

4 ways to cut inappropriate antibiotic prescribing

MAY 14, 2021

Sara Berg, MS

Senior News Writer

By improving antibiotic use, hospitals can combat the growing threat of antibiotic-resistant bacteria. This is even more imperative now as the COVID-19 pandemic continues and a large number of patients are hospitalized. Recent research from the Pew Charitable Trusts shows that in the first six months of the pandemic, 52% of hospitalized COVID-19 patients in the U.S. received at least one antibiotic, yet only a fraction of these patients had common bacterial infections. But hospitals can reduce inappropriate antibiotic prescribing to prevent resistance.

The Pew Charitable Trusts partnered with the Centers for Disease Control and Prevention (CDC) and other public health and medical experts to evaluate antibiotic use in hospitals and set national targets to improve prescribing. For the report, “Health Experts Establish Targets to Improve Hospital Antibiotic Prescribing,” the experts used national prescribing data to examine the use of vancomycin and fluoroquinolones antibiotics. The report also looked at antibiotic treatments associated with community-acquired pneumonia and urinary tract infections.

Additionally, in the *JAMA Network Open* study, “Assessment of the Appropriateness of Antimicrobial Use in U.S. Hospitals,” the CDC evaluated the appropriateness of antibiotic prescribing in U.S. hospitals. The study, based on data gathered in 2015, creates a baseline to understanding what is going on in this country regarding antibiotic use to reduce prescribing and harm to the patient.

Overall, nearly 56% of the prescriptions examined were inappropriate or unsupported. For community-acquired pneumonia, that number was as high as 79.5%. The common reasons for this unsupported use included long duration, antimicrobial selection that deviated from guidelines, absence of documented signs or symptoms of infection and lack of microbiologic evidence of infection, says the study.

While the data is from six years ago, “it reflects the state of what prescribing looked like in 2015, but that year was chosen as an important benchmark because that’s the year that the United States launched its national action plan to combat antibiotic resistance,” said Arjun Srinivasan, MD, associate director for Healthcare-Associated Infection Prevention Programs in the Division of Healthcare Quality

Promotion at the CDC. “A lot has happened between 2015 and now, and the goal will be—now that we have established a rigorous methodology for doing this type of assessment—to apply that same method again in the future so that we can have this type of assessment on a regular basis to understand if we’re making progress.”

“When this study was done in 2015, about half of all the hospitals in the United States had a formal stewardship program that applied all of the CDC’s seven recommendations for antibiotic stewardship programs,” said Dr. Srinivasan. “Then in 2019, the most recent year that we have data for, about 90% of hospitals had programs with all seven of those elements in place.

“There has been a tremendous amount of work and effort that’s gone into improving antibiotic stewardship and prescribing in hospitals,” he added. “What we hope is that the next time we do this type of study and we evaluate hospital antibiotic use, we are indeed going to see improvements.”

In U.S. hospitals, nearly 60% of patients receive antibiotics during their stays. This volume of inpatient prescribing signals the need for hospitals to minimize inappropriate antibiotic use. David Hyun, MD, director of Pew’s antibiotic resistance project, shares how.

Understand appropriateness

“Individual hospitals or health systems can look at the [CDC] study and at the definitions of appropriateness that were used and apply the same analytical methods to their own prescribing within their facilities that are in need of improvements,” said Dr. Hyun. “And when it comes to antibiotic prescribing, these national numbers can also provide some degree of comparison for the hospitals to see how they’re performing compared to the average numbers that are published in this study.

Discover three ways to slow spread of deadly antibiotic-resistant infections.

Track and report antibiotic use

Hospitals should also “participate in tracking and reporting antibiotic use primarily through the CDC’s National Healthcare Safety Network [NHSN],” said Dr. Hyun. “The CDC’s NHSN has a system in place where hospitals currently can submit their antibiotic use data.

“What that provides for stewardship programs is a way for hospitals to compare their numbers against the prescribing numbers of other hospitals that have similar types of care units and demographics,” he added, noting that Pew’s report is there to “encourage hospitals to participate in that reporting.”

Keep up to date on guidelines

“One of the key findings in [CDC’s] report, especially when you look at the example of the antibiotic use prescribing patterns in community-acquired pneumonia, is a lot of these antibiotic therapies were categorized as inappropriate because they exceeded the recommended duration of treatment,” said Dr. Hyun.

“There’s been a concerted effort to revisit a lot of the previously established treatment duration guidelines of how many days of treatments are appropriately needed,” he said. Doctors “may need to revisit a lot of this to make sure they are being kept up to date on the most recent updated guidelines.”

Work with stewardship programs

It is also important for physicians “to work hand in hand with their stewardship programs,” said Dr. Hyun. “What stewardship programs are there for is really to help facilitate the providers’ clinical decision-making and make sure that the clinicians are working with the most up to date guidance and information.”

Stewardship programs also help provide “actual clinical data in real time,” he said, adding that it’s about “trying to bring that all together and help make the best antibiotic decisions.

Learn more from the CDC about the core elements of antibiotic stewardship, including for hospitals, outpatient settings, nursing homes and resource-limited settings.