

Antimicrobial Usage in Tennessee Hospitals using the National Healthcare Safety Network Antimicrobial Use and Resistance Module

Antimicrobial Use Option

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Background

- Improved use of antimicrobials is a necessity to combat growing antimicrobial resistance.
- National Healthcare Safety Network (NHSN) Antimicrobial Use (AU) Option allows hospitals to voluntarily track, analyze, and report facility antimicrobial use.
- State health departments have a unique opportunity to analyze AU data on a regional and state-wide level, providing a means of understanding AU trends and evaluating stewardship interventions.

Objectives

- To identify statewide and regional trends of antimicrobial use in hospital inpatient units using a novel data source.
- To identify limitations and considerations in using NHSN data to monitor AU in TN.

Methods

- Facility-level data was aggregated to describe statewide usage of antimicrobials among acute care and critical access hospitals that reported to the NHSN AU Option in 2017.
- AU rates were calculated as antimicrobial days of therapy (DOT) per 1,000 days present (DP) for all facilities that reported at least one month of data in 2017.
- Rates were calculated at the facility, regional, and state levels and were stratified by antimicrobial category (antibacterial/-fungal/-influenza) and specific antimicrobials used.

Definitions

- Days of Therapy (DOT):** the sum of days for which any amount of a specific antimicrobial was administered to a patient
- Includes 89 different antimicrobials stratified by route of administration
- Days Present (DP):** the number of days in which a patient spent any time in a specific unit or facility
- Reported for all individual hospital units

Discussion

- There is significant variation in regional usage of antimicrobials.
- Regional analyses of specific antimicrobials are needed to explain AU rate differences.
- A limitation of the NHSN AU Option data is the inability to distinguish between appropriate and inappropriate usage.

Conclusions

- The NHSN AU Option is a valuable resource for quickly identifying regional and statewide AU trends.
- More robust surveillance data is needed to better reflect statewide AU practices and determine the geographic and therapeutic areas in greatest need of stewardship interventions.
- Tennessee will require acute care hospitals to report to the AU option beginning January 1, 2021.

Results

Twenty-three facilities from 14 counties and 5 emergency medical service (EMS) regions reported at least one month of data to the NHSN AU Option in 2017.

