Antibiotics used to treat bacterial pneumonia during the 1st wave of the pandemic increased and there was a shift to broader spectrum agents during that period. The increased use was not sustained during the 2nd and 3rd waves of the pandemic, possibly due to the increased awareness of the differences between patients who present with COVID-19 pneumonia and bacterial pneumonia.

Disclosures. All Authors: No reported disclosures

155. Antimicrobial Resistance Patterns as a Predictor of Standardized Antimicrobial Administration Ratio: A National Correlation Study

Andrew Rubis, PharmD1; Mandolin Cooper, PharmD2; Nicole Greer, PharmD, BCPS1; Catherine Edlund1; Laurel Goldin, MA1; Julia Moody, MS1; Heather Signorelli, DO2; H. L. Burgess, PharmD, MBA2; HCA Healthcare/University of Tennessee, Nashville, Tennessee; HCA Healthcare, Nashville, Tennessee; HealthTrust Supply Chain, Nashville, TN

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Data on antimicrobial usage (AU) and antimicrobial resistance (AR) is submitted to the National Healthcare Safety Network (NHSN) from facilities monthly. Bacterial proportion resistant (%R) from the AR option reports proportion of isolates resistant to specific antimicrobial categories. Standardized Antimicrobial Administration Ratio (SAAR), generated under the AU option, compares observed to expected usage for broad-spectrum antibacterial agents predominately used for hospital-onset infections (BSHO) and antibacterial agents predominantly used for resistant gram-positive infections (gram-pos) in adult intensive care units (ICUs) and medical-surgical wards (M/S).

Methods. This retrospective observational review utilized data reported to NHSN to examine the association of BSHO and gram-pos SAARs with %R for various phenotypic categories by quarter from 2017 through the second quarter of 2020. Phenotypic categories included methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus faecalis and faecium (VRE), extended-spectrum cephalosporin-resistant Enterococcus coli and Klebsiella spp. (ESBL), and multidrug-resistant Pseudomonas aeruginosa (MDR PSA). Pearson correlations were used to quantify the associations between SAARs and %R.

Results. A total of 182 institutions were included for analysis. Weak, positive correlations were observed between SAAR for BSHO in ICU and M/S for MDR PSA %R and also for ESBL %R (r = 0.14 to 0.22, all p < 0.0001). For the gram-pos SAAR in ICU and M/S, there were weak positive correlations between MBSA %R and VRE %R (r = 0.20 to 0.31, all p < 0.0001).

Conclusion. SAARs are multifactorial, yet these results highlight that more resistant organisms may possibly be contributing to higher use of antimicrobials for facilities. Future SAAR calculations could consider incorporating resistance trends from %R within the institution for increases in AU and adjusting SAARs accordingly. Comprehension of the relationship between %R and SAAR can aid facilities in stewardship programs and understanding how resistance contributes to antibiotic usage.

Disclosures. Julia Moody, MS, Medline (Other Financial or Material Support, Conducted studies in which participating hospitals received contributed antiseptic product) and Mojcyle (Other Financial or Material Support, Conducted studies in which participating hospitals received contributed antiseptic product)

156. Evaluation of Trends in Antimicrobial Use and Propagation of Culture Positive Gram-Negative/GRAM-Positive Pathogens Comparing Prior to and During the SARS-CoV-2 Pandemic: A Multicenter Evaluation

Laura A. Puzniak, PhD1; Karri A. Bauer, PharmD2; Joshua Hearst, PharmD3; Nicholas Almutairi, PharmD2; Faris S. Alnazer, PharmD2; Nicholas Beyda, PharmD2; Anne J. Gonzales-Luna, PharmD2; Truc T. Tran, PharmD3; Deborah Simmons, PhD3; Kevin W. Garey, Pharm.D, M.S., FASHP2; University of Houston, Houston, Texas; UPMC, Pittsburgh, Pennsylvania; University of Houston College of Pharmacy, Houston, Texas; Center for Antimicrobial Resistance and Microbial Genomics, UTHealth, Houston, TX, Houston, TX; Center for Antimicrobial Resistance and Microbial Genomics, University of Houston College of Pharmacy, Houston, Texas; University of Texas Health Science Center, Houston, Texas

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Increased risk for bacterial co-infections has been described in the pathogenesis of primary viral infections. We evaluated trends in incidence of antibiotic use (abs) and culture positive Gram negative/gram positive (GN/GP) pathogens in US hospitalized patients prior to and during the SARS-CoV-2 pandemic.

