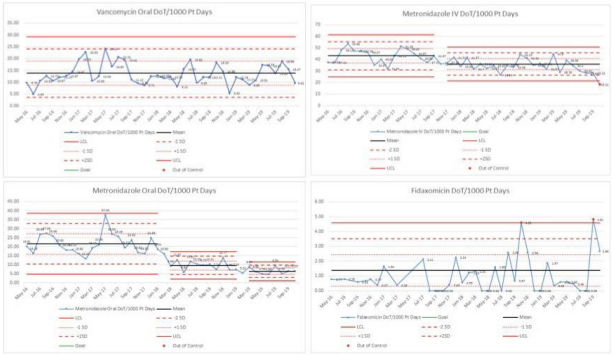
C. difficile antibiotic use trends during intervention period



Conclusion: IP run diagnostic stewardship programs with two step tests are highly successful in streamlining testing and in discriminating infection from colonization

Disclosures: **All Authors**: No reported disclosures

787. Evaluation of *Clostridioides difficile* Environmental Contamination Surrounding *C. difficile* Patients vs. non-*C. difficile* Patients in Outpatient Infusion Centers

Kevin W. Garey, PharmD, MS, FASHP[1]; Richard L. Hengel, MD[2]; Timothy E. Ritter, MD[3]; Ramesh V. Nathan, MD, FIDSA[4]; Ramesh V. Nathan, MD, FIDSA[4]; Claudia P. Schroeder, PharmD, PhD[5]; Gabriela L. Pedro da Costa, BS[1]; Christopher K. Lancaster, BS, MS[1]; Engels N. Obi, PhD[6]; Lucinda J. Van Anglen, PharmD[5]; [1]University of Houston College of Pharmacy, Houston, TX; [2]Atlanta ID Group, Atlanta, GA; [3]GI Alliance, Southlake, Texas; [4]Mazur, Statner, Dutta, Nathan, PC, Thousand Oaks, California; [5]Healix Infusion Therapy, Sugar Land, TX; [6]Merck & Co., Rahway, New Jersey

Session: P-32. HAI: C. difficile

Background: *Clostridioides difficile* infection (CDI) is the most common cause of healthcare-associated infection. CDI and non-CDI patients (pts) are often treated at the same time in outpatient infusion centers (OICs). This proximity may allow horizontal transfer of spores. However, *C. difficile* (*C. diff*) spores are ubiquitous in nature and baseline contamination rates at OICs are unknown. The purpose of this pilot study was to determine toxigenic *C. diff* contamination in the OIC surrounding CDI pts receiving bezlotoxumab compared to non-CDI pts receiving another infusion in the same OIC before and after cleaning.

Methods: OIC contamination rates were assessed at baseline, after infusion and after cleaning the environment of CDI pts receiving bezlotoxumab compared to non-CDI pts receiving other infusions. For each pt receiving an infusion, 11 areas were sampled at each time period; the infusion chair (n=4), medical and non-medical equipment (n=3), and the floor surrounding the infusion chair (n=4). Five high traffic control areas per sampling day were included. Swabs were cultured anaerobically and PCR was used to identify toxin genes. Proportion of toxigenic *C. diff* positive samples were compared between CDI and non-CDI pts for each time point. Cleaning was performed using a standard protocol of bleach (CDI pt) or non-bleach (non-CDI pt) products.

Results: Samples (n=709) were obtained from 10 pts in each group (329 CDI, 330 non-CDI, 50 high-traffic) from 7 OICs over 4 months. Overall, 55 patient area cultures (8%) were positive for *C. diff*. Positive sampling areas were highest for floors (13%) followed by infusion chairs (7%) and equipment (4%). Baseline contamination in high traffic areas was 6%. Contamination rates (Table 1) for CDI were 7% at baseline, higher after infusion (15%) and lower after cleaning (5%). For non-CDI pts, rates were similar at baseline (8%), after infusion (6%) and after cleaning (9%).

Table 1. Proportion of toxigenic C. difficile-positive samples in the environment of CDI and non-CDI patients.

Environmental sampling areas	No. of toxigenic *C. difficile*-positive samples/ Total no. of samples (%)					
	Before infusion (baseline)		After infusion		After cleaning[a]	
	Non-CDI	CDI	Non-CDI	CDI	Non-CDI	CDI
Infusion chair area (n=4)	3/40 (8%)	2/40 (5%)	1/40 (3%)	7/40 (18%)	0/40 (0%)	3/39 (8%)
Medical and non-medical equipment surrounding infusion chair (n=3)	1/30 (3%)	1/30 (3%)	2/30 (7%)	1/30 (3%)	2/30 (7%)	1/30 (3%)
Floor surrounding infusion chair (n=4)	5/40 (13%)	5/40 (13%)	4/40 (10%)	8/40 (20%)	8/40 (20%)	1/40 (2%)
Total	**9/110 (8%)**	**8/110 (7%)**	**7/110 (6%)**	**16/110 (15%)**	**10/110 (9%)**	**5/109 (5%)**

[a] Cleaning areas and medical equipment surrounding CDI patients was performed using a hypochlorite-based sporicidal solution; cleaning of areas surrounding non-CDI patients was performed using disinfectants with quaternary ammonium/isopropyl alcohol-based products.

