

Responding to 'C. diff'—concerted action needed to control health care-related infection

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Appropriate use of antibiotics is a critical step toward controlling the ongoing epidemic of health care-related *Clostridium difficile* infection (CDI), according to a special article in the November issue of *Infectious Diseases in Clinical Practice*.

The NFID Clinical Update emphasizes the urgent need for prevention steps to reduce the growing burden of C-diff infection in the population. Summarizing a recent NFID webinar by Drs. Carolyn V. Gould and L. Clifford McDonald of the Centers for Disease Control and Prevention (CDC), the article was authored by the presenters along with Dr. Thomas M. File, Jr., Editor-in-Chief of *Infectious Diseases in Clinical Practice*.

'Antibiotic Stewardship' Is Key to Fighting *C. difficile* Infection

Sometimes called "C-diff," *Clostridium difficile* is a type of bacteria that can cause serious, potentially life-threatening cause of diarrhea. Spores of *Clostridium difficile* can persist on any surface, device, or material, allowing the infection to spread easily. In 2011, the total number of CDI cases in the United States was estimated at over 450,000. The same study reported 29,000 deaths within 30 days after CDI diagnosis, at least half of which were likely attributable to C-diff.

Although *Clostridium difficile* is a significant hospital-acquired infection, three-fourths of CDI cases are now diagnosed outside of

hospitals. However, studies suggest that more than 80 percent of patients with "community-associated" C-diff have a recent healthcare exposure, such as visits to a doctor or dentist.

Previous antibiotic treatment is the most important risk factor for CDI. Antibiotics can disrupt the normal balance of bacteria in the intestines, providing an environment where *C. difficile spores* can multiply and produce diarrhea-causing toxins. The incidence of CDI rose dramatically in the past decade, likely related to the emergence of a variant C-diff strain (NAP1/207) that is more virulent and more resistant to antibiotics.

Appropriate use of antibiotics—or "antibiotic stewardship"—is considered essential for meaningful reduction in CDI rates. Recent studies have identified key elements for successful hospital antibiotic stewardship programs, including avoiding unnecessary antibiotic treatment and choosing antibiotics with a lower risk of CDI, when possible. In the United Kingdom, a national antibiotic stewardship program reduced hospital CDI rates by more than 60 percent.

The CDC has identified six key components of efforts to prevent CDI:

- Careful prescribing and use of antibiotics
- Early and reliable diagnosis
- Immediate isolation of infected patients
- Contact precautions—wearing gloves and gowns for all contact with the patient and patient-care environment
- Adequate cleaning of the patient care environment, including the use of an EPA-registered *C. difficile* sporicidal disinfectant
- Effective communication about CDI status when patients are transferred between healthcare facilities

Drs. Gould, McDonald, and File hope their clinical update will increase awareness of the C-diff epidemic and measures to limit its impact. They

conclude, "The current epidemiology of CDI necessitates active participation from all segments of the healthcare community in a comprehensive approach to reduce the burden of CDI through effective antibiotic stewardship and active measures to reduce spore transmission."

More information: Carolyn V. Gould et al. Causes, Burden, and Prevention of Clostridium difficile Infection, *Infectious Diseases in Clinical Practice* (2015). [DOI: 10.1097/IPC.0000000000000331](https://doi.org/10.1097/IPC.0000000000000331)

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