

Antibiotics are powerful, bacteria-killing drugs that can save lives. Unfortunately, not everyone uses antibiotics correctly, and when used improperly, antibiotics can lead to more severe infections and sickness, longer recovery times and bacteria becoming resistant to them.

Overall, about 1 in 3 antibiotic prescriptions that doctors write in outpatient settings – such as doctors' offices and urgent cares – are unnecessary. To put that into perspective, each year, **47 million unnecessary antibiotic prescriptions are written in US doctors' offices and emergency departments** – accounting for 1 percent of total prescriptions dispensed in the US, per 2015 data from the IMS Institute for Healthcare Informatics.

Another side effect of inappropriate antibiotic usage is the growth of bacteria that are resistant to antibiotics, making infections harder to cure. And according to the Centers for Disease Control and Prevention (CDC), antibiotic resistance is a growing health issue in the United States, accounting for 23,000 deaths and more than 2 million illnesses each year. By comparison, the opioid crisis claimed 33,000 deaths in the US in 2015.

A National Issue

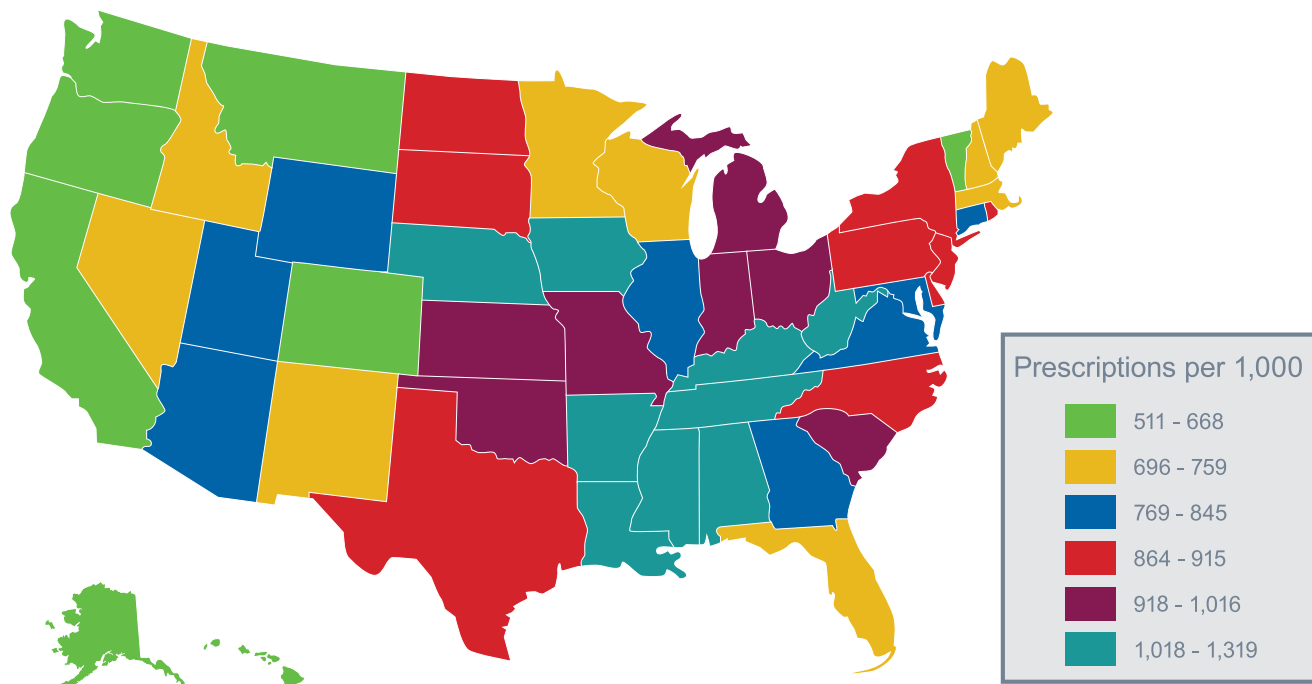
The majority of the unnecessary antibiotic prescriptions are given to patients suffering from respiratory conditions such as the common cold and bronchitis – conditions which cannot be cured by antibiotics because they are most commonly caused by viruses. Despite this fact, these types of illnesses are continually treated with antibiotics; in all, multiple sources indicate that upwards of 50 percent of antibiotic prescriptions for acute respiratory illnesses are unnecessary.

For example, the CDC estimates that healthy adults seeking treatment for acute bronchitis – a viral infection that cannot be treated with an antibiotic – **only received the correct treatment 20 percent of the time.**

As a result of inappropriate antibiotic prescribing, the patient population is put at risk of rashes, allergic reactions and nausea, as well as more severe conditions such as Clostridium Difficile, a bacterial infection that manifests as a serious case of diarrhea.

Data show that antibiotics are prescribed more frequently in states in the Southern and Appalachian regions.

Community Antibiotic Prescriptions per 1,000 by State in 2015



Atrium Health's Approach

Atrium Health creates internal awareness and interventions through its Antimicrobial Support Network and inpatient acute care collaborative, which both work with clinicians to ensure patients are prescribed the most appropriate antibiotics. Through a partnership with the CDC and the North Carolina Hospital Association, our stewardship programs study the optimal selection, dose and duration of an antibiotic.

Atrium Health also has a stewardship network for doctors' offices, which collaborates with patients and doctors to improve antibiotic awareness and encourage judicious prescribing in the outpatient setting. The ultimate goal of all of Atrium Health's stewardship programs is to prevent or cure the infection with minimal unintended consequence for the patient, leading to improved patient care and safety.

Lisa Davidson, MD, medical director of Atrium Health's Antimicrobial Support Network, says that physicians are being taught to prescribe more narrow-spectrum antibiotics rather than broad-spectrum antibiotics – and for a shorter period of time.

Since its conception in 2013, the Antimicrobial Support Network has shown improved results, **decreasing antimicrobial utilization by 15 to 20 percent.** Work continues to educate providers and patients on this increasingly important issue.

A new area of focus in 2017 is education around urinary tract infections, as studies show that up to 83 percent of patients are unnecessarily treated with antibiotics due to bacteria found in their urine. An internal campaign equips clinicians with educational tools to help them decide whether a patient needs urine tests and treatment for UTIs.

Educating the public is also an important factor in preventing an increase in illnesses and deaths.

"On the outpatient side, we are developing more materials, both online and in the practice setting, so patients have a plethora of educational resources at their fingertips," says Dr. Davidson.

For more resources and information, visit [AtriumHealth.org/Germs](https://www.AtriumHealth.org/Germs).