

One model policy is an initiative that directs clinical pharmacists to review medication profiles of *C. difficile*-positive hospitalized patients to identify potential candidates for therapeutic interventions, with a particular focus on potentially unnecessary non-CDI-directed antimicrobial therapy. The policy recommends that severe CDI cases be referred for infectious diseases consultation. If a potential candidate for non-CDI antimicrobial therapy intervention is identified, the pharmacist communicates with the primary team through a templated note that addresses the importance of minimizing unnecessary antimicrobial exposure in patients with CDI. To assist stewards in making recommendations regarding duration of therapy, a table summarizing pertinent recommendations endorsed by the Infectious Diseases Society of America and other organizations was provided; a streamlined version of this table is presented here (Table 1). The policy was presented and released to the VA community in August 2012. Based on preliminary follow-up of ASTF educational events, nearly half of all VA facilities reported that they were likely to prepare or update a policy limiting non-CDI-directed antibiotic exposure in order to improve outcomes for patients with CDI. Further system-wide evaluation of implementation and outcome-related utilization of the example CDI policy is planned.

Largely because of its integrated electronic medical record system and recent findings that indicate considerable variation in antimicrobial usage across VA medical centers nationwide,<sup>5</sup> we feel that the VA has immense potential to serve as a home for innovation in antimicrobial stewardship, and we look forward to ongoing discussions with our VA infectious diseases colleagues nationwide as to how we can best meet this potential.

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### *Clostridium difficile* Surveillance: A Multicenter Comparison of LabID Events and Use of Standard Definitions

*To the Editor*—Rates of hospital discharges with *Clostridium difficile* infection (CDI) increased in the United States from 38 to 85 per 10,000 discharges from 2000 to 2009.<sup>1,2</sup> Because of increased concern about the rising incidence of CDI, the Centers for Medicare and Medicaid Services (CMS) began requiring all acute care hospitals to submit LabID event data to the National Healthcare Safety Network (NHSN) in 2013 and plans to publicly report these data on the Hospital Compare website beginning in 2014. CDI and LabID event rates are both based on positive laboratory test results, but LabID events do not incorporate clinical assessment and may, therefore, overestimate true incidence. The CMS's requirement that hospitals submit LabID events, not CDI data, is partly

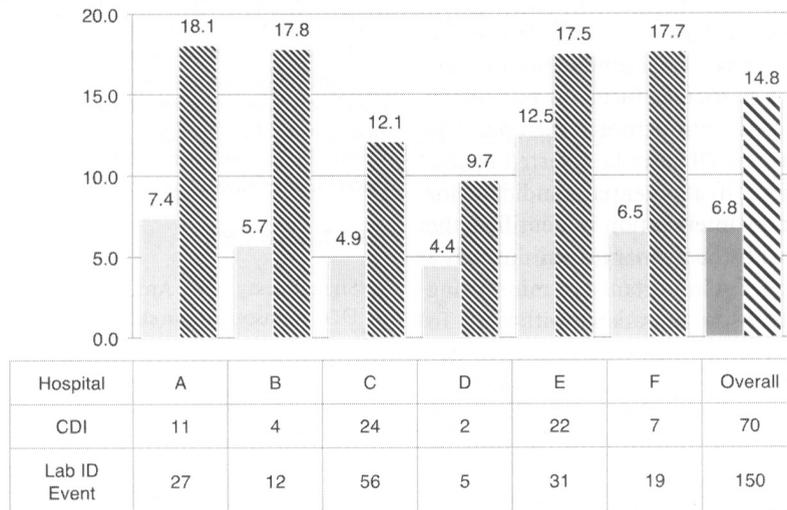


FIGURE 1. Comparison of hospital-acquired *Clostridium difficile* infections (CDIs; gray) and LabID events (pattern) per 10,000 patient-days at 6 acute care hospitals in Rhode Island, third quarter of 2012.

due to the fact that LabID data can be uploaded directly to the NHSN from some laboratory testing systems. This is less resource intensive than capturing CDI data, which requires clinical assessment and data entry.

To compare CDI and LabID incidence rates, the Rhode Island Department of Health requested that the 11 acute care hospitals in the state voluntarily submit the number of hospital-acquired CDIs based on surveillance by infection preventionists and the total number of patient-days between July 1 and September 30, 2012 (third quarter of 2012). Medicare mandated that hospitals submit *C. difficile* laboratory-identified event reporting (LabID events) and patient-days to the NHSN for the same time period. After obtaining permission from all hospitals, Healthcentric Advisors (the department's public reporting contractor and the state's Medicare quality improvement organization) obtained the LabID event data from the NHSN. We then calculated hospital-level rates per 10,000 patient-days.

Six of the 11 acute care hospitals in Rhode Island submitted CDI data for the third quarter of 2012. The 6 hospitals included academic teaching hospitals and community hospitals. All 6 hospitals used nucleic acid amplification testing methods for *C. difficile* detection and did not test formed stool for *C. difficile* unless this was known to the patient's physician and the physician requested that such testing be done. Overall, we found that LabID event rates were 1.4–3.1 times higher than CDI rates (Figure 1).

