Background. Community-acquired pneumonia (CAP) is the most common diagnosis in hospitalized children. The Pediatric Infectious Diseases Society and the Infectious Diseases Society of America published evidenced-based clinical practice guidelines for the management of CAP in children 3 months of age or older in 2011. These guidelines are not consistently followed. Our objective was to evaluate if quality improvement (QI) methods could improve guideline-concordant antibiotic prescribing, specifically addressing the use of oral third-generation cephalosporins, at hospital discharge for children with uncomplicated CAP.

Methods. QI interventions, implemented at a single tertiary care children's hospital in Washington, D.C., focused on key drivers targeting hospital medicine resident teams. Multiple plan-do-study-act (PDSA) cycles were performed. Initial interventions included educational sessions (in small group and lecture formats) aimed at pediatric resident physicians, as well as visual job aids (Figure 1) and guideline summaries posted in resident physician work areas. Interventions were implemented in series to allow for statistical analysis via run chart. Medical records of eligible patients were reviewed monthly after each intervention to determine the impact on appropriate discharge antibiotic prescribing.

Results. At baseline, the median percentage of children with a diagnosis of uncomplicated CAP discharged with guideline-concordant antibiotics was 50%. Median rates of guideline-concordant antibiotic prescribing improved to 87.5% after initial interventions (Figure 2).

Conclusion. A fellow-led multidisciplinary QI initiative was successful in decreasing rates of non-guideline-concordant antibiotic prescribing at discharge. These interventions can be tailored for use at other institutions and for other infectious processes with established treatment guidelines. To ensure sustained improvement in guideline-concordant prescribing, future planned interventions include additional educational sessions with residents, faculty, and pharmacists, EMR order set modification and physician benchmarking. These tactics are intended to address the anticipated challenge of resident/faculty turnover and automate antibiotic choice for uncomplicated CAP.

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1140. Evaluation of Neonatal Sepsis Guidelines in a Neonatal Intensive Care Unit Priya V. Patel, MD; Colleen B. Nash, MD, MPH; Betty N. Vu, PharmD, BCIDP, AAHIVP; 1 Rush University, Chicago, Illinois; 2 Rush University Medical Center, Chicago, Illinois; 3 Chicago State University, Chicago, Illinois
Session: 139. Antibiotic Stewardship (Pediatric): Implementation in Hospitals Friday, October 4, 2019: 12:15 PM

Background. Clinical practice surrounding neonatal sepsis varies significantly among physicians. In efforts to confront the challenge of inappropriate and overuse of antimicrobials in our Neonatal Intensive Care Unit (NICU), a multidisciplinary team developed a guideline for the evaluation and management of suspected and proven sepsis within the NICU in preterm infants. We evaluated the antimicrobial utilization and prescribing practices at a pediatric hospital.

Methods. All infants <37 gestational weeks born in July and August of 2016, 2017, and 2018 were retrospectively reviewed and compared before and after implementation of the guideline. The primary outcome was the percentage of antibiotic-free days per admission. Secondary outcomes include percentage of directive treatment courses and percentage of antibiotic days for culture-negative sepsis. Chi-square and Mann-Whitney U tests were performed, as appropriate.

Results. A total of 75 and 37 patients were included for preliminary data analysis in the pre- and post-implementation periods, respectively. Chi-square and Mann-Whitney U tests were performed, as appropriate. The percentage of antibiotic-free days per admission per patient born in the pre-implementation period was lower (84.4% vs. 86.5%, P = 0.028). There is no statistical difference in the percentage of directive treatment between the two groups. The percentages of culture-negative antibiotic days were not statistically significant (69.2% vs. 80.5%, P = 0.296). The average birth weights were lower (1,719.7 grams vs. 1,420.7 grams, P = 0.02) and gestational ages were younger (31.4 weeks vs. 29 weeks, P = 0.001) in the post-implementation period.

Conclusion. Our preliminary data did not show a significant decline in the percentage of antibiotic-free days or significant improvement in the utilization of our guideline; however, this may be confounded by the differences noted in our patient populations and is based on preliminary data. Implementation of this guideline is feasible and may reduce the inappropriate use of antimicrobials. Further data collection is ongoing to fully assess the impact of this guideline.

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1141. Implementation of a Pediatric Handshake Antimicrobial Stewardship Program to Improve Antimicrobial Utilization Amanda P. Hughes, PharmD; Maya Begavac, PharmD, MPH, BCIDP; Ronda Oram, MD; Sarah Wieczorkiewicz, PharmD, FIDS A, BCPS, BCIDP; Anthony Chiang, PharmD; 1 Advocate Lutheran General Hospital, Chicago, Illinois; 2 Advocate Children's Hospital-Park Ridge, Park Ridge, Illinois; 3 Wolters Kluwer, Chicago, Illinois
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Background. Antimicrobial stewardship (AMS) programs emerged in response to rising rates of resistance and adverse effects associated with inappropriate antimicrobial utilization. Optimal metrics and strategies (e.g., preauthorization, prospective audit and feedback) for AMS remain to be elucidated. This study evaluated the impact of a multidisciplinary, rounding-based AMS strategy (i.e., Handshake Stewardship) on antimicrobial utilization and prescriber behavior at a pediatric hospital.

Methods. This was a single-center, retrospective quality improvement study at a community, teaching children’s hospital. All pediatric and neonatal inpatients with active antimicrobial orders between July 2018 and March 2019 were included in the study. Data were compared with data from July 2017–March 2018. Antimicrobial courses were prospectively audited by a multidisciplinary AMS team, and feedback was provided to the primary teams during Handshake Stewardship rounds. The primary endpoint was a number of interventions made and the corresponding acceptance rates. The secondary endpoint was days of therapy (DOT) per 1000 patient-days. Descriptive statistics were performed on all continuous and categorical data as appropriate.

Results. Of 2238 antimicrobial courses reviewed, 710 (32%) required intervention, and 86% of the interventions made were accepted. The top 3 indications evaluated were respiratory (n = 522, 23%), sepsis/bacteremia (n = 351, 16%), and surgical prophylaxis (n = 266, 12%). Of the respiratory courses reviewed, there were 228 opportunities for antimicrobial optimization. The most common interventions were: drug optimization (n = 208, 29%), discontinuation of anti-infective (n = 136, 19%), and dose optimization (n = 120, 17%). No significant difference was observed for overall, ceftiraxone, meropenem, and vancomycin DOT pre- and post-implementation of Handshake Stewardship. However, a statistically significant reduction in DOTs was observed for piperacillin–tazobactam (15.2 vs. 7.4, P = 0.004) and a nonsignificant reduction in meropenem (9.5 vs. 6.2).

Conclusion. Rounding-based, Handshake AMS was associated with overall high intervention acceptance rates and a reduction in commonly utilized broad-spectrum antimicrobials.

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