

## Burden of Clostridium difficile infection on hospital readmissions and its potential impact under the Hospital Readmission Reduction Program

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### ABSTRACT

Although improved infection control efforts have been successful in decreasing the rates of many hospital-associated infections, Clostridium difficile infections (CDIs) still remain a problem. Accelerated Hydrogen Peroxide<sup>®</sup> (AHP<sup>®</sup>) is a patented disinfectant technology that is known for its effective cleaning properties as well as fast acting bactericidal and virucidal efficacy. AHP<sup>®</sup> surface disinfectants have been proven to reduce bacterial spore load on hard-non-porous surfaces .

### BACKGROUND

CDI still remains a problem in healthcare facilities with rates of CDI estimated at 11.5 per 1000 discharges in 2010. Studies have shown that recurrent CDIs often require readmission and can result in a severe infection, high mortality and high attributable costs. This is compounded by the additional interest and concern in reducing 30-day readmission rates.

### STUDY

The objective of this study was to characterize the burden of CDI on 30-day hospital readmissions in a multi-hospital health system. Data was collected from patients that were discharged from the health system in the year of 2012. Any patient with a primary diagnosis of CDI, where CDI was the principal reason for hospitalization were included. The study compared discharges and readmissions with a prior CDI with discharges and readmissions without a prior CDI. It also compared the length of stay and time to readmission.

### RESULTS

There were a total of 51,353 all cause discharges during the study period. 1% of patients had a CDI diagnosis at some point during their stay. The CDI discharges were more likely to be  $\geq 60$  years of age and were more likely to be discharged to another healthcare facility, such as long-term care center or nursing home. During the study period, 14.4% of all-cause discharges were readmitted to the health system within 30 days of leaving the hospital. CDI discharges returned to the hospital neatly twice as frequently during the time of the study. Among the CDI discharges, about 26% were readmitted with a primary CDI diagnosis, while the balance of patients were readmitted for another reason. The average length of stay was 10 days for a community onset readmission and 12 days for a hospital onset readmission. The cost of a CDI discharge and readmission were similar. The cost per case of CDI discharge was \$9,116 vs. the cost per case of CDI readmission was only slightly higher at \$9,553.

### STUDY CONCLUSION

Reductions in hospital onset CDI and readmission of patients with an index CDI can provide tremendous cost savings to hospitals. This calls for better infection control and antibiotic stewardship measures toward CDI management in the hospital and as patients transition to the next level of care.

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## REFERENCE

Chopra T, Neelakanta A, Dombecki C, Awali RA, Sharma S, Kaye KS, Patel P. (2015). Burden of Clostridium difficile infection on hospital readmissions and its potential impact under the hospital readmission reduction program. AJIC. 43(4): 314-7.