

Figure 1. Rate of Extended-Spectrum Beta-Lactamase Producing Enterobacteriales Infections, 2012-2021

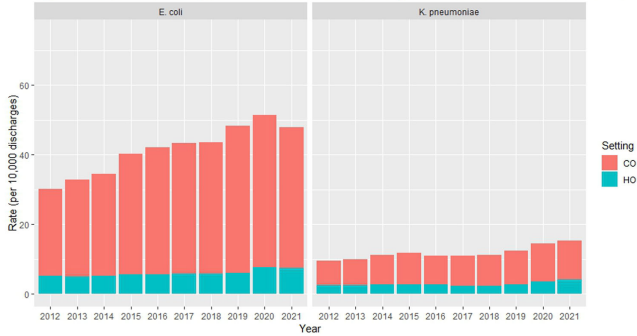


Figure 2. Proportion of Extended-Spectrum Beta-Lactamase Producing Enterobacteriales Infections, by Specimen Type



designation, and teaching status, for U.S. hospitals included in the American Hospital Association survey. We evaluated rates over time due to the changes in number of hospitalizations during the COVID-19 pandemic. Results were stratified by HO and CO, and sterile and non-sterile specimen sources. **Results:** In 2021, there were 48,936 ESBL *K. pneumoniae* and 153,112 ESBL *E. coli* infections among approximately 32 million discharges. Overall, most infections were CO and from non-sterile specimens. From 2012-2021, the rate of ESBL *K. pneumoniae* increased from 9.54 to 15.28 per 10,000 discharges. ESBL *E. coli* infections increased from 2012-2020 (30.18 to 51.32 per 10,000 discharges), then declined in 2021 (47.81 per 10,000 discharges) (Table 1, Figure 1). The proportion of non-sterile ESBL *E. coli* declined from 88% in 2012 to 83% in 2021, and the proportion of non-sterile ESBL *K. pneumoniae* was 85-87% over the study period (Figure 2). **Conclusion:** ESBL *E. coli* and *K. pneumoniae* infections increased from 2012-2021, although the CO ESBL *E. coli* rate decreased between 2020 and 2021. Understanding changes in culturing practices over time may provide insights into the increased proportion of ESBL *E. coli* from sterile sites. Additionally, further investigation into differences in organism trends, particularly in 2021, may inform prevention strategies.

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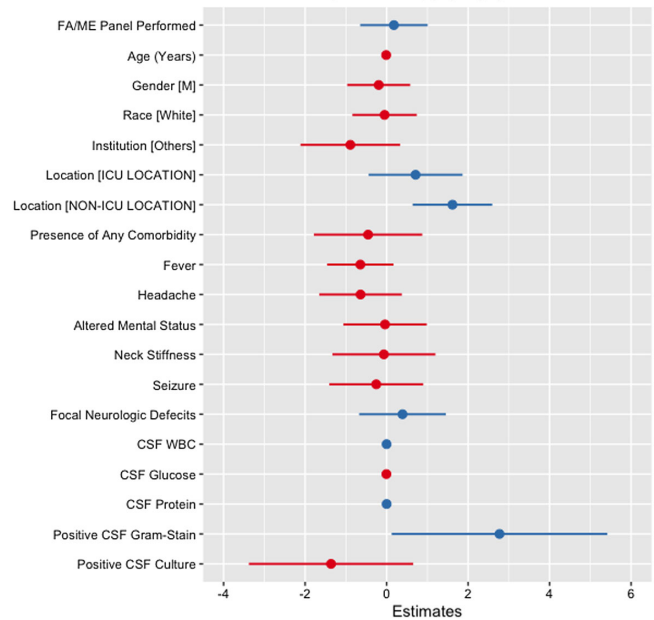
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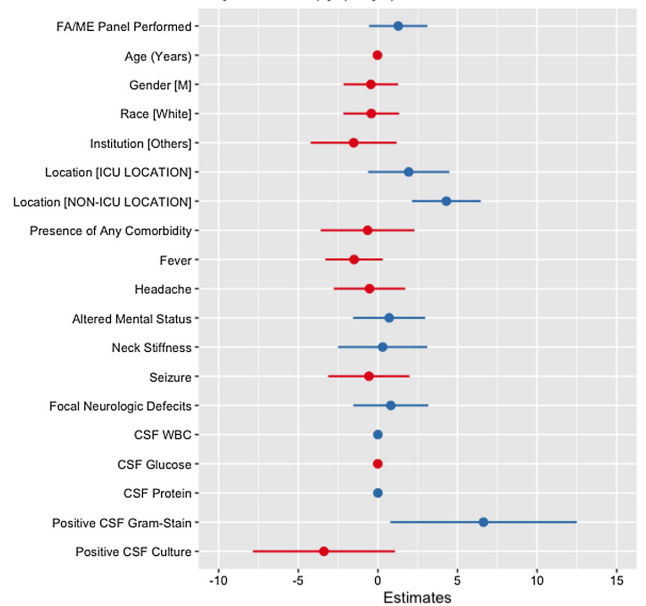
FilmArray Meningitis/Encephalitis Panel Impact on Antibiotic Usage in Patients with Suspected Community-Acquired Meningitis

