

Enhanced surveillance can identify opportunities for diagnostic stewardship for healthcare facility-onset *Clostridioides difficile* infections in a pediatric hospital

Kayla Sceeles, MPH, CIC and Zachary Most, MD, MSc
Children's Medical Center Dallas

Abstract

Over-diagnosis of *Clostridioides difficile* infections (CDI) can lead to inappropriate antibiotic prescriptions, additional testing, increased use of isolation precautions, and inflated rates of healthcare facility-onset (HFO) CDI. There may be opportunities to reduce over-diagnosis of HFO-CDI. At a 490-bed quaternary care pediatric hospital, a retrospective cohort of all HFO-CDI from 2019-2022 was described using enhanced surveillance.

Objectives

- Identify inappropriate indications for testing CDI and its implications.
- Identify opportunities for diagnostic stewardship standards to reduce HFO-CDI rates.
- Describe effects of CDI in a pediatric population and on healthcare facilities.

Study Design

A retrospective cohort of all HFO-CDI from 2019-2022 was described using enhanced surveillance. Data collection included manual review of electronic health record (EHR) information on the indications and appropriateness of testing based on evidence-based criteria.

Inappropriate indication for testing is defined by at least one of the following: Less than 1 years old, laxative use on day of testing, less than 3 watery bowel movements in 24 hours, greater than 24 hours between test order/collection, and identified alternative infectious case(s) for diarrhea.

Results

143 HFO-CDI events during the review period, 2019-2022 (4.1 per 10,000 patient-days).

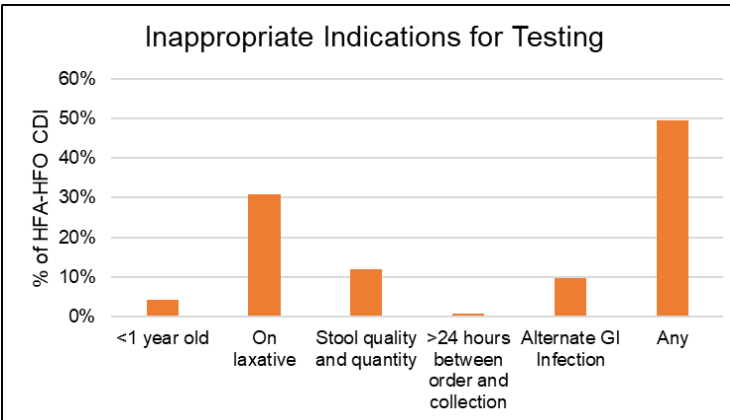


Table. Characteristics of pediatric patients with HFO-CDI (N=143)

Variable	n	%
Age (years)		
0-<1	6	4.20%
1-<2	13	9.10%
2 to <6	50	35.00%
6 to <11	22	15.40%
11 to <16	36	25.20%
16+	16	11.20%
Unit		
Cancer Center	78	54.50%
PICU	9	6.30%
CVICU	13	9.10%
Acute Care Services	43	30.10%
Risk factors		
Antibiotics	127	88.80%
Broad spectrum antibiotics	84	58.70%
Immunodeficiency	89	62.20%
Proton Pump Inhibitor	81	56.60%
GI Disorder	45	31.50%
G tube	31	21.70%
Unit Cluster	14	9.80%
Recurrent	7	4.90%

Conclusion

The enhanced surveillance of EHR information found that 48% HFO-CDI had inappropriate indication for CDI testing.

These findings indicate that there are diagnostic stewardship opportunities to reduce overdiagnosis of HFO-CDI.

This strategy of enhanced surveillance can be replicated at other institutions as well.

Disclosures

In relation to the abstract and poster presentation, there are no disclosures noted.

References

Ziegler, M. J., Flores, E. J., Epps, M., Hopkins, K., Glaser, L., Mull, N. K., & Pegues, D. A. (2023). *Clostridioides difficile* dynamic electronic order panel, an effective automated intervention to reduce inappropriate inpatient ordering. *Infection Control & Hospital Epidemiology*, 44(8), 1294–1299. doi:10.1017/ice.2022.254

Contact Information

Kayla Sceeles, MPH, CIC
Infection Preventionist
kayla.sceeles@childrens.com
Zachary Most, MD, MSc
Associate Medical Director of Infection Prevention and Control
zachary.most@utsouthwestern.edu