process (eg, before implementation, during implementation, and after implementation) to assess how an organization effectively negotiates the phases and transitions, ultimately influencing the impact of the intervention. We have used a contextual determinant framework (CFIR) that has enabled us to perform a systematic and comprehensive exploration and identification of potential explanatory themes or variables to shed light on the complex social phenomenon of implementation. **Results:** Participants who will be a part of our poster presentation will learn about implementing a BPA, the potential barriers to implementation, and strategies for overcoming these barriers. Stakeholders within our study include site coordinators, medical doctors, nurses, pharmacists, and clinical informaticists. Our analysis synthesizes their experiences implementing and sustaining this evidence-based antimicrobial stewardship intervention. It includes (1) a detailed description of the process of change, (2) work-system factors (eg, inner setting and outer setting) that they believe influenced the success of the intervention, (3) barriers and facilitators (eg, CFIR constructs) within the implementation process; and (4) description of how these could have influenced the outcomes of interest (eg, implementation and intervention effectiveness). **Conclusions:** Our research is expected to advance patient safety research and initiatives by providing a more robust approach to performing systematic intervention evaluations. By outlining stakeholders' experiences within our study, implementation leaders within healthcare systems will utilize our findings to aid them in their design and implementation process when designing and implementing similar types of healthcare interventions.

Disclosures: None

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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Antimicrobial stewardship during COVID-19: An analysis of culture negative patients receiving extended antimicrobial agents
Swetha Srialluri; Curtis Collins and Holly Murphy

Background: COVID-19 is associated with symptoms, clinical findings, and laboratory abnormalities that raise concern for secondary infections. Excess antimicrobial use despite low rates of secondary infections has been reported and presents a continuing challenge for antimicrobial stewardship programs (ASPs), particularly during COVID-19 surges. The objective of this study was to analyze the appropriateness of antimicrobial use in patients with extended antimicrobial therapy during 2 distinct COVID-19 hospital surges. **Methods:** We conducted an observational, retrospective, cohort study of COVID-19 patients admitted to our 548-bed community teaching hospital between November and December 2021 (ie, the SARS-CoV-2 delta-variant predominant phase) and January–February 2022 (ie, the SARS-CoV-2 omicron-variant predominant phase) and who received antibiotics for >4 days without positive cultures. Demographic and clinical data were obtained from the institutional data warehouse. Infectious diseases–trained researchers evaluated the appropriateness of antimicrobials based on diagnostic and clinical reporting and institutional antimicrobial stewardship guidelines. Patients were considered to have probable secondary bacterial infection if they had 2 of the following symptoms: fever, unexplained leukocytosis, worsening secretions, or hypoxia and/or imaging. The outcomes of interest included confirmed infections and excess antimicrobial days. Categorical and continuous variables were analyzed using χ^2 tests, Fisher exact tests, and Mann-Whitney U tests, respectively. Statistical significance was defined as $P \leq .05$. **Results:** In total, 87 patients were included in the study. Moreover, 56 patients were identified in the SARS-CoV-2 delta-variant predominant phase and 31 patients were identified in the SARS-CoV-2 omicron-variant predominant phase. The groups were similar, with higher vaccination rates in the SARS-CoV-2 omicron-variant predominant group (37.5% vs 64.5%; $P = .016$). Patients in the SARS-CoV-2 omicron-variant predominant group required less mechanical ventilation (39.3% vs 16.1%; $P = .025$). There were no significant differences in infectious diseases consultation, immunomodulator or remdesivir use, antimicrobials classes prescribed, or antimicrobial days of therapy or duration between cohorts. There were no significant differences in length of stay, 30-day mortality, or 30-day readmissions. Infections were confirmed in 78.6% in the delta-variant group versus 83.9% in the omicron-variant group ($P = .55$). Pneumonias accounted for 60.7% in the delta-variant group and 40.9%, in the omicron-variant group. Excess antibiotic use occurred in 14.3% of patients in the delta-variant group and in 3.1% of patients in the omicron-variant group ($P = .149$). There was no significant difference in the duration of inappropriate antimicrobial use between groups in patients without infections: 5 days in the delta-variant group versus 5 days in the omicron-variant group ($P = .24$). **Conclusions:** Results demonstrated that most antimicrobial use was appropriate in a challenging patient population lacking positive cultures to guide therapy. Inappropriate antimicrobial utilization occurred demonstrating continued opportunities for our institutional ASP.

Disclosures: None

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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Diagnostic accuracy of antibiograms in predicting the risk of antimicrobial resistance for individual patients
Shinya Hasegawa; Jonas Church; Eli Perencevich and Michihiko Goto

Background: Many clinical guidelines recommend that clinicians should use antibiograms to decide on empiric antimicrobial therapy. However, antibiograms aggregate epidemiologic data without consideration for any other factors that may affect the risk of antimicrobial resistance (AMR), and little is known about an antibiogram's reliability in predicting antimicrobial susceptibility. We assessed the diagnostic accuracy of antibiograms as a prediction tool for *E. coli* clinical isolates in predicting the risk of AMR for individual patients. **Methods:** We extracted microbiologic and patient-level data from the nationwide clinical data warehouse of the Veterans Health Administration (VHA). We assessed the diagnostic accuracy of the antibiogram for 3 commonly used antimicrobial classes for *E. coli*: ceftriaxone, fluoroquinolones, and trimethoprim-sulfamethoxazole. First, we retrospectively generated facility-level antibiograms for all VHA facilities from 2000 to 2019 using all clinical culture specimens positive for *E. coli*, according to the latest Clinical & Laboratory Standards Institute guideline. Second, we created a patient-level data set by including

Figure 1. Receiver operating characteristic curves for prediction of antibiograms for ceftriaxone, fluoroquinolones, and trimethoprim-sulfamethoxazole.
Abbreviations: AU-ROC, area under the receiver operating characteristic curve; Sn, sensitivity; Sp, specificity.

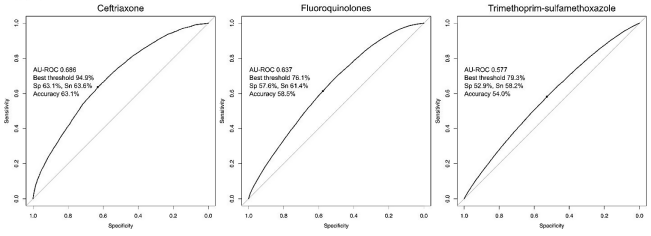

Figure 2. The diagnostic performance of the three major antimicrobial groups for *E. coli*. (Footnote) Data presented as %. Abbreviations: Ac, accuracy; Sn, sensitivity; Sp, specificity.

E. coli	Prevalence of Susceptibility	Threshold														
		80%			85%			90%			95%			98%		
		Sn	Sp	Ac	Sn	Sp	Ac	Sn	Sp	Ac	Sn	Sp	Ac	Sn	Sp	Ac
Ceftriaxone	94.7	2.9	99.6	94.4	6	98.9	94.0	10.8	97.5	92.9	65.0	61.4	61.6	100	0	5.3
Fluoroquinolones	76.6	76.4	42.2	50.2	91.8	22.8	38.9	98.8	7.2	28.6	100	0	23.4	100	0	23.4
Trimethoprim-sulfamethoxazole	79.1	64.9	45.9	49.9	93.7	11.4	28.6	100	0.1	21.0	100	0	20.9	100	0	20.9