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

To combat the growing threat of antimicrobial resistance, greater emphasis has been placed on antimicrobial stewardship in hospitals. Using the Centers for Disease Control and Prevention National Healthcare Safety Network Antimicrobial Use and Resistance Module Antimicrobial Use (AU) Option, hospitals have the ability to voluntarily track, analyze, and report antimicrobial use in their facilities. Participation increases understanding of the volume and pattern of usage at a facility, while also providing the means to evaluate the efficacy of stewardship interventions.

The Tennessee Department of Health aggregated the facility data to describe statewide usage of antimicrobials among acute care and critical access hospitals reporting in 2017. Statewide 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 by region, antimicrobial category (Antibacterial/-fungal/-influenza), and specific antimicrobials used. Corresponding AU rates were calculated for individual facilities using the same methodology.

Twenty-three facilities from 14 counties and 5 emergency medical service regions reported at least one month of data in 2017. The statewide AU rate was 597 DOT/1,000 DP, with northeast Tennessee having the highest regional rate at 710 DOT/1,000 DP. Antibacterial agents comprised 95.7% of all antimicrobials used. Vancomycin was most often used at 94 DOT/1,000 DP followed by ceftriaxone (71 DOT/1,000 DP) and piperacillin/tazobactam (68 DOT/1,000 DP).

This analysis highlighted the value of AU reporting to quickly identify which antimicrobials were used most frequently, and highlighted regional differences statewide that can inform future antimicrobial stewardship efforts. Beginning January 1, 2021, Tennessee will require acute care hospitals to report to the AU Option, further improving surveillance efforts. More robust data will better reflect statewide AU practices and become increasingly valuable in determining geographic and therapeutic areas in greatest need of stewardship interventions.

