vs. rural 16 (29%) (P = 0.1)). The commonest perceived barriers to successful AMS for all hospitals were lack of dedicated infectious diseases and microbiology services (64 (60%)), lack of dedicated pharmacy resources (62 (59%)), and a lack of education for clinicians in antibiotic use (53 (50%)).

Conclusion. Australian hospitals have implemented some AMS activities for children, but most lack resources—this was much more evident in regional/rural than metropolitan hospitals. Barriers to successful AMS include a lack of infectious diseases and pharmacy resources and education, which need to be addressed in workforce planning.

Disclosures. All authors: No reported disclosures.

258. Variation in Antibiotic Use Among Neonates Hospitalized in United States Academically Affiliated Centers
Prachi Singh, DO1 and Rachel Wattier, MD, MHS;1 Pediatric Infectious Diseases, UCSF Benioff Children’s Hospital, Oakland, Oakland, California and 1Division of Infectious Diseases and Global Health, University of California, San Francisco, San Francisco, California
Session: 53. Pediatric Antimicrobial and Diagnostic Stewardship
Thursday, October 4, 2018: 12:30 PM

Background. Antibiotics are often necessary in high-risk patients such as neonates. However, exposure to broad-spectrum antibiotics has been associated with adverse neonatal outcomes. Variation in antibiotic use across neonatal intensive care units has been demonstrated on a regional level, but little is known about United States nationwide antibiotic use among hospitalized neonates. Prior studies have measured antibiotic use rates (AUR; antibiotic therapy days as a portion of days present) rather than antibiotic days of therapy per 1,000 patient-days (DOT/1,000 patient-days), the preferred metric in antimicrobial stewardship practice.

Methods. Hospitals participating in the Vizient (formerly University HealthSystem Consortium) Clinical Database/Resource Manager with >100 neonatal discharges from January to December 2016 were identified. Facility-level clinical outcomes, diagnoses, and antibiotic utilization data from 118 hospitals were included. The primary antibiotic utilization metric was DOT per 1,000 patient-days; AUR and antibiotic spectrum index (ASI) per antibiotic day were also evaluated according to previously published methods.

Results. The number of neonatal discharges per facility in 2016 ranged from 228 to 15,773 (median 2,578, interquartile range [IQR] 1,314–3,927). Of the 118 hospitals, 94 (80%) provided care to neonates with birthweight less than 1,500 g; 77 (65%) provided care to neonates weighing 1,500–2,499 g; and 111 (94%) provided care to neonates with birthweight less than 2,500g. However, exposure to broad-spectrum antibiotics has been associated with adverse neonatal outcomes. Variation in antibiotic use across neonatal intensive care units will be important to provide facility-level clinical outcomes, diagnoses, and antibiotic utilization data from 118 hospitals were included. The primary antibiotic utilization metric was DOT per 1,000 patient-days; AUR and antibiotic spectrum index (ASI) per antibiotic day were also evaluated according to previously published methods.

Conclusion. There is substantial variation in antibiotic use among neonates hospitalized in academically affiliated United States centers. Variation in days of exposure is greater than variation in spectrum of activity per day of therapy. Understanding sources of variation in antibiotic use at the facility level will be important to provide informative benchmarking of neonatal antimicrobial management.

Disclosures. All authors: No reported disclosures.

259. A Retrospective Cross-Sectional Comparison of the Neonatal Gut Microbiota After Antimicrobial Exposure: Implications for Stewardship
Ashley Rooney, BSc2; Bryan Coburn, MD, PhD1,3 and Michelle Science, MD, MSc1; 1University of Toronto, Toronto, ON, Canada, 2University Health Network, Toronto, ON, Canada, 3The Hospital for Sick Children, Toronto, ON, Canada
Session: 53. Pediatric Antimicrobial and Diagnostic Stewardship
Thursday, October 4, 2018: 12:30 PM

Background. The development of the infant gut microbiota influences the maturation of the host immune system and has been implicated in both short- and long-term health outcomes. In a healthy infant, the initial stages of gut microbiota development are characterized by the progressive acquisition and proliferation of anaerobes. In the neonatal intensive care unit (NICU), infants are often exposed to antibiotics which disturb the normal development of the gut microbiota. In this retrospective cross-sectional study, we aimed to evaluate the effects of three different antibiotic regimens on the gut microbiota of infants in the NICU, focusing on the effect on anaerobe colonization.