Since a LabID event does not include clinical data, our results suggest that there may be bias toward including patients who had stool specimens sent that are formed stool, transient loose stools due to laxative use, and stools sent for test of cure as well as patients admitted with loose stools but whose stool specimen was collected for *C. difficile* testing 3–

4 days after hospital admission. Thus, it is not surprising that we documented that LabID event rates exceeded CDI rates at all 6 hospitals. On the other hand, it is possible that bias is introduced by those performing surveillance, leading to underreporting of CDI. For example, it may be that hospital E has a lower threshold to report CDI than the other hospitals.

We believe our findings are not unique and that public reporting of LabID events may overestimate the magnitude of the problem. This is concerning given the CMS's plans to publicly report these data and the implicit encouragement that hospitals use such data for quality improvement purposes. Our findings suggest that more research is needed to better understand the differences between LabID events and CDI so that we can maintain the integrity of infection control data reported to state and federal agencies as well as to the public.

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## Hospital Flood Preparedness and Flood-Related Psychological Consequences in 15 Provinces in Central Thailand after Implementation of a National Guideline

*To the Editor*—Severe flooding occurred in central Thailand during the period September–November 2011, which resulted in the closure of more than 30 regional hospitals.<sup>1</sup> A national guideline for hospital preparedness after flooding was made available in Thailand on May 14, 2012. From May 15, 2012, through June 30, 2012, there were several meetings to promote this national guideline for hospital flood preparedness. To evaluate hospital preparedness as well as to assess the psychological impact of floods among infection preventionists (IPs) in the initial 6-month interval after flooding, we conducted a survey designed by A.A. and T.K. This survey included questions about hospital personnel with infection control expertise, hospital characteristics, hospital preparedness plans developed to deal with the aftermath of flooding, administrative support, the institutional safety culture, and the psychological impact of the flood (eg, depression, depressive disorder, and insomnia) among IPs. All 104 secondary (100 or more beds) and tertiary care hospitals (250 or more beds) in 15 central Thailand provinces were invited to participate on the basis of a hospital list from the Ministry of Public Health. Between July 1, 2012, and October 31, 2012, we identified all hospitals that met the inclusion criteria in 15 provinces of central Thailand that were affected (but not necessarily closed) by extensive floods ( $n = 104$ ) for site visit interview. A 1-hour interview was conducted by research

nurses to the chief of IPs in each participating hospital. To minimize ascertainment and reporting bias, three 3-hour training sessions were conducted (by A.A.) to instruct the 5 research nurses on the survey tool and data collection processes. The survey instrument was pilot tested in 10 hospitals to ensure test validity. All 5 research nurses individually interviewed the same person at these 10 hospitals, and reliability checks were performed; 100% concordance in data capture was achieved.

Definitions of hospital characteristics were modeled from our previous report.<sup>2</sup> Institutional safety culture was measured by a 2-matrix safety score, calculated as the average of responses for agreement with 2 statements: “Leadership is driving us to be a safety-centered institution” and “I would feel safe being treated here as a patient.”<sup>3,4</sup> Administration support was categorically ranked as poor, fair, good, very good, and excellent. Definitions of depression and post traumatic stress disorder (PTSD) were previously described.<sup>5,6</sup> Descriptive characteristics were used to describe the hospital preparedness plan developed to deal with the aftermath of flooding. This study was approved by the institutional review board of the Faculty of Medicine, Thammasat University, Pathumthani, Thailand.

A total of 101 (97.1%) of 104 eligible hospitals responded to the survey (69 [69%] were not flooded, and 32 [31%] were damaged by the flood). Among the responding hospitals, 55 (55%) had 1 or more infectious diseases specialist, 46 (46%) had 1 or more hospital epidemiologist, 65 (65%) reported good to excellent support of the infection control programs from hospital administration, and 40 (40%) were affiliated with a medical school. The median amount of time that the respondents had been in their current position was 9 years (range, 3–30 years), and the median institutional safety score was 7 (range, 2–10). Overall, the major gaps in flood preparedness plan during floods were (1) lack of an environmental cleaning and fungal decontamination protocol (26 [81%] of 32), (2) lack of surge capacity plans for patients and family (21 [66%] of 32), and (3) lack of exercise drill of flood protocol (16 [50%] of 32). Obstacles related to hospital flood preparedness and improvement after flooding among 32 hospitals that were affected by major flooding are shown in Table 1. Overall, at the initial 6-month interval, 20 (63%) of 32 lead IPs in the flood-affected hospitals complained of having some psychological consequence related to the floods (eg, PTSD, depression, inability to concentrate, insomnia, and having difficulties with family relationships). Notably, 5 (20%) of the 20 lead IPs met the definition of PTSD, and 3 (15%) met the definition of depression, whereas 12 (60%) of the lead IPs complained of having some psychological consequences related to floods (difficulties with family relationship [ $n = 6$ ], insomnia [ $n = 3$ ], and inability to concentrate [ $n = 3$ ]).

In this follow-up survey, several gaps identified during the flooding (eg, surge capacity plans for patients and staff, plan