

# Outpatient antibiotics raise risk for acquiring *C. difficile* infection in the community

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Outpatient antibiotic use is a primary risk factor for acquiring *Clostridium difficile* infection in the community, reinforcing the need for appropriate prescribing in this setting, a new study published in *Open Forum Infectious Diseases* confirms. The findings also suggest that a recent visit to the emergency department, independent of antibiotic use, may also be a risk factor for the infection, which can cause life-threatening diarrhea.

Although mostly associated with antibiotic use in hospitalized patients, *C. difficile* infections in people in the community have become more common. As of 2014, they accounted for 41 percent of all *C. difficile* infections, according to the Centers for Disease Control and Prevention (CDC). In this new case-control study, researchers enrolled adult patients from 10 U.S. sites during 2014-2015 who tested positive for *C. difficile* as an outpatient, or within three days of being hospitalized, and who had not been admitted to a [health care](#) facility within the past 12 weeks.

Each patient was matched to a person who did not have a *C. difficile* [infection](#) as a control. All of the study participants—452 total—were interviewed individually by phone to collect information about their health, medication use, recent health care visits, household exposures, and diet. In line with previous studies, larger percentages of patients with community-associated *C. difficile* infections had prior outpatient health care visits (82 percent) and had taken [antibiotics](#) (62 percent), compared

to individuals who were not infected (58 percent and 10 percent, respectively).

Notably, the new analysis also found that receiving care in an [emergency department](#) within the past three months was associated with *C. difficile* infection, independent of antibiotic use, suggesting emergency rooms may be a source of the infection in the community. More study is needed to clarify to what degree emergency departments may contribute to the transmission of *C. difficile* in the community, the study authors noted. High patient turnover, in addition to longer duration and frequency of contact with health care providers and the environment, may help explain why this setting and others that share similar characteristics potentially pose a higher risk for *C. difficile* transmission, said study author Alice Y. Guh, MD, MPH, of CDC.

The most commonly reported indications for recent outpatient antibiotic use by patients in the study included ear, sinus, and upper respiratory infections and prophylactic antibiotics prior to dental procedures. Previous research has suggested that up to half, if not more, of outpatient antibiotic prescriptions for these indications are unnecessary or inconsistent with current guidelines.

"There's a lot of work that needs to be done in terms of improving outpatient prescribing practices and making sure that providers are appropriately prescribing antibiotics," Dr. Guh said. "Health-care associated *C. difficile* infection is still a huge burden, but there is increasingly more recognition that community-associated *C. difficile* can occur. Outpatient antibiotic use is a risk factor, and we need to improve antibiotic stewardship not just in inpatient settings but also outpatient settings."

## Fast Facts

- Outpatient antibiotic use is a primary risk factor for acquiring C. difficile infection in the community, an increasingly common condition, a new study confirms.
- A recent visit to the emergency department, independent of antibiotic use, may also be a risk factor for community-associated C. difficile infection, the findings suggest.
- The most commonly reported indications for outpatient antibiotic use were ear, sinus, and [upper respiratory infections](#) and prophylactic antibiotics prior to dental procedures.

Provided by Infectious Diseases Society of America

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