

Antibiotic Prescriptions to Black and Hispanic/LatinX Patients in the US Are Often Inappropriate

Becky McCall
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LISBON, Portugal — Two thirds of antibiotic prescriptions written for Black patients and more than half of antibiotic prescriptions for Hispanic/LatinX patients are inappropriate, according to data from a study of antibiotic prescribing habits in US doctors' offices, hospital clinics, and emergency departments.

Eric Young, PharmD, PhD, from the University of Texas, Austin, and UT Health, San Antonio, Texas, presented his work as a poster at this week's 32nd European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) 2022.

"We were really surprised mainly by the racial findings, because Black patients have the highest overall and the highest inappropriate prescribing of antibiotics," he told *Medscape Medical News*. "There was also a difference seen for age [across all ethnicities]."

Pediatric patients were found to have high overall prescribing but, notably, the lowest inappropriate prescribing among all the patient groups, reported Young. "This is interesting because oftentimes we think the more antibiotics are prescribed, then surely the greater the inappropriate prescribing would be too, but pediatricians actually have one of the lowest rates of inappropriate antibiotic prescribing. They do a great job."

The study included more than 7 billion patient visits, 11.3% of which involved an antibiotic prescription.

The rate of antibiotic prescribing was 122 per 1000 visits in Black patients and 139 per 1000 visits in Hispanic patients, while in White patients, the rate was 109 per 1000 visits. The rate was 114 per 1000 visits in patients younger than 18 years and 170 per 1000 visits in females.

Young found that almost 64% of antibiotic prescriptions written for Black patients and 58% for Hispanic patients were inappropriate. For White patients, the rate of inappropriate antibiotic prescribing was 56%. Similarly, 74% of prescriptions dispensed to patients aged 65 years and older and 58% to males were deemed inappropriate.

Kajal Bhakta, PharmD, BCACP, ambulatory care clinical pharmacist, University Health System, UT Health Science Center San Antonio, who was not involved in the study, pointed out that antibiotics are frequently prescribed without confirmation of an infection, owing to the fact that the verification process may delay care, especially in the outpatient setting.

Bhakta said that overprescribing in the elderly population and in certain ethnic groups was "likely due to socioeconomic and cultural factors. These prescribing methods may lead to unnecessary drug side effects and/or antimicrobial resistance."

Regarding the patient-doctor consultation process, she pointed out, "Older patients may have trouble describing their symptoms, and when those symptoms remain unresolved, providers may be more inclined to prescribe antibiotics to help."

Sometimes overprescribing can occur because of the logistics involved in getting to the doctor's office in the outpatient setting. "Sometimes patients struggle with transportation, as two separate trips to the doctor and pharmacy may not be feasible. Additionally, these same patients may have limited access to healthcare and therefore may use an urgent care facility for their acute infection-like symptoms," Bhakta explained.

Young, who is of Asian descent, first became interested in disparities in healthcare when he noticed that ethnic minority groups showed greater hesitancy toward COVID-19 vaccination. "I noticed that there weren't many Asians involved in previous trials and realized at this point that disparities were rampant."

Young had been involved in investigating the overall use and the inappropriate use of antibiotics across the whole US population when his interest in health disparities prompted him to study these patterns in specific demographic groups. "Most previous data are derived from inpatient studies where the physician is giving the antibiotics," said Young, who looked specifically at outpatient prescribing.

Young used prescribing data from the Centers for Disease Control and Prevention's National Ambulatory Medical Care Survey, which covers more than 5.7 billion adult (aged 18 and older) and 1.3 billion child visits to outpatient practices between 2009 and 2016 across all 50 US states and Washington, DC.

He gathered patient data on ICD-9-CM and ICD-10 diagnostic codes for infections and for diagnoses that "appeared like infections." All of the patients who were included had received at least one oral antibiotic. Antibiotic prescribing was defined as visits that included an antibiotic per 1000 total patient visits.

On the basis of previous research, Young and his colleagues then determined whether each antibiotic prescription was appropriate, possibly appropriate, or inappropriate. Patient demographics included age (younger than 18 years, 18 to 64 years, and older than 64 years), sex (male or female), race, and ethnicity (White, Black, more than one race, Hispanic/LatinX, and other). These data were used to evaluate overall and inappropriate use.

"The healthcare community needs to be really careful with the judicious use of antibiotics," Young said. "We have good guidelines on antimicrobial stewardship both in

the inpatient and outpatient settings, but sometimes we overlook the disparities and cultural implications held by some patients."

Typical examples of socioeconomic and cultural factors at play included patients not being able to afford the antibiotics, having limited access to care, or not returning for a follow-up visit for whatever reason.

"Patients of Black and Hispanic descent often don't have the same degree of established care that many White patients have," Young noted.

In the future, Young wants to conduct research into whether patients are actually taking their prescribed antibiotics, as well as their outcomes. For example, he would like to investigate whether rates of antibiotic resistance or *Clostridioides difficile* infection are higher among Black patients.

Young and Bhakta have disclosed no relevant financial relationships.

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