Methods. From November 1, 2014 to April 30, 2015, stool samples were collected from NICU patients at The Hospital for Sick Children. Infants were included in the study if they received any dose or duration of the following antibiotics: ampicillin and tobramycin (AT), ampicillin and cefotaxime (AC), or ampicillin, tobramycin, and metronidazole (ATM). DNA was extracted from stool samples and subject to Illumina sequencing of the V4 hypervariable region of the 16S rRNA gene. Infants were stratified by gestational age (term or preterm). The first sample taken within 3 weeks after antibiotic exposure were analyzed for diversity measures, taxonomic composition, and anaerobe relative abundance.

Results. A total of 64 NICU infants were included in the study, 46 (71.9%) received AT, (10.9%) received AC, and 11 (17.2%) received ATM. Term infants received either AT (19/46; 41.3%) or AC (77/101; 100%), whereas preterm infants received either AT (27/46; 58.7%) or ATM (111/111; 100%). Shannon diversity was not statistically significant between term infants receiving AT and AC or preterm infants receiving AT and ATM. However, the relative abundance of anaerobes was significantly decreased after exposure to ATM in comparison to preterm infants receiving AT (P < 0.005).

Conclusion. Within 1 week after ATM therapy, the relative abundance of gut anaerobes in preterm infants were significantly decreased in comparison to preterm infants receiving a course of AT. Therefore, limiting the use of ATM in preterm infants may protect the developing gut microbiota.

Disclosures. All authors: No reported disclosures.

260. Effect of Antibiotic Indications on Clinician Documentation and Pharmacy Workflow in Hospitalized Children
Tonya Scardina, PharmD;1 Larry Kociolek, MD2 and Sameer Patel, MD, MPH3; 1Pharmacy, Ann and Robert H. Lurie Children’s Hospital of Chicago, Chicago, Illinois, 2MSCI, Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, Illinois, 3Pediatric Infectious Diseases, Ann and Robert H. Lurie Children’s Hospital of Chicago, Chicago, Illinois
Session: 53. Pediatric Antimicrobial and Diagnostic Stewardship
Thursday, October 4, 2018: 12:30 PM

Background. Documentation of antibiotic indication at the time of order entry is mandated by the Centers for Disease Control and Prevention. We evaluated the effect of this mandate on the accuracy of clinician documentation and pharmacy workflow in hospitalized children.

Methods. Documentation of indication at our institution was required beginning March 30, 2017. All patients ≤18 years old that received ≥1 dose of intravenous (IV) vancomycin (VAN) or IV/intramuscular ceftriaxone (CTX) during a 1 month preintervention period and three postintervention study periods (at 0, 3, and 6 months following implementation) were included. Patients were only included once per study period. Data included timing of antibiotic administration, indication for use, infection at body site requiring potential dose modification, dose modification, and agreement between order and progress note.

Results. Median age of patients was 4.2 years. Most common indications for VAN (total: 789) were sepsis syndrome (26%, N = 204), febrile neutropenia (12%, N = 95), and suspected catheter-related bloodstream infection (10%, N = 77) and for CTX (total: 1,071) were sepsis syndrome (12%, N = 127), perforated appendicitis (12%, N = 25), and urinary tract infection (10%, N = 107).

Table: Changes in Workflow and Documentation Pre/Postintervention

|                      | Baseline | Period 1 | Period 2 | Period 3 | Period 4 |
|----------------------|----------|----------|----------|----------|----------|
| CTX                  |          |          |          |          |          |
| N = 202              | N = 173  | N = 142  | N = 142  |          |          |
| Median time to administration (minutes) | 70       | 53       | 47       | 60       |
| Order-progress note  | –        | 46%      | 33%      | 44%      |
| Infection with potential agreement | (79/173) | (47/142) | (62/142) |
| Infection with potential dose modification | (63/202) | (84/143) | (64/142) | (72/142) |
| Dose modified       | 6%       | 17%      | 15%      | 15%      |
| (12/202)            | (29/173) | (21/142) | (21/142) |
| VAN                  |          |          |          |          |          |
| N = 107             | N = 111  | N = 113  | N = 109  |
| Median time to administration (minutes) | 73       | 83       | 78       |
| Order-progress note  | –        | 45%      | 50%      | 43%      |
| Infection with potential agreement | (50/111) | (56/113) | (63/109) |
| Infection with potential dose modification | (45/107) | (56/111) | (58/109) | (63/109) |
| Dose modified       | 28%      | 27%      | 17%      | 38%      |
| (30/107)            | (29/111) | (19/113) | (14/109) |

