**Organization:** Sinai Hospital of Baltimore  
**Project Title:** Reducing C-Diff Cases on a Gastroenterology Unit  
**Focus Areas:** Communication, Education, Environment, Hand Hygiene, Infection Prevention, Laboratory, Medical Equipment, Patient Assessment, Teamwork

**Program/Project Description including Goals:** Clostridium Difficile (C-diff) is an infectious disease impacting nearly 500,000 patients annually. Approximately 30,000 people die within 30 days of diagnosis. Since 2013, hospitals participating with the Centers for Medicare and Medicaid Services (CMS) have been required to report hospital acquired cases of C-diff. Costs related to this hospital acquired infection are upward of 4.8 billion dollars annually. (Fernanda, 2015) Various complications exist for patients with C-diff, including pseudomembranous colitis, toxic megacolon, perforation of the colon, sepsis and death.

The gastroenterology unit responsible for this project had nine cases between June 2014 and May 2015. The goal was to reduce the number of hospital acquired cases of C-diff attributed to the unit the following year.

**Process:** The multidisciplinary committee for the gastroenterology unit identified that the number of c-diff cases was too high, considering patient safety and outcomes and financial implications of the disease. The committee decided to tackle the problem by identifying the key stakeholders and bringing them to the table to review processes. It was decided that the c-diff order set was the first challenge to tackle, followed by direct patient care responsibilities.

**Solution:** The c-diff order set was changed in April 2015. These changes included several questions that act as qualifiers to placing an order for a c-diff toxin. These included “is the patient showing signs of colitis,” “have there been more than 3 episodes of diarrhea in the past 24 hours,” and “has a laxative been given it the past 48 hours.” Depending on the answers to these required questions, the c-diff toxin order may not be processed. Nursing was educated on these changes as accurate documentation was imperative for the physicians to order the test appropriately. Once the order set went live in the electronic record, the emphasis became direct
patient care and the interventions put in place to reduce transmission of infection. The c-diff prevention bundle was born and impacted numerous disciplines that provide care in some fashion to patients. The bundle focused on contact precaution isolation, assessment of stools for documentation, cleaning with bleach daily and the Sterimist at the conclusion of the admission and daily hygiene and personal care. Education provided to all staff members using a tip sheet emphasized the various roles and how they each play a part in infection prevention. Initiated in June 2015, the bundle coincided with the gastroenterology unit’s implementation of a second nurse verifier for c-diff order appropriateness.

**Measurable Outcomes:** In the seven months following initiation of the electronic order set and C-diff bundle, the gastroenterology unit had only one hospital acquired case of C-diff attributed to the unit. Before implementation of the order set and bundle, the unit’s rate was 12.12 cases per 10,000 patient days. Following implementation, the second half of the year showed promise with 2.79 cases per 10,000 patient days. Averaging these statistics, the unit was able to achieve an overall 6.60 rate for calendar year 2015 which was well below the goal of 11.3 cases per 10,000 patient days.

![C-diff cases per month chart](chart.png)
**Sustainability**: One way the unit is sustaining the outcomes is through empowerment of nursing and accountability to peers. Nurses are encouraged to implement contact isolation before even obtaining a specimen based on their assessment findings. This helps stop the spread of c-diff even before a diagnosis is made. Staff members are also encouraged to hold each other accountable for hand hygiene and compliance with use of the c-diff bundle. New residents and physicians are educated on the electronic order set and the importance of answering the questions accurately to avoid inappropriate testing.

**Role of Collaboration and Leadership**: This was a multidisciplinary intervention, requiring physician, nursing, environmental services and transportation. Each discipline had an important role in the success of the project. Physicians had to ensure that patients met appropriate criteria to order a c-diff toxin test. Nursing verifies appropriateness and is in charge of implementing early isolation if signs are displayed. Nursing must also thoroughly document stool assessment so that the physician can make appropriate decisions regarding testing. Environmental services changed how they cleaned the room for c-diff patients following discharge and transportation needed to be aware of proper isolation precautions for this patient population. Leadership supported the change, and helped hold staff and physicians accountable for participation and patient safety.

**Innovation**: The multidisciplinary approach to care and the empowerment of staff nurses makes this project innovative and successful.
Culture of Safety: This project helped reduce overall hospital acquired infections, a costly and dangerous complication of any patient’s stay.

Patient and Family Integration: Hand hygiene is the single most effective way to stop transmission of infectious disease. Education was a key intervention for patients and families. Nursing staff educated patients on the importance of washing their hands after using the bathroom and before eating in order to stay healthy. Families were educated about isolation precautions and the importance of washing their hands before leaving the patient’s room.

Related Tools and Resources
- C-diff order set
- C-diff prevention bundle
- C-Diff poster presentation