

Strategic approach of an urban 900-bed academic medical center to combat Clostridium difficile infection transmission using staff engagement

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Background

- Clostridium difficile infection (CDI) caused nearly 500,000 illnesses with 29,000 deaths in the United States
- Preventing hospital-associated Clostridium difficile infection (HA-CDI) is crucial to modern healthcare systems for reducing mortality, healthcare costs and length of stay
- There are multiple risk factors for CDI transmission in healthcare settings:
 - Failure to comply with hand hygiene
 - Ineffective equipment and surface cleaning
 - Diagnosis delays

Objective

- Promptly engage hospital staff in discussion after HA-CDI to identify gaps and reduce infection rates in our facility.

Methods

- After identifying a HA-CDI, infection control and the unit's clinical nurse specialist coordinated an interdisciplinary huddle
- Nursing, environmental services, physicians, pharmacy and ancillary staff were invited to attend the huddle
- A CDI huddle guide (Figure 1.) was utilized to prompt conversation around the case and collect data about the patient: including risk factors such as advanced age, antibiotics usage and previous admission from an outside facility
- Other variables including environmental factors, hand hygiene, and any missed opportunities or barriers to diagnosis were identified

Patient Name: _____

C DIFF HUDDLE

Unit: _____ MR#: _____
Facilitator: _____ Room Number: _____
Date: _____ Date Admitted: _____
Time of Huddle: _____ Date of Positive Assay: _____
Days to Infection: _____

Present for Huddle:

☐ RN ☐ Infection Control ☐ MD ☐ Dietary ☐ PT/OT ☐ Patient ☐ Leadership
☐ NA/Tech/NE ☐ CNS/Educator ☐ EVS ☐ Transport ☐ Pharmacy ☐ Family ☐ Other: _____

Patient	Antibiotics in the last 30 days	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Patient	Abdominal surgery in last 7 days	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Prior C diff infection within the last 3 months	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Assay Dates: _____	
	Immunocompromised (i.e. chemo, organ transplant, etc)	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Over age 65	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Long term hospitalization at Jefferson (more than 7 days)	
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
Missed Opportunities and Other Barriers	Admitted from another inpatient facility (please identify)	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Admitted from nursing home or long term care (please identify)	
	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	Barriers to timely diagnosis	
	Why did you decide to test for C diff?: _____	
	Delay in notification of diarrhea	
	<input type="checkbox"/> Unknown	<input type="checkbox"/> YES <input type="checkbox"/> NO
	Delay in stool collection	
	<input type="checkbox"/> Unknown	<input type="checkbox"/> YES <input type="checkbox"/> NO
Other causes of diarrhea (i.e. laxatives, tube feeds)		
Please specify: _____		
C diff screening questions completed on admission		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
ABX _____ Loose Stool _____ Currently being treated for CDI		
Hand Hygiene		
Healthcare workers performed hand hygiene		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
Patient used hand hygiene/Purell wipes at meals		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
Did patient receive education to perform hand hygiene?		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
Equipment Cleaning		
What type of equipment does the patient have in the room?: _____		
Do they have a specialty bed?		
Type: _____		
Wipes available for cleaning patient equipment		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	

Figure 1. Page one of the huddle guide used to collect information and guide discussion.

Results

- Completed 48 CDI huddles over the course of 14 weeks
- 40% of cases experienced a delay in diagnosis
- 63% of patients with HA-CDI had two or more risk factors (i.e. antibiotics use, ≥65 years of age, admitted from an outside facility etc.)
- Clinical team member present for 52% of huddles (n=25)
- 85% of patients received verbal screening questions during the nursing admission history (n=41)

Findings	Actions
Verbalized perceived workflow barriers affecting transmission or diagnosis	Unit specific interventions and use of CDI prevention tools and resources (i.e. Enteric Bundle and Diarrhea Decision tree)
Unclear lab testing guidelines	Educate staff on appropriate stool sample submission to lab
Gaps in communication between clinical staff and nursing	Encourage nursing to report new onset diarrhea promptly to clinical team
Incomplete documentation of stool	Highlight education for accurate and descriptive stool documentation
Patient hand hygiene	Multidisciplinary effort with dietary and nursing to encourage patient hand hygiene opportunities

Conclusions

- Engaging staff in CDI huddles revealed delays in testing and gaps in education, prompting implementation of a nursing driven diarrhea decision tree
- The huddles increase awareness around CDI transmission, further education to clinical and support staff, and empower unit staff to be prevention champions

Disclosures

Nothing to disclose