on formed stool, the test has lower pre-test probability for *Clostridium difficile* (*C. difficile*) infection than traditional singleplex PCR. Furthermore, after 48hours of admission, most other targets on the GI mPCR are no longer clinically relevant. Any *C. difficile* testing on inappropriate specimens may increase the rate of Lab ID events (positive *C. difficile* tests after 3 days of admission) without improving detection of true infections.

Methods. In January 2018, our 700-bed academic medical center implemented an informatics-based intervention that restricted ordering of the GI mPCR to the first 48 hours of hospitalization. After 48 hours, providers were required to contact microbiology to request an exception (see Figure 1). Singleplex PCR testing for *C. difficile* was available throughout admission. Orders for the GI mPCR test require the provider to note whether the patient had >3 loose stools in the previous day. Statistical analysis performed with STATA software.

Results. A total of 282 late (after 48 hours of admission) GI mPCR tests were ordered in the 104 days before restriction and 210 late tests were ordered in the 104 days after. Late GI mPCR tests (before and after restriction) resulted in diagnoses other than *C. difficile* less than 5% of the time (20 of 492 tests). 11.7% (24 of 210) of late GI mPCR tests were ordered for patients who did *not* have >3 loose stools in the previous day. Prior to restriction, 15% (41 of 282) of Lab ID events from GI mPCR were for patients who had already tested positive for *C. difficile* earlier in the same admission. Following the intervention, there was a decreased proportion of GI mPCR tests that were positive for *C. difficile* (from 14.5% to 11.3%, $P = 0.26$), as well as a significantly decreased rate of Lab ID events detected by GI mPCR, from 7.2/10,000 patient days to 4.0/10,000 patient days ($P = 0.01$).

Conclusion. Accurate diagnosis of *C. difficile* infection is important for treatment and prevention efforts, yet these data show that many rapid GI mPCR tests are inappropriately ordered on patients who may not have loose stools and who are unlikely to have an alternate diagnosis. EMR-based restriction on the GI mPCR ordering time reduced Lab ID events of *C. difficile* infection without missing important alternate diagnoses.

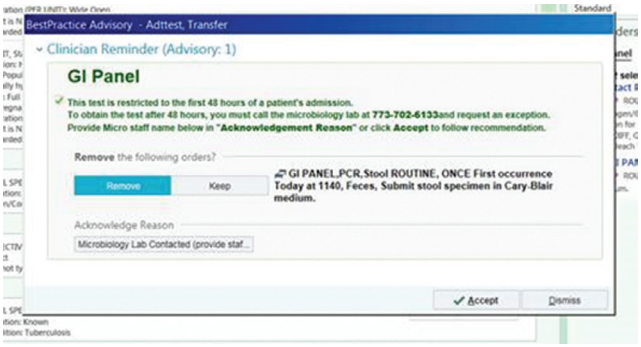

Figure 1.

Disclosures. **All authors:** No reported disclosures.

527. New Robust Antimicrobial Stewardship Program (ASP) Results in Reduction of *Clostridium difficile* 30-Day Readmission

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Background. As the pipeline for antibiotics is decreasing and antibiotic resistance is increasing, it is critically important to be stewards of antibiotics. ASP has become a mandated program as of January of 2017 by Joint Commission and condition of participation for CMS on reimbursement. A pilot program of *C. difficile* treatment in the academic medical center proved to be quite useful to adapt to a larger healthcare system.

Methods. A dedicated Infectious Disease physician and three Antibiotics stewardship pharmacists (ASP) were hired to run this program. Goals of the program was to decrease broad-spectrum antibiotics use, and reduce *Clostridium difficile* readmission (CDR) for the healthcare system. Performance of CDR for each inpatient was accomplished with ASP making recommendations for treatment. Queries were built into the ASP software and alerts were generated in the electronic medical record (EMR). CDR was targeted daily for ASP pharmacists/ID physician. Comparison of fiscal year 2017 (control group) with 2018 (intervention group) was performed.

