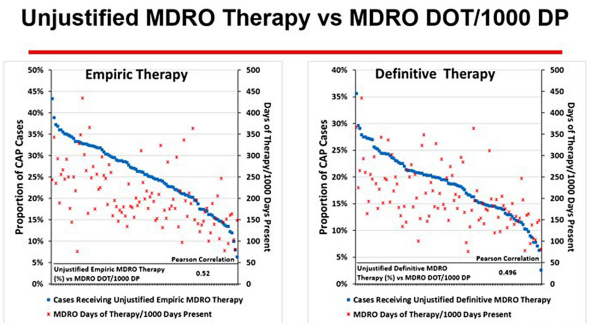

Figure 2: The Pearson correlation between unjustified empiric and definitive therapy with MDRO days of therapy (DOT) per 1000 days-present (DP) was 0.54 and 0.61 respectively; the correlation with total DOT/1000 DP was 0.24 and 0.36, respectively (data not shown on the figure). MDRO DOT represent the same agents predominantly used for resistant Gram-positive infections (e.g., MRSA), broad spectrum antibacterial agents predominantly used for hospital-onset infections, and agents predominantly used for extensively antibiotic resistant bacteria. Antibiotic DOT and DP were limited to patients receiving care on acute medical and surgical units.

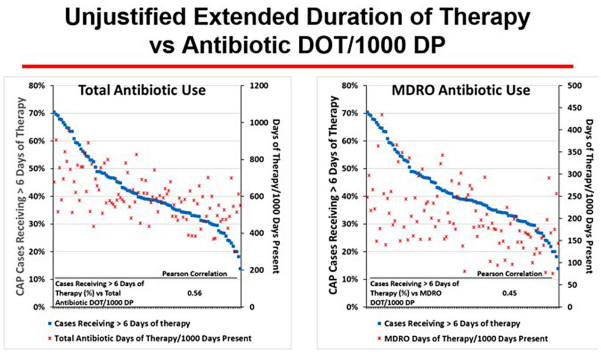

Figure 3: The Pearson correlation between the percentage of cases receiving greater than 6 days of therapy with total antibiotic DOT/1000 DP and MDRO antibiotic DOT/1000 DP was 0.56 and 0.46, respectively. Data definitions are the same as in Figure 2.

(85%,93%) and 100% (100%,100%), respectively. Pearson's correlation coefficient between MDRO therapy and rates of unjustified empiric and definitive MDRO therapy for CAP was 0.54 and 0.61, respectively (Figure 2). Although 99% of patients were discharged or stable by day 5, 42% received prolonged therapy. The median frequency of prolonged therapy was 39% (33%,48%); facility rates of prolonged therapy had a correlation of 0.56 with total antibiotic use and 0.46 with MDRO therapy (Figure 3). **Discussion:** Based on electronic documentation, we identified 1) substantial opportunities to reduce unjustified anti-MDRO therapy and the duration of therapy in hospitalized non-ICU patients with CAP; 2) a moderate correlation of unjustified anti-MDRO therapy with increased MDRO antibiotic use and of prolonged duration of therapy with increased total and MDRO antibiotic use. The correlation of lower quality prescribing with increased antibiotic use provides further impetus for tools such as dashboards (Figure 4) to assist antibiotic stewards in designing and monitoring interventions to reduce unjustified therapy.

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Subject Category: Antibiotic Stewardship
Patient and Community Perspectives on Antibiotics and Antimicrobial Resistance: Fertile Grounds for Antimicrobial Stewardship

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Background: Antimicrobial resistance is a serious public health threat. Overuse of antibiotics leads to the development and spread of antibiotic

