post-AAW. Fisher's exact and Chi-squared tests were used for statistical analysis. To providers to compare the impact on antibiotic prescribing behavior for ASB pre- and 9/2020 to 11/2020 and after AAW from 12/2020 to 1/2021. Patients were excluded if they positive urine cultures (Ucx) for adult inpatients were reviewed prior to AAW from throughout the hospital during AAW from 11/18/2020 to 11/24/2020 (Figure 1). All defining ASB vs urinary tract infection (UTI) was provided via visual aids distributed post-AAW, and the impact of AS education on future prescribing practices for ASB. (AS) for ASB. We evaluated the incidence of antibiotic treatment of ASB pre-AAW vs Awareness Week (AAW) was utilized as a platform to promote antimicrobial stewardship outcomes. At Olive View-UCLA Medical Center (Sylmar, CA), the CDC U.S. Antibiotic and urological procedures increases the risk of antibiotic resistance without improving discrimination and calibration. It would contribute to the proper selection of empiric discrimination. Methods. The study population included adult patients who had at least one of the results from a urine culture test and antibiotic susceptibility tests (from ampicillin, ceftriaxone, ciprofloxacin, gentamicin, levofloxacin, nitrofurantoin, tetracycline, trimethoprim/sulfamethoxazole) on admission to Ajou University Medical Center. Outcomes were defined as a resistant or intermediate susceptibility. Candidate predictors were diagnosis, prescription, visit, laboratory, procedures of the study population. We split data to 75:25 for training and test. Lasso logistic regression (LLR), extreme gradient boosting machine (XGB), Random