Table. Trends in antimicrobial use, and positive GN/GP pathogen results.

| SARS-CoV-2 positive (n = 125, 2020) | SARS-CoV-2 negative (n = 1,284, 2019) | Not tested (n = 3,547,270) | Total admissions (n = 4,877,202) |
|-----------------------------------|-----------------------------------|---------------------------|-------------------------------|
| Antibiotics used (abs) | Culture positive | Gram negative | Gram positive | Antibiotics used (abs) | Culture positive | Gram negative | Gram positive | Antibiotics used (abs) | Culture positive | Gram negative | Gram positive | Antibiotics used (abs) | Culture positive | Gram negative | Gram positive |
| SARS-CoV-2 positive | 66.2% | 8.4% | 63.7% | 6.8% | 27.5% | 7.0% | 11.0% | 5.2% |
| SARS-CoV-2 negative | 3.5 | 4.0 | 2.8 | 3.1 | 2.6 | 2.2 | 2.8 | 3.3 |
| Not tested | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Table 1. SARS-CoV-2 pandemic was defined as a positive PCR during or ≤7 days prior to hospitalization. Admissions with abs prescribed ≥24 hrs and a GN/GP non-contaminant, positive culture were evaluated.

Methods. During the pre-pandemic period (7/19 – 2/20) 30% (600/1,162/6,701,793) admissions were abs ≥ 24 hrs and 5.3% were positive for a GN/GP pathogen (Table 1). During the SARS-CoV-2 pandemic, abs use ≥ 24 hrs (66.2%) and positive GN/GP culture (8.4%) was highest in SARS-CoV-2 positive patients followed by patients negative for SARS-CoV-2 (abs ≥ 24 hrs 65.7%, GN/GP pathogens 8.3%), and SARS-CoV-2 not tested (abs ≥ 24 hrs 27.5%, GN/GP pathogens 4.5%). GN/GP positive culture was consistent by quarter during the pandemic for SARS-CoV-2 positive patients, whereas SARS-CoV-2 negative and not tested patients had the highest proportion of antibiotics received and positive pathogens in the first three months of pandemic. SARS-CoV-2 positive patients with positive GN/GP culture had the lowest median abs duration. (Table 1) The prevalence of abs use was highest in all groups for all abs during the early pandemic and then declined over time with the largest decrease in SARS-CoV-2 positive patients in SARS-CoV-2 positive variants.

Conclusion. This study highlights the impact of viral infections on both prescribing practices and prevalence of bacterial pathogens. Approximately two-thirds of SARS-CoV-2 positive patients received an antibiotic despite a low percentage of positive cultures, however aggregate antimicrobial use overall was similar prior to compared to during the SARS-CoV-2 pandemic. These data may inform opportunities for stewardship programs and antibiotic prescribing in the current and future viral pandemics.

Disclosures. Laura A. Puzniak, PhD, Merck & Co., Inc. (Employee) Karri A. Bauer, PharmD, Merck & Co., Inc. (Employee, Shareholder) Calvin Yu, MD, BD (Employee) Vikas Gupta, PharmD, BCPS, Becton, Dickinson and Company (Employee, Shareholder)

157. A Multicenter, Mixed-Methods Evaluation of Delayed Hospital Discharge in Patients with Invasive Candidiasis Receiving Echinocandins

Rachel Jo, PharmD1; Joshua Hestrin, PharmD2; Merck & Co., Inc.; University of Houston, Houston, TX, Houston, TX; University of Houston College of Pharmacy, Houston, Texas; University of Texas Health Science Center, Houston, Texas

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Patients with systemic candidiasis often receive prolonged echinocandin therapy in the inpatient or outpatient setting. Rezafungin is a novel echinocandin currently in clinical trials characterized by once-weekly dosing interval. In order to understand the potential benefits of rezafungin to facilitate earlier hospital discharge, the purpose of this project was to better understand barriers to discharge in patients with proven or suspected invasive candidiasis.

Methods. Electronic health records from two large health systems (20+ hospitals) were reviewed to identify patients given an echinocandin. Patients given an echinocandin until hospital discharge were evaluated for outpatient use as well as barriers that prevented earlier discharge. Identified barriers were developed into a qualitative framework and a qualitative interview guide. Using a constant comparative method, the framework for hospital discharge barriers was constructed using an open-ended questions and axial coding to identify discharge barrier themes. Results were integrated to produce a mixed-method model.

