

of the RMDT results: 70% provided results to a physician, nurse practitioner, or physician assistant; 48% to the ASP team; and 33% to a nurse. Furthermore, 11 hospitals (22%) had neither guidelines nor ASP intervention. In addition, 24 hospitals (48%) reported performing postimplementation evaluation of RMDT impact. Reported findings included reduction in time to antibiotic de-escalation (75%), reduction in length of stay (25%), improved laboratory efficiency (20%), and reduction in mortality and overall costs (12%). Among the 47 hospitals with both RMDT and ASP, 79% reported that the ASP team routinely reviewed blood culture RMDT results, and 53.2% used clinical decision support software to do so. Finally, 53 hospitals (93%) used 1 or more RMDT for non-bloodstream infections (Fig. 1). Fewer than half of hospitals provided written guidelines to assist clinicians in interpreting these RMDT results. **Conclusions:** RMDTs have been widely adopted by participating hospitals and are associated with positive self-reported clinical, logistic, and financial outcomes. However, nearly 1 in 4 hospitals did not have guidelines or ASP interventions to assist clinicians with optimization of antimicrobial prescribing based on RMDT results for BSI. Also, most hospitals did not have guidelines for RMDT results for non-BSI. These findings suggest that opportunities exist to further enhance the potential benefits of RMDT.

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Poster Presentation

Implementation of Surgical Site Infection (SSI) Gap Analysis and Data Visualization Dashboards to Drive Organizational Change

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Background: Surgical site infections (SSIs) are a major healthcare quality issue; they lead to increased morbidity and mortality rates. They also prolong the length of stay and increase the cost to the patient and the healthcare system. Depending on the procedure, the risk of death is 2 to 11 times greater for patients with an SSI than for patients without an SSI. Additionally, the financial burden and patient burden is considerable; it ranks as the most common and costly of hospital-acquired infections (HAIs) and can extend a patient's length of stay by 11.2 days. The risk of developing an SSI is affected by multiple factors at the patient, operative, and institutional levels. **Methods:** A Midwestern healthcare system conducted a review of the recommended best-practice guidelines that are currently accepted as the standards of care in US healthcare facilities. A gap analysis instrument for colorectal SSI prevention was drafted and reviewed for content validity and accuracy by field experts. Hospital infection preventionists worked in conjunction with operating room leaders to disseminate the survey to staff. Responses were collected from June 5 to June 30, 2019. Concurrently, the system infection preventionist team developed a standardized SSI dashboard template that could be used at the hospital, regional, and system level to visualize SSI infection counts, standardized infection ratios (SIRs) as well as procedure count data. These dashboard reports are updated and distributed on a monthly basis to each hospital's campus executive team and other leaders. Federal- and state-required procedures were included and additional procedures were included based on hospital risk. **Results:** In total, 35 responses were recorded from 8 ministries across the

system. Infection preventionists, operating room directors, physicians, nurses, and surgical technologists were represented among the respondents. The following areas were identified areas for improvement: use of chlorhexidine gluconate (CHG) bathing kit, mechanical bowel preparation with preoperative oral antibiotics, hair removal practices, use of fascial wound protector, maintenance of patients' blood glucose levels, glove and gown changing procedures, and use of antimicrobial-coated sutures. The development and distribution of the SSI dashboard increased awareness and knowledge of SSIs by hospital and system-level leaders. **Conclusions:** The implementation of both the gap analysis and dashboard reports improved the awareness areas needed for improvement and knowledge of the burden of SSIs. These findings will drive discussions within the hospitals and at the system-level to implement evidence-based practice to improve care and decrease infections as well as guide the development of SSI patient care bundles.

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Implementation Strategies of a Quality Improvement Initiative for Hospital-Acquired *Clostridioides difficile* Infection Prevention

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Background: *Clostridioides difficile* infection (CDI) is the most common cause of infectious diarrhea in hospitalized patients. Probiotics have been studied as a measure to prevent CDI. Timely probiotic administration to at-risk patients receiving systemic antimicrobials presents significant challenges. We sought to determine optimal implementation methods to administer probiotics to all adult inpatients aged ≥ 55 years receiving a course of systemic antimicrobials across an entire health region. **Methods:** Using a randomized stepped-wedge design across 4 acute-care hospitals ($n = 2,490$ beds), the probiotic Bio-K+ was prescribed daily to patients receiving systemic antimicrobials and was