Conclusion: Compared to non-CDI pts, CDI pts had similar baseline but lower after cleaning contamination rates. These preliminary results suggest that with a proper cleaning protocol in place, the presence of CDI patients in an OIC does not increase the likelihood of C. diff transmission for other at-risk populations.

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788. Evaluation of a Multiplex PCR Panel and Confirmatory Cytotoxin Testing on *Clostridioides difficile* at a Pediatric Hospital

Michael J. Lauth, MD, MPH&TM[1]; Greg Cook, PharmD, BCIDP[2]; Margarita Silio, MD, MPH&TM[1]; [1]Tulane University School of Medicine, Carlsbad, California; [2]LCME Children's Hospital New Orleans, New Olreans, Louisiana

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Background: With the introduction of gastrointestinal multiplex PCR (mPCR) tests, clinicians have received an increased number of positive tests for *Clostridioides difficile*. Patients who test positive via mPCR may not have a positive toxin assay indicative of true infection and may not need antibiotics. The goal of this study was to assess the symptoms of patients who test positive for *C. difficile* and determine the impact on antibiotic use at a pediatric hospital.

Methods: A single-center, retrospective review was completed from May 2018 to March 2020. Initial *C. difficile* screening tests were performed via an mPCR test or a mono-PCR test. Patients > 1 year of age had a reflex cytotoxin assay performed. The primary outcome was the difference in symptoms between cytotoxin positive and negative patients. Secondary outcomes included co-pathogen detection on mPCR and *C. difficile* antibiotic days of therapy.

Results: Four hundred and sixty-one patients were included in our chart review. 49% of patients had a positive mPCR for a GI pathogen (n=229), and 18% (n=82) were positive for *C. difficile*. Cytotoxin was positive for 45% of patients that had *C. difficile* on mPCR. 34% of patients that had *C. difficile* detected on mPCR also had co-pathogens detected. No significant differences were present in symptomatology between cytotoxin positive and negative patients and no significant differences between white blood cell count (Table 1). There was a significant difference in the number of patients treated for the *C. difficile* between the cytotoxin populations (p-value< 0.05). The average duration of treatment with a negative test was significantly less than for positive cytotoxin test patients (7.5 vs 11 days, p-value< 0.05).

Table 1: Comparison of cytotoxin production in pediatric patients with Clostridioides difficile.

	C. difficile Cytotoxin Positive (n=64)	*C. difficile* Cytotoxin Negative (n=58)	P-Value < 0.05
Total Positive GI Panel Results for *C. difficile* (%)	8.03%	9.76%	No
Fever (%)	42.19%	44.83%	No
Emesis (%)	37.50%	41.38%	No
Abdominal Pain (%)	31.25%	37.93%	No
Diarrhea (%)	75.00%	81.03%	No
Average Number of Symptoms (#)	1.86 (SE: 0.11)	2.05 (SE: 0.14)	No
Antibiotic Use within 30 Days (%)	65.63%	65.52%	No
Concurrent GI Pathogen on GI Panel (%)	29.73%	37.78%	No
White Blood Cells Count (#)	9.93 (SE: 0.98)	9.56 (SE: 1.07)	No
Empiric Treatment Received (%)	76.56%	60.34%	Yes
Length of Treatment (days)	10.98 (SE: 0.86)	7.48 (SE: 0.84)	Yes

Conclusion: Our results show a significant amount of antibiotic use for patients with cytotoxin negative *C. difficile* and no differences in symptomatology or white blood cell count based on cytotoxin positivity. Diagnostic stewardship of mPCR tests may be needed to effectively impact this unneeded antibiotic use, specifically the duration.

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789. Evaluation of Bezlotoxumab for Prevention of Recurrent *Clostridioides difficile* Infection in Patients at High Risk for Recurrence

Tanner M. Johnson, PharmD[1]; Amanda Howard, PharmD[1]; Kerry Schwarz, PharmD[2]; Lorna Allen, FNP-C[1]; Misha Huang, MD, MS[3]; Valida Bajrovic, MD[1]; matthew miller, PharmD[4]; [1]UCHealth University of Colorado Hospital, Denver, Colorado; [2]University of Colorado Hospital, aurora, CO; [3]University of Colorado Anschutz Medical Center, AURORA, Colorado; [4]university of colorado hospital, parker, CO

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Background: Recurrent *Clostridioides difficile* infection (rCDI) within 180 days of the index episode is associated with a 33% increase in mortality and, to-date, few treatment options exist to prevent recurrent infection. Bezlotoxumab (BEZ) is a novel therapeutic option for the prevention of rCDI, yet limited data exist regarding its