Conclusion. Agreement between orders and progress notes was less than 50% during the preintervention period for both antibiotics. Median time to administratio decreased for CTX, but not VAN. Antibiotic modifications were more common in the postintervention periods.

Disclosures. L. Kociolek, Alere/Techlab: Investigator, Research support S. Patel, Merck: Grant Investigator, Grant recipient and Research grant.
261. Alternative Antibiotic Prescribing for Community Acquired Pneumonia (CAP) in Pediatric Patients in Relation to Allergy Status

Ankita Desai, MD1; Bhavana Gorti, MS2; Sherman Alter, MD1; Lilliam Ambroggio, PhD, MPH1; Daniel Cohen, MD1; Osama El-Assal, MD2; Todd Florin, MD, MSC1,2; Meghan Keaton, MD3; Asuncion Mejias, MD, PhD, MCSc4; Richard Ruddy, MD1; Sarina Shah, MPH5; Michael S. Wallihan, MD6; Andrea D. Dayton, MD1; Nationwide Children’s Hospital Initiative for Research in Pneumonia (CHIRP); 1Division of Pediatric Infectious Diseases, University Hospitals Cleveland Medical Center/Rainbow Babies and Children’s Hospital, Cleveland, Ohio, USA; 2University Hospitals Cleveland Medical Center, Cleveland, Ohio, USA; 3Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio, USA; 4The Research Institute at Nationwide Children’s Hospital, Columbus, Ohio, USA; 5 Akron Children’s Hospital, Akron, Ohio; 6University of Cincinnati College of Medicine, Cincinnati, Ohio, USA; 7ProMedica Toledo Children’s Hospital, Toledo, Ohio

**Session:** 53. Pediatric Antimicrobial and Diagnostic Stewardship

**Thursday, October 4, 2018: 12:30 PM**

**Background.** While 10% of the population may report a penicillin (PCN) allergy, it has been shown that 90% of these patients are not allergic and may still be able to take PCN safely. Inaccurate reporting of a PCN allergy may lead to prescription of other non-B-lactam or broader spectrum antibiotics. Inpatients with reported antibiotic allergy status have been shown to have inappropriate antibiotic prescribing, increased microbiologic resistance, and suboptimal patient outcomes. Our goal was to evaluate antibiotic prescribing patterns for children with CAP in the setting of reported antibiotic allergy.

**Methods.** The Children’s Hospital’s Initiative for Research in Pneumonia (CHIRP) study enrolled inpatient and outpatient children 22 months to 18 years of age with a diagnosis of CAP from six participating sites. Demographic data, allergy status, antimicrobial therapy, and clinical outcomes were collected. Overall prevalence of reported antibiotic allergy and alternative therapy used in setting of reported allergy were analyzed.

**Results.** A total of 470 subjects were included, enrolled from October 2015 to December 2017. The mean age was 6.3 years (range: 3 months to 18.9 years), 45% were females. Sixty-three (13.4%) subjects self-reported one or more antibiotic allergies. Twenty-seven subjects reported amoxicillin (AMOX) allergy, nine with PCN allergy, nine with amoxicillin/clavulenate (AMOX/CLAV) allergy, and 11 with ampicillin (AMP) or ampicillin/sublactam allergy. Cefaloporin allergy was reported in seven subjects. Of the 47 subjects who reported AMOX or AMP allergy, 37 (79%) were treated with ceftriaxone, a broad-spectrum agent. In the 47 subjects with reported AMOX or AMP allergy, 80.6% were prescribed AMOX at discharge. Of the three subjects who reported levofloxacin allergy, two were treated with levofloxacin during hospitalization for CAP as well as at the time of discharge.

