Background. Enterococcus causes 14% of all hospital-associated infections (HAIs) according to Centers for Disease Control and Prevention (CDC) data. 35.5% of these HAIs are caused by Vancomycin-resistant Enterococcus (VRE) including highly fatal bacteremia, surgical site infections, and urinary tract infections. We present a novel synthetic compound, HSD 03-21 that could make VRE completely susceptible to vancomycin in vitro.

Methods. HSD 03-21 was synthesized de novo from a hydroxybenzylidene – indolizine backbone in our laboratory. The minimum inhibitory concentration (MIC) of HSD 03-21 and vancomycin against VRE were determined according to clinical laboratory standards institute (CLSI) guidelines. The standard checkerboard assay was used to determine vancomycin-HSD 03-21 interactions against VRE. Briefly, HSD 03-21 and vancomycin at 10 mg/mL were prepared and diluted serially along the ordinate and abscissa of 96-well microtiter plates, respectively. Bacteria was standardized using the 0.5 McFarland standard, diluted (1:100), aliquoted into respective wells and incubated at 37°C for 18–20 hours. All assays were run in triplicates. The fractional inhibitory concentration (FIC) index was calculated for each combination. The FIC of each agent was calculated as: FIC (vancomycin) = MIC of vancomycin in combination/MIC of vancomycin alone and FIC (HSD 03-21) = MIC of HSD 03-21 in combination/MIC of HSD 03-21 alone. The cumulative FIC index $\sum$FICI was then calculated as: $\sum$FICI = FIC(vancomycin) + FIC(HSD 03-21). The calculated $\sum$FIC indices were interpreted as synergistic if $\sum$FIC ≤ 0.5.

Results. The MIC of vancomycin for VRE faecalis was 256 μg mL$^{-1}$ while that of HSD 03-21 was 128 μg mL$^{-1}$. When vancomycin was combined with HSD 03-21 at 8 μg mL$^{-1}$ (1/16 MIC), there was a reduction in MIC of vancomycin to 0.5 μg mL$^{-1}$. The combination showed excellent synergy with $\sum$FIC of 0.06.

Conclusion. HSD 03-21 reduced the MIC of vancomycin from 256 to 0.5 μg mL$^{-1}$. This has an immense potential of changing the way we use vancomycin and treatment of VRE infections. Translation of this novel compound could save thousands of lives from VRE and the failures and inherent toxicities of current doses of vancomycin.

Disclosures. All Authors: No reported Disclosures.

1956. Reduction in Endotracheal Aspirate Cultures after Implementation of a Diagnostic Stewardship Intervention in a Pediatric Intensive Care Unit

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Saturday, October 5, 2019: 10:45 AM

Disclosures. All Authors: No reported Disclosures.

1955. Novel Compound Reverses Vancomycin Resistance in Vancomycin-resistant Enterococci (VRE)

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1957. Impact of β-Lactam Antibiotic Allergy on Antimicrobial Use, Clinical Outcomes, and Costs for Hospitalized Children

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Results. 39,785 patients were identified including 2897 (7%) with BLA. The prevalence of BLA increased with age (Figure 1). 2459 (85%) patients with BLA were matched to a control. Patients with BLA had higher odds of receiving broader-spectrum antibiotics (OR 2.35, 95% CI: 2.07–2.67) and had greater antimicrobial costs (1.21-fold increase, 95% CI: 1.08–1.35) than nonallergic patients (Figure 2). There were no differences in LOS, total antimicrobial days, or 30-day readmission (Figure 2).

Conclusion. Pediatric patients with BLA are more likely to receive broader-spectrum antibiotics and incur higher antimicrobial costs than matched controls. De-labeling interventions could reduce unnecessary exposure to these agents and lower costs.

Disclosures. All Authors: No reported Disclosures.

1958. Assessment of Guideline-Concordant Antimicrobial Prescribing in Urgent Care Centers
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Session: 228. Pediatric Stewardship Saturday, October 5, 2019: 11:00 AM

Background. In the United States in 2014, 266 million outpatient antibiotic prescriptions were dispensed. The Center for Disease Control and Prevention estimates that 30% of outpatient antibiotic prescriptions are inappropriate. These inappropriate prescriptions contribute to increased resistance, adverse events, and healthcare costs.

Methods. This was a retrospective study of patients presenting to 22 urgent care centers within a large healthcare system between September 1, 2018 and February 28, 2019. Data were collected from a dashboard designed to track antimicrobial prescribing by data indication, location, and provider. ICD-9 and -10 codes associated with otitis media, pharyngitis, sinusitis, cystitis, and upper respiratory infections (URI) were included. Guideline-concordant antimicrobial prescribing was determined based on compliance with national guideline recommendations, after taking patient allergies into account. The URI category includes disease states in which antimicrobials are rarely appropriate (e.g., acute rhinitis, nasopharyngitis, and acute bronchitis).

