Remote Antimicrobial Stewardship: a Solution for Meeting the New Joint Commission Standard?

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721. Remote Antimicrobial Stewardship: a Solution for Meeting the New Joint Commission Standard? Crystal Howell, PharmD3; Roland Tam, PharmD3; David Lovell, PharmD3; Jesse T. Jacob, MD2; and Steve Morck, PharmD3; 1Emory University Hospital Midtown, Atlanta, Georgia, 2Emory University Hospital, Atlanta, Georgia, 3Emory John's Creek Hospital, Atlanta, Georgia, 4Emory University School of Medicine, Atlanta, Georgia 

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Background. The Joint Commission (TJC) now requires antimicrobial stewardship programs (ASP) at all hospitals starting January 1, 2017. The purpose of this study was to determine if the time it takes to perform ASP activities at a small community hospital as well as barriers to remote stewardship.

Methods. This was a prospective chart review and time study conducted in patients identified by a clinical decision support and electronic surveillance application as potential opportunities for antimicrobial therapy modification at Emory John’s Creek Hospital (EJCH), a suburban, 110-bed acute care hospital. The chart review was conducted remotely between December 12, 2016 and March 31, 2017 using predefined electronic alerts. These results were then communicated electronically to the EJCH pharmacists, who would communicate the recommendations to the patient’s provider. The primary endpoint was a time study for stewardship activities at a small community hospital. Secondary endpoints included describing barriers encountered to remote stewardship, and a cost-benefit analysis of remote stewardship at a small community hospital.

Results. A total of 3,060 minutes were spent on ensuring regulatory compliance with 20.5% of that time spent reporting data on antimicrobial utilization. The time study also revealed an average of 11 alerts per day, 9 chart reviews per day, 8 interventions per day, and 5 minutes per chart. Seventy hundred twenty-four alerts were evaluated with the most common alerts constituting opportunities for de-escalation (29%), targeted drugs (22%), positive blood cultures (18%), IV to PO (17%), and antimicrobial renal monitoring (8%). Interventions were accepted (11%), accepted modified (6%), rejected (35%), or undetermined (48%). Barriers to implementation included workflow and indirect communication. For patients with accepted interventions, there was an average of $279.82 per patient in savings of pharmacy charges.

Conclusion. Remote stewardship is a feasible option for small community hospitals, in addition to the cost savings, this intervention appeared to positively impact quality and safety of care while providing compliance with the new TJC antimicrobial stewardship standard.

Disclosures. All authors: No reported disclosures.

722. Results of a Pilot Fourth year Medical Student Elective in Antimicrobial Stewardship Rebecca (Becky) Zon, MS41; Payal K. Patel, MD, MPH2,3; 1University of Michigan Medical School, Ann Arbor, Michigan, 2Infectious Diseases, University of Michigan, Ann Arbor, Michigan 

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Background. Antimicrobial stewardship (AS) is not currently a formal part of the medical school curriculum. We hypothesized that presenting the topic to medical students can raise awareness of the effects of inappropriate antibiotic prescribing.

Methods. A fourth-year medical student elective was created that included microbiological, clinical, and multidisciplinary elements. Week 1: Understand mechanisms of bacterial resistance and clinical implications. Week 2: Rotate on Infectious Disease inpatient service; identified by a clinical decision support and electronic surveillance application as potential opportunities for antimicrobial therapy modification at Emory John’s Creek Hospital (EJCH), a suburban, 110-bed acute care hospital. The chart review was conducted remotely between December 12, 2016 and March 31, 2017 using predefined electronic alerts. These results were then communicated electronically to the EJCH pharmacists, who would communicate the recommendations to the patient’s provider. The primary endpoint was a time study for stewardship activities at a small community hospital. Secondary endpoints included describing barriers encountered to remote stewardship, and a cost-benefit analysis of remote stewardship at a small community hospital.

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724. Formulary Management and Antimicrobial Stewardship: a 7-year Evaluation at an Integrated Health-System Michael P. Yeye, PharmD1; Amy Morin, PharmD1; Rachel M Kenney, PharmD2; Charles T Makowski, PharmD3; Ryan T. Man J. Davis, PharmD2,3; Wayne State University College of Pharmacy, Detroit, Michigan, 1Henry Ford Hospital, Detroit, Michigan 

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Background. The antimicrobial formulary is a key tool in antimicrobial stewardship (ASP). Agents added to formulary typically are those that have been formally reviewed and determined to have a place in therapy in a given facility. Non-formulary (NF) agents generally are those that have not been requested, or were deemed not optimal based on spectrum, formulation, or cost. We evaluated NF antimicrobial orders to identify possible gaps in optimal use and process.

