weekend report of blood culture result from microbiology department and stopping ordering antimicrobials beforehand for the next day. We compared days of therapy (DOT) during the post-implementation period (September 2017 to March 2018) with that of the pre-implementation period (March 2013 to August 2017).

**Results.** During the pre- and post-ASP implementations, 913 and 92 patients were admitted to NICU and DOT/1,000 patient-days were 217.9 and 56.6 in pre- and post-ASP implementations (P < 0.001) with 74.0% reduction of antimicrobial prescriptions. Mortality rates were 0.4% and 0.0% (P = 0.54), and 4.6% and 5.3% of patients had sepsis (P = 0.76), respectively. Weekend reports of blood culture result were performed in six patients and shortened their length of antimicrobial treatments during the post-ASP implementation period.

**Conclusion.** This ASP program was easily implemented in a NICU department of a community hospital and significantly reduced antimicrobial prescription. This kind of simple protocol may be successfully scaled up in resource limited community hospitals, without any pediatric infectious disease specialists or antimicrobial stewardship teams.

**Disclosures.** All authors: No reported disclosures.

265. Identification of Solid-Organ Transplant Antimicrobial Stewardship Opportunities in Pediatric Liver Transplant Patients

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**Background.** Through the prospective audit with feedback program, postoperative antimicrobial use for pediatric liver transplant was observed to extend beyond the recommended 24 hours for surgical site infection (SSI) prophylaxis. Bacterial infections in the immediate post-transplant period represent significant risk in pediatric liver transplant recipients, including SSI. We describe our posttransplant antimicrobial (PTA) utilization in the largest pediatric liver transplant center to determine opportunities for the antimicrobial stewardship program (ASP).

**Methods.** All children who underwent a liver transplant between January 1, 2017 and September 30, 2017 at our institution were included. Antimicrobials initiated within 14 days posttransplant were captured, presence of fever within 14 days, positive microbiologic data within 30 days, and massive transfusion protocol (MTP) status were collected. The primary endpoint was duration of PTA. Clinical factors associated with PTA use >48 hours were evaluated.

**Results.** Thirty-eight children underwent a liver transplant during the study period and 29 (76%) received a broad-spectrum Gram-negative (GN) antibiotic for >48 hours posttransplant. Half of the patients received vancomycin and 15 (40%) received an antifungal posttransplant. Fever occurred in 21 (55%) of patients with a median onset of 1 day; 3 (8%) patients had a culture-proven posttransplant bacterial infection, with no resistant Gram-positive organisms identified. Eight patients (21%) met MTP and received PTA for >27 days and none had a positive bacterial culture. No differences were detected in fever or culture proven posttransplant infection between patients who received >48 hours of GN antibiotics compared with those who received >48 hours.

**Conclusion.** The majority of children received PTA beyond 48 hours which was not attributable to prolonged posttransplant fevers or positive cultures. We identified ASP opportunities, including limiting GN to 48 hours posttransplant, eliminating empiric vancomycin, restricting antifungals to MTP only, and limiting MTP PTA to 5 days.

**Disclosures.** All authors: No reported disclosures.

266. Implementation and Evaluation of a Pharmacist-Managed Pediatric Vancomycin Protocol

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**Background.** Pediatric studies have shown that pharmacist-guided vancomycin dosing leads to reduction in time to initial target vancomycin trough, duration of vancomycin therapy, time to clinical stability, and shorter hospital stay. At Boston Medical Center, 65% of pediatric patients receiving vancomycin did not achieve initial therapeutic troughs between 10 and 20 mg/ml from October 1, 2016 to September 30, 2017. Through implementation of a pharmacist-managed pediatric vancomycin protocol, the project aim was to increase the percentage of patients achieving initial therapeutic troughs from 35% to 60% and percentage of patients achieving therapeutic troughs within 4 days from 67% to 90% by May 1, 2018. Secondary aims included reducing the incidence of supratherapeutic troughs from 10% to 5% and maintaining the incidence of vancomycin-associated nephrotoxicity (VAN) at 0%.

**Methods.** A quality improvement (QI) initiative based on the Institute for Healthcare Improvement’s Model for Improvement was utilized. Plan-Do-Study-Act (PDSA) cycles. In PDSA cycle 1, pharmacists designed and implemented a standardized vancomycin dosing protocol for pediatric patients. In PDSA cycle 2, the addition of area under the curve (AUC)-guided dosing was implemented in select patients. Process and balancing measures included percentage of appropriately drawn vancomycin troughs, provider adherence to the new dosing protocol, and incidence of supratherapeutic troughs.

