

**Purpose:** When utilizing antimicrobial therapies, it is necessary to consider if they are being used appropriately. Inappropriate use of antimicrobials can lead to problems such as untreated infections, avoidable adverse effects, and antibiotic resistance. Our study aims to investigate the appropriateness of antimicrobials utilized for various infections using an electronic antimicrobial indication system. This data can be used to determine which indications and antimicrobials have the highest rates of inappropriateness and serve as the basis for providing more targeted education.

**Methods:** This is a retrospective chart review study using data from April 1-April 30, 2020 at a 450-bed community teaching hospital in the Midwest. All antimicrobials administered to patients aged 0-99 during the timeframe were included in the analysis with no other exclusion criteria. The indication selected by the physician using the electronic health record was compared with the antimicrobial selected and assessed for appropriateness. Antimicrobials were considered inappropriate if they were not possibly able to treat the selected indication. They were not required to be first line therapy options to be considered appropriate.

**Results:** Chart review was completed on 4178 antimicrobials administered within the timeframe. Of the 4178 orders assessed, 8 orders (0.19%) were found to be inappropriate. These included one order for vancomycin IV for *Clostridioides difficile* infection, two orders for aztreonam IV for *Clostridioides difficile* infection, one order for oral vancomycin for intra-abdominal infection, two orders for linezolid IV for oral stepdown therapy, and two orders for micafungin IV for urinary tract infection.

**Conclusion:** Overall, the vast majority of antimicrobials ordered in a one-month time span were appropriate (99.81%) when compared to the indication selected from a pre-populated list upon order entry. Additionally, education can be provided to prescribers on the topics where inappropriate antimicrobials were ordered to prevent similar errors in the future.