760. Reduction of Overall and Inappropriate Antibiotic Prescribing within a Veterans Affairs Primary Care System through Peer Comparison of Overall Antibiotic Prescribing Rates

Nathan R. Shreve, MD; Deanna J. Buehrle, PharmD; Cornelius J. Clancy, MD; and Brooke K. Decker, MD, CIC

Background. Reducing inappropriate outpatient antibiotic use is an important national goal. A practical intervention with a relatively low barrier to implementation may be peer comparison of overall antibiotic prescribing rates.

Methods. Educational sessions were offered to all primary care providers (PCPs) at VA Pittsburgh. Subsequently, PCPs were sent monthly comparisons of their antibiotic prescribing rate, peer rates, and a system target. The intervention period of January–April 2017 was compared with a seasonal baseline of the same months in 2016. A random sample of prescriptions was reviewed for adherence to consensus guidelines.

Results. Educational sessions were attended by 50 (68.5%) PCPs. During the baseline period, 1,498 acute antibiotic prescriptions were written by 65 PCPs caring for 40,734 patients, compared with 1,131 prescriptions written by 73 PCPs caring for 41,185 patients during the intervention period (24.5% decrease, P < 0.0001). Azithromycin use decreased by 43.9% (442 vs. 248 prescriptions, P < 0.0001), and percentage overall decreased from 29.5% to 21.9%, P < 0.0001. Fluoroquinolone use decreased by 52% (148 vs. 71 prescriptions, P < 0.0001), and percentage overall decreased from 9.9% to 6.3%, P = 0.001. Among reviewed cases, inappropriate antibiotic prescribing decreased from 61.4% (62/101) to 40% (48/120), P = 0.002. No significant differences were observed in guideline-discordant agents (20.5% vs. 13.9%, P = 0.7) or guideline-concordant agents given for a guideline-discordant duration (36.8% vs. 37.1%, P = 0.8). Unnecessary antibiotic prescribing rates were numerically lower for urinary tract infections (40% (4/10) vs. 6.7% (1/15), P = 0.1), and COPD exacerbations (75% (6/8) vs. 16.7% (1/6), P = 0.1), and significantly lower for skin and soft-tissue infections (50% (9/18) vs. 7.1% (1/14), P = 0.02). Azithromycin and fluoroquinolones were frequently inappropriate in both periods (80.6% (29/36) vs. 70.8% (17/24) and 85.7% (6/7) vs. 75% (6/8), respectively).

Conclusion. In a primary care setting, initial education followed by monthly peer comparison of overall antibiotic prescribing rates reduced overall and inappropriate antibiotic prescribing.

Disclosures. All authors: No reported disclosures.

761. Quality Assessment of Process Measures in Antimicrobial Stewardship: Concordance of Valacyclovir Indication and Automatic Proactive Approval in Computerized Provider Order Entry

Tiffany Lee, PharmD; Christopher McCoy, PharmD, BCPS-AQ ID and Monica V. Mahoney, PharmD, BCPS ID; Department of Pharmacy, Beth Israel Deaconess Medical Center, Boston, Massachusetts

Session: 75. Stewardship: Program Implementation

Thursday, October 5, 2017: 12:30 PM

Background. Invasive diseases society of America (IDSA) and the society for Healthcare Epidemiology of America (SHEA) recommend computerized decision support at the time of prescribing as an antimicrobial stewardship (AST) tool. Providing antimicrobial indications during prescribing can optimize infection-specific therapy through appropriate indication-based dosing. The Leapfrog group identifies this as a quality measure for their report card system. At Beth Israel Deaconess Medical Center (BIDMC), indication-based dosing has been incorporated into the computerized provider order entry (CPOE) system since 2006. A BIDMC-protocol.

Methods. A retrospective chart review was performed in patients prescribed valacyclovir during an 8-month period in 2016. Electronic medical records, laboratory reports, and pharmacy records were reviewed to identify the suspected/confirmed infection. The primary outcome was the concordance rate of selected CPOE valacyclovir indications compared with suspected/confirmed infection at the time of ordering. The secondary outcome was the proportion of valacyclovir use per institutional protocol.