**Conclusion.** Most subjects with reported AMOX allergy were treated with alteration of broad spectrum antibiotics. In our cohort, 10.6% still received the antibiotic despite the allergy labeling. Better confirmation of allergy history to hone appropriate antimicrobial therapy appears to be indicated.

**Disclosures.** D. Cohen, Nationwide Children’s Hospital: Research Contractor, Research support. A. Mejias, Janssen: Consultant and Scientific Advisor, Consulting fee and Grant recipient. R. Ruddy, MD, University Hospitals Cleveland Medical Center: Consultant and Scientific Advisor, Consulting fee. A. Dayton, MD, Nationwide Children’s Hospital: Consultant and Scientific Advisor, Consulting fee, Grant Investigator and Scientific Advisor, Consulting fee, Grant recipient and Speaker honorarium. P. Alter, Children’s Hospital of Philadelphia: Grant Investigator and Scientific Advisor, Consulting fee, Grant Investigator and Scientific Advisor, Consulting fee.

262. Pediatric Antibiotic Use in the Duke Antimicrobial Stewardship Outreach Network

Michael Smith, MD, MSCE1; Elizabeth Dodds Ashley, PharmD2, MHS, FCCP3; Derekver J. Anderson, MD, MPH, FIDSA, FSHEA2; April Dyer, PharmD, MBA4; Bruce B. Bgp, BCPP3; Cricket Jones, PharmD5; Daisuke Arai, PharmD, BCPS6; Takagi Daisuke, Microlab technician7; Kazue Ebisu, Microlab technician2; Reiko Oka, Microlab technician2; Daisuke Arai, Medical Doctor2; Hajime Oka, Medical Doctor2; Imayo Ayari, Medical Doctor2; Hajime Yasuhara, Medical Doctor2; Reiko Ebisu, Medical Doctor2; Aya Morishita, Medical Doctor2; Ayako Ohgaitani, Medical Doctor2; Daizuke Kitagawa, Medical Doctor2; Hideki Minowa, Medical Doctor2; Pediatrics, Nara Medical University, Kashihara, Japan; 3Nara Prefecture General Medical Center, Nara, Japan

**Session:** 53. Pediatric Antimicrobial and Diagnostic Stewardship

**Thursday, October 4, 2018: 12:30 PM**

**Background.** The Duke Antimicrobial Stewardship Outreach Network (DASON) was established in 2013 to provide antimicrobial stewardship resources to community hospitals in the Southeast. Pediatric patients in community hospitals may benefit from antimicrobial stewardship program (ASP) activities.

**Methods.** Antibiotic use (AU) was reviewed using the DASON Antimicrobial Stewardship Assessment Portal, which includes filters for National Healthcare Safety Network (NHSN) unit types. We performed a retrospective review of AU in pediatric units from January 1 to December 31, 2017. AU was summarized by days of therapy (DOT) and percentage of specific unit types and agents. AU rates were reported by DOT/1,000 patient-days.

**Results.** A total of 41 pediatric units were included from the 28 hospital DASON cohort: 11 Neonatal Critical Care or Step Down Nurseries, eight Pediatric Medical/Surgical Units, and 22 Well Baby Units. There were no pediatric (non-neonatal) critical care or oncology units. A total of 21,731 antibiotic DOT were attributable to pediatric units, accounting for 1.6% of all AU in the cohort. These include 5,585 (26%) DOT in Neonatal Critical Care (level II/III) Units, 4,898 (23%) in Pediatric Medical/Surgical Units, 3,910 (18%) in Well Baby Units, 3,307 (15%) in Neonatal Critical Care (level III) Units, 3,217 (15%) in Step Down Neonatal Nurseries (level II), and 814 (4%) in Pediatric Medical/Surgical Units. AU rates ranged from 65 (Well Baby Units) to 1,081 DOT/1,000 patient-days (Pediatric Medical/Surgical Units). Rates in level II and III nurseries ranged from 302 to 697 DOT/1,000 patient-days.

**Conclusion.** Pediatric patients accounted for a small proportion of AU in community hospitals. AU rates in pediatric medical/surgical units were comparable with adult units. Although rates were lower in neonatal units, these units accounted for 75% of pediatric AU. Antibiotic exposure in the neonatal period has been associated with short- and long-term outcomes, including necrotizing enterocolitis, obesity, and atopy. This population would benefit from a dedicated focus from community hospital ASPs.