Methods. IRB-exempt ecological evaluation of NF antimicrobial use in multisite healthcare system. Anonymous data collected: NF antimicrobial agents ordered between 2010-2017. Drug use characteristics: class, duration, availability of formulary alternatives, and time since FDA approval. Descriptive statistics were used to characterize NF use. Additional formulary processes evaluated: requests, reviews, and decisions.

Results. 2041 NF antimicrobial were ordered for 44 different agents, representing < 0.01% of all medication orders. Drug class: Antibacterials (65%), antivirals (21%), antifungals (12%). Most common agents: levofloxacin (25%), cefpodoxime (17%), amikacin (10%), nitrofurantoin macrocrystal (10%), levofloxacin (10%), leuprolide-sfosofubur (6%). Of 421 orders for antivirals, indication was: 53% for hepatitis C. Thirty-seven percent of orders were for 1 day only, suggesting continued use outpatient. 3% of orders had an extended duration of therapy > 14 days. 185 orders were placed for new drugs in the post-survey, with 20.5% of that time spent reporting data on antimicrobial utilization. The time study also revealed an average of 11 alerts per day, 9 chart reviews per day, 8 interventions per day, and 5 minutes per chart. Seventy hundred twenty-four alerts were evaluated with the most common alerts constituting opportunities for de-escalation (29%), targeted drugs (22%), positive blood cultures (18%), IV to PO (17%), and antimicrobial renal monitoring (8%). Interventions were accepted (11%), accepted modified (6%), rejected (35%), or undetermined (48%). Barriers to implementation included workflow and indirect communication. For patients with accepted interventions, there was an average of $279.82 per patient in savings of pharmacy charges.

Conclusion. Having an interdisciplinary clerkship for medical students to explore and learn about AS could have large impact, though sustainability is unknown. In this cohort, a focused social media savvy review helped medical students learn basic elements of AS, demonstrated by the improvement in student scores on the subsequent surveys. As patient and staff education becomes a requirement of AS programs, medical student education should be incorporated as well.

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723. Effect of Leadership Commitment and Education on Antimicrobial Use and Hospital-Acquired Clostridium difficile infection rates at a Community Hospital Steven Smoke, PharmD1; Adriana Grigorou, MD2; Vicki DeChirico, MSN2; Michelle Malabanan, BSMT3; and Douglas Ratera, MD2, 1Pharmacy, Jersey City Medical Center, Jersey City, New Jersey, 2Medicine, Jersey City Medical Center, Jersey City, New Jersey, 3Infection Control, Jersey City Medical Center, Jersey City, New Jersey, 4Laboratory, Jersey City Medical Center, Jersey City, New Jersey 

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Background. Antimicrobial stewardship is critical to optimizing the treatment of infections and reducing the adverse events associated with antimicrobial use including Clostridium difficile infection. National public health and quality organizations have identified a number of core elements of successful hospital antimicrobial stewardship programs, including leadership commitment and education. This study was conducted at a 350-bed community teaching hospital with an established antimicrobial stewardship program. The purpose of this study was to identify the impact of leadership commitment and education on antimicrobial use and hospital-acquired Clostridium difficile at a community hospital.

Methods. This was a pre- and post-intervention cohort study. Hospital leadership demonstrated commitment to antimicrobial stewardship through the addition of the Vice President of the Department of Medicine as well as additional clinical pharmacy support to the Antimicrobial Stewardship team. Education was provided to staff in the form of competencies for physicians, pharmacists and nurses, as well as didactic lecture and resources available on the internal antimicrobial stewardship website. Data were collected for one-year pre- and post-intervention periods, calendar year 2015 and 2016, respectively. Antimicrobial use was measured as defined daily doses (DDDs) per 1000 patient-days.

Results. Compliance with antimicrobial stewardship competencies was 14% (107/759) for physicians, 74% (263/353) for pharmacists and 89% (588/658) for nurses. Antimicrobial use in the post-intervention period was 518.14 DDDs per 1000 patient-days compared with 558.99 DDDs per 1000 patient-days in the pre-intervention period, a decrease of 7% (CI 6.15-8.44, P < 0.001). The hospital-acquired Clostridium difficile infection rate decreased from 5.22 cases per 10,000 patient-days in the pre-intervention period to 3.81 cases per 10,000 patient-days in the post-intervention period, a decrease of 27% (CI 19.4-55.6, P = 0.21).

Conclusion. Antimicrobial stewardship program expansion in the areas of leadership commitment and education was associated with a 7% decrease in antibiotic use. This was associated with a non-statistically significant decrease in the rate of hospital-acquired Clostridium difficile infection.

Disclosures. All authors: No reported disclosures.