Partnership for Patients

ASHNHA ALASKA STATE HOSPITAL & NURSING HOME ASSOCIATION

Washington State Hospital Association

Safety Action Bundle:
## Clostridium Difficile Infection (CDI)

Background

- C. *difficile* infection is a significant cause of infectious disease death in the United States. CDI was estimated to have caused almost half a million infections in the United States in 2011. Approximately 83,000 of the patients who developed *C. difficile* experienced at least one recurrence and 29,000 died within 30 days of the initial diagnosis.
- High antibiotic utilization, frequent use of health care services and increased age impact risk of contracting *C. difficile*. While 50 percent of infections happen in people younger than 65, infections occurring in the elderly are particularly devastating with a mortality rate of 90 percent.
- The average total cost for a single inpatient CDI is more than $35,000, and the estimated annual cost burden for the healthcare system exceeds $3 billion.

Aim

To reduce the incidence of CDI by 40% by September 23, 2016.
* *Hospitals in top quartile (zero) should focus on maintenance and hardwiring.*

Top Quartile | 0

Lower is better
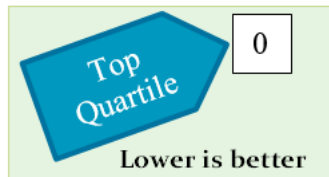
Measures

Outcome: Laboratory Identified (LabID) CDI per Centers for Disease Control and Prevention (CDC)
Process: Days of therapy for select antibiotics per 1000 patient days
Submit: NHSN and Hospital Compare

Core Strategies

Strategy	Description
Patient and Family Engagement	☐ Educate patient and family on proper hand hygiene, Contact Enteric Precautions and the spread of CDI, underscoring their responsibilities and how they can help remind staff to follow guidelines. ☐ Provide patients with a hand sanitizer and emphasize its use after toileting and prior to eating, unless hands are visibly soiled requiring soap and water. ☐ Encourage and support patient and family participation in care planning and decision making by providing tools like the Centers for Disease Control (CDC) "Frequently Asked Questions about *Clostridium difficile*".[i] ☐ Patients on Contact Enteric Precautions should stay in their hospital rooms as much as possible, with the exception of necessary treatments and tests. They should not go to common areas, such as the gift shop or cafeteria. ☐ When an infection occurs, interview patient and family to understand why this might have occurred, e.g. recent antibiotic use, recent hospitalization, other ill family members.
Leadership	☐ Identify a multidisciplinary team that includes senior and unit-level leadership, health care providers, infectious disease and prevention, pharmacy, laboratory, environmental services, materials management and information technology personnel. ☐ Set aims, goals and timelines for practice changes and performance. ☐ Educate care providers on risk factors for CDI, transmission, patient outcomes, treatment, management of multi-drug resistant organisms, and prevention, to include hand hygiene, contact enteric precautions, environmental cleaning, and antimicrobial stewardship. ☐ Ensure personal protective equipment is readily available for Contact Enteric Precautions.
Early, rapid, identification and diagnosis of CDI	☐ Establish rules for when testing for *C. difficile* should occur, for example 3 or more loose stools in 24 hours. ☐ Only stools from patients with diarrhea should be tested for *C. difficile*. ☐ Utilize a diagnostic test that will enhance the sensitivity and specificity of diagnosing CDI. ☐ Implement a laboratory-based alert system to provide immediate notification to the Infection Prevention team about newly diagnosed CDI patients, including weekends and holidays. Ensure unit leadership is aware. ☐ Repeat testing should be discouraged and testing for cure should not be done.

