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EDITORIAL

The Impact of Mental Health on Antibiotic Prescribing

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The COVID-19 pandemic has shed light on the mental health of clinicians.^{1–3} More than half of health care workers report anxiety about transmitting COVID-19 to family members, concerns about their own health, difficulty balancing childcare and homeschooling, demoralization, and difficulty achieving goal standards of medical care when COVID-19 surges overwhelm health systems. These persistent stressors likely have impacts on the ability of health care workers to provide comprehensive health care.

In this issue of *The Joint Commission Journal on Quality and Patient Safety*, Brady and colleagues conducted a large, retrospective observational study reminding us that, although often unrecognized, depression and anxiety have been widespread among clinicians even prior to the COVID-19 pandemic.¹ More specifically, they investigated data from 1,668 ambulatory visits linked to annual wellness surveys administered to clinicians at Boston Medical Center in 2017 and 2018. They found that a remarkable 34% of clinicians reported depression and/or anxiety. Furthermore, each standard deviation increase in a clinician's composite depression and anxiety score was associated with a 28% increase in the odds of an inappropriate antibiotic prescription for an acute respiratory tract infection (ARTI), uncovering a concerning association between clinician mental health and antibiotic prescribing. Although the current study was conducted in the pre-COVID-19 era, it is plausible that had this work been repeated during the height of the pandemic, the unique stressors imposed by the COVID-19 pandemic would have shown an even greater prevalence of depression and/or anxiety among clinicians.^{2–4}

Clearly, clinician depression and anxiety lead to serious outcomes. Physicians commit suicide at higher rates than the general population,⁵ and physicians who commit suicide are less likely to have been treated for depression than nonphysicians who commit suicide.⁵ Stigma against mental illness is common among clinicians,⁶ and clinicians may worry about peers being aware of their seeking mental health treatment. Moreover, clinicians may have concerns about the impact of a diagnosis of a mental health disorder on their ability to become licensed by state medical boards or to access malpractice insurance.⁷

The impact of clinician depression and anxiety on antibiotic prescribing is also important, as demonstrated by Brady and colleagues.¹ In the United States, most antibiotic prescriptions are written in the outpatient setting, and a third of these are deemed not necessary.⁸ Indeed, enough antibiotic prescriptions are written in the outpatient setting that approximately half of all Americans would receive a prescription in any given year.⁸ Unnecessary antibiotic prescribing contributes to the emergence of increasingly challenging drug-resistant infections, *Clostridioides difficile* infections, adverse drug events, and unnecessary costs for patients and families.⁹ Although the mental health of clinicians requires effective and sustainable treatment strategies, approaches to mitigate the impact of clinician mental health on antibiotic prescribing are also in need of remedy. Inappropriate antibiotic prescribing is a patient safety issue, and the negative effects of unnecessary antibiotic therapy should not be overlooked. So, what can be done?

First, allowing longer patient visits and providing more administrative support may alleviate some of the stress among outpatient providers. A 2015 survey found that the majority of primary care providers (PCPs) in the United States believe that they needed 18% to 30% more time for each patient than their visit templates allow,¹⁰ underscoring a common belief that shorter visits compromise the care provided to patients.¹¹ During these short visits, PCPs perform a myriad of tasks, such as navigating complex electronic health records, and screening, diagnosing, treating, and preventing disease. Discussions with patients about when antibiotics are not needed takes time, and PCPs may struggle to provide adequate counseling about antibiotics in a brief encounter. Moreover, PCP time spent on patient care outside of visits has also increased substantially.¹² While more sustainable approaches to tackling the mental health of PCPs are being investigated, allowing longer visits and additional administrative resources may enable PCPs to discuss patient concerns in a more relaxed atmosphere.

Second, physician mental health has been associated with poorer scores on patient-physician communication.¹³ Assisting clinicians with techniques to improve communication with patients about antibiotic use can improve antibiotic prescribing compliance and improve satisfaction among both clinicians and patients. Patients are more willing to believe that antibiotics are not necessary if they feel that their clinician is taking their concerns seriously. A combination of symptomatic treatment recommendations with explanations about why patients do not need antibiotics is

associated with high visit ratings by patients and families as well as reduced antibiotic use.¹⁴ Mangione-Smith and colleagues have developed simple talking points to help ambulatory clinicians with addressing patients and family members presenting with ARTIs. They found that patients are less likely to expect antibiotics for “chest colds” than for “bronchitis” and recommend combining explanations for why antibiotics are not needed with positive treatment recommendations.^{14–16} Assisting ambulatory clinicians with adapting these communication techniques can improve patient satisfaction, reduce clinician triggers of anxiety and depression, and, in turn, reduce inappropriate antibiotic prescribing for ARTIs.

In addition, development of ambulatory antibiotic stewardship programs (ASPs) can reduce the onus of addressing challenging antibiotic discussions about ARTIs on any one clinician and replace it with a practice-based approach. ASPs adapted to the ambulatory setting are recommended by The Joint Commission, the Centers for Disease Control and Prevention, and the Centers for Medicare & Medicaid Services as mechanisms of optimizing antibiotic prescribing.^{17–19} However, approaches to successfully operationalize ASPs in the outpatient setting have not been well established. We previously developed the AHRQ [Agency for Healthcare Research and Quality] Safety Program for Improving Antibiotic Use in the Ambulatory Setting.²⁰ The overarching goal of the Safety Program was to provide front-line clinicians with tools to incorporate stewardship principles into routine antibiotic decision making through improving teamwork and communication among practices as well as between health care providers and patients, education on best practices in the diagnosis and treatment of common ambulatory infectious conditions, and establishing the science of safety as an integral component of ASPs. We worked closely with 389 outpatient clinics in the United States over a one-year period and established ASPs using the Safety Program content. This work led to a 50% reduction in antibiotic prescribing across clinic visits and a 64% decrease in antibiotic prescribing for ARTIs (publication forthcoming). The content of the Safety Program will soon be publicly available to assist practices across the United States with establishing robust and sustainable ASPs, which may remove some of the emotional toll associated with antibiotic decision making from individual providers.

We applaud Brady and colleagues for shedding light on an important and unrecognized area in need of intervention—the impact of provider mental health on inappropriate antibiotic prescribing. While solutions to the root causes of depression and anxiety among outpatient providers are being investigated, relaxing time restraints on visits, assisting providers with successful patient communication techniques, and establishing outpatient ASPs may reduce some of the triggers of both mental health issues and inappropriate antibiotic prescribing.

Conflicts of Interest. The authors report no conflicts of interest.

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