Results. Overall, 117 patients were included, with a median age of 57.9 years, 51 (43.6%) were male, and 4 (3.4%) were located in an intensive care unit. Fifty-nine orders (50.4%) selected VZV as the indication, followed by 21 orders (17.9%) for SOT infections, and 20 orders (16.7%) for skin and soft-tissue infections (50%) for COPD exacerbations. Of 90 valacyclovir orders, 5 (23.8%) were concordant. Furthermore, only 46 orders (39.3%) were per BIDMC-protocol.

Concordance of CPOE indication selection and suspected/confirmed infection for valacyclovir was low. Using CPOE to grant automatic proactive approval must be monitored and audited for accuracy if employed as an AST tool.

Disclosures. All authors: No reported disclosures.
Background. Hospitals are critical partners in antimicrobial stewardship program (ASP) efforts to improve antimicrobial use, but limited data exists on the effectiveness of ASP-hospitalist collaboration. We performed a hospitalist-led quality improvement project with pharmacy collaboration to improve antimicrobial prescribing practices on general internal medicine teaching services at an urban academic medical center.

Methods. We conducted a 3-arm intervention study on internal medicine teaching services from September-December 2016. Three services received an educational (Ed) intervention consisting of an antibiotic rationale checklist, a templated progress note to prompt trainees critical thinking about antibiotic management, and a pocket card with institutional guidelines. In addition, 1 team received twice weekly stewardship rounds with an infectious disease clinical pharmacist (Ed+ID-PharmDx2) while another team received 5x week stewardship rounds with a generalist clinical pharmacist (Ed+PharmDx3). The primary outcome was broad-spectrum antibiotic use calculated as days of therapy (DOT) per 1000 patient days compared with historical data from the corresponding months. Secondary outcomes included duration of inpatient therapy, antibiotic costs, length of stay, 30-day readmission, ICU transfer and in-hospital mortality.

Results. Broad-spectrum antibiotic use significantly decreased by 26% (415 vs. 306 DOT/1000 patient days) and 32% (425 vs. 287 DOT per 1000 patient days) on the Ed and Ed+PharmDx5 teams, respectively (P <0.01). Broad-spectrum use on the Ed+ID-PharmDx2 team decreased by 9% but was not statistically significant. There was a significant improvement in median length of stay among patients receiving antibiotics for Ed only (-1.5 days; P < 0.001) and Ed+PharmDx5 (-1 day; P < 0.001) and no significant change in 30 day readmissions, ICU transfer and in-hospital mortality for all. Direct antibiotic costs were reduced by $80,000 during the study period.

Conclusion. A hospitalist-led initiative to improve inpatient antimicrobial prescribing led to reductions in broad-spectrum antibiotic use and reduced length of stay: ASPs should target hospitalists and pharmacists as partners in programmatic efforts to improve inpatient antimicrobial prescribing.

Disclosures. All authors: No reported disclosures.

764. Developing Surgical Antimicrobial Prophylaxis Interventions Using Theoretical Domains Framework
Paul E. Bonnar, MD,1,2; Arrani Senthinathan, BSc, MSc, PMP,1 Yoshiok Nakamachi, RN, BScN, BPT, PMP ASP,1; David J. Backstein, MD, MEd, FRCSC;3 Marilyn Steeberg, RN1 and Andrew M. Morris, MD, SM,1,4 Medicine, University of Toronto, Toronto, ON, Canada, 2Surgery, Dalhousie University, Halifax, NS, Canada, 3Sinai Health System, Toronto, ON, Canada, 4University Health Network, Toronto, ON, Canada

Session: 75. Stewardship: Program Implementation
Thursday, October 5, 2017: 12:30 PM

Background. Surgical site infections are common causes of healthcare-associated infections. Using surgical antimicrobial prophylaxis (SAP) is a complex process that can reduce these rates if performed correctly. While antimicrobial stewardship programs have developed guidelines for SAP, there has been less focus on understanding and modifying the behavioral and contextual factors required to optimize prophylaxis use. We performed chart reviews and workflow analyses to develop interventions based on a theoretical framework to improve SAP use in two academic hospitals.