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Duration of Empiric Therapy (Days)



Days of Therapy (Days)



Background: Cerebrospinal fluid (CSF) cultures are commonly performed to evaluate patients with suspected bacterial meningitis. These cultures, however, can take up to 72 hours, leading to delays in antibiotic de-escalation and increased antimicrobial utilization. The turnaround for the BioFire® FilmArray® Meningitis/Encephalitis (FA/ME) panel is less than an hour, which may facilitate early de-escalation. Our study aimed to assess whether the use of FA/ME panels in combination with CSF cultures could impact antimicrobial therapy compared to cultures alone in patients treated for suspected bacterial meningitis. **Methods:** Our retrospective study included patients from five hospitals in Texas (2017-2023) who received empiric antibiotics for suspected community-acquired meningitis and underwent a lumbar puncture within 96 hours of admission. Patients with ventricular drains, traumatic brain injury, and

non-central nervous system infections were excluded. Cases comprised patients who had an FA/ME panel performed, while controls included patients without the panel. Outcomes were defined as the empiric duration of antimicrobial therapy (days) and total days of antibiotic therapy (DOT). Wilcoxon Rank Sum test and multiple linear regression models were applied to assess the relationship between the use of the FA/ME panel and study outcomes. Independent variables comprised demographics, institution type, acuity, clinical presentation, CSF values, and FA/ME panel use. Imputation was performed using multiple imputation by chained equations. **Results:** A total of 193 patients were included in our study. Seventy-one patients received the FA/ME panel (along with the CSF culture), while 122 patients received the CSF culture alone (controls). The median empiric duration of antibiotic therapy in the cases and controls were 1.71 days and 1.18 days, respectively ($p = .160$). The median DOT in the cases and controls were eight days and six days, respectively ($p = .045$). After adjusting for confounders, the FA/ME panel was not significantly associated with changes in the empiric duration of antibiotic therapy ($B = 0.18, p = .669$, Figure 1) or DOT ($B = 1.28, p = .170$, Figure 2). **Conclusion:** Providing FA/ME panel testing without active antimicrobial stewardship interventions did not result in a change in antimicrobial prescribing patterns. The difference from prior literature could be explained by the smaller sample size, limiting the power of the study. Further prospective antimicrobial stewardship efforts should focus on training providers on interpreting FA/ME panel results and providing prospective audits and feedback.

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Cefadroxil is an option for Gram-positive bone and joint infections in adults