Results. A total of 57,799 encounters were included in this analysis (19,242 pediatric and 38,557 adult) and 60% of patients received an antibiotic prescription. Overall antimicrobial guideline concordance was higher in pediatrics (84%) than adults (62%). Rates of guideline-concordant antimicrobial selection are shown in Table 1. The most common guideline-discordant prescriptions were tetracyclines (39%), amoxicillin/clavulanate (26%), and macrolides (17%) in adult patients with sinusitis, pharyngitis, or otitis media. In pediatric patients, the most common discordant prescriptions were macrolides (32%), third-generation cephalosporins (30%), and amoxicillin/clavulanate (19%). Unnecessary antimicrobial prescribing for URI occurred in 23% of pediatric patients and 36% of adult patients.

Conclusion. Guideline-discordant antimicrobial prescribing is common in urgent care centers, particularly in adult patients. In addition to encouraging utilization of order sets, emphasis on education and feedback may be important to improve and sustain guideline-concordant prescribing rates and reduce prescribing for URI.

Table 1: Guideline-Concordant Antimicrobial Selection

| Diagnosis            | Pediatric | Adult |
|----------------------|-----------|-------|
| Otitis Media         | 4045/4727 | 1674/3040 (55%) |
| Pharyngitis          | 3553/4315 | 2182/3828 (57%) |
| Sinusitis            | 969/1166  | 8778/11715 (75%) |
| Cystitis             | 223/281   | 7954/10312 (55%) |
| Upper Respiratory infection | 1067/4600 (23%) | 4705/13162 (36%) |

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1959. Patient Satisfaction and Antibiotic Prescribing for Pediatric Respiratory Infections by Telemedicine
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Background. Respiratory tract infections (RTIs) are a common reason for direct-to-consumer (DTC) telemedicine consultation. Antibiotic prescribing during video-only DTC telemedicine consults was explored for pediatric RTIs, focusing on correlates with visit duration and patient satisfaction.

Methods. Data on pediatric (age less than 19 years) RTI visits were obtained from a large DTC nationwide telemedicine platform and included patient, physician, and encounter characteristics. Mixed-effects regression was used to assess variation in antibiotic receipt by patient and physician factors, as well as the association between antibiotic receipt and visit length or patient satisfaction.

Results. Of 12,842 RTI visits with 560 physicians, 55% of patients received an antibiotic prescription. Antibiotic prescribing rates among telemedicine providers were high: sinusitis (92.1%), otitis media (96.0%), pharyngitis (76.7%), and bronchitis/bronchitis (62.0%). A provider was more likely to receive a 5-star satisfaction rating from the parent when the child was provided a prescription for an antibiotic (OR 3.38; 95% CI 2.84–4.02), an antiviral (OR 2.56; 95% CI 1.81–3.64) or a nonantibiotic (OR 1.93; 95% CI 1.58–2.36). Visit length (mean 6.4 minute) was associated with higher satisfaction only when no antibiotic was prescribed (OR 1.03 per 6 seconds; 95% CI 1.01–1.06). Compared with nonpediatricians, pediatric providers were less likely to prescribe antibiotics (OR 0.44; 95% CI 0.29–0.68); however, patients of pediatricians were more likely to be highly satisfied (OR 1.50; 95% CI 1.11–2.03).

Conclusion. During DTC telemedicine video consultations for RTIs, pediatric patients were frequently prescribed antibiotics, which correlated with visit satisfaction. Although pediatrics prescribed antibiotics at a lower rate than other physicians, their satisfaction scores were higher. Especially problematic, adherence to guideline-concordant criteria for diagnosing acute otitis media and streptococcal pharyngitis, which, respectively, require otoscopy and throat culture, is not possible during a video-only telemedicine consult. High rates of antibiotic prescribing to children with RTIs suggest a need for antimicrobial stewardship efforts during video-only telemedicine consultation.

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1960. Lost in Translation: Comparing Rates of Outpatient Antibiotic Use in Three Metrics
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Background. The Centers for Disease Control and Prevention (CDC) tracks US outpatient antibiotic use in prescriptions per 1000 persons (Rx/1000), while the World Health Organization uses defined daily doses per 1000 persons (DDD/1000), which are based on average adult dose, for global surveillance. A third metric, days of therapy (DOT/1,000), has not been previously evaluated at the national level. We aim to compare time trends in outpatient oral antibiotic use as Rx/1000, DDD/1000, and DOT/1,000 in the same data to inform ongoing CDC surveillance and facilitate international comparison.