

# C difficile Prescriptions Often Stray From Guidelines

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ATLANTA — Adherence to treatment guidelines is low in the outpatient treatment of *Clostridium difficile* infection, particularly for severe cases, and the potential consequences are troubling, researchers report here at the International Conference on Emerging Infectious Diseases.

The team, led by Rebecca Perlmutter, MPH, from the Maryland Department of Health and Mental Hygiene in Baltimore, found that "overtreatment was common, in terms of higher dose and higher frequency, and undertreatment — using a less-intense drug — was also common."

The investigators examined 2013 and 2014 surveillance data from 11 counties in Maryland. Of the 604 patients with treatment data, 264 were cared for as outpatients.

For those with severe infection, defined as a Charlson score of at least 5, treatment was in compliance in only 13% of cases. In fact, 70% got the wrong drug, and when the right drug was given, half got the wrong dose and 20% got the wrong frequency," Perlmutter said. "This is horrifying to me."

For severe infection, guidelines from the Society for Healthcare Epidemiology of America and Infectious Diseases Society of America (IDSA) recommend vancomycin 125 mg four times per day. And for mild to moderate infection, recommended treatment in IDSA guidelines includes metronidazole 500 mg three times per day.

## **Wrong Drug, Inappropriate Dosing**

The majority of patients in this study, 77%, received metronidazole instead of vancomycin.

For patients treated with vancomycin, 36% received 125 mg four times daily, 43% received 250 mg four times daily, and 5% received doses as high as 500 mg four times daily. In 17% of cases, dose was not indicated.

Treatment documentation on the whole was poor, Perlmutter pointed out. There was no documentation of treatment in 23% of cases, and when there was documentation, more than 30% of charts did not indicate the duration of treatment, which is an important measure.

There were several limitations to the study. It was not designed to look at the justification for treatment deviation, which could involve issues such as allergies. And it did not distinguish new from recurrent infections, although treatment guidelines can be different for recurrent cases.

In addition, patient age was not given, although there are differences in treatment for different age groups, particularly children, and clinical judgment was not taken into account.

Outcomes were not considered in the study. "One question this raises is whether overtreatment causes negative effects, or whether it results in better outcomes," Perlmutter explained.

The findings, nevertheless, provide a troubling snapshot of prescribing patterns for outpatients that fall well outside of treatment guidelines, said Clifford McDonald, MD, from the Centers for Disease Control and Prevention.

### **A Troubling Snapshot**

"Given reports from inpatient settings where there is likely to be more familiarity with the guidelines, it is, unfortunately, not surprising and therefore clearly important to point out the need to do more to improve adherence, especially in the treatment of severe disease," Dr McDonald said.

"Most concerning in terms of outcomes is undertreatment with vancomycin in severe cases," he pointed out.

For inpatients, similar trends have been observed and have been linked to worse outcomes (*J Hosp Infect.* [2013;85:28-32](#)).

Although stewardship programs can offer improvement in the treatment of inpatients, the situation is more challenging in the outpatient setting. "A question is whether hospital inpatient stewardship programs could also help with this problem in the outpatient setting, at least among those outpatients diagnosed through their labs, if nothing else than by education of their physicians," Dr McDonald explained.

"Another consideration would be for local and state health departments to consider audits similar to this one, combined with education of clinicians. Perhaps laboratories could include reference to the guidance along with a positive lab result," Dr McDonald explained.

For outpatients with mild to moderate *C difficile* infection in this study, treatment was in full compliance with guidelines in 62% of cases.

A total of 71% of patients had mild to moderate infection, defined as a Charlson score of 0 to 4. Treatment included vancomycin in 13% of patients and metronidazole in 89% of patients.

For patients with mild to moderate infection, 88% received the recommended antibiotic, Perlmutter reported. "But 22% who got the right drug still received the wrong dose."

*Ms Perlmutter and Dr McDonald have disclosed no relevant financial relationships.*

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