779. Impact of updated IDSA practice guidelines on the treatment of Clostridium difficile infections in the United States

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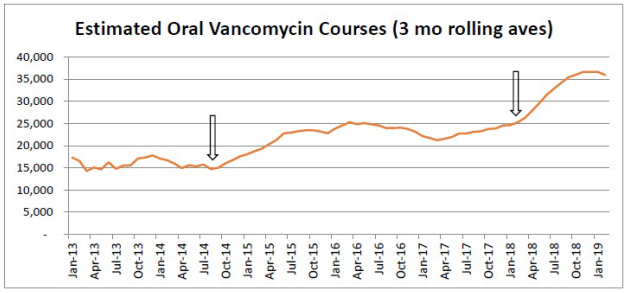
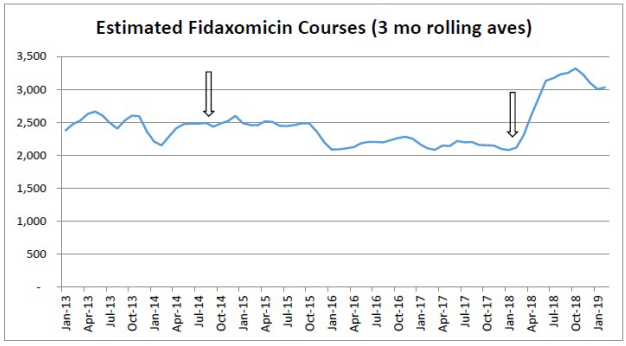
Background. IDSA published updated practice guidelines for *C. difficile* infections (CDI) in February 2018. Since publication of previous CDI guidelines in2010, randomized clinical trials (RCTs) have demonstrated benefit of oral (po) vancomycin or fidaxomicin over metronidazole in at least some types of CDI. Updated guidelines endorsed vancomycin or fidaxomicin as recommended treatment for initial and recurrent nonfulminant CDI episodes, and vancomycin as treatment for fulminant CDI. We studied the use of po vancomycin, fidaxomicin and metronidazole in the United States before and after publication of updated guidelines.

Methods. We obtained US antibiotic prescription data (IQVIA, Durham, NC) since 2013, and used standard dosing regimens for treatment of initial CDI to estimate numbers of infections treated with different agents. Po vancomycin and fidaxomicin are used exclusively against known or suspected CDI. Metronidazole is used to treat CDI and other infections. IQVIA data do not capture indications for prescriptions.

Results. Treatment courses of po vancomycin and fidaxomicin increased by 45% (n = 126,729 increase) and 44% (n = 11,243 increase), respectively, over the 12 months after publication of the updated CDI guidelines compared with 12 months before publication (Figure, second arrow; Table). Increased use of both agents was evident in the first month after guidelines were published. Over the same 12 month periods, treatment courses of po metronidazole decreased by 3% (190,430 decrease). In comparison, treatment courses of po vancomycin increased by 24% (n = 47,219 increase) over the 12 months after publication of the multi-national PACT study in August 2014 (Figure, first arrow), which demonstrated superiority of vancomycin over metronidazole. Since 2013, there were no significant increases in the use of fidaxomicin until publication of the updated guidelines.

Conclusion. Updated IDSA guidelines have had a major impact on treatment of CDI in the US. RCT data used for guideline updates have been available since 2007–14 and 2011–12 for po vancomycin and fidaxomicin, respectively. IDSA should provide more timely updates to practice guidelines as new data emerge. Annual or bi-annual updates posted in electronic or other nontraditional formats may be more efficient than publishing long-form articles.





Agent	Treatment courses by po agent (n)		Change in usage	
	3/17-2/18	3/18-2/19	Number	Percentage
Vancomycin	282,572	409,301	+126,729	+45%
Fidaxomicin	25,829	37,072	+11,243	+44%
Metronidazole	5,759,546	5,585,919	-168,627	-3%

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780. Inpatient Addiction Medicine Consultations at the Urban/Rural Frontier: Improving Quality of Care and Linkage to Outpatient Services for Patients with Substance Use Disorder in Central Kentucky

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Background. When persons with opioid use disorder (OUD) are hospitalized with medical complications (e,g. endocarditis, viral hepatitis) they frequently do not receive medications for the underlying OUD. In recent years, a number of hospitals have implemented addiction medicine consultation (AMC) services to help address this treatment gap, though these are all in large urban centers. AMCs provide comprehensive substance use disorder (SUD) assessments, manage SUDs, initiate pharmacotherapy for OUD, and arrange linkage to ongoing treatment. The aim of this study was to describe the initial implementation and outcomes of a new AMC at the University of Kentucky Hospital, a 945-bed tertiary referral center with a large rural catchment.

