Figure 3

Figure 3

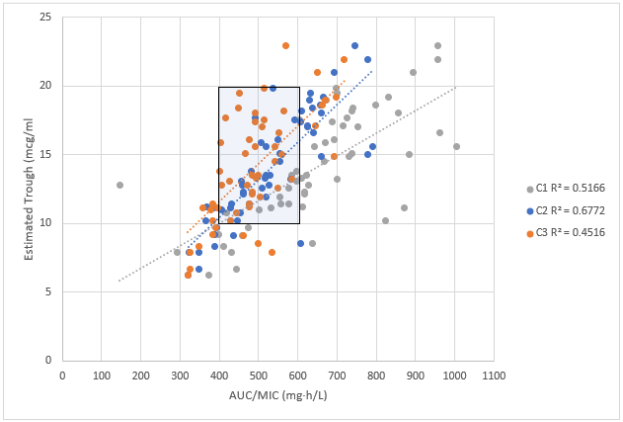
	Subtherapeutic trough			Therapeutic trough			Therapeutic trough			Supratherapeutic trough		
	(<10 mcg/mL)			(10-15 mcg/mL)			(15-20 mcg/mL)			(>20 mcg/mL)		
	N=9			N=24			N=19			N=3		
AUC/MIC Estimate (mg·h/L)*	<400	400-600	>600	<400	400-600	>600	<400	400-600	>600	<400	400-600	>600
Calculator												
C1	3 (33)	5 (56)	1 (11)	1 (4)	11 (46)	12 (50)	0	0	19 (100)	0	0	3 (100)
C2	7 (78)	1 (11)	1 (11)	3 (13)	20 (83)	1 (4)	0	6 (32)	13 (68)	0	0	3 (100)
C3	6 (67)	3 (33)	0	5 (21)	18 (75)	1 (4)	0	15 (79)	4(21)	0	1(33)	2 (66)

*A vancomycin MIC of 1 mcg/mL was assumed for all calculations. No patients had a culture growing *Staphylococcus aureus* with a vancomycin MIC >1 mcg/mL

Conclusion. A weak relationship between AUC/MIC and steady state troughs was found. Excess vancomycin exposure was demonstrated in 39% of therapeutic troughs. Over 25% of dose adjustments were deemed unnecessary. Utilizing AUC/MIC estimates for vancomycin may limit excess exposure while reducing the overall number of drug levels. Selecting a single-level calculator is problematic with the high degree of variation between calculators.

Figure 4

Figure 4



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

1330. Development of a Pediatric Emergency Department (ED) Uropathogen Antibiogram and Empiric Urinary Tract Infection (UTI) Treatment Algorithm

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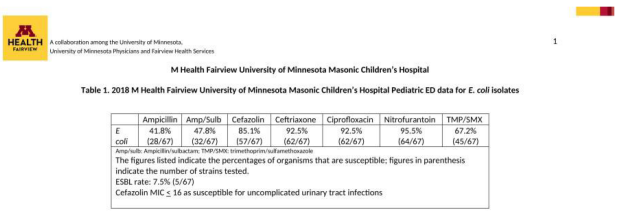
Session: P-60. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

Background. Antimicrobial Stewardship efforts in adult ED settings lead to improved patient outcomes and fewer adverse events. However, there are limited data on incorporation of multiple interventions to assist with empiric and definitive antibiotic therapy selection, particularly in the pediatric ED setting. The purpose of this project was to create an antibiogram and empiric UTI treatment algorithm for use in a pediatric ED.

Methods. This is a multi-phase program implementation in a pediatric ED. Patients aged 2 months -18 years presenting to the ED between January to December 2018 with an ICD10 code for cystitis or pyelonephritis and collection of urine culture were included. Patients were excluded if they were admitted to an inpatient unit or they had a polymicrobial urine culture result. The antibiogram was prepared by including the first isolate of a species from each patient in the given time frame using Clinical and Laboratory Standards Institute recommendations.

