Joint Commission Center for Transforming Healthcare

Facts about the Reducing *Clostridium difficile* Infections Project

In December 2013, the Center for Transforming Healthcare launched its 10th project, which aims to reduce the frequency of *Clostridium difficile (C. difficile)*-related infections. *C. difficile* infections (CDI) are an increasingly prevalent health care-associated infection (HAI) that leads to patient harm, ranging from painful diarrhea to death. The Agency for Healthcare Research and Quality estimates that there were approximately 337,000 hospitalizations related to CDI during 2009.[1] This represents a 300 percent increase in these rates from 1993 when there were an estimated 86,000 hospital stays related to CDI.[1] The Centers for Disease Control and Prevention (CDC) estimates that CDI-related diarrhea is linked to approximately 14,000 deaths per year.[2] The financial impact of CDI is also staggering. The *JAMA Internal Medicine* estimates that the current rates of CDI add an additional $1.5 billion annually to the cost of health care.[3] Since CDI disproportionately affects older patients, Medicare pays for 68 percent of all CDI-related hospital stays.[4]

CDI rates and mortality can be reduced through a focus on a wide range of patient care aspects that include early identification, antibiotic stewardship, and effective environmental hygiene practices. There are barriers, however, to the implementation of strategies to addressing these opportunities. The hospitals and health systems participating in this project, which was launched in collaboration with the CDC, will focus on identifying the factors that create these barriers and developing targeted solutions designed to eliminate or reduce their impact. These solutions will be tested, validated, and ultimately spread to other health care organizations.

The Joint Commission Center for Transforming Healthcare is using Robust Process Improvement® (RPI)® methods and tools to identify the causes of, and develop the solutions to reduce, *C. difficile* infections. RPI® is a systematic and data-driven problem-solving methodology. It incorporates tools and concepts from Lean, Six Sigma, and change management methodologies. RPI® methodology will guide the teams from their initial problem investigation through the deployment of a proven set of targeted solutions.

The results for this project are targeted for publication in 2016.

Project team
Atlantic Health System, New Jersey
Cleveland Clinic, Ohio
Kaiser Permanente, California
Mayo Clinic, Minnesota
Memorial Hermann, Texas
VA Connecticut Health System, Connecticut
In collaboration with the CDC

For more information about this project or the project team, visit the **project detail** page or visit the Center **website**.

[1] Lucado J, Gould C, Elixhauser A. Clostridium Difficile Infections (CDI) in Hospital Stays, 2009. HCUP Statistical Brief #124 January 2012. Agency for Healthcare Research and Quality, Rockville, Md. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb124.pdf: pages1-2 (accessed February 13, 2014)
[2] Centers for Disease Control and Prevention. (2013, March 1). *Clostridium difficile* infection. Retrieved from http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html
[3] Zimlichman E, Henderson D, Tamir O, Franz C, Song P, Yamin CK, Keohane C, Denham CR, Bates DW. Health care-associated infections: a meta-analysis of costs and financial impact on the U.S. health care system. *JAMA Internal Medicine* 2013 Dec 9-23; 173(22):2039-46. doi:10.1001/jamainternmed.2013.9763
[4] Frei C, Lee G. Brief Primer on Clostridium difficile Infection Costs, Reimbursement, and Government Regulation, *Hospital Pharmacy*, Vol. 48, Suppl 1 2013