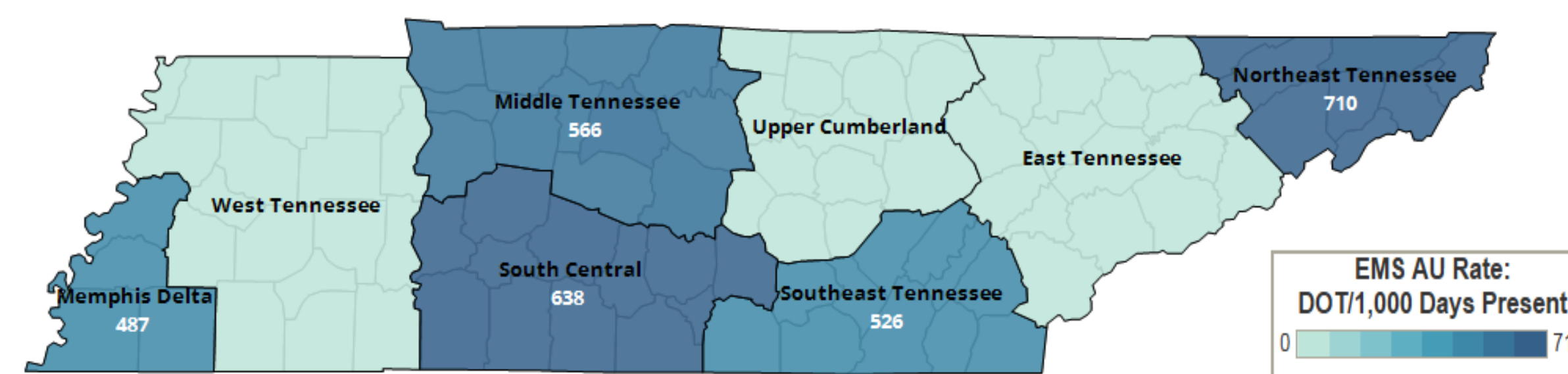


Figure 2. AU Rates by EMS Region

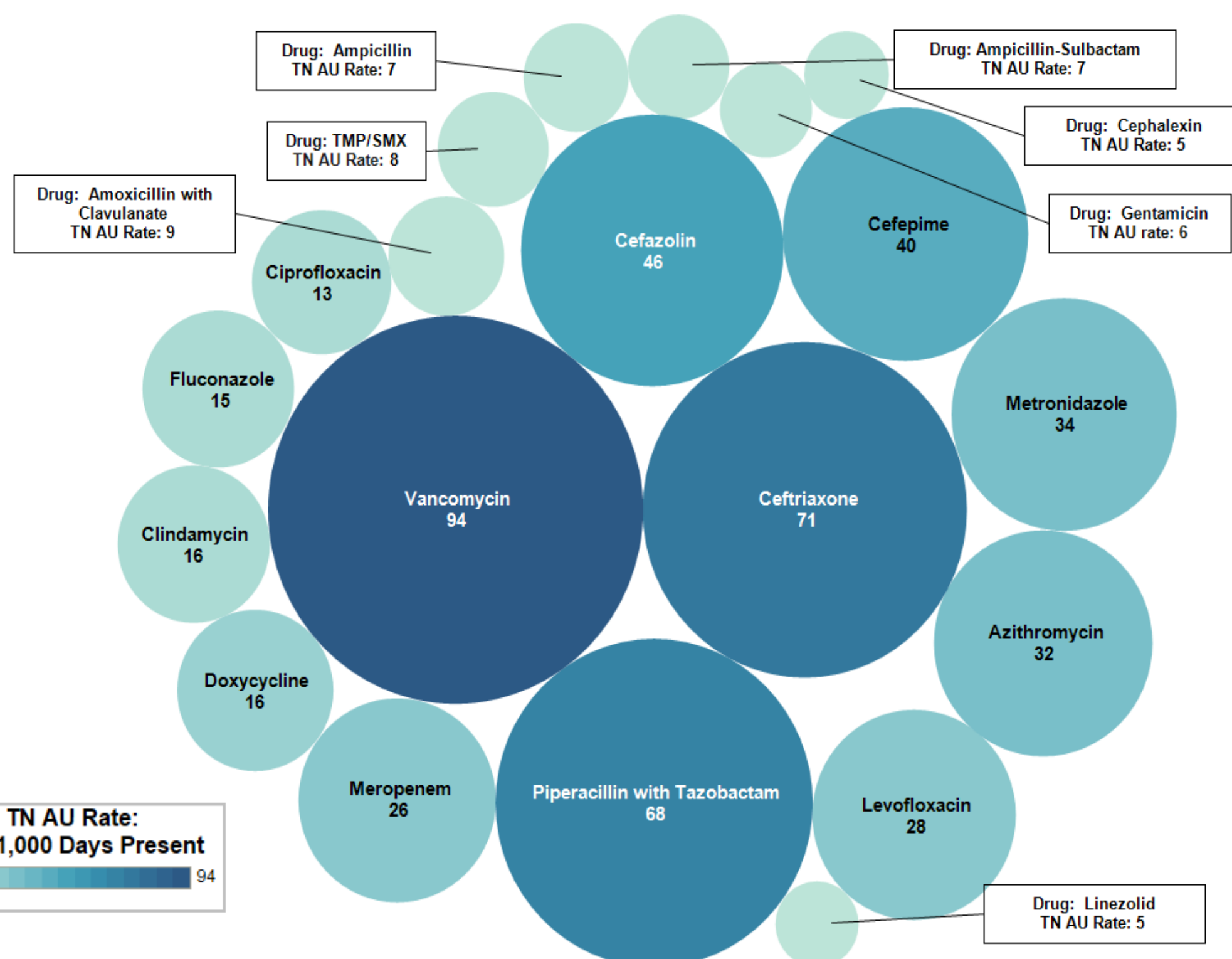


Figure 1. Top 20 antimicrobials used in Tennessee in 2017