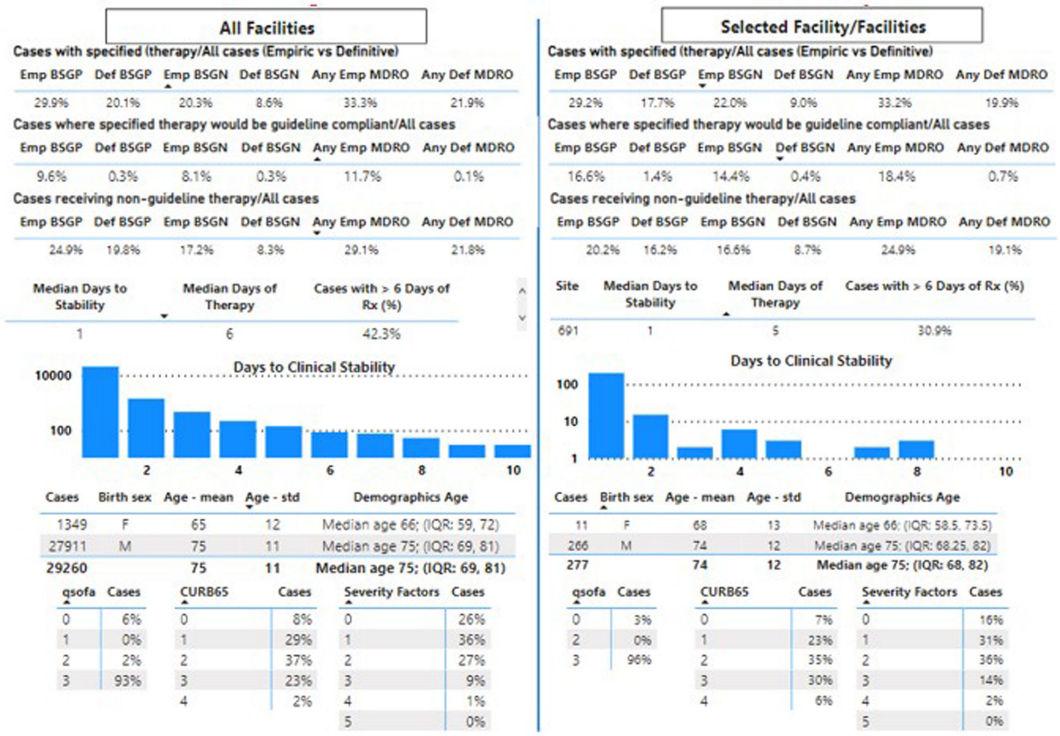

Figure 4: In this figure BSGP agents represent agents predominantly used for resistant Gram-positive infections and BSGN represent agents predominantly used for hospital-onset infections or extensively antibiotic resistant bacteria.

resistant pathogens. Antibiotics are also responsible for a high percentage of emergency department visits for adverse drug events. Despite this, ambulatory and urgent care providers often cite patient expectations as a reason for inappropriate antibiotic prescribing practices. We investigated patient and community understanding of antibiotics and antimicrobial resistance to inform how they can be engaged as partners in combating antimicrobial resistance in our southwestern Virginia community. **Methods:** From July to September 2023, we conducted an online survey of patients and community members within the footprint of a large healthcare system in Southwest Virginia. Electronic medical records were used to randomly select and directly email the survey link to a representative sample of ambulatory patients who met criteria. Respondents were also recruited through the health system's social media channels and through posters with quick response (QR) codes in outpatient offices. The survey used Likert scales and multiple-choice questions to understand experiences with and perceptions about antibiotics and antimicrobial resistance. We conducted a descriptive analysis of survey responses. **Results:** In total, 2,021 individuals completed the survey. Nearly 16% of respondents agreed with the statement "antibiotics can kill viruses" and almost 12% more were unsure. Thirty percent of respondents either agreed with or were unsure about the statement "antibiotics work on most coughs and colds". When asked more directly about antimicrobial resistance, almost a quarter (25%) of respondents agreed with or were unsure about the statement "there is no connection between taking antibiotics and the development of resistant bacteria". Responding to questions about possible negative effects of antibiotics, over 9% disagreed with the statement "antibiotics can kill the 'good' bacteria that normally live on the skin and in the gut" and another 19% were unsure. Similarly, over 20% disagreed with or were unsure about the statement "bacteria that do not respond to antibiotics could infect me or my family". Reflecting on their own providers, nearly 83% of respondents trusted their doctor's or nurse's advice about antibiotic necessity. **Conclusions:** There are opportunities for patient and community engagement around antibiotic effectiveness for common viral illnesses and about the negative effects of overuse of antibiotics. Our data suggests most patients trust their providers as it relates to antibiotic prescribing and may be receptive to discussions and strategies that promote antimicrobial stewardship.

