

increased from 8.4 per 100,000 to 10.4 per 100,000 (6.7% per year;  $P < .01$ ) (Fig. 1). Significant increases in MSSA BSI rates were also observed for nondialysis HACO cases (9.3 per 100,000 to 11.1 per 100,000; 7.8% per year;  $P < .01$ ) but not dialysis HACO cases (1,823.2 per 100,000 to 1,857.4 per 100,000; 1.4% per year;  $P = .59$ ). Healthcare risk factors for HACO cases were hospitalization in the previous year (82%), surgery (31%), dialysis (27%), and long-term care facility residence (19%). **Conclusions:** MSSA BSI rates increased from 2016–2019 overall, among all epidemiologic classes, and among nondialysis HACO cases. Efforts to prevent MSSA BSIs among individuals with healthcare risk factors, particularly those related to hospitalization, might have an impact on MSSA BSI rates.

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**Subject Category:** Surveillance/Public Health

**Reduction in outpatient antibiotic utilization: An unintended benefit of the COVID-19 pandemic?**

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**Background:** The COVID-19 pandemic heavily affected healthcare delivery systems in the United States. However, little is known about its impact on overall antimicrobial consumption, especially in outpatient settings. We assessed the impact of the COVID-19 pandemic on antimicrobial consumption in both outpatient and inpatient (acute-care, long-term care, and mental health) settings in the Veterans' Health Administration (VHA) during the 2 years before and after the start of the pandemic. **Methods:** We conducted a retrospective study for all patients who received care within the VHA from January 2018 to December 2021. We used antibiotic days as the primary outcome measure (days of therapy for inpatient

settings and dispensed days supply for outpatient settings), and we obtained data for antimicrobial consumption from the VHA Corporate Data Warehouse. Antibiotics were categorized into classes by the NHSN protocol and included only systemic agents (oral and parenteral). We defined 2018–2019 as the pre-pandemic period and 2020–2021 as the pandemic period. We compared the relative and absolute difference in antibiotic consumption between the 2 periods. **Results:** Across all periods, 8.3 million patients received care in the VHA, and an average of 28,709,680 antibiotic days were prescribed per year. Overall, 92.9% of all antibiotic days were outpatient and 7.1% were inpatient. Total antibiotic days during the pandemic period decreased by 12.4% compared to the pre-pandemic period (pandemic period: 53,613,840 and pre-pandemic period: 61,224,878). This reduction was primarily driven by reductions in outpatient settings (relative reduction: 12.7% and absolute reduction: 7,254,880 antibiotic days over 2 years), but antibiotic days in inpatient settings decreased more modestly (relative reduction: 8.4% and absolute reduction: 356,158 antibiotic days over 2 years) (Fig. 1). When frequently prescribed antimicrobials were categorized by classes, fluoroquinolones and lincosamides showed the largest decreases (fluoroquinolones: 29.2% reduction and lincosamides: 27.2% reduction). Tetracyclines and sulfamethoxazole–trimethoprim had the smallest reductions (5.2% and 11.2%, respectively). **Conclusions:** Compared to the pre-pandemic period, the pandemic was associated with a substantial reduction in overall antibiotic consumption, especially in outpatient settings, which accounted for 95% of the overall reduction despite being outside the domain of most traditional antibiotic stewardship programs. The impact of the pandemic was most modest in the use of tetracyclines and trimethoprim–sulfamethoxazole and was most prominent in the use of fluoroquinolones and lincosamides. Further studies are required to improve the causal inference between the COVID-19 pandemic and this reduction in antibiotic consumption, as well as its impact on patient outcomes.

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**Mortality rates among non-Hispanic Black and White persons in carbapenemase-producing Enterobacteriales, Tennessee, 2015–2019**

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**Background:** Carbapenem-resistant Enterobacteriales (CRE) are an urgent public health threat, particularly those that produce carbapenemase (CP-CRE). Certain risk factors associated with CRE acquisition have been well described, such as older age, indwelling devices, prior hospitalizations, and underlying conditions. However, data are limited regarding the association of CRE and health disparities, such as race and ethnicity. Published literature has consistently shown that minority groups, including but not limited to Non-Hispanic Black persons, have higher risks of developing adverse health outcomes. To better understand the impact of race and ethnicity in CP-CRE cases, we compared 1-year mortality rates among Non-Hispanic Blacks and Non-Hispanic Whites. **Methods:** CRE are reportable in Tennessee; isolates must be sent to the State Public Health Laboratory for carbapenemase detection and resistance mechanism testing. We linked 2015–2019 CP-CRE surveillance cases and laboratory data from our statewide surveillance system, the National Disease Surveillance System (NEDDS)-Base System, with the Tennessee Hospital Discharge Data System (HDDS) and vital records databases. Database linkage and data analyses were performed using SAS version 9.4 software. **Results:** Among 615 CP-CRE cases, the mean age was lower among non-Hispanic Blacks (59 years; SD, 16.6) compared to non-Hispanic Whites (mean, 65 years; SD, 15.7). Among 156 non-Hispanic Blacks with CP-CRE, 101 (64.7%) were nursing home residents, whereas 281 (71.1%) among the 395 non-Hispanic Whites were nursing home residents.

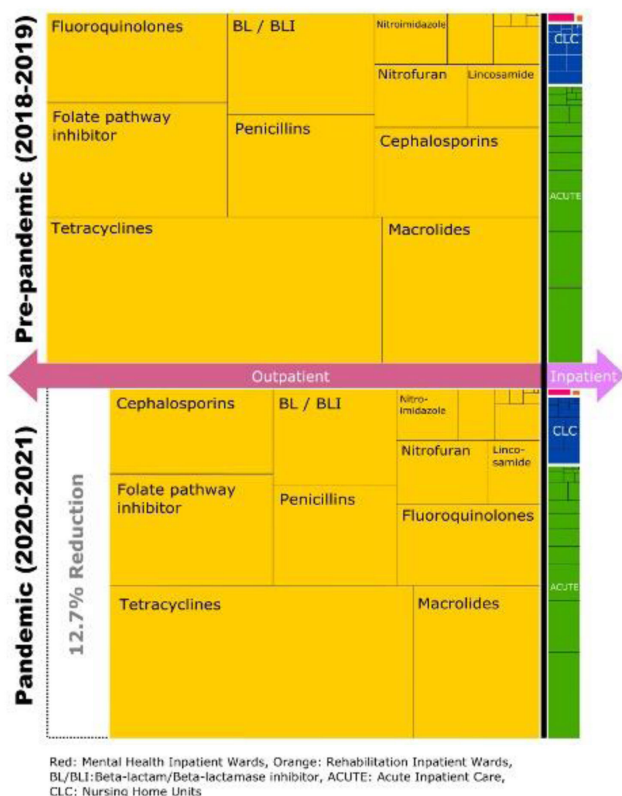


Fig. 1.