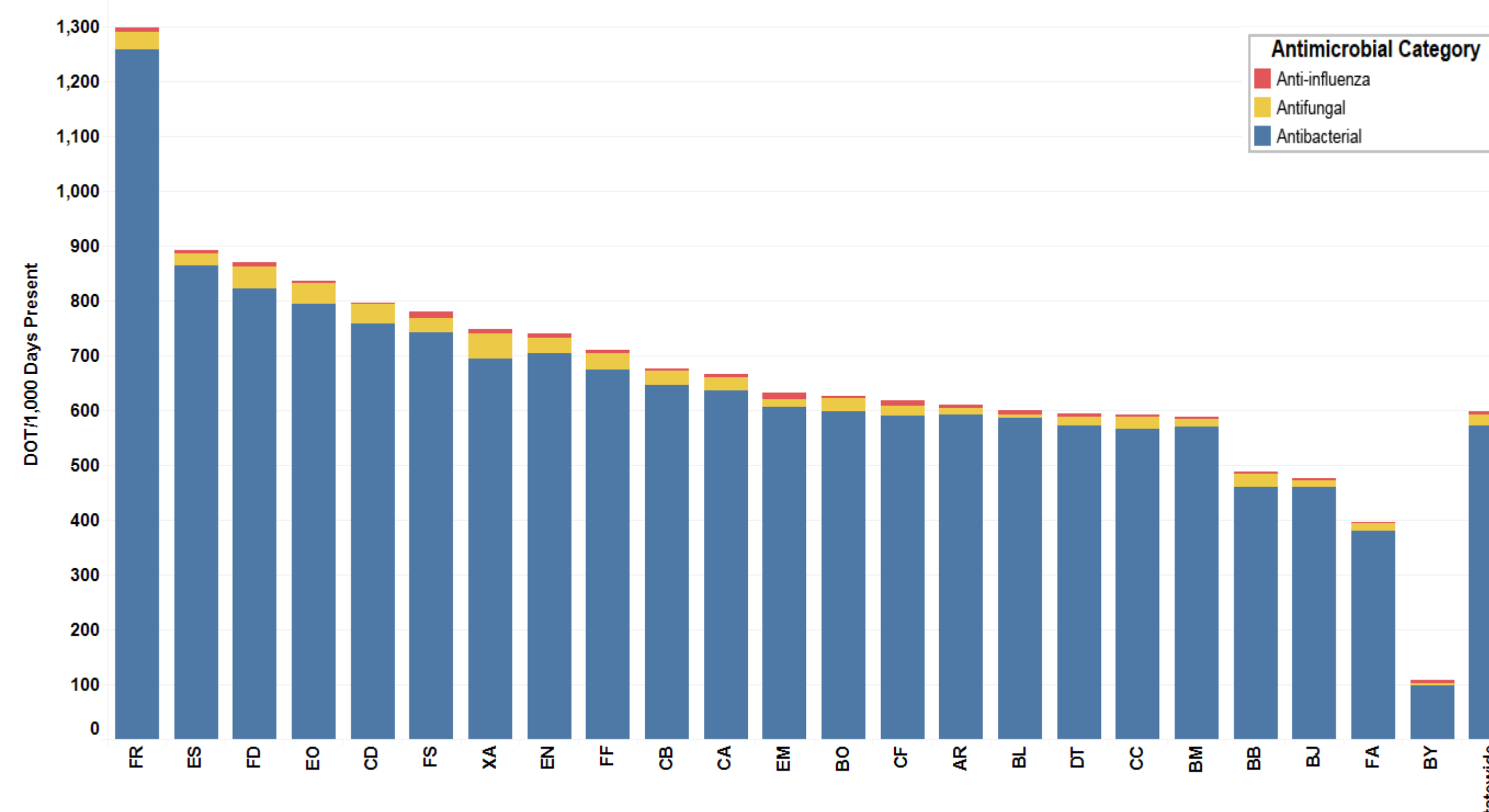


Figure 3. Facility specific AU rates by antimicrobial category

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