Results. A total of 1,665 echinocandin courses were evaluated. Five hundred and thirty-four patients (32%) received echinocandin therapy until at least the day of...
hospital discharge of which 328 of 534 (61%) patients were either discharged to home or transferred to another facility. Significant predictors for outpatient echocardiandin use were osteomyelitis (OR 4.07, 95% CI: 1.06-15.66; p<0.041) and other deep-seated infection (OR 4.4; 95% CI: 1.65-11.96; p<0.003). Stewardship analysis identified the majority of patients (54%) had the possibility for at least one day earlier discharge (potential earlier discharge: 6:55±1.16 days). The quantitative model identified major barriers to be transition of care, other medical care, and infectious diseases-related. The qualitative model largely agreed with the quantitative model with additional psychosocial and health care access variables identified.

Conclusion. Using a mixed method approach, barriers to hospital discharge and potential use of new antifungal therapies were identified. These data could be used to assist transitions of care in patients with invasive candidiasis.

Disclosures. Truc T. Tran, PharmD, Merck (Grant/Research Support) Kevin W. Garcey, Pharm.D., M.S., FASHP, Summit Therapeutics (Research Grant or Support)

158. National Cross-Sectional Study of Factors Influencing the Decision of Prescribing Penicillin as First Choice among Dentists in Japan

Ryuki Koizumi, n/a; Masahiro Ishikane, MD, PhD; Yoshiki Kusama, M.D.; Shinya Tsuzuki, MD, MSc; Yosuke Asai, Ph. D.; Yasuyuki Shimaeda, DDS, PhD; Chika Tanaka, B.Pharm; Akane ono, MD, PhD; Akihiko Kaneke, DDS, PhD; Norio Ohmagari, MD, MSc, PhD; National Center for Global health and Medicine hospital, Shinjuku, Tokyo, Japan; Division of Pharmacoepidemiology, AMR Clinical Reference Center, National Center for Global Health and Medicine, Tokyo, Japan; National Center for Global Health and Medicine, Shinjuku, Tokyo, Japan; National Center for Global health and Medicine hospital, Shinjuku, Tokyo, Japan; Tokai University, Isehara, Kanagawa, Japan; National Center for Global Health and Medicine Hospital, Shinjuku, Tokyo, Japan

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Antimicrobial stewardship programs are needed to improve antimicrobial use among not only physicians but also dentists. This study aimed to investigate the factors influencing the decision of prescribing penicillin as first choice among dentists at clinics in Japan.

Methods. We conducted a nationwide cross-sectional study of dental clinics in Japan between July and September 2020. Data on the following were collected using questionnaires: basic information, types of antimicrobials stocked, first-choice antimicrobials, and knowledge and practice of antimicrobial resistance and infectious endocarditis. Using logistic regression, odds ratios (ORs) and 95% confidence intervals (CIs) were estimated to assess the factors influencing penicillin prescription.

Results. Among the 1700 participating dental clinics, 342 dental clinics responded. The median age of the study cohort was 57 (49–65) years, and there were 298 (87.1%) men. The first choice of antimicrobials was third-generation cephalosporin (169 [49.4%], followed by penicillin (103 [30.1%]) and macrolide (19 [5.6%]). In multivariate analysis, clinics with stock penicillin (OR = 27.30 [95% CI: 12.04-63.00]) and with more than two dentists (OR = 0.48 [95% CI: 0.24–0.92]) were associated with penicillin use as first choice.

Table 1. Multivariate analysis of factors influencing penicillin use as first choice, n(%) Variables Penicillin (n=342) Other antibiotics (n=232) Adjusted odds ratio (95% confidence interval) Adjusted p value
Post-graduated year (median, interquartile range) 10 (19.5-37) 31 (24-41) 0.97 (0.95-1.0) 0.047
Sex (Male) 90 (90) 48 (88) 0.72 (0.27-1.9) 0.513
Clinics with more than two dentist 39 (18) 58 (16) 0.48 (0.24-0.92) 0.005
Implemented containment measures for antimicrobial resistance 87 (85) 47 (19) 1.30 (0.48-4.19) 0.817
Follow infections endocarditis guidelines 45 (2) 74 (5) 0.76 (0.49-2.67) 0.424
Participated at least one seminar per 6 months 86 (3) 177 (9) 1.14 (0.49-2.67) 0.701
Clinics with stocked penicillin 89 (16) 59 (25) 27.30 (12.04-63.00) <0.001

Conclusion. This is the first study investigating the factors influencing the decision of prescribing penicillin as first choice among dentists in Japan. Further studies evaluating the relationships between penicillin use as first choice and stocked penicillin in the clinic and the number of working dentists are needed.