**Results.** A total of 32 pediatric patients were assessed. Compared with baseline data, percentage of patients achieving initial therapeutic troughs increased from 35% to 44% and percentage of patients achieving therapeutic troughs within 3 days increased from 67% to 92%. The incidence of supratherapeutic troughs decreased from 10% to 0% and the incidence of vancomycin-associated nephrotoxicity was maintained at 0%.

**Conclusion.** Significant gains in pediatric initial vancomycin dosing with increased pharmacy involvement led to more patients achieving initial therapeutic troughs, shorter times to therapeutic troughs, and a reduction in supratherapeutic troughs. Next steps include hospital-wide implementation of a pediatric vancomycin per pharmacy protocol.

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267. Viral Respiratory Infections in Children with Neuromuscular Disease and Chronic Lung Disease Hospitalized in the Pediatric Intensive Care Unit and Associated Antibiotic Use

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**Background.** Viral respiratory infections (VRI) cause significant morbidity in children with neuromuscular disease (NMD) and chronic lung disease (CLD). Antibiotics may be prescribed to children with NMD and/or CLD during hospitalizations in the pediatric intensive care unit (PICU) due to concerns of bacterial coinfection or superinfection. The purpose of this study was to describe the bacteriologic features of these VRI’s and associated antibiotic use.

**Methods.** From May 2012 to April 2015, we identified children with NMD and/or CLD who were hospitalized in the PICU and had a respiratory virus identified by multiplex PCR. Cases were those with NMD and/or CLD, while control patients were without these conditions. Patients with immunodeficiency, congenital heart disease, and those with positive bacterial cultures at sterile body sites, or bacterial infections identified by multiplex PCR were excluded. Virus types, bacterial respiratory culture results, peripheral WBC, X-ray findings, and receipt of antibiotics were compared between the two groups.

**Results.** There were 104 infections among cases and 300 among controls. The most common viruses were rhinovirus/enterovirus (188, 47%), respiratory syncytial virus (91, 23%), and influenza (34, 8%). Cases were more likely to have a positive Gram stain from respiratory culture (44% vs. 10%, P < 0.01), respiratory WBC count >25 (26% vs. 9%, P < 0.01), and growth of nonrespiratory flora (46% vs. 9%, P < 0.01); but did not differ in proportion with peripheral WBC count >15 (16% vs. 21%, P = 0.43), or proportion with >600 neutrophils or >1000 bands (54% vs. 41%, P = 0.05), or positive blood cultures (39% vs. 34%, P = 0.45). Proportion of patients treated >5 days of antibiotics did not differ between the two groups (38% vs. 33%, P = 0.40).

**Conclusion.** Broad-spectrum antibiotic use during VRI was common among patients with and without NMD and/or CLD. Though laboratory features differed between the two groups, antibiotic use was similar.
hospital admission, narrow and BS antimicrobial days and appropriateness, infectious complications, and drug toxicity were collected. The preliminary preintervention arm was compared with the postintervention arm using descriptive statistics via SPSS.

Results. Preliminary data suggest a trend toward decreased BS antimicrobial use in the postintervention group by 27%, with a significant decrease in the rate of inappropriate use during the postintervention period. There were no episodes of drug-related nephrotoxicity.

Conclusion. Continued review is ongoing; however, risk-based limited-spectrum antimicrobial therapy for pediatric CT surgery patients appears efficacious and safe while limiting antimicrobial exposure.

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269. De-Labeling of Allergies to β-Lactam Antibiotics (De-LABeL) Program: Development and Pilot of an Inpatient Pediatric Program

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Background. Self-reported β-lactam allergy (BLA) labels are common. The implementation of inpatient penicillin allergy testing in the adult setting has been shown to improve antimicrobial use. The impact of this intervention in the pediatric inpatient setting is unknown.

Objectives. We sought to develop and pilot an inpatient β-lactam allergy delabeling program in a pediatric tertiary-care center.

Methods. In collaboration with the Allergy and Immunology, Infectious Diseases and Pharmacy Divisions, a De-Labeling of Allergies to β-Lactams (De-LABeL) program has been developed for integration into routine patient care at the Hospital for Sick Children. The oral provocation challenge (OPC) was chosen as the delabeling intervention and the program has been piloted on the General Pediatric service.

Results. An algorithm was created to assist clinicians in identifying appropriate candidates for an inpatient OPC. Reported reactions were risk stratified using a systematic framework. A two-step OPC (10% followed by 90% of a weight-based treatment dose of the potential allergen) was used. Following the OPC, patient families received a letter to take to their primary care provider and pharmacist to provide communication about the status of their BLA. During the 3-month pilot on the General Pediatric service, 32 children with a BLA label were assessed, and one-third of patients (n = 11, 34.4%) were delabeled. Four families declined the OPC. Nine patients (28.1%) were delabeled. Four families declined the OPC. Nine patients (28.1%) were delabeled. Four families declined the OPC.