Methods. SAP use during a one month period (October 2016) was analyzed for orthopedic and general surgery procedures by chart review. The primary outcomes of interest included SAP choice, preoperative timing, intraoperative re-dosing, and postoperative continuation. Structured workflow analyses were performed to understand the processes involved in SAP ordering and administration. These findings were applied to the Theoretical Domains Framework (TDF) to develop theory-based interventions.

Results. We reviewed 88 orthopedic and 63 general surgery procedures. Adherence to institutional guidelines for prophylaxis choice was low in both orthopedic (55%) and general surgery (70%). For general surgery, preoperative timing was incorrect in 25% of cases, re-dosing for procedure duration was incorrect in 59% of cases, and re-dosing for blood loss was not routinely performed. Alternatively, for orthopedic surgery cefazolin was re-dosed too early, at a median of 93 minutes (n = 42), and postop antibiotic use was continued for 10 days in all 14 aseptic hip revisions.

Methods. Using an existing collaboration between a medical center and 8 SNFs, we established a framework of antimicrobial stewardship principles related to UTI management as follows: Phase 1 (Jul-Dec 2015), baseline assessment; Phase 2 (Jan-Jun 2016), developed SNF-specific UTI treatment recommendations based on local resistance patterns; Phase 3 (Jul-Dec 2016), implemented tools to standardize UTI assessment, including SNF-specific treatment recommendations developed in Phase 2. Outcome assessments included antimicrobial utilization and prescribing consistent with treatment recommendations. Chi-squared and Student’s t-testweres used as appropriate.

Results. Aggregate data were available from 3 SNFs. Compared with baseline, implementation of the program was associated with a 20% reduction in monthly antimicrobial days of therapy (DOT) (181 to 144 DOT/1000 patient days, P = 0.04), including a 42% reduction in fosfomycin (FQ) DOT (287 to 168 DOT/1000 patient days, P = 0.002). Initiation of FQ orders declined by 41% (17 to 10 orders/month, P = 0.02). Following implementation, 60% of antimicrobial orders for UTI were consistent with SNF-specific UTI guideline recommendations. We continued to observe a high proportion of patients without UTI symptoms who received antimicrobials (72%). Additional data were available from one facility. Initiation of antimicrobials at the SNF for UTIs decreased 29% (75 to 53 orders/month, P < 0.001), and FQ DOTs for UTIs decreased 55% (11 to 5 orders/month, P = 0.005).

Conclusion. Hospitals and SNFs can partner to develop a successful antimicrobial stewardship program. Implementing facility-specific tools to guide appropriate management of suspected UTI was associated with a significant reduction in overall antimicrobial prescribing, particularly FQs. Opportunities to reduce overtreatment for asymptomatic bacteriuria remain.

Disclosures. All authors: No reported disclosures.

766. Posters that Contain Information About Antibiotic Related Harm Reduce Expectations for Antibiotic Treatment of Viral Upper Respiratory Tract Infections
Stephen Ritchie, MBCb, PhD1; Lizzie Rakhamanov, BSc1; Mark Hobbs, MBCb2; Mark Boston, MBCb, MD1, Laxio Sujjos, BSc, MSc, PhD1; Eamon Dufy, MPPharm1, and Stephen Reay, BSc, MPhil, PhD1 University of Auckland, Auckland, New Zealand, 2University City Hospital, Auckland, New Zealand, 3University of Auckland Business School, Auckland, New Zealand, 4AUT University, Auckland, New Zealand

Session: 75. Stewardship: Program Implementation
Thursday, October 5, 2017: 12:30 PM