Results. A total of 145 unique patients with 160 ED encounters were included in phase I of the project. Median patient age was 5 years (IQR 1.4-8). Discharge diagnosis for 75% of the 160 ED encounters was pyelonephritis. Urogenital flora was cultured from 19.4% of cultures and 21.2% of cultures were without any growth. The most common pathogen isolated was *E. coli* (39.4%). For ages 2 months – 18 years, susceptibility of urinary *E. coli* isolates was 95.5% for nitrofurantoin, 92.5% each for ceftriaxone and ciprofloxacin, and 85.1% for cefazolin. Cefdinir and cephalexin were the empiric antibiotics prescribed on discharge 76.3% of the time. After consideration of factors such as antimicrobial stewardship and spectrum of activity, cephalexin was chosen as the treatment of choice for the 2 months – 11 years age group. For children ≥ 12 years, nitrofurantoin was selected as preferred treatment for uncomplicated cystitis while cephalexin was selected as preferred treatment for pyelonephritis.

M Health Fairview University of Minnesota Masonic Childrens ED 2018 E coli isolate antibiogram


A collaboration among the University of Minnesota, University of Minnesota Physicians and Fairview Health Services

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M Health Fairview University of Minnesota Masonic Children's Hospital

Table 1. 2018 M Health Fairview University of Minnesota Masonic Children's Hospital Pediatric ED data for *E. coli* isolates

	Ampicillin	Amp/Sulb	Cefazolin	Ceftriaxone	Ciprofloxacin	Nitrofurantoin	TMP/SMX
E coli	41.8% (28/67)	47.8% (32/67)	85.1% (57/67)	92.5% (62/67)	92.5% (62/67)	95.5% (64/67)	67.2% (45/67)

Amp/sulb: Ampicillin/sulbactam; TMP/SMX: trimethoprim/sulfamethoxazole

The figures listed indicate the percentages of organisms that are susceptible; figures in parenthesis indicate the number of strains tested.

ESBL rate: 7.5% (5/67)

Cefazolin MIC ≤ 16 as susceptible for uncomplicated urinary tract infections

Conclusion: An empiric UTI treatment algorithm incorporating local antimicrobial susceptibility pattern alongside recommendations from national organizations was created. Phase II of the project will evaluate the implementation of the algorithm to determine its impact on readmission rates and antibiotic/pathogen mismatch.

Disclosures. **Elizabeth B. Hirsch, PharmD**, **Merck** (Grant/Research Support)**Nabriva Therapeutics** (Advisor or Review Panel member)

1331. Reducing Inpatient Antimicrobial Treatment Duration for Febrile Infants through Implementation of Rapid Diagnostic Testing and Clinical Risk Definition

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Session: P-60. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

Background. The management approach to febrile infants remain challenging. Despite new advances in rapid diagnostic testing, febrile infants with a viral infection could receive prolonged antimicrobial treatment due to concerns for co-existing serious bacterial infection (SBI). We sought to decrease the duration of antibiotic treatment in febrile infants less than 8 weeks of age hospitalized on inpatient infectious disease service following sepsis evaluation, who have enterovirus, parechovirus, or respiratory viruses detected, from average 30 hours to 24 hours and sustain for six months.

Figure 1. Antibiotic Treatment Duration of Infants Underfoing Evaluation for Sepsis