Methods. The Addiction Consultation and Education Service(ACES) began October, 2018 and was comprised of several physicians and an APRN. A patient navigator assisted with prior authorizations and outpatient linkage. ACES referred to a new bridge clinic at the University for ongoing office-based opioid treatment as well as to community programs and licensed opioid treatment programs. Patient demographics, SUD diagnoses, and comorbidities (including details of the injection-related infections) are collected from the electronic health record, as well as key process metrics including: time-to-consultation and medication initiation, length of stay(LOS), discharge against medical advice(AMA), and details of linkage to outpatient services.

Results. From October-December, 91 patients were seen, 73 met DSM-5 criteria for OUD, 82 had a medical complication of SUD, and 53 lived in rural counties (Rural-Urban Continuum Codes 4–9). Average LOS was 19.5 days. Among OUD patients, 71% underwent buprenorphine/naloxone induction, 9% were started on methadone. Less than 6% of patients started on buprenorphine or methadone left against medical advice.

Conclusion. AMCs are a key part of providing comprehensive care for persons hospitalized with infectious complications of substance use. Initiating medication for OUD likely decreases rates of discharge against medical advice. Compared with other AMCs, a greater percentage of patients seen by ACES resided in rural counties. Establishing a bridge clinic prior to starting an AMC is critical to ensure ongoing care.

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781. Nurse-Driven Time-of-Triage Sepsis Screening Tool Improves Timely Intervention in Ambulatory Emergency Department (ED) Patients with Suspected Sepsis

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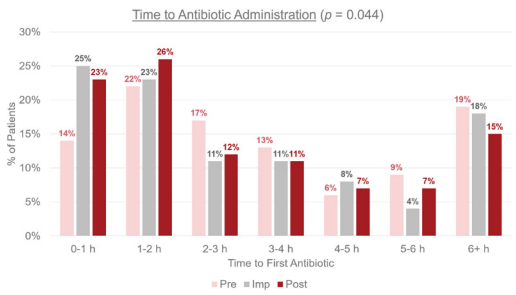
Background. Sepsis is a potentially life-threatening, systemic complication of infection. Rapid intervention is critical to reduce morbidity and mortality; however, early recognition of sepsis is challenging due to a highly variable and nonspecific presentation. Recognition is particularly problematic in ambulatory (walk-in) patients who receive minimal to no medical attention prior to ED presentation. There is limited literature addressing sepsis intervention among the ambulatory population in the ED. Our organization has employed an electronic, nurse-driven sepsis screening tool into the triage process for all ambulatory patients who present to the ED.

Methods. This was a retrospective, quasi-experimental study conducted from November 2015 to May 2018 in three consecutive timeframes: pre-implementation (12 months), implementation (7 months), and post-implementation (12 months). Adult ambulatory ED patients were included if they had a coded diagnosis of sepsis, septic shock, or an infectious syndrome, had fever or hypothermia and systemic inflammatory response syndrome signs on presentation. The primary outcome measure was hourly time interval to antibiotic administration from time of ED registration.

Results. A total of 902 patients were included with 286, 208, and 408 patients in the pre-implementation, implementation and post-implementation cohorts, respectively. Baseline characteristics including comorbid conditions and infection source were similar between cohorts. The primary outcome of hourly time interval to antibiotic administration was significantly different (P = 0.044) between the three cohorts with the most substantial increase in administration specifically in the less than 1-hour interval. Between the pre-implementation, implementation, and post-implementation cohorts, significant decreases were observed in mean time to fluids (3.6, 3.0, and 2.5 hours, respectively, P = 0.003) and average length of stay (5.5, 5.8, and 4.2 days, respectively, P < 0.001) and a significant increase was observed in ED sepsis alert activations (26%, 48%, 51%, respectively, P < 0.001).

Conclusion. A nurse-driven electronic time-of-triage sepsis screening tool improved timely recognition and intervention in ambulatory ED patients with suspected sepsis.



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