Prevention of Hospital-Onset *Clostridium difficile* Infection in the New York Metropolitan Region Using a Collaborative Intervention Model

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**Scope:** Dr. Brian Koll, of *Beth Israel Medical Center (New York, N.Y.)*, implemented and assessed the impact of a CDI Intervention Model with his CDI collaborative, a broad-based partnership with the Greater New York Hospital Association (GNYHA). The Collaborative’s CDI Intervention Model was implemented and tested among 47 hospitals and consisted of infection-prevention bundles and compliance checklists to reduce the incidence of hospital-onset CDI. As part of the infection-prevention bundle, environmental cleaning was performed for daily and terminal cleaning using a 1:10 sodium hypochlorite-based disinfectant.

**Results:** 80% of the hospitals that participated and reported results in the Collaborative’s CDI Intervention Model experienced a reduction in hospital-onset CDI. The mean incidence of hospital-onset CDI decreased by 20% (10.7 to 8.6 per 10,000 patient days). It is estimated that the hospitals that participated in this study will collectively experience 1,084 fewer cases of hospital-onset CDI, which implies cost savings amounting to $2.7M–$6.8M.

**Background Discussion:** Previous research has shown that *C. difficile* spore cultures are found facilitywide:
- *C. difficile* spore cultures have been recovered from up to 58% of individual samples from high-touch areas in patient rooms.
- Hand and glove cultures yielded *C. difficile* in 59% of healthcare workers caring for CDI patients.
- **33% of non-CDI rooms have ≥ 1 positive culture!**

**Summary of Findings:** CDI Intervention Models help interrupt patient-to-patient transmission of CDI and reduce the incidence of hospital-onset CDI.
- ✓ Maintain consistent use and monitoring of infection-prevention bundles and compliance checklists.
- ✓ Support implementation of CDI Intervention Models by gaining frontline staff “buy-in.”

**Study Details:** The study was conducted in partnership with the Greater New York Hospital Association (GNYHA), which is made up of 140 hospitals in the New York metropolitan region. 47 hospitals participated in the study, 35 of which contributed data, between the months of March 2008 and December 2009.

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1 Hospital-onset (hospital-associated) is defined as patients with onset of diarrhea and diagnosis of CDI more than 48 hours after hospital admission or within 48 hours after hospital discharge.