There were 272 and 152 PICU admissions before and after initiation over time. The dashed line represents the start of the antimicrobial stewardship or partially changes in antimicrobial days of therapy (DOT)/1,000 patient-days and clarithromycin. No effect on length of PICU stay, hospital length of stay, or A decline in DOT was observed across all antibiotic classes, except for ceftriaxone (95% CI 24.6 to 72.2, P < 0.05) (figure).

Average monthly antimicrobial use decreased from 92.2 (95% CI 74.5 to 100) to 48.5 DOT/1,000 patient-days (95% CI 24.6 to 72.2, P < 0.05) (figure). Requirement for respiratory support was higher post-ASP (76.5% vs 91.5%, p< 0.001). Average monthly antimicrobial use decreased from 92.2 (95% CI 74.5 to 100) to 48.5 DOT/1,000 patient-days (95% CI 24.6 to 72.2, P < 0.05) (figure). A decline in DOT was observed across all antibiotic classes, except for ceftriaxone and clarithromycin.

### Table 1. Microbiology and resistance profile of bacteria isolated from urine cultures

| Organism                  | Active (%) | Susceptible (%) | Intermediate (%) | Resistant (%) |
|---------------------------|------------|-----------------|------------------|--------------|
| Escherichia coli          | 43 (84)    | 62.8            | 27.5             | 9.1          |
| Others*                   | 8 (16)     | 37.5            | 62.5             |              |
| Enterobacter aerogenes (E. coli; Klebsiella pneumonia, Salmunella species, Citrobacter freundii, Proteus mirabilis, Stenotrophomas maltraphilus, Kanalamos anaerogena) | 5 (10) | 100 | 0 | 0 |

Table 3. Comparison of episodes in which empiric antibiotics were active against isolated bacteria versus those in which empiric antibiotics were inactive

| Antibiotic | Active (n=39) | Inactive (n=12) | p-value |
|------------|---------------|-----------------|---------|
| Agt, years, median (IQR) | 8.2 (1.5) | 2.2 (0.9) | 0.07 |
| Sex, female, n (%) | 33 (89.7) | 13 (91.7) | 0.6 |
| Race, white, n (%) | 27 (69.2) | 4 (33.3) | 0.004 |
| Ethnicity, n (%) | 12 (30.8) | 18 (66.7) | 0.002 |

### Table 2. Empiric antibiotic regimens, including type of antibiotic and duration

| Antibiotic | Number of prescriptions | Median duration, days (OR) |
|------------|-------------------------|---------------------------|
| 3rd generation cephalosporin | 37 (42.5) | 10 (3) |
| Cephalosporin | 35 (40.5) | 7 (2) |
| Trimethoprim/sulfamethoxazole | 5 (16.3) | 7 (2) |
| Aminocillin-sulbactame | 19 (20) | 7 (3) |
| Nitrofurantoin | 4 (4.8) | 7 (2) |
| Aminocillin | 2 (2.1) | 8.5 (3.1) |
| Fluoroquinolones | 1 (1.1) | 7 |

**Conclusion.** Antibiotics are rarely adjusted after discharge from the ED. Lack of adjustment results in unnecessary total and broad-spectrum antibiotic exposures. Initiatives designed to improve antibiotic use post-discharge could result in significant decreases in unnecessary antibiotics, and ultimately reduced rates of antibiotic resistance.

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### 1134. The Effect of Telehealth Antimicrobial Stewardship Program on Antimicrobial Use in a Pediatric Intensive Care Unit

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**Session:** P-63. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

**Background.** Inappropriate antimicrobial use is common in pediatric intensive care units (PICU). We aimed to evaluate the effect of telehealth antimicrobial stewardship program (ASP) on the rate of PICU antimicrobial use in a center without a local infectious diseases consultation service.

**Methods.** A retrospective cohort study was performed between October 1, 2018 and October 31, 2020 in Farwaniyah Hospital PICU, a 20-bed unit. All pediatric patients who were admitted to PICU and received systemic antimicrobials during the study period were included and followed until hospital discharge. Patients admitted to the PICU prior to the study period but still receiving intensive care during the study period were excluded. Weekly prospective audit and feedback on antimicrobial use was provided starting October 8, 2019 (post-ASP period) by the ASP team. A pediatric infectious diseases specialist would join ASP rounds remotely. Descriptive analyses and a pre-post intervention comparison of days of therapy (DOT) were used to assess the effectiveness of the ASP intervention.

**Results.** There were 272 and 152 PICU admissions before and after initiation of ASP, respectively. Bronchiolitis and pneumonia were the most common admission diagnoses, together compromising 60.7% and 61.2% pre- and post-ASP. Requirement for respiratory support was higher post-ASP (76.5% vs 91.5%, p=0.001). Average monthly antimicrobial use decreased from 92.2 (95% CI 74.5 to 100) to 48.5 DOT/1,000 patient-days (95% CI 24.6 to 72.2, P < 0.05) (figure). A decline in DOT was observed across all antibiotic classes, except for ceftriaxone and clarithromycin. No effect on length of PICU stay, hospital length of stay, or mortality was observed. Most (89.7%) ASP recommendations were followed fully or partially changes in antimicrobial days of therapy (DOT)/1,000 patient-days over time. The dashed line represents the start of the antimicrobial stewardship program (ASP)

**Conclusion.** In settings where infectious diseases services are not available, telehealth stewardship can be effectively implemented and associated with a significant reduction of antimicrobial use.

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### 1135. The Effect of Penicillin Allergy Labels on Antibiotic Prescribing for Children Diagnosed with Upper Respiratory Tract Infections in Two Primary Care Networks

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**Session:** P-63. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

**Background.** In pediatric inpatient settings, unconfirmed penicillin allergy labels (PALs) are associated with increased broad-spectrum antibiotic use, costs, and adverse events. However, 90% of antibiotics are prescribed in the outpatient setting and 70% of these antibiotics are given for upper respiratory tract infections (URTI). Little is known about the effect of PALs on antibiotic prescribing in the pediatric outpatient population.

**Methods.** A retrospective birth cohort was created of children born between January 1st 2010 and June 30th 2020 and seen at one of 91 Texas Children's Pediatrics or Children's Hospital of Philadelphia primary care clinics. Children with an ICD10 code for an URTI and an antibiotic prescription were stratified into those with or without a penicillin allergy label at the time of the infection. Rates of second-line and broad-spectrum antibiotic use were compared.

**Results.** The birth cohort included 334,465 children followed for 1.2 million person-years. An antibiotic was prescribed for 696,782 URTIs and the most common diagnosis was acute otitis media. Children with PALs were significantly more likely to receive second-line antibiotics (OR 35.0, 95% CI 33.9-36.1) and broad-spectrum antibiotics (OR 23.5, 95% CI 23.2-24.8.) Children with PALs received more third generation cephalosporins (60% vs. 15%) and more macrolide antibiotics (25% vs. 3%) than those without a PAL. Overall, 18,015 children (5.4%) acquired a PAL during the study period, which accounted for 23% of all second-line antibiotic prescriptions and 17% of all broad-spectrum antibiotic use for URTIs.