

Facility-wide Inpatient Clostridium difficile (C. diff) Laboratory-identified Events
NQF#: 1717
Developer: Centers for Disease Control and Prevention (CDC)
Data Source: Leapfrog Hospital Survey; CMS
Description: Standardized infection ratio (SIR) of hospital-onset CDI Laboratory-identified events (LabID events) among all inpatients in the facility.
Rationale: Clostridium difficile is responsible for a spectrum of C. difficile infection (CDI) complications, including uncomplicated diarrhea, pseudomembranous colitis, and toxic megacolon which can, in some instances, lead to sepsis and even death. In recent years, a previously unrecognized strain of C. difficile with increased virulence and high levels of antimicrobial resistance has resulted in outbreaks in health care facilities in the United States. Additionally, CDI has become more common in the community setting, with increased risk in those with a recent inpatient stay in a health care facility. Significant increases in the cost of inpatient care and post-hospitalization care have been seen in cases of CDI.
<p>Evidence for Rationale:</p> <ul style="list-style-type: none"> • An Epidemic, Toxin Gene-Variant Strain of Clostridium difficile. N Engl J Med, 2005. 353(23):2433-2441. • Recommendations for Surveillance of Clostridium difficile-associated Disease. Infect Control Hosp Epidemiol, 2007. 28(2):140-145. • Short and Long-Term Attributable Costs of Clostridium difficile-associated Disease in Nonsurgical Inpatients. Clin Infect Dis, 2008. 46(4):497-504.
Numerator: Total number of observed hospital-onset CDI LabID events among all inpatients in the facility.
Denominator: Total number of expected hospital-onset CDI LabID events, calculated using the facility's number of inpatient days and a negative binomial regression model generated from nationally aggregated 2015 data, which is risk adjusted for bed size, ICU bed size, affiliation with medical school, facility type, type of microbiological test used to identify C. difficile, community-onset CDI admission prevalence rate, and presence of emergency departments and/or observation units that collect stool specimens for C.diff testing.
<p>Impact:</p> <ul style="list-style-type: none"> • Large number of patients affected • Leading cause of morbidity/mortality • Severity of illness
<p>Opportunity:</p> <ul style="list-style-type: none"> • Opportunity for improvement exists, as demonstrated by the coefficient of variation for the measure
<p>Evidence:</p> <ul style="list-style-type: none"> • A wide variety of studies examining hospital-onset CDI rates and prevention practices exist. The Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA) have recently updated their clinical practice guideline for the management and prevention of CDI, which assesses the body of evidence existing in the literature. • The Centers for Disease Control and Prevention's Healthcare Infection Control Practices Advisory Committee (HICPAC) has issued at least three clinical guidelines that assess evidence.