

refining criteria for reflex urine cultures on the basis of urinalysis and the implementation of evidence-based algorithms to guide urine culture obtainment. We urge other ASPs to make similar efforts to educate medical staff, reinforcing that bacteriuria should not be treated in the absence of symptoms.

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Jessica L. Elefritz, PharmD;¹ Meredith Deutscher, MD;²
Kurt B. Stevenson, MD, MPH;³
Erica E. Reed, PharmD, BCPS¹

Affiliations: 1. Department of Pharmacy, Ohio State University Wexner Medical Center, Columbus, Ohio; 2. Department of Infectious Diseases, Kaiser Permanente, Northern California, Roseville, California; 3. Division of Infectious Diseases, College of Medicine, Ohio State University, Columbus, Ohio.

Address correspondence to Erica E. Reed, PharmD, BCPS, 368 Doan Hall, 410 West 10th Avenue, Columbus, OH 43210 (erica.reed@osumc.edu).

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Hospital *Clostridium difficile* Infection Testing Rates: Is “Don’t Ask, Don’t Tell” at Play?

To the Editor—Interinstitution comparisons of infection rates rely on infection end points that accurately reflect true incident disease and that are consistently measured across centers. A recent article by Haley and colleagues¹ takes important steps toward improving the reporting on *Clostridium difficile* infection (CDI) rates. In their study of 3,458 reported hospital-onset CDI cases in 124 hospitals in New York state, they assess the potential for 3 measures (numerator audit, denominator correction, and age adjustment) to improve the accuracy of hospital incidence classification. Comfortingly, their original measure is relatively robust. Combined, these 3 measures do not result in much reclassification; 6% of hospitals are reclassified into higher risk groups, and 6% are reclassified into a lower risk group. Furthermore, the most influential of the 3 factors was denominator correction, and this correction is easy to implement: hospitals need only to use their information systems to subtract hospital-days of patient stays of less than 4 calendar-days. All in all, it is an easy message to relay to hospital systems instituting mandatory reporting of CDI rates: “mind your denominator!”² But should we really be consoled, or are there other issues with CDI reporting lurking below the surface?

We would like to point out a potential source of bias that has not been addressed in the literature on CDI reporting: CDI testing rates. Figure 1A shows a 14-fold variation in *C. difficile* testing rates (from less than 10 to 140 tests per 10,000 patient days) across tertiary hospitals in European countries that correlates strongly with CDI incidence ($R^2 = 0.64$; data retrieved from Bauer et al³). Now, this relationship may in fact reflect the higher incidence of CDI in high-testing countries, because increased test positivity may spur increases in testing levels.⁴ However, as Figure 1B shows, there is no such correlation ($R^2 = 0.00$).

The National Healthcare Safety Network surveillance definitions attempt to standardize testing rates.⁵ Specifically, all unformed stool specimens that are sent to the hospital laboratory are subjected to CDI testing, and repeat specimens obtained within 2 weeks are considered to be duplicates and not reported, but these measures do not specify who should or should not undergo testing. Are samples from all patients with diarrhea tested, or only a portion? And what is considered diarrhea?⁶ These ambiguities suggest that the symptom severity threshold for initiating testing could vary significantly between institutions and wards. In addition, use of more

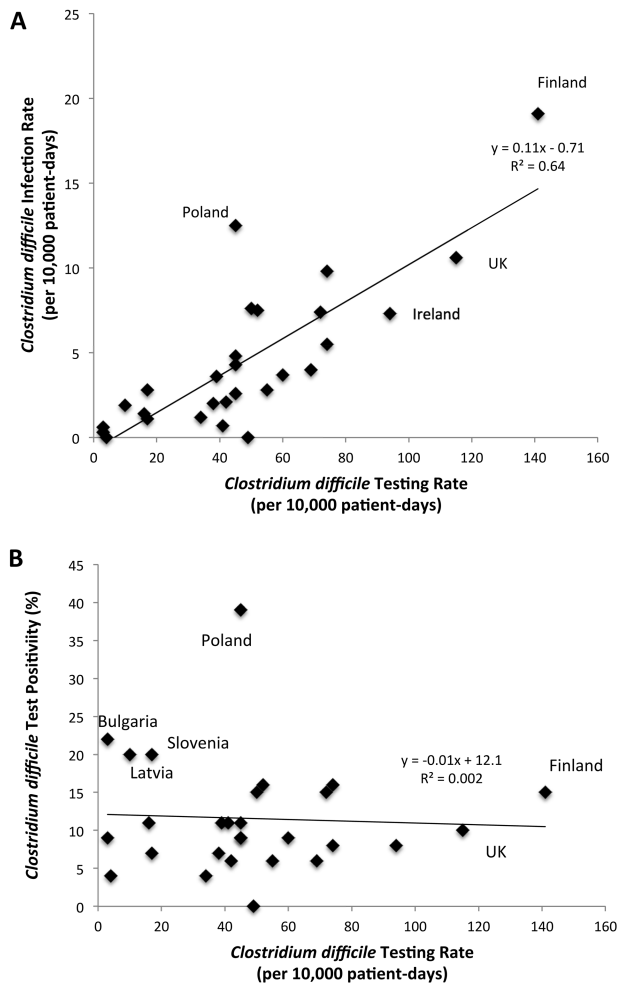


FIGURE 1. The association between *Clostridium difficile* testing rates and reported *C. difficile* infection rates (A) and the per test positivity of *C. difficile* test results (B). Data are from a secondary analysis of a study of 97 hospitals across 34 European countries, and both regression lines are based on simple linear regression of the 28 countries providing testing, patient follow-up time, and incidence data. Adapted from Bauer et al.³

sensitive polymerase chain reaction-based tests may result in a substantial reporting of low-severity CDI cases and *C. difficile* carriers who develop diarrhea for another reason.⁷ Until we take measures to quantify and understand the relationship between the reported incidence, frequency and mode of testing, and frequency of complicated *C. difficile* infections, reported CDI rates could depend on how hard hospitals look for what they do not want to find.

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Kevin A. Brown, MSc;¹ David N. Fisman, MD, MPH;¹
Nick Daneman, MD, MSc²

Affiliations: 1. Division of Epidemiology, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada; 2. Division of Infectious Diseases, Department of Medicine, Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada.

Address correspondence to Kevin A. Brown, MSc, Division of Epidemiology, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada (kevin.brown@mail.utoronto.ca).

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