767. The Development and Assessment of a Physician-Specific Antibiotic Usage and Spectrum Feedback Tool

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Background. Measuring antimicrobial usage is a hallmark of antimicrobial stewardship programs. Service-level antimicrobial consumption data is easily obtained but offers limited value to individual clinicians. More specific data via spot audit is resource intensive to collect and may not reflect true practice. Additionally, though clinicians may prescribe antimicrobials with differing frequency, there may also be variability in the choice and spectrum of antimicrobials prescribed. We developed an individualized multidimensional tool using available prescribing and dispensing data to enhance peer comparison and feedback on antimicrobial prescribing.

Methods. Development was conducted in a 442-bed academic acute care hospital in the Midwestern United States. A pilot program was developed and evaluated in three posters selected randomly, and after 20–30 minutes completed a follow-up survey.

Results. 299 participants completed both surveys. There was a statistically significant association between participants’ responses and highest education level (P < 0.001). Eighty-one/299 (27%) expected their doctor to prescribe antibiotics for a "bad cold or flu" and this reduced to 38/299 (13%) after viewing the posters (P < 0.01). This result did not vary between posters, but participants shown poster 2 (ADR, n = 101) and 3 (resistance, n = 100) were less likely to agree that "antibiotics are safe" compared with participants shown poster 1 (futility, n = 98) (P < 0.001). The majority of the participants thought the information would affect their future behaviour (192/299, 64%) and that they would be likely to discuss this information with their friends and families (232/299, 78%). The overall opinions of participants shown poster 2 (ADR) and poster 3 (resistance) were significantly different from the opinions of participants shown poster 1 (futility) (P < 0.01).

Conclusion. Our brief, inexpensive intervention reduced expectations to receive antibiotics for a hypothetical URTI. Information about personal harms (ADR) and public harm (resistance) might have more impact than information solely about futility. Further study is required to test the effect of this intervention at the time a person presents with URTI.

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768. An Opt-out Approach to Antimicrobial Stewardship Utilizing Electronic Alert Recommendations at a Community Hospital

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Background. Prospective audit and feedback is a primary tool for antimicrobial stewardship, but inefficient communication and provider non-participation can limit the impact. To address these issues, a customizable electronic alert system was created to deliver antimicrobial stewardship recommendations to providers upon opening the electronic medical record. If no provider declined the recommendation after 24 hours, the recommendation was implemented by the antimicrobial stewardship program per protocol. This study describes the experience of an opt-out antimicrobial stewardship pilot at a community hospital.

Methods. This is a pragmatic, quasi-experimental, single center study describing the frequency of accepted recommendations delivered during a 12 week intervention period. Recommendation responses are categorized by intent of the recommendation: day of antibiotic therapy, prescribed antibiotics, responding provider specialty, and clinical reasoning. Secondary outcomes are target antimicrobial days of therapy (DOT) per 1000 patient days and healthcare facility-onset Clostridium difficile infections (HO-CDI) per 10,000 patient days for the three months before, during, and three months after the intervention period.

Results. In total, 804 of 1170 (69%) antibiotic recommendations were accepted yielding an average of 10 accepted recommendations per day. Of those accepted, 113 (14%) recommendations were implemented by the antimicrobial stewardship program as per protocol. Antith criterion recommendations were accepted more often than recommendations to discontinue therapy, 376/524 (72%) and 414/631 (66%), respectively. Target antibiotic DOT per 1000 patient days decreased from 775.2 in three months prior to 631 during the pilot (P < 0.05). HO-CDI per 10,000 patient days decreased from 16.24 to 11.70 (P < 0.12). After cessation of the intervention, antibiotic DOT and HO-CDI rates increased, 681 and 15.55, respectively.

Conclusion. The combination of opt-out antimicrobial stewardship with electronic delivery of recommendations demonstrated an efficient and effective approach to prospective audit and feedback. Future applications are broad including antimicrobial stewardship telefeedback.

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769. Center-level variability in broad-spectrum antibiotic prescribing for children undergoing hematopoietic cell transplantation for acute leukemia

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Background. Antibiotic exposure after allogeneic hematopoietic cell transplantation (HCT) is common. Exposure to specific classes of antibiotics after HCT has been associated with mortality, relapse and graft-vs.-host disease. Exploring differences in antibiotic usage across institutions could provide opportunities for comparative effectiveness studies and quality improvement interventions.

Methods. We conducted a retrospective cohort study of patients undergoing HCT for acute leukemia using a dataset merged from two sources: the Pediatric Health Information System and the Center for International Blood and Marrow Transplant Research. Medication use data were obtained from the day of transplant through engraftment. Hospital antibiotic utilization rates were reported as antibiotic days/1000 neutropenic days. Adjusted rates were calculated using a poisson regression controlling for age, sex, race, graft characteristics and days of ICU-level care.

Results. After adjustment, hospital rates of anti-pseudomonal antibiotic use varied from 410 to 1037 antibiotic days/1000 neutropenic days (Figure 1A) and for Gram-positive antibiotic use from 109 to 771 antibiotic days/1000 neutropenic days (Figure 1B). As shown in Figure 1, within anti-pseudomonal antibiotics there was variation by hospital in the use of Fourth and 5th generation cephalosporins, anti-pseudomonal penicillins and carbapenems; variation in Gram-positive exposure