continued for 5 days after antimicrobial discontinuation. Focus groups and interviews were conducted to identify barriers, and the implementation strategy was adapted to address the key identified barriers. The implementation strategy included clinical decision support involving a linked flag on antibiotic ordering and a 1-click order entry within the electronic medical record (EMR), provider and patient education (written/videos/in-person), and local site champions. Protocol adherence was measured by tracking the number of patients on therapeutic antimicrobials that received BioK+ based on the bedside nursing EMR medication administration records. Adherence rates were sorted by hospital and unit in 48- and 72-hour intervals with recording of percentile distribution of time (days) to receipt of the first antimicrobial. **Results:** In total, 340 education sessions with >1,800 key stakeholders occurred before and during implementation across the 4 involved hospitals. The overall adherence of probiotic ordering for wards with antimicrobial orders was 78% and 80% at 48 and 72 hours, respectively over 72 patient months. Individual hospital adherence rates varied between 77% and 80% at 48 hours and between 79% and 83% at 72 hours. Of 246,144 scheduled probiotic orders, 94% were administered at the bedside within a median of 0.61 days (75th percentile, 0.88), 0.47 days (75th percentile, 0.86), 0.71 days (75th percentile, 0.92) and 0.67 days (75th percentile, 0.93), respectively, at the 4 sites after receipt of first antimicrobial. The key themes from the focus groups emphasized the usefulness of the linked flag alert for probiotics on antibiotic ordering, the ease of the EMR 1-click order entry, and the importance of the education sessions. **Conclusions:** Electronic clinical decision support, education, and local champion support achieved a high implementation rate consistent across all sites. Use of a 1-click order entry in the EMR was considered a key component of the success of the implementation and should be considered for any implementation strategy for a stewardship initiative. Achieving high prescribing adherence allows more precision in evaluating the effectiveness of the probiotic strategy.

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Implementing a Centralized Surveillance and Validation Program for Infection Prevention

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Background: Mandatory reporting of all healthcare-associated infections (HAIs) leads to substantial surveillance volume for infection prevention and control (IPC) programs. Prior to 2019, 6 infection preventionists were performing system-wide surveillance for all infection types using NHSN definitions at a large quaternary-care center in Pennsylvania. Limited surveillance validation was performed. With the continued expansion of the health system, increased demands for IPC expertise, and a growing team, the need for streamlined surveillance, and a validation program were identified. **Methods:** A surveillance training program for novice team members was developed and implemented. Infection prevention associates (IPAs), whose primary role was data management, began training. The new program included NHSN training videos, direct observation of surveillance with infection

preventionists and practice case studies. Following training, IPAs performed surveillance for experienced infection preventionists covering high-risk inpatient units. To ensure high reliability, surveillance validation was initiated. Each month, ~10% of investigated infections were randomly pulled from the electronic surveillance system and divided among experienced infection preventionists. These validators performed unbiased reviews of the charts based on limited data, including patient demographics and culture results. Validation documentation included noting whether an infection was reportable to NHSN and a rationale. Data on whether or not each patient had a complex medical history and time spent validating each case were collected. Compliance of validator documentation aligning with original documentation was tracked. Discrepancies were discussed as a team and were adjudicated as needed. IPAs tracked hours spent on surveillance to capture effort transitioned from infection preventionists. **Results:** Between March and July 2019, an average of 223 (range, 178–261) potential infections were reviewed per month. From March through June 2019, 61 infections were selected for validation, with 98% compliance with original documentation. One minor discrepancy was attributed to interpretation of documentation in the medical record. Medical complexity accounted for 78% of reviews and validation time spent averaged 12 minutes per infection (range, 3–28 minutes). Self-reported effort directed from infection preventionists to 2 IPAs for surveillance was ~20 hours per week. An additional IPA was hired to perform surveillance in addition to other job responsibilities. **Conclusions:** Centralized surveillance programs can promote high reliability and cost-efficient IPC staffing for large healthcare systems, especially those with mandatory reporting requirements or medically complex patient populations. Improving surveillance skills among associate staff can increase experienced infection preventionist bandwidth for project management, staff supervision, and other leadership responsibilities. Lastly, validation programs are crucial to ensuring quality assurance of data reporting to both internal and external stakeholders.

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Implementing a Massive Personal Protective Equipment Education—A Multidisciplinary Team Approach

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Background: Personal protective equipment (PPE) is defined by the Occupational Safety and Health Administration as specialized clothing or equipment worn by an employee for protection against infectious materials. They include gloves, gowns, masks, respirators, googles and face shields. The CDC has issued guidelines on appropriateness of when, what, and how to use PPE. Despite these guidelines, compliance with PPE remains challenging. **Methods:** We implemented a massive hospital-wide rapid education program on PPE donning and doffing of all employees and staff. This program included an online video, return demonstration and just-in-time training. To develop the program, we recorded PPE training video, reviewed PPE validation checklist, developed new isolation precaution signage with quick response (QR) code to video, developed a nutrition tray removal video and a equipment cleaning video, developed family and visitor guidelines for isolation precautions, and created an audit