

# Letter to the Editor: The Pundit Speaks

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## “Antibiotic Adverse Events are Common”

New research shows that about one in five patients prescribed antibiotics during a hospital stay experiences at least one adverse drug event (ADE), which is sometimes not apparent until after they are discharged. Even more alarming, in a substantial proportion of cases, the prescribed antibiotics are not clinically indicated, which means the associated ADEs (allergic reactions, end-organ toxic effects, or subsequent infection with antibiotic-resistant organisms or with *Clostridium difficile*) are avoidable. ADEs included GI, dermatologic, musculoskeletal, hematologic, hepatobiliary, renal, cardiac, and neurologic events occurring within 30 days after patients began taking the drug, as well as *C. difficile* infections or new multidrug-resistant infections within 90 days. In the new study, by Dr. Pranita D. Tamma, who directs the pediatric antimicrobial stewardship program, Johns Hopkins Hospital, the most common indications for antibiotic treatment were urinary tract infections, skin and soft tissue infections, and community-acquired pneumonia. The most frequently prescribed antibiotics were third-generation cephalosporins, parenteral vancomycin, and cefepime. Study results showed that one-fifth of the patients experienced at least one antibiotic-associated ADE, as reported in *JAMA Internal Medicine*. Shockingly, a full 97% of the 324 documented ADEs were considered clinically significant because they resulted in new or prolonged hospitalization, additional clinic or emergency department visits, or additional diagnostic procedures. Most ADEs occurred during hospitalization, but nearly a quarter of them emerged after patients were discharged, including 11 cases of *C. difficile* and 44 multi-drug resistant infections. When ADEs occur after discharge, patients may present to an urgent care center, an emergency department, or their primary care provider. Dr. Tamma said, “As a result, the (hospital’s) clinicians don’t receive the feedback that the antibiotics they prescribed—sometimes in the setting of knowing they probably weren’t necessary but recommended them ‘just in case’—led to real harm in a patient.” Tamma also said, “In addition to the potential for causing immediate harm, “we need to be very careful in how antibiotics are used because if they are prescribed indiscriminately, we will continue to see bacteria evolve and develop resistance to available antibiotics.” A common antibiotic myth is that to prevent resistance, patients must complete every dose of antibiotics prescribed, even after they feel better. Surprisingly, there are no data to support this. Antibiotics must not be prescribed to patients who do not have bacterial infections. When appropriate, prescribe the narrowest-spectrum agent and for the shortest duration to treat infections. Patients should not be instructed to take every dose prescribed even after they feel better. If your symptoms resolve before completing the therapy course, call your doctor to discuss whether you should stop the antibiotic course early.

In the America that I love, please use antibiotics with caution.

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