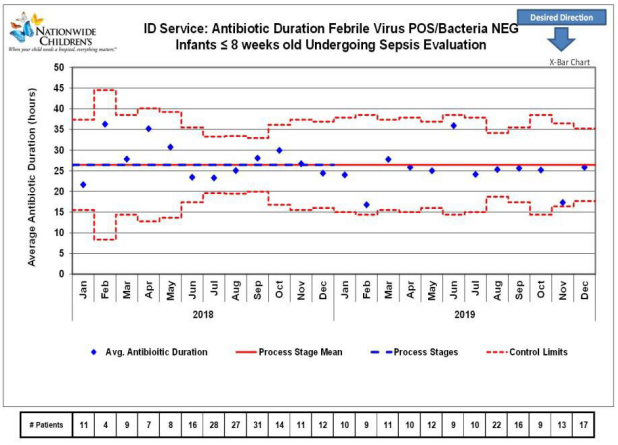
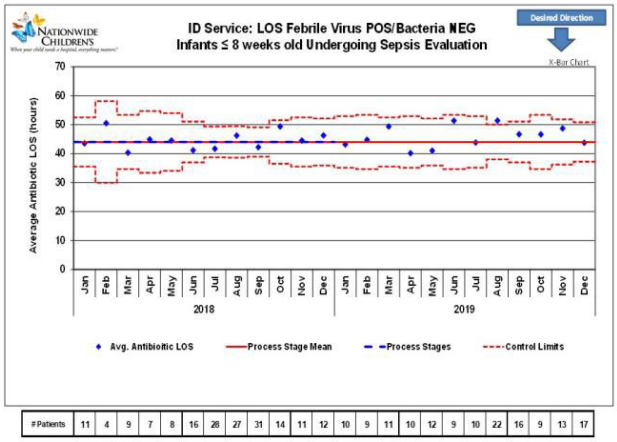
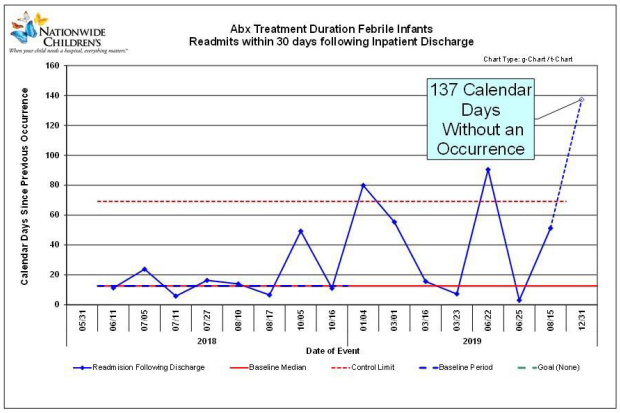


Figure 2. Length of Stay in Infants Underfoing Sepsis Evaluation



Methods: A new management guideline that defined "low-risk" infants, as well as inclusion and exclusion criteria, was created to monitor the accurate duration of parenteral treatment and length of hospitalization. Respiratory viruses were detected by a multiplex PCR assay. We created a QlikSense App for further clinical characterization of patients and follow-up. This management guideline was adapted as a quality improvement division initiative. Control charts were used to assess the impact of the interventions.

Figure 3. Readmissions in Infants Underfoing Sepsis Evaluation



Results. The management guideline was developed and implemented by pediatric infectious disease faculty. Febrile infants < 8 weeks of age were included if they had both documented viral infections and sepsis evaluation. 178 infants were admitted with fevers in 2018 and 148 infants were admitted in 2019. The mean inpatient antibiotic treatment duration decreased from 27.7 hours in 2018 to 24.9 hours in 2019 (P > 0.05) (Figure 1). There was no significant difference in length of hospitalization or 30-day readmission rates (Figure 2 and 3). There was no reported readmission for SBI.

Conclusion: Antibiotic treatment could be discontinued in clinically stable infants with a documented viral infection after 24 hours of negative blood, CSF, and urine bacterial culture incubation so as not to receive unnecessary prolonged inpatient treatment that may increase side effects. In addition to possible decreased treatment side effects our protocol led to decreased patient care costs with no documented changes in readmission rates.

Disclosures. **Octavio Ramilo, MD**, **Bill & Melinda Gates Foundation** (Grant/Research Support)**Janssen** (Grant/Research Support, Advisor or Review Panel member)**Medimmune** (Grant/Research Support)**Merck** (Advisor or Review Panel member)**NIH/NIAID** (Grant/Research Support)**Pfizer** (Consultant, Advisor or Review Panel member)**Sanofi/Medimmune** (Consultant, Advisor or Review Panel member)

1332. Single Dose Oral Amoxicillin Challenge is a Safe and Effective Strategy to Delabel Penicillin Allergies among Low Risk Hospitalized Children