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

263. Effect of Microbiologic Data on Prospective Audit and Feedback Recommendations

Lauri Bio, PharmD, BCPS1; Jennie Kruger, MPH2 and Hayden Schwenk, MD3; *Pharmacy, Lucile Packard Children’s Hospital Stanford, Palo Alto, California, USA; 2Lucile Packard Children’s Hospital Stanford, Palo Alto, California, USA; 3Pediatric Infectious Diseases, Stanford University School of Medicine, Stanford, California

**Session:** 53. Pediatric Antimicrobial and Diagnostic Stewardship

**Thursday, October 4, 2018: 12:30 PM**

**Background.** Prospective audit and feedback (PAF) is an effective method of antimicrobial stewardship. Given the time-intensive nature of PAF and low rates of intervention, understanding predictors of PAF recommendation and acceptance is important. Prior studies have not examined the impact of microbiologic data on the rate of PAF recommendation or recommendation acceptance. We evaluated whether antimicrobials prescribed for patients with positive microbiologic culture data were more or less likely to have a PAF recommendation and whether the presence of culture data impacted recommendation acceptance.

**Methods.** All PAF audits on antibiotic and antifungal medications for patients admitted to Lucile Packard Children’s Hospital Stanford between April 18, 2017 and April 17, 2018 were included. The PAF program included all pediatric units and injectable antibiotics. Culture data was used to generate a recommendation (R) that was analyzed. The PAF recommendation was completed in the electronic health record and included the presence or absence of positive microbiologic culture data. Our primary outcome was a comparison of PAF recommendation rate based on the presence or absence of positive culture data. We also evaluated whether there were differences in the recommendation acceptance rate and the type of recommendation based on the presence or absence of positive culture data.

**Results.** Of the 3,250 audits performed during the study period, 802 (25%) had positive cultures at the time of audit documentation. Of the 802 audits with positive cultures, 299 resulted in a recommendation compared with 824 of the 2,448 audits without positive cultures (37% vs. 34%, P = 0.07). PAF recommendations were more likely to be followed when positive culture data were present at the time of audit (80% vs. 73%, P = 0.03). The most common recommendation in the presence of positive culture data was to change the antimicrobial (27%) while the most common recommendation in the absence of positive culture data was to stop the antimicrobial (30%).

**Conclusion.** The presence of positive microbiologic culture data did not impact the PAF recommendation rate. However, recommendations were more likely to be followed when there was concurrent positive culture data. This highlights the importance of obtaining culture data to direct antimicrobial therapy.

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

264. Simple and Feasible NICU Antimicrobial Stewardship Program in a Japanese Community Hospital

Taito Kitano, Medical Doctor1; Karniko Takagi, Medical Doctor2; Ibayo Arai, Medical Doctor2; Hajime Yasuhara, Medical Doctor2; Renko Ebisu, Medical Doctor2; Ayako Ohtani, Medical Doctor2; Daizuke Kitagawa, Medical Doctor2; Miyako Oka, Microlab technician2; Kazue Masuo, Microlab technician2 and Hideki Minowa, Medical Doctor2; Pediatrics, Nara Medical University, Kashihara, Japan; 3Nara Prefecture General Medical Center, Nara, Japan

**Session:** 53. Pediatric Antimicrobial and Diagnostic Stewardship

**Thursday, October 4, 2018: 12:30 PM**

**Background.** Antimicrobial stewardship programs (ASP) have been implemented in many hospitals, including NICU departments. Although tertiary hospitals have historically introduced antimicrobial stewardship programs, the presence of community hospitals without pediatric infectious disease specialists has difficulty implementing ASP. We present a successful implementation of simple and feasible NICU antimicrobial stewardship program in a Japanese community hospital.

**Methods.** We developed a protocol of antimicrobial treatment in the NICU department at Nara Prefecture General Medical Center, Nara, Japan and have implemented it since September 2017. The protocol consists of antimicrobial treatment criteria (criteria for starting antimicrobials for neonates with suspected early-onset infection, criteria for prolonged antimicrobial treatment for more than 48 hours and duration of treatment),