Selective and Cascade Reporting of Antimicrobial Susceptibility Results - A Survey Among Facilities Submitting Data to the National Healthcare Safety Network (NHSN) Antimicrobial Resistance Option

Virgie S. Fields[1], Hsiu Wu[2], Amy Webb[1], Laura Blum[1], Malissa Mojica[1]

Lantana CONSULTING GROUP

Background

- Selective reporting and cascade reporting (SR/CR) of antimicrobial susceptibility testing (AST) results is a widely-used antimicrobial stewardship strategy. SR/CR guides prescribers toward tailored treatments rather than broad-spectrum agents. One example of SR/CR is suppressing carbapenems for *E. coli* isolates that are susceptible to first, second, or third generation cephalosporins to reduce the use of carbapenems.
- While SR/CR serves its purpose as an antimicrobial stewardship tool, it can undercut CDC's efforts to provide representative antimicrobial resistance (AR) data for state, local, and territorial health departments to create cumulative antibiograms for their jurisdictions.
- Our objective was to assess the prevalence of SR/CR use and the ability to extract and submit complete AST data among NHSN AR Option reporters.

Methods

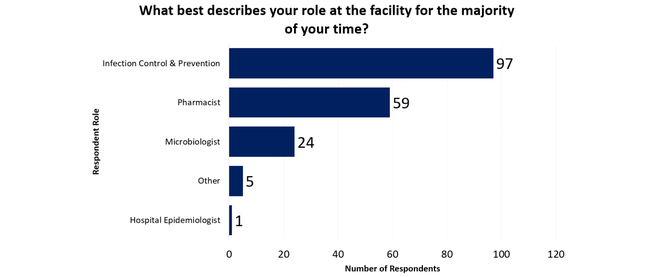
- On May 23, 2022, the NHSN Antimicrobial Use and Resistance (AUR) Team emailed a survey to 984 NHSN Facility Administrators and AR Option contacts for 749 facilities that reported data to the AR Option.
- The survey was completed through REDCap, a secure web-based application, and was split into two sections.
- The first section asked questions about routine microbiology lab practices, SR/CR practices, and reporting to NHSN from April 2020 – March 2021 for *E. coli* and *S. aureus* in blood specimens, and the second section asked about practices for *E. coli* in urine and *S. aureus* in lower respiratory tract specimens.
- One response per facility was requested. The survey closed on June 15, 2022.

Survey Results

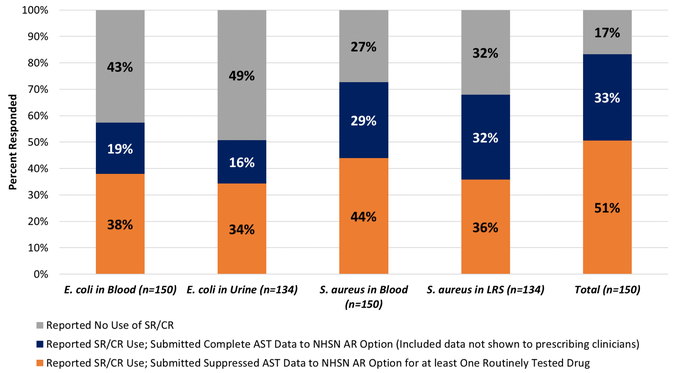
24.8% Response Rate (out of 749)

186 Completed Page 1

168 Completed Page 2

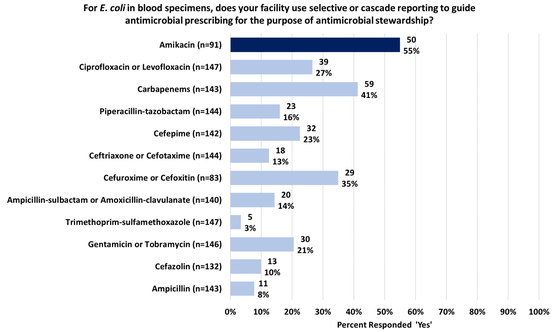


What were reported to the NHSN AR Option?

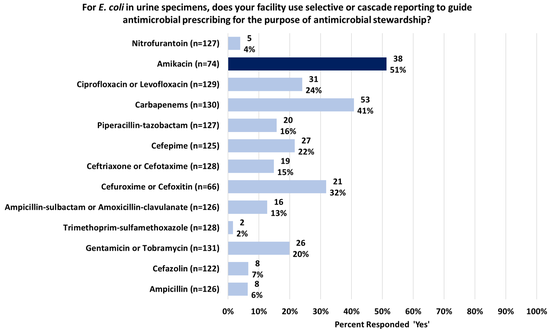


Reported SR/CR Use for Routinely Tested Drugs by Drug-Organism-Specimen

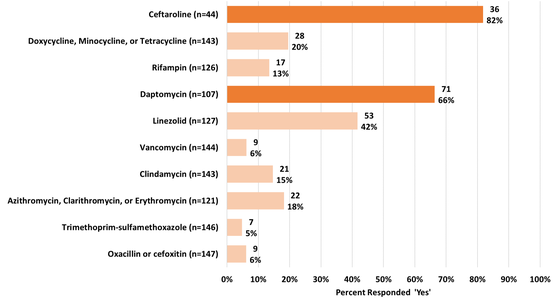
E. coli in Blood



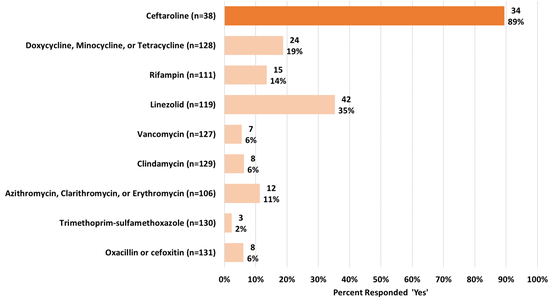
E. coli in Urine



S. aureus in Blood



S. aureus in Lower Respiratory Tract



Discussion

Based on the survey, many (51%) facilities surveyed were not extracting complete AST data to submit to the NHSN AR Option. A possible explanation may be the SR/CR algorithms embedded in their laboratory information system or electronic health record. Solutions to help facilities access and report complete AST data for public health surveillance are necessary. Qualitative interviews may help identify specific barriers.

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