Conclusion. Almost half of pediatric patients with a reported BLA received a second-line antibiotic when compared with hospital empiric antibiotic guidelines. There is a need for a systematic approach to evaluating reported BLA in order to promote judicious prescribing habits.

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270. Prevalence and Impact of β-Lactam Allergies at a Canadian Pediatric Center

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Background. Rational and appropriate use of antibiotics is a global priority since inappropriate or unnecessary use is associated with antibiotic resistance and patient morbidity. In adult patients, the presence of a β-lactam allergy label (BLA) often leads to the use of broader spectrum agents with more toxicity. Infections account for a majority of pediatric hospital admissions, and β-lactam antibiotics are often considered first-line therapy. There is limited evidence on the impact of BLA on prescribing practices in pediatrics. The primary objective of this study was to determine the proportion of children with a reported BLA who received second-line antimicrobials (as determined by hospital empiric antibiotic guidelines). The secondary objective was to identify patient characteristics associated with receiving second-line antibiotics.

Methods. A 1-year retrospective cohort study was undertaken at the Hospital for Sick Children. We reviewed the characteristics and management of patients with a reported BLA who received antibiotics from January to December 2016.

Results. Of the 16,224 admissions in 2016, 206 patients with a reported BLA received antibiotics. Among these patients, the median age was 7.9 years (IQR 4.0, 12.8) and the majority of patients had at least one medical condition (n = 120, 59.3%), including 27 children with complex medical or genetic conditions (13.1%). Penicillin (n = 86, 41.0%) and amoxicillin (n = 70, 33.9%) were the most commonly reported allergens. Nonsevere rashes were the most commonly reported allergic reactions (n = 158, 73.1%). Ninety-four patients (46%; 95% CI 0.39,0.52) received second-line therapy. After adjusting for age and sex, the odds of receiving a second-line antibiotic were increased in patients with any underlying medical condition (OR = 2.45, 95% CI 1.32–4.56). had a reported allergic reaction that was deemed high-risk (i.e., anaphylaxis, respiratory or systemic symptoms, severe rashes) (OR = 2.61, 95% CI 1.11–6.11) or who received antibiotics for surgical prophylaxis (OR = 3.30, 95% CI 1.44–7.54).

Conclusion. Almost half of pediatric patients with a reported BLA received a second-line antibiotic when compared with hospital empiric antibiotic guidelines. There is a need for a systematic approach to evaluating reported BLA in order to promote judicious prescribing habits.

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271. Diagnosis and Management of Polymicrobial Blood Stream Infections With Multiplex PCR in Hospitalized Children

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Background. Multiplex PCR (mPCR) can be used to rapidly identify polymicrobial blood stream infections with mPCR. In addition rapid identification of potential contaminants, may limit unnecessarily broad empiric therapy. The purpose of this study was to describe the use of mPCR to diagnosis polymicrobial BSIs in hospitalized children, and the impact of this technology on antibiotic prescribing.

Methods. We retrospectively identified children at our institution with polymicrobial BSIs diagnosed by mPCR (Film Array Blood Culture Identification Panel, BioFire Diagnostics) from October 2014 to March 2018. A polymicrobial BSI was defined as any blood isolate with ≥1 bacterial or fungal species. Gram stain results, species identification by mPCR, and final species identification via matrix associated laser densitization time of flight (MALDI-TOF) were determined. Antibiotic prescribing for treatment of each BSI was reviewed.

Results. Overall, 622 patients experienced 961 blood stream infections. There were 54 patients who experienced 68 polymicrobial BSIs (7%). Of the polymicrobial BSIs, 55 (80.9%) were two organisms and 13 (19.1%) were three or more organisms. Of the 68, 44 (64.7%) had the same Gram stain morphology and 24 (35.3%) had different morphology. Antibiotic therapy was broadened, narrowed, and unchanged in 38 (56%), 16 (24%), 14 (21%) of infections, respectively. Common modifications of therapy included addition of aminoglycoside or meropenem when two Gram-negative bacilli were present, and addition of vancomycin when coagulase negative staphylococci (CoNS) were isolated.

Conclusion. The use of mPCR commonly led to prompt modification of antibiotic therapy to treat polymicrobial blood stream infections. Identification of CoNS frequently predetermined the addition of aminoglycoside or meropenem when two Gram-negative bacilli were present, and addition of vancomycin when coagulase negative staphylococci (CoNS) were isolated.

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