

## Health Professions Education Institute (HPEI)

**Title:** “Abx 101”: a successful first foray into empiric antibiotics

**Presenter:** Katherine R. Schafer MD

**Co-authors:** E Shen PhD, Kacy Ramirez MD, Timothy R. Peters MD

### **CURRICULAR INNOVATIONS**

*Problem/Needs Assessment:* Understanding core principles of empiric antibiotic therapy is essential for antimicrobial stewardship. Pre-pandemic, the “Abx 101” workshop taught students an initial approach to empiric antibiotics. Due to the pandemic, the session became virtual.

*Program Objectives:* (1) Construct a systematic approach to empiric antibiotics, (2) List normal flora/likely bacterial pathogens for anatomic location of disease, (3) Categorize antibiotics by their coverage, (4) Apply microbiology and antibiotic knowledge to cases.

*Description of Program:* For the in-person sessions (n=2 in November 2019, March 2020), 3 faculty facilitated workshops of 50 3rd year medical students. All students received worksheets to complete during the session and a list of relevant antibiotics for rotations. The introduction reviewed the typical anatomic microbiota (or likely pathogens). Next, student groups were assigned a category of antibiotic coverage (e.g. “MRSA drugs”), and completed a worksheet to assign antibiotics to specific coverage categories. Groups taught back to the class (jigsaw technique) their conclusions. Subsequently, faculty facilitated a discussion in which they matched initial antibacterial therapy for each body area’s typical pathogens. Finally, groups presented cases to the class and identified likely diagnosis, most likely pathogens, and appropriate empiric antibiotics to target those organisms. For the virtual and hybrid versions, the session was adapted for a 1 hour interactive session with one faculty facilitator, 20-25 students, and no breakout groups. Content was unchanged but fewer cases were presented virtually.

*Evaluation/Assessment:* Thirty of 164 (18%) students completed the survey (n=17 in-person, n=13 virtual). An independent-samples t-test compared in-person and virtual overall satisfaction scores. There were no significant differences in satisfaction from the in-person (M=8.76, SD=1.03) and virtual sessions (M=8.62, SD=1.94);  $t(28)=1.437$   $p=0.241$ . 100% of respondents in both groups deemed the format appropriate for the content. 100% of students rated both in-person and virtual sessions as extremely/quite relevant. The average overall effectiveness rating of the session was 8.7 (out of 10). The most common theme in the comments was interaction.

*Conclusions and Lessons Learned:* “Abx 101” was relevant, effective, and formatted well for learning about empiric antibiotics, in in-person and virtual versions. The interactive nature of

the workshop resonated with the students. This curriculum is effective overall and adapts well for in-person and remote learning.