Disclosures. All Authors: No reported disclosures

159. Characterization of Suboptimal Discharge Antimicrobial Prescriptions and Effect of Inpatient Audit and Feedback on Quality of Antimicrobial Prescribing

Lauren M. Puckett, PharmD; Laura Bio, PharmD, BCPS; Sean Cornell, n/a; Torsten Joerger, MD; Hayden T. Schwenk, MD, MPH; Hayden T. Schwenk, MD, MPH; Truc T. Tran, PharmD; Children's Hospital Stanford, Stanford, California; Stanford Children's Health, Palo Alto, CA; Stanford University School of Medicine, Stanford, California; Stanford University School, Stanford, CA

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Approximately 30% of children are discharged from the hospital with an antimicrobial prescription; nearly a third of these prescriptions are suboptimal. Although the best approach to antimicrobial stewardship of discharge prescriptions remains uncertain, prospective audit and feedback (PAF) has improved inpatient antimicrobial use. We aimed to identify and characterize suboptimal discharge antimicrobial prescribing and assess the impact of inpatient PAF on the quality of discharge antimicrobial prescribing at a free-standing children's hospital.

Methods. A retrospective review of enteral discharge antimicrobial prescriptions between 12/1/20-5/31/21 and parental antimicrobial prescriptions sent to our hospital's infusion pharmacy between 3/1/21-5/31/21 was performed to determine suboptimal or not. A prescription was determined to be suboptimal if the antimicrobial choice, dose, frequency, duration, formulation, or indication was not consistent with institutional and/or national guidelines. Data collection included the antimicrobial, indication, and prescription method service. Prescriptions were evaluated for a corresponding inpatient PAF for the same drug and indication and then stratified based on inpatient PAF completion.

Results. A total of 1192 discharge prescriptions for 698 unique patients over 834 hospital encounters were reviewed. Overall, 243 (20%) prescriptions were identified as suboptimal; reasons were duration (16%), dose (8%), frequency (5%), or antimicrobial choice, formulation, or route (≤1%). Prescriptions for cephalaxin had the highest rate of suboptimal prescribing (80/167, 48%), followed by amoxicillin-clavulanate (89/203, 44%). A corresponding inpatient PAF was identified for 675 (57%) of discharge antimicrobial prescriptions. Inpatient PAF prior to discharge resulted in fewer suboptimal discharge prescriptions for the same antimicrobial (8% vs. 36%, p < 0.001).

Conclusion. Antimicrobial prescribing at inpatient discharge was suboptimal in 1 of every 5 prescriptions. Inpatient PAF was associated with improved antimicrobial prescribing at hospital discharge. Antimicrobial stewardship programs should continue to explore ways to capture and intervene on antimicrobials prescribed at discharge.

Disclosures. Hayden T. Schwenk, MD, MPH; Nothing to disclose

160. Urgent Care Prescriber Perspectives on Antibiotic Prescribing During the COVID-19 Pandemic

Brooke Betts, PharmD, MS; HSA; David R. Ha, PharmD, BCIDp; Marisa Holubar, MD, MS; Marisa Holubar, MD, MS; Maria Artandi, MD; Sharon Unguti, MD, MPH; Ian Nelligan, MD; Stanford Health Care, Stanford, California; Stanford Antimicrobial Safety and Sustainability Program, Stanford, California; Stanford University School of Medicine, Stanford, CA; Stanford University, Palo Alto, California

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Urgent care practices were significantly impacted by the COVID-19 pandemic. Studies conducted early in the pandemic demonstrated dramatic decreases in outpatient antibiotic prescribing, particularly amongst agents typically used for respiratory infections. We observed a 33% reduction in outpatient antibiotic use during the COVID-19 pandemic in our urgent care clinics. We investigated the prescriber experience to elucidate factors influencing antibiotic use for respiratory conditions during the COVID-19 pandemic at two academic urgent care clinics.