Institute (CLSI) lowered the Fluoroquinolone (FQ) susceptibility breakpoints for Enterobacteriaceae. The new breakpoints were updated primarily based on FQ pharmacodynamics, and only limited clinical data. We sought to evaluate clinical outcomes among patients who received an FQ for infection with Enterobacteriaceae with MIC values that would now be considered resistant, using the new interpretive criteria. We also assessed the potential impact of the new breakpoints on overall blood and urine Enterobacteriaceae susceptibility rates at our medical center.

Methods. All positive blood and urine cultures with Enterobacteriaceae between September 1, 2018 and February 28, 2019 were included. Enterobacteriaceae isolates with ciprofloxacin MICs of 0.5 and 1 μg/mL (based on new breakpoints, now considered non-susceptible) were identified. We assessed the length of stay (LOS), mortality, and 30-day readmissions among patients who received an FQ for treatment. The impact of the new breakpoints on overall Enterobacteriaceae susceptibilities from urine and blood isolates was also determined.

Results. A total of 1,764 cultures (91 blood, 1,570 urine) grew Enterobacteriaceae. One-hundred and twenty-five (7%) cultures grew isolates with a ciprofloxacin MIC of 0.5 or 1 μg/mL. Eighteen patients with Enterobacteriaceae isolated (4 blood, 14 urine) received an FQ. Among these patients, the median LOS was 4 days; one patient was readmitted within 30 days, and 0% mortality was observed. The patient readmitted within 30 days received an FQ for a blood isolate with MIC 0.5. Overall, with the revised breakpoints, we observed a 4.2% decrease in the number of Enterobacteriaceae that would be susceptible to ciprofloxacin (Figure 1).

Conclusion. The new FQ breakpoints for Enterobacteriaceae will have a marginal impact on overall FQ susceptibility rates at our medical center. In this single-center study, patients that received FQ antibiotics for Enterobacteriaceae with MIC values now considered intermediate or resistant did not appear to experience poor outcomes.

Disclosures. All authors: No reported disclosures.

1548. Characterizing Cefepime Neurotoxicity: Experience from a Tertiary Care Center Performing β-lactam Therapeutic Drug Monitoring
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Background. Based on prior studies, elderly patients and those with renal dysfunction are prone to cefepime (CFP) toxicity. The toxicokinetics and toxicodynamics for CFP are not well established. Lamoth et al. reported a 50% probability of CFP neurotoxicity at a serum trough concentration of 35 mg/L. The objectives of this study were to quantify the incidence of CFP neurotoxicity and to assess the association between CFP concentrations and neurotoxicity.

Results. One hundred and forty-two patients were included in the analysis. Neurotoxicity (HLT+PT) related to CFP occurred in 18/142 (13%) patients; 67% (12/18) were considered HLT. The median age in the HLT cohort was 68 years (interquartile range [IQR], 57–74), with toxicity occurring a median of 6 days (IQR, 5–8) after starting CFP. At the time of neurotoxicity, HLT patients had diminished renal function with a median Scr of 1.6 mg/dL (IQR, 1.2–2.4) and a corresponding CrCl of 35.8 mL/minute (IQR, 19.2–50.9). The median CFP trough concentration in the HLT patients was 62 mg/L (IQR, 50–73) vs. 70 mg/L (IQR, 41–115) in the PT and 42 mg/L (IQR, 31–61) in the NT groups.

Conclusion. Our data emphasize the need for careful dosing in older patients with renal insufficiency. Interestingly, our study reveals higher cefepime troughs (~3-fold higher) associated with neurotoxicity than previously reported.

Disclosures. All authors: No reported disclosures.

1549. Impact of New Fluoroquinolone Breakpoints on Enterobacteriaceae Susceptibility Rates and Clinical Outcomes
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Background. In January 2019, the Clinical and Laboratory Standards Institute (CLSI) lowered the Fluoroquinolone (FQ) susceptibility breakpoints for Enterobacteriaceae. The new breakpoints were updated primarily based on FQ pharmacodynamics, and only limited clinical data. We sought to evaluate clinical outcomes among patients who received an FQ for infection with Enterobacteriaceae with MIC values that would now be considered resistant, using the new interpretive criteria. We also assessed the potential impact of the new breakpoints on overall blood and urine Enterobacteriaceae susceptibility rates at our medical center.

Methods. All positive blood and urine cultures with Enterobacteriaceae between September 1, 2018 and February 28, 2019 were included. Enterobacteriaceae isolates with ciprofloxacin MICs of 0.5 and 1 μg/mL (based on new breakpoints, now considered non-susceptible) were identified. We assessed the length of stay (LOS), mortality, and 30-day readmissions among patients who received an FQ for treatment. The impact of the new breakpoints on overall Enterobacteriaceae susceptibilities from urine and blood isolates was also determined.

Results. A total of 1,764 cultures (91 blood, 1,570 urine) grew Enterobacteriaceae. One-hundred and twenty-five (7%) cultures grew isolates with a ciprofloxacin MIC of 0.5 or 1 μg/mL. Eighteen patients with Enterobacteriaceae isolated (4 blood, 14 urine) received an FQ. Among these patients, the median LOS was 4 days; one patient was readmitted within 30 days, and 0% mortality was observed. The patient readmitted within 30 days received an FQ for a blood isolate with MIC 0.5. Overall, with the revised breakpoints, we observed a 4.2% decrease in the number of Enterobacteriaceae that would be susceptible to ciprofloxacin (Figure 1).

Conclusion. The new FQ breakpoints for Enterobacteriaceae will have a marginal impact on overall FQ susceptibility rates at our medical center. In this single-center study, patients that received FQ antibiotics for Enterobacteriaceae with MIC values now considered intermediate or resistant did not appear to experience poor outcomes.

Disclosures. All authors: No reported disclosures.

1550. PK-PD Relationship and PK Driver of Efficacy of the Novel Antibacterial Lysin Exebacase (CF-301) in Pre-Clinical Models
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Background. Exebacase (CF-301) is a novel lysin with rapid bacteriolytic and anti-biofilm activity against S. aureus, pronounced synergy with antibiotics and low propensity for resistance. Exebacase has undergone Phase 1-2 trials. This work was to develop pharmacokinetic (PK) model in animal and determine the relationship between exebacase exposure and efficacy in animals.

Methods. PK data in 592 animals (4 species) included in population PK model. A range of linear and nonlinear mammalian models with allometric scaling fitted to the