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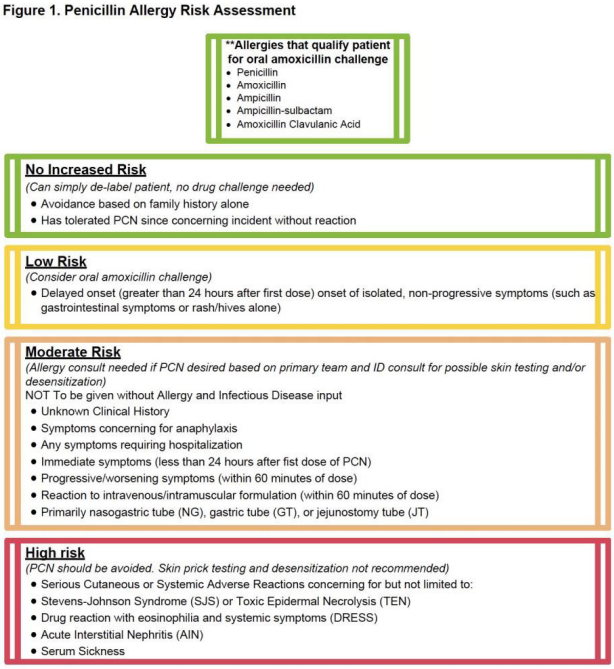
Session: P-60. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

Background. Over 90% of children with reported penicillin allergy can tolerate penicillin without incident. Developing effective and safe strategies to remove inappropriate penicillin allergies has the potential to improve care; however, guidance on how to identify, test, and delabel patients is limited.

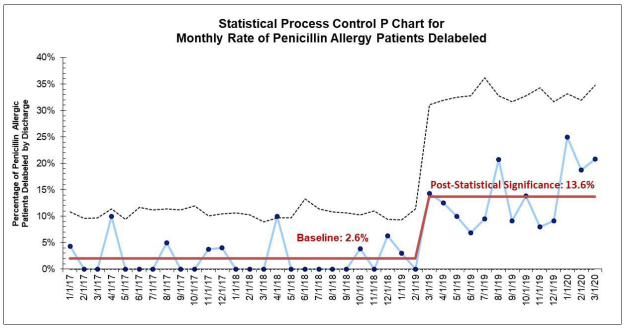
Methods. In April 2019, Children's Hospital Colorado (CHCO) implemented a penicillin allergy clinical pathway (CP) alongside a risk assessment tool to stratify patients based on allergic history (Figure 1). Patients at "no increased risk" were educated and delabeled without testing. Low risk patients were offered an oral amoxicillin drug challenge with close observation. A single, non-graded, treatment dose of amoxicillin (45 mg/kg, max dose 1000mg) was used for low risk patients, and no preceding allergic skin testing was performed. Patients with no signs or symptoms of allergic response 60 minutes after amoxicillin administration were delabeled. Children delabeled of penicillin allergies on the CHCO hospital medicine service were compared between the pre-CP (1/1/17-3/31/19) and post-CP (4/1/19-3/31/20) cohorts.

Figure 1. Penicillin Allergy Risk Assessment



Results. Pre-CP, 683/10624 (6.4%) patients reported a penicillin allergy and 18/683 (2.6%) were delabeled by discharge. Post-CP, 345/6559 (5.3%) patients reported a penicillin allergy and 47/345 (13.6%) were delabeled by discharge (*P*-value < 0.0001, Figure 2). Among the 47 post-CP patients, 11 were delabeled by history alone, 19 underwent oral amoxicillin drug challenge per CP, and 17 received a different treatment dose penicillin per treatment team. Only one penicillin-exposed patients had a reaction. This patient developed a delayed, non-progressive rash and had penicillin allergy restored to their chart. No patient required emergency medical intervention, and none were "relabeled" penicillin allergic in the 6 months following discharge.

Figure 2. Monthly Rate of Penicillin Allergic Patients Delabeled by Discharge



Conclusion. A drug challenge using a single non-graded dose of oral amoxicillin is a safe and effective strategy to delabel low risk children of inappropriate penicillin allergies when implemented alongside a risk assessment tool. Further studies are needed to evaluate the long-term benefits of delabeling inappropriate penicillin allergies and to continue monitoring for adverse events.

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