

# A Multifaceted Multidisciplinary Approach to Achieve Clostridium Difficile Infection (CDI) Reduction within an Acute Care Setting



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## Introduction / Opportunity Statement

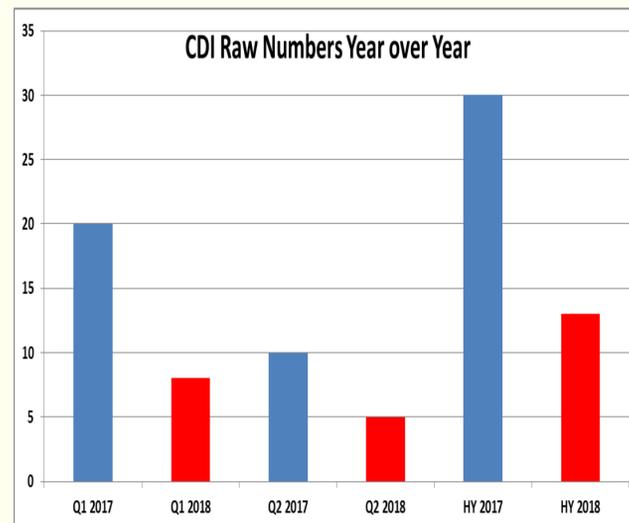
Clostridium difficile is the most common infectious cause of healthcare-associated diarrhea and a significant cause of morbidity and mortality among hospitalized patients. Studies have shown that the mortality associated with CDI ranges from 7% to 48%, depending on individual patient comorbidities. The increasing incidence of community-acquired C. difficile infection, associated with its own significant morbidity and mortality, emphasizes the need for improved management and prevention of the disease.

## Team

- Infection Prevention Team
- Nursing Round Up Team
- Cerner IT
- Department of Microbiology
- Medical Staff
- Environmental Services
- Emergency Department
- Local and Corporate Hand Hygiene Senior Support Teams

## Plan

A Multidisciplinary Team across multiple divisions and support services was created. This team was presented with the breakdown of all hospital acquired Clostridium difficile infections with attention given to location, risk factors, time to identification, and time to isolation. Analysis included the review of terminal cleaning practices by environmental services. EVS leadership implemented black light technology and provided feedback to their team on where opportunities were identified for improved cleaning. The team reviewed testing practices for appropriateness of the sample, and turn around time of testing to reduce burden of unnecessary isolation leading to decrease availability of beds. Infection Preventionists as part of their daily rounds monitored the hand hygiene, isolation, and personal protective equipment compliance of staff of patients with CDI.

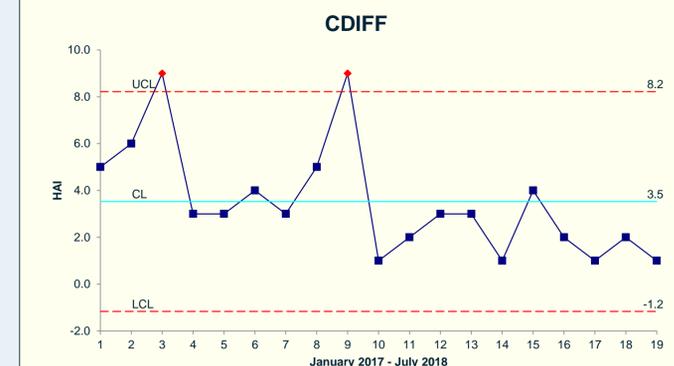
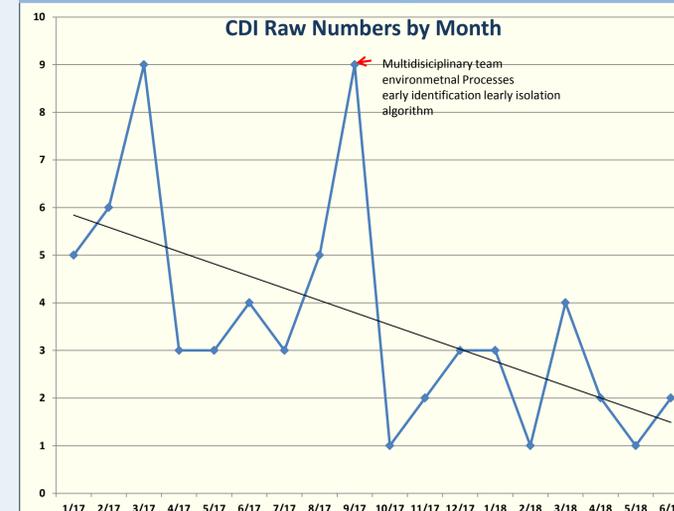


## Do

In our 673 bed urban university-associated teaching hospital, HA CDI SIRS and raw numbers were reviewed for quarter (Q1 & Q2) 2017 (pre-intervention phase) through second quarter (Q2) 2018 (post-intervention phase). Interventions included the following:

- Development of testing algorithm (9/17)
- Daily electronic report of all tests and their results(3/17)
- Re education of policy for appropriate specimen testing
- Antibiotic stewardship program to reduce the overuse of antibiotics & optimize use of effective and indicated agents (7/17)
- Chlorinating nurses stations at regular intervals (11/17)
- Enhanced physician and nursing education surrounding hand hygiene, infectious precautions, & early recognition of disease. (on going)
- Improved and updated isolation signage and verbiage(10/17)
- HAI alert with identified opportunities emailed to all key stakeholders(3/17)
- Changed cleaning practices to include disposable mop heads(9/17)
- Black light technology for cleaning and education at patient discharge(10/17)
- Increased laboratory PCR testing to 3x daily (10/17)
- Routine review of ordering practices to ensure compliance with CDC recommendations for appropriateness of testing(2/18)
- Electronic health record CDI test order linkage to enteric isolation order (3/17)
- Enhanced hand hygiene education, coaching, champion assignment and sustainability program(1/17)
- Review of EHR for bowel patterns for early identification, testing, & management of community-acquired CDI beginning in the Emergency Department(4/18)

## Study



## Act

Since the implementation of our multifaceted, multidisciplinary approach, we saw a sustained reduction of HA CDI incidences of > 65%, 2018 over 2017. We will continue our practices of early recognition of risk factors, early detection of disease, early isolation with enteric contact precautions, careful attention to hand hygiene, and effective environmental cleaning of patient's space and moveable equipment to further decrease our incidence of hospital acquired CDI.