**Background**

Clostridium difficile infection (CDI) is the most common cause of infectious diarrhea in healthcare settings. CDI increases hospital cost, length of stay, and rates of readmission. Transmission of Clostridium difficile (C. difficile) in the healthcare setting can occur via contact with a healthcare worker, contaminated environment, or CDI patient. Prolonged duration of antibiotics and acid suppressing medications have been associated with an increased risk of CDI. Incidence and severity of infection has increased over the past decade. The Joint Commission has responded to this epidemic by identifying CDI as a hospital acquired infection (HAI) and made it a National Patient Safety Goal with aim to “reduce the risk of HAI.” Reducing CDI has been a continued focus at this facility.

**Objective**

To reduce rates of hospital acquired CDI through education and a multidisciplinary approach.

**Methods**

The infection control committee at this facility consists of infectious disease physicians, nurses, pharmacists, and an infection prevention specialist. Initiatives have been developed to support the goal of reducing CDI. An infection prevention specialist provided education to nurses regarding C. difficile transmission and prevention. Prompt contact isolation and cleaning procedures were stressed. Bedpan and commode pail liners were changed daily. Antiseptic handwash was practiced in the event of contact with a CDI patient. Hand hygiene continued to be enforced and monitored by infection control and department managers. Clinical pharmacists provided educational in-services on CDI prevention, diagnosis, and treatment to pharmacists and nursing staff. A pharmacy-driven program was implemented aiming to reduce use of PPI. This project was comprised of extensive physician and staff education on indications and guidelines as well as a pharmacy protocol to discontinue PPI without indication in patients outside of the intensive care units. Antibiotic stewardship practices continued with pharmacy-performed medication use evaluations for treatment of specific infectious disease states in first quarter of 2015. Case reviews were presented at infection control committee meetings concentrating on appropriate treatment and limiting antibiotics.

Total inpatient antibiotic expenditures were evaluated as well as use of antibiotics with high risk of causing CDI including clindamycin, fluoroquinolones and broad spectrum beta-lactams. Additionally, PPI doses and acquired CDI rates were reviewed. All outcomes were tracked and analyzed from first quarter 2013 through third quarter 2015 using control charts.

**Results**

A total of 134 nurses and 14 pharmacists were educated on CDI via pharmacist in-service. An infection control specialist educated all nursing units on C. difficile transmission and hospital-mandated procedures. The pharmacy program to reduce PPI usage and extensive physician education surrounding the program resulted in a sustained decrease.

**Conclusion**

Many factors contribute to the incidence of CDI. These efforts represent a work in progress to decrease and sustain rates of acquired CDI at this facility. This review focused on a multidisciplinary team approach including pharmacy driven protocols, continued staff education, monitoring progress, and adherence to protocols in place. Positive trends were observed for the measures reviewed. Future projects aim to continue to perform medication use evaluations of specific disease states and evaluate order sets containing high-risk antibiotics.

**References**