and Patient Outcomes for Pneumonia in a Large Community Hospital

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Background. Evidence suggests that combination therapy for Pseudomonas pneumonia only provides mortality benefit in critically ill patients. In November 2015, the Antimicrobial Stewardship Subcommittee at Baptist Memorial Hospital-Memphis (BMH-Memphis) developed a combination Pseudomonas antibiomarker and guideline, based on local susceptibilities, for critically ill patients with Hospital Acquired Pneumonia (HAP), Health Care Associated Pneumonia (HCAP), or Ventilator Associated Pneumonia (VAP).

Methods. This is a single center, retrospective study evaluating patients admitted to the BMH-Memphis medical intensive care unit (MICU) and surgical intensive care unit (SICU) with a diagnosis of pneumonia (PNA) or hospital acquired (HAP) or ventilator associated (VAP) pneumonia between November 2015 and November 2016. This was a retrospective, observational, study with the primary outcome of this study to compare levofloxacin days of therapy per 1000 patient-days (DOT/1000 patient-days) before and after implementation of the combination Pseudomonas antibiomarker guideline at BMH-Memphis. Secondary objectives included a comparison of individual levofloxacin orders, 30-day mortality, hospital
length of stay (LOS), ICU LOS, 90-day incidence of extended spectrum β-lactamases (ESBLs), and 30-day readmission rates and incidence of *Candida* difficile. Adverse events including acute kidney injury and QTc prolongation were also evaluated pre- and post-implementation of the guideline.

**Results.** A total 150 patients were included in this study to meet power for the primary objective. Levofloxacin DOT/1000 patient-days was reduced by 3.4 days in the post-implementation period (P < 0.001) with a 63% reduction in individual levofloxacin orders (P = 0.001). Furthermore, there were significantly lower 30-day mortality rates in the post-implementation period, which persisted in a multivariate logistic regression model (P = 0.019). There was no difference in hospital on ICU LOS, 30 day readmission rates or incidence of *Candida* difficile, or 90-day incidence of ESBLs. There was also no difference in adverse events between the two study periods.

**Conclusion.** This study demonstrates that the implementation of a combination anti-pseudomonal guideline can decrease levofloxacin use while reducing 30-day mortality rates without increasing hospital or ICU LOS.

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

1587. Adherence to Institutional Guidelines for Community and Nosocomial Pneumonia and Its Impact on In-Hospital Mortality and 30-Day Readmission in a Community Health System

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**Background.** Antimicrobial stewardship committee at Kennedy Health created novel pneumonia guidelines in 2016 which were based on local antimicrobial and multi-drug resistant organism risk factors. The purpose of this study was to measure adherence to institutional treatment guidelines (ITG) and its impact on mortality and 30-day readmissions.

**Methods.** An IRB approved retrospective chart review was conducted on patients admitted for > 24 hours with a confirmed diagnosis of bacterial pneumonia. Patients were included if they were ≥18 years old and diagnosed with community-acquired pneumonia (CAP) or hospital-acquired pneumonia (HAP) between April and September 2016. The primary objective of the study was to measure the adherence to ITG for CAP and HAP. The secondary objectives were to measure the in-hospital mortality and 30-day readmission rate between the adherent and non-adherent groups. A pre and post implementation analysis was performed focusing on rates of hospital acquired respiratory infection (HARI) rates, and overall antibiotic utilization.

**Results.** There were 216 patients included in the study with CAP (n = 128) and HAP (n = 88). The rate of adherence to ITG was higher in CAP vs. HAP (73.4% vs. 45.5%, P < 0.001). Although there was no difference observed in mortality between CAP and HAP (0.8% vs. 0.0%, P = 1.0), the rate of 30-day readmissions was lower in CAP vs. HAP (4.7% vs. 29.5%, P < 0.001). When comparing adherent and non-adherent groups, there was no difference in 30-day readmissions in patients with CAP (4.3% vs. 5.9%, P = 0.656) and HAP (30.9% vs. 26.1%, P = 0.613). There was a 32.1% decrease in anti-pseudomonal β-lactam usage in 2016 vs. 2015 (53.6 vs. 94.9, DOT/1000PD, P = 0.008). Fluoroquinolone utilization was decreased by 55.8% in 2016 vs 2015 (39.6 vs. 89.6, DOT/1000PD, P = 0.001). Vancomycin utilization decreased by 28.4% in 2016 compared with 2015 (67.9 vs. 94.9, DOT/1000PD, P = 0.009). Comparing 2016 vs. 2015, we noticed a decrease in pseudomonas HARI rates (1% vs. 0.2%) however, an increase in MRSA HARI rates (1% vs. 0.0%). The rate of adherence to ITG was shown to be higher for CAP compared with HAP. Although there was no difference seen in mortality between CAP and HAP, there was significantly lower 30-day readmissions in patients with CAP compared with HAP. Overall, anti-pseudomonal and anti-MRSA antibiotic utilization was decreased after ITG implementation.

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

1588. De-escalation of Broad Spectrum Antibiotics Following Negative Cultures in Pneumonia: Rates and Outcomes

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**Background.** With the release of the 2005 IDSA/ATS pneumonia guidelines healthcare providers were advised to consider numerous patient risk factors for multidrug resistant organisms. Furthermore, these guidelines encouraged empiric treatment with two agents against two pseudomonas, based on the assumption that combination therapy increases treatment success. An evaluation of our institution’s respiratory cultures revealed that levofloxacin covers only 2% of pseudomonas isolates resistant to piperacillin-tazobactam, and no isolates resistant to cepazime or meropenem.

Our primary objective was to correlate this evaluation’s findings with patient outcomes by comparing mortality rates experienced by patients receiving levofloxacin plus an anti-pseudomonal β-lactam vs. those receiving β-lactam alone for the empiric treatment of pneumonia. Secondary objectives were to identify between group differences in length of stay, 30-day readmission, duration of mechanical ventilation, and occurrence of *Candida* difficile infection.

**Methods.** This single-center, retrospective chart review was conducted by evaluating records of patients with a discharge diagnosis of pneumonia from January 1, 2014 to September 1, 2016. Patients were included if they received at least 48 hours of empiric treatment with an IV anti-MRSA agent plus an anti-pseudomonal β-lactam. Patient enrollment is displayed in Figure 1.

**Results.** Of 1897 patient screened, 228 patients were included. There were 146 patients who received monotherapy with an anti-pseudomonal β-lactam and 82 patients who additionally received levofloxacin. Baseline characteristics were comparable between groups. The mean age was 68.8 years, 51% were male, 45.6% had a diagnosis of COPD at baseline, and the average eGFR score upon admission was 66.6. There was no significant difference in mortality (P = 0.438), nor any secondary objective. No significant difference in the duration of therapies prior to de-escalation was observed (P = 0.395).

**Conclusion.** Addition of levofloxacin to β-lactam therapy did not impact clinical outcomes in this population. Further analysis of site-specific data is warranted, as the results of this study may not be generalizable.