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Background: Oral antimicrobial therapy for osteoarticular infections in adults is increasingly adopted; however, the preponderance of published data and experience with oral antibiotics involves agents such as fluoroquinolones, trimethoprim-sulfamethoxazole, and clindamycin. Data supporting the use of narrower-spectrum, stewardship-friendly oral antibiotics with favorable toxicities profiles (e.g. cefadroxil) are needed. **Methods:** We report a case series of adults who underwent surgery for monomicrobial Gram-positive osteomyelitis, native joint septic arthritis (NJSa), prosthetic joint infection (PJI), or other orthopedic hardware infection at our institution from January 2019 through January 2022 and who subsequently received at least two weeks of oral cefadroxil. We excluded patients who had polymicrobial infection or curative amputation, or who received cefadroxil only as suppressive antibiotic therapy (SAT). Our primary outcome of interest was treatment success during followup, defined as freedom from death, unplanned surgery for infection, or readmission for worsening infection. **Results:** We identified 22 patients who received cefadroxil for primary treatment of osteoarticular infection. The mean age was 57.6 years, mean weight 98.6 kg, 68% were male, and none had peripheral vascular disease. Infections included PJI in 12, NJSa in 8, osteomyelitis in 7, and other hardware infections in 5; some patients had multiple infectious syndromes. Methicillin-susceptible *Staphylococcus aureus* (MSSA) was the most common pathogen (73%), followed by streptococci (18%), other methicillin-susceptible staphylococci (14%), and *Cutibacterium acnes* (5%). Half of patients received 120kg who had device infections with MSSA, two of which were managed with implant retention, suggesting pharmacokinetic/pharmacodynamic factors and biofilm burden could influence treatment outcome. Limitations of this study include its small sample size, noncomparative nature, lengthy initial intravenous antibiotic

Demographics	
Age in years, mean (SD)	57.6 (16.8)
Male gender, no. (%)	15 (68)
Weight in kg, mean (SD)	98.6 (24.4)
Creatinine clearance (mL/min), mean (SD)	151.3 (55.2)
Comorbidities	
Peripheral vascular disease, no. (%)	0 (0)
Diabetes, no. (%)	0 (0)
Infection characteristics	
Anatomic location, no. (%)	
	Knee 8 (36)
	Hip 3 (14)
	Foot/Hand 5 (23)
	Other 6 (27)
Infectious syndrome, no. (%)*	
	Osteomyelitis 7 (32)
	Native joint septic arthritis 8 (36)
	Prosthetic joint infection 12 (55)
	Other orthopedic hardware infection 5 (23)
Patients with hardware infection managed with hardware retention, no. (%)	7 (32)
Causative pathogen, no. (%)*	
	Methicillin-susceptible <i>Staphylococcus aureus</i> (MSSA) 16 (73)
	Other methicillin-susceptible staphylococci 3 (14)
	Streptococci 4 (18)
	<i>Cutibacterium acnes</i> 1 (5)
Treatment characteristics	
Days of preceding antimicrobial therapy, mean (SD)	19.5 (17.5)
Patients who received <2wk antibiotics preceding switch to cefadroxil, no. (%)	11 (50)
Days of cefadroxil treatment in patients not given suppressive antibiotic therapy, mean (SD)	36 (11)
Patients who received suppressive antibiotic therapy, no. (%)	4 (18)
Outcomes	
Days of recorded followup after index surgery, mean (SD)	220 (158.4)
Patients who had followup >6mo, no. (%)	10 (45)
Deaths during followup, no. (%)	1 (5)
Unplanned surgery for infection during followup, no. (%)	3 (14)
Readmission for relapsed infection during followup, no. (%)	1 (5)
Discontinuation of cefadroxil due to adverse events, no. (%)	1 (5)

*Total is >100% as some patients had multiple concurrent diagnoses

durations, and limited durations of followup. These data suggest cefadroxil merits investigation for adult osteoarticular infection in larger comparative (and ideally, prospective randomized) studies.

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Fluoroquinolones in Focus: Unraveling Prescription Trends among Clinician Specialties in Washington State

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Background: An overall decrease of prescriptions for outpatient fluoroquinolones (FQs) following the FDA’s release of boxed warnings in 2016 was shown in a previous analysis¹. An additional study found that this decline held true when further broken down by specialty². We sought to determine which different clinician specialties in Washington State (WA) continue to prescribe FQs and if these rates are congruent with previously conducted national analyses. **Methods:** We conducted a comprehensive analysis of Medicare Part D data from 2021. We identified specialty types contributing the highest proportions of FQ claims from the total volume of claims in 2021. Subsequently, we calculated the average FQ claims per 1,000 Medicare Part D beneficiaries for each specialty. The analysis excluded providers with missing beneficiary data. All dosage formulations were included (i.e. topical & oral). We repeated this process for each year from 2021 to 2013 to assess changes in the average FQ prescription rate for each specialty over time. **Results:** Our analysis encompassed 99,250 FQ prescriptions involving 976,209 Medicare Part D beneficiaries from January 1 to December 30, 2021. Among the specialties, urologists emerged