

Public Health Practice Stories from the Field



New York Hospitals Team Up to Reduce *Clostridium difficile* Infections

There is an urgent need to implement evidence-based strategies that effectively prevent *Clostridium difficile* (*C. difficile*) transmission and infection because of the increasing incidence, severity, and costs in the United States. In March 2008, the Greater New York Hospital Association (GNYHA) and United Hospital Fund (UHF) collaborated with New York State Department of Health to begin the *Clostridium difficile* Collaborative. The collaborative project aimed to reduce hospital-associated *C. difficile* by implementing an evidence-based “prevention bundle” and standardized daily and terminal environmental cleaning protocols. The prevention bundle included the following:

47 acute care hospitals

participated in a project to reduce *C. difficile* infections

1,084 fewer cases

of *C. difficile* infections than expected were found in participating hospitals

20%

reduction among facilities submitting sufficient data for analysis

Prevention toolkit

was developed that contained evidence-based strategies and best practices identified through the collaborative

- Placing patients on contact precautions at symptom onset
- Monitoring the availability and use of personal protective equipment
- Monitoring hand hygiene
- Dedicating thermometers for *C. difficile* patients
- Implementing a patient placement strategy to optimize the use of private rooms or cohort patients when necessary (no sharing of bathrooms)

A checklist was developed to assess compliance with environmental protocols that included 48 elements for daily and terminal cleaning.

All GNYHA member hospitals were invited to participate in the 22-month project. Hospitals interested in participating had to demonstrate support from their executive leadership through an application process. Forty-seven hospitals participated and formed interdisciplinary teams to implement the interventions. To help sustain the project’s achievements to date, GNYHA and UHF developed a *Clostridium difficile* Prevention Toolkit containing evidence-based strategies and best practices identified through the collaborative. The state health department is also currently managing a *C. difficile* initiative in long-term care settings to extend beyond acute care hospitals.

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What We Did

Using standardized data collection tools, hospital teams collected and submitted data, including elements to measure *C. difficile* infection (CDI) rates and compliance with the prevention bundle and environmental protocol. Reports containing hospital-specific and aggregate peer-group comparison results were provided to hospitals. Hospitals submitted monthly data to the *Clostridium difficile* Collaborative until December 2009. New York State Department of Health began collecting these data through the CDC's National Healthcare Safety Network in July 2009 for public reporting. Meetings and conference calls guided collaborative activities and allowed hospitals to share successes and barriers. Site visits to most hospitals were made, often with the physician chair, to identify best practices and implementation challenges.

What We Accomplished

Thirty-five hospitals were included in the analyses; 21 were teaching hospitals (60%).

- Hospitals achieved a statistically significant reduction in hospital-associated CDI rates from 10.7 to 8.6 per 10,000 patient days ($p < 0.001$).
- On average, there was a 20% reduction in hospital-associated CDI among facilities submitting sufficient data for analysis.
- Slight decreases in the non-facility-associated; community-onset, hospital-associated; and recurrent CDI rates were found over time, but all three were not statistically significant.

Based on a regression estimation, hospitals had 1,084 fewer cases of hospital-onset CDI than expected. Applying published estimates of costs attributable to *C. difficile*, total cost savings were estimated at \$2.7 million to \$6.8 million.

What We Learned

- Initiation of a sustainable infection control program requires administrative and clinical leadership support, multidisciplinary teamwork, and ongoing communication. To help redefine the hospital's approach to infection prevention, the initiative based its interventions on the collaborative model and a "team approach." The model expanded infection control and patient safety responsibilities beyond infection control practitioners to all clinicians, administrative staff, and non-traditional departments (e.g., environmental and transport services departments).
- Data collection was time consuming for the hospitals in the collaborative. Several teams experienced difficulties with collecting environmental data, emphasizing the importance of environmental services supervisors' involvement from the beginning of this initiative.
- The patient placement strategy was difficult for some hospitals, because of the physical layout and the limited number of private rooms in some hospitals.

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