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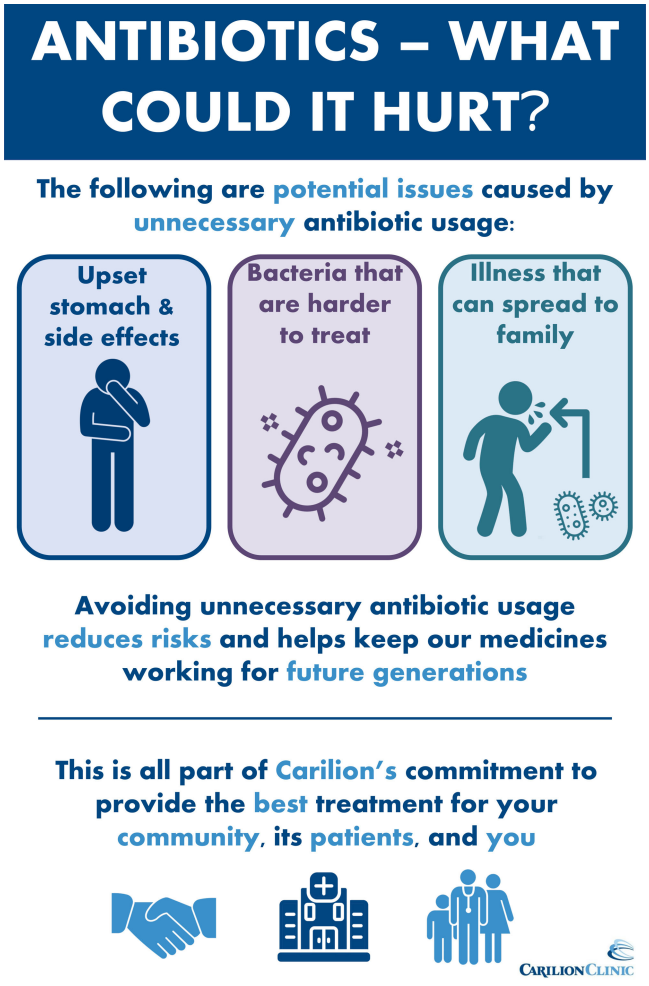

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship

Teaching Antimicrobial Decision-Making in Medical Education: A Qualitative Study

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Background: Inappropriate use of antimicrobials contributes to the growing threat of antibiotic resistance. While physicians encounter infections in virtually every facet of medical practice, research has shown that physicians have difficulty determining the need for antimicrobials and choosing the right drug. Physicians' difficulties with antimicrobial prescribing likely begin early in medical education, yet little is known about how medical students learn to make antimicrobial choices. Our study sought to better understand how medical students learn antimicrobial decision-making, including the impact of a new learning tool introduced in the Infectious Diseases (ID) and Microbiology preclinical course. **Method:** From 2021-2023, we conducted 18 individual interviews with a purposive sample of medical students at the University of Michigan who had taken the preclinical ID/Microbiology course during the 2019-2021 curricular years. We asked participants how they learned to make antimicrobial decisions and how the course and clinical rotations influenced their understanding of antimicrobial choice. The six participants who took the 2021 course were additionally asked how an antimicrobial decision-making tool introduced that year impacted that process (Figure 1). The tool was adapted from prior work on antimicrobial reasoning (Abdoler et al, 2020). Participants were asked whether they remembered being introduced to the tool (approximately 18 months prior) and if they utilized it during their clinical rotations. Results were analyzed using Dedoose Software to facilitate thematic analysis. **Result:** Several themes emerged on analysis. Nearly