Results. CDR was reduced (control group 17.53% vs. intervention group 14.12%), respectively, for our healthcare system ($P > 0.05$). However, overall cost savings for the healthcare system was $1.3 million was realized. In the academic medical center specifically, with over 400 beds there was a significant reduction in CDR (control group 21% to intervention group 10.5% ($P < 0.05$). Cost savings estimated from CDR were $610,923. Finally, length of stay was reduced by 1 day for inpatients with *C. difficile* admission in the academic medical center.

Conclusion. ASP not only has immediate impact on patient care and safety but also can play a large role in treating the appropriate disease state and reduces unnecessary readmission to the acute care hospitals in our healthcare system.

Disclosures. **All authors:** No reported disclosures.

528. Lab Stewardship for *Clostridium difficile* Testing Improves Appropriate Testing While Decreases Unnecessary Testing and Saves Laboratory Resources While Dramatically Helping to Reduce C diff Standardized Infection Ratios (SIR)

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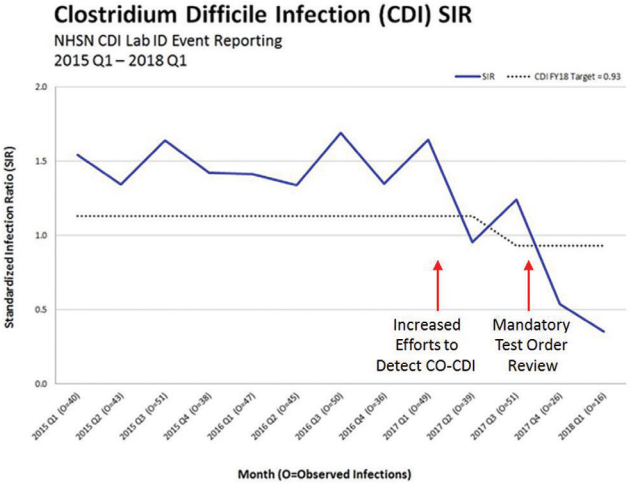
Background. Unnecessary testing for *Clostridium difficile* infection (CDI) can be both wasteful and contra productive—retesting the same positive patient after transfer to a new nursing unit will only to confirm the patient has CDI (already known) and likely be classified as a new case of hospital-onset (HO) CDI. Yet, it is also important to recognize community-onset (CO) CDI in hospital, not only because it prevents late recognition of CO CDI as being classified as an HO event, will also to afford appropriate contact precautions and therapeutic measures are instituted in a timely fashion. Laboratory stewardship (LS) can be helpful in improving appropriateness of *C. difficile* testing.

Methods. We developed 2 CDI testing algorithms. One focused on hospital days 1–3, the other for all *C. difficile* testing after hospital day 3 (AHD3). The LS quality improvement (QI) project was rolled out in 2 stages. During the first 6 months we focused on improving early detection of CO-CDI, while during the next 6 months a mandatory review of all *C. difficile* testing orders AHD3 was conducted by a 10 person team. Testing that concurred with the algorithm was approved. Nonapproval was communicated to the care teams. Appeals could be made on a case-by-case basis to the medical director of infection control. Validation audits of nonapproved cases were performed to determine whether testing algorithms were sound.

Results. CO-CDI detection steadily increased over the yearlong LS QI period (average of 6 cases/week at start vs. 12 cases/week at year's end). During the 6 months of the AHD3 mandatory order review 678 *C. difficile* orders were placed, 428 (63.1%) were approved, 250 (36.9%) were rejected. Reduced use of laboratory resources is estimated to have saved $14,950. LS and frequent communication with care teams contributed better recognition of CO-CDI, decreased inappropriate repeat testing, avoidance of diagnosing colonized patients as HO-CDI and was associated with a significantly drop our CDI SIR (Figure 1).

Conclusion. An algorithm-based guideline for a 2-step LS QI program focused on reviews of all *C. difficile* orders AFHD3 as well as improving early detection of CO-CDI and was associated with better laboratory resource utilization and markedly decreased *C. difficile* SIR. Efforts are currently underway to automate much of the review process.



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529. Overdiagnosis of *Clostridioides difficile* with a Multiplex PCR Panel

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