Strategy	Description
Prevention of CDI by reducing transmission to other patients	- Place patients with known or suspected CDI in a private room or cohort with another patient with documented CDI. If room availability is limited, give isolation preference to patients with bowel incontinence. - Medical equipment should be dedicated to the patient's room, and other equipment should be thoroughly cleaned by assigned staff after use in a patient with CDI. - Use Contact Enteric Precautions when caring for patients who are suspected of having, or are confirmed to have CDI.[ii] - Meticulous hand hygiene and barrier precautions, including gloves and gowns, should be used by all health-care workers and visitors before and after entering the room of any patient with known or suspected CDI. - Gloves are considered best practice with soap and water hand washing before donning and after removal. - Perform routine daily cleaning of high-touch surfaces of infected patients and consider terminal cleaning using a bleach solution diluted 1:10 with water. - Consider use of Ultraviolet light disinfection and/or - When a patient has CDI, communicate the CDI status when transferring patient within units/departments in the facility, including transport, and if transferred to another healthcare facility so appropriate precautions can be implemented at the accepting unit and/or facility. - Consider use of the CDC's "Inter-Facility Infection Control Transfer Form" during transfers[iii].
Reduce occurrence of CDI through Antimicrobial Stewardship	- Antimicrobial stewardship is recommended to reduce the risk of CDI by optimizing use of high-risk antimicrobials[iv]. - Establish a physician-supervised multidisciplinary committee which meets regularly and assign dedicated staff to antimicrobial stewardship. - Ensure an antimicrobial stewardship policy and procedure is in place. - Educate prescribing clinicians regarding the appropriate selection, dose, timing and duration of therapy with antimicrobials. - Provide annual training for staff on antimicrobial stewardship. - Ensure a local antibiogram is available for use. - Provide real-time review and feedback processes to encourage appropriate use of antimicrobials. Clindamycin, cephalosporins and fluoroquinolones pose the greatest risk for CDI, as well as broad spectrum antibiotics and longer duration of antibiotics. - Collect antibiotic use data to understand areas of improvement.
Treatment of CDI	- If a patient has a strong pre-test suspicion for CDI, empiric therapy for CDI should be considered regardless of the laboratory testing result, as the negative predictive values for CDI are insufficiently high to exclude disease in these patients. - Any inciting antimicrobial agent(s) should be discontinued, if possible.

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Strategy	Description
Performance and Variation	- Know your CDI data by unit and address outliers. Investigate any CDI that does occur and determine whether all elements of the bundle were met or not. - Present your performance compared to others to the board and other key stakeholder groups. - Conduct Root Cause Analysis of CDI case and determine if potentially preventable[v].

Moving Towards Zero

Strategy	Description
Daily Monitoring of C. Diff	- Create a unit-specific checklist based on cleaning protocols and perform observations to monitor disinfecting practices. - Monitor adherence to isolation precautions and hand hygiene practices. - Collect CDI days by clinical provider to identify potential opportunities.

Hardwiring

Strategy	Description
Culture	- Promote a blame-free environment where individuals are able to report errors or near misses without fear of reprimand or punishment. - Engage environmental service workers to partner closely with infection prevention to reduce CDI. - Encourage collaboration across ranks and disciplines to seek solutions for patient safety problems. - Promote transparency of results from display on units to the board and public.

Key Resources

1. Dubberke ER, Carling P, et al. "Strategies to Prevent Clostridium difficile Infections in Acute Care Hospitals: 2014 Update" *Infection Control and Hospital Epidemiology*, 35 June 2014 628-45.
2. "Frequently Asked Questions about *Clostridium difficile*" http://www.cdc.gov/HAI/pdfs/cdiff/Cdiff_tagged.pdf.
3. "Frequently Asked Questions about *Clostridium difficile* for Healthcare Providers." Web March 2012. http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_faqs_HCP.html.
4. Klevens RM, Edward JR, et al. "Estimating Health Care-Associated Infections and Deaths in U.S. Hospitals, 2002." *Public Health Reports* 122 (2007) 160-166.
5. Lessa FC, Mu Y, et al. "Burden of Clostridium difficile Infection in the United States*." New England Journal of Medicine* 372;9 Feb 2015 825-34.
6. Saint S, Fowler KE, et al. "Clostridium Difficile Infection in the United States: A National Study Assessing Preventive Practices Used and Perceptions of Practice Evidence". *Infection Control & Hospital Epidemiology* April 2015, pp 1 – 3; published online: 21 April 2015.
7. Surawicz CM, Brandt LJ, et al. "Guidelines for Diagnosis, Treatment, and Prevention of Clostridium difficile Infections." *Am J Gastroenterol* 2013; 108:478–498; published online 26 February 2013.

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i http://www.cdc.gov/HAI/pdfs/cdiff/Cdiff_tagged.pdf

ii http://www.wsha.org/wp-content/uploads/Updated_ContactEntericPrecautions-March-2015.pdf

iii http://www.cdc.gov/hai/pdfs/toolkits/InfectionControlTransferFormExample1.pdf

iv http://www.wsha.org/quality-safety/projects/medication/antimicrobial-stewardship/

v

http://www.apic.org/Resource_/TinyMceFileManager/Practice_Guidance/cdiff/2013_C__diff_final_Fishbone_Diagram_11x17.pdf

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