

Public Health Practice Stories from the Field



Illinois Hospitals Collaborate to Reduce *Clostridium difficile* Infections

2x increase

in *C. difficile* rates was seen in Illinois hospitals

20 acute care hospitals

participated in statewide collaborative to reduce *C. difficile* infections

15%+

Decrease in incidence of *C. difficile* infections in participating hospitals

Statewide education campaign

aims to strengthen ability of acute care hospitals, long-term acute care hospitals, and long-term care facilities to prevent *C. difficile* infections

Clostridium difficile infections (CDI) are commonly associated with bacterial diarrhea in hospitalized patients. Infection can result in life-threatening colitis (inflammation of the colon) and lead to excess medical costs. The incidence of CDI in Illinois hospitals more than doubled over a 10-year period, from 4.5 cases per 1,000 discharges in 1999 to 9.2 cases per 1,000 discharges in 2009.

In response to the increasing CDI rates, the Illinois Department of Public Health (IDPH) partnered with the state's quality improvement organization, IFMC-IL, to lead a CDI prevention collaborative. Hospitals were invited to join the collaborative based on their CDI discharge rates and their interest in participating. Hospitals wanting to join the collaborative established multidisciplinary teams (staff from infection prevention, quality management, environmental services and housekeeping, nursing, microbiology, and others) with a designated project lead, and returned participation agreement forms signed by the hospital executive.

The collaborative kicked off in March 2010 with 11 acute care hospitals from metro Chicago. A second cohort of 9 acute care hospitals from central and southern Illinois was added in October 2010. The collaborative period ended in September 2011.

A statewide education campaign, the Illinois Campaign to Eliminate *Clostridium difficile* (ICE *C. difficile*), will launch in March 2012 to further disseminate evidence-based practices for CDI prevention; help strengthen the ability of acute care hospitals, long-term acute care hospitals, and long-term care facilities to prevent CDI; and engage leadership in these facilities in prioritizing CDI prevention.

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What We Did

Based on CDC recommendations, IDPH and IFMC-IL chose several prevention strategies to constitute a *C. difficile* prevention bundle that included hand hygiene, contact precautions, environmental cleaning, lab alerts, and staff and patient education. Hospitals had the option of adding other strategies based on individual needs identified. Each team performed a gap analysis to identify specific goals and action steps. IDPH and IFMC-IL supported hospital efforts through site visits, webinars, sharing calls, and in-person meetings. Most of these learning activities were held separately for each cohort.

What We Accomplished

Hospital-onset (HO) CDI rates decreased in both cohorts. Hospitals reported *C. difficile* laboratory data to CDC's National Healthcare Safety Network (NHSN). For cohort 1 (metro Chicago), the model-predicted HO CDI incidence decreased from 11.7 to 9.8 cases per 10,000 patient days during the 19-month participation period, a 15% decrease that was marginally significant. For cohort 2 (central and southern Illinois), the model-predicted HO CDI incidence decreased from 9.1 to 6.7 cases per 10,000 patient days during the 12-month participation period, a 26% decrease. Two months after the collaborative ended, data indicate the decrease in HO CDI rates has been sustained; the model-predicted decrease was 18% ($p=0.02$) for cohort 1 and 22% ($p=0.19$) for cohort 2.

Hospitals completed an adapted version of the CDC Prevention Practices Assessment Tool at the beginning and end of participation, and provided monthly hand hygiene, gown and glove, and environmental cleaning adherence rates via NHSN. Monitoring of these prevention practices was higher at the end of the participation period compared to the beginning. Adherence rates also increased by the end of the participation period in both cohorts. Adherence rates were highest for hand hygiene (93% in cohort 2) and lowest for environmental cleaning (78% in cohort 2). IDPH presented lessons learned in the Not Just a Maid Service video, which highlights the role of environmental service workers in preventing CDI (www.notjustamaidservice.com).

What We Learned

- Forming multidisciplinary teams was important, particularly for enhancing communication across departments and gaining better appreciation for each staff member's role in preventing CDI.
- Education and resources for environmental cleaning was an area of high interest and need.
- It is important to consider how to sustain the successes achieved beyond the collaborative period.
- Support from hospital leadership is important for long-term success, and leadership from the state can strengthen facilities' CDI prevention efforts.
- Hospitals have competing priorities and more needs to be done to get them to prioritize CDI prevention.

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