

Journal of Parenteral and Enteral Nutrition

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Seeing a Difference in *C. diff*

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JPEN J Parenter Enteral Nutr 2012 36: 625

DOI: 10.1177/0148607112464856

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Journal of Parenteral and Enteral
 Nutrition
 Volume 36 Number 6
 November 2012 625
 © 2012 American Society
 for Parenteral and Enteral Nutrition
 DOI: 10.1177/0148607112464856
<http://jpen.sagepub.com>
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With the 2012 presidential election at its peak as this issue of *JPEN* arrives in your mailbox, much debate on the Affordable Care Act has recently occurred. What is not debatable is that *Clostridium difficile* is a difficult-to-manage healthcare-associated infection. Indeed, hospitalizations with *C. difficile* as a diagnosis have skyrocketed >3-fold over the past 20 years in the United States.¹ Altruistic interest in quality care, in addition to regulatory and financial pressures imposed by the Affordable Care Act, motivate the search for solutions to this problem. It's a concern that will not go away until this deadly pathogen is stopped.

Resources to help this effort are available. The National Healthcare Safety Network has an up-to-date detailed protocol.² In addition, the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Disease Society of America (IDSA) have published well-utilized clinical guidelines.³ However, given this prevalent problem, widespread knowledge and implementation of these recommended approaches are also needed.

Knowledge, attitudes, and practice regarding *Clostridium difficile* were recently surveyed by Fayerberg and associates⁴ within a large academic medical center. Significant gaps in knowledge and practice among physician responders were identified. Gaps in knowledge existed in multiple areas ranging from diagnosis through treatment, compared with the published clinical guidelines and the institution's own policy. Other reports indicate that this knowledge gap is not unique to this facility, but also exists among US internal medicine residents⁵, practicing pediatricians⁶, and various groups of clinicians in the United Kingdom.⁷

With this knowledge gap in mind, this issue of *JPEN* contains an Invited Review by Dr. Edmiston and colleagues, titled, "*Clostridium difficile*: Epidemiology, Pathogenesis, Management, and Prevention of a Recalcitrant Healthcare-Associated Pathogen."⁸ This comprehensive review will serve as a go-to reference for critical knowledge spanning microbial virulence through infection management and prevention.

As efforts continue to combat this difficult healthcare-associated pathogen, do keep abreast of advances in knowledge. Since the review by Dr. Edmiston's group was published online, new relevant publications have appeared in the literature regarding alternative therapies in the early stage of study. A large meta-analysis by Hempel and associates⁹, including 63 randomized controlled trials with 11,811 participants, disclose pooled evidence indicating that probiotics are associated with a reduction in antibiotic-associated diarrhea. Additional study is needed to determine specific impact among various populations, inciting antibiotic and probiotic preparation.

A Canadian working group with members spanning a broad range of expertise recently published a report on fecal microbial therapy with a specific emphasis on the treatment of *C. difficile* colitis.¹⁰ The report highlights the promise of "microbial ecosystems therapeutics" (MET), in addition to identifying pressing clinical issues as well as social, ethical, and regulatory barriers. These investigators make a case for the following four priorities for future studies: (1) obtaining better *C. difficile* epidemiological data; (2) establishing improved and more standardized methods for detecting recurrent *C. difficile* infection; (3) standardizing donor screening; and (4) standardizing MET preparation and administration. Further, a need for understanding the implications of diet, other gastrointestinal colonizing pathogens, preexisting diagnoses, and synthetic stool transplants are also discussed.

Beyond desire and willpower, overcoming the challenge of *C. difficile* infection will require widespread education, systematic implementation of guidelines and protocols, and strategic research efforts.

Educate yourself, watch for new knowledge in the literature, and engage in the conversation.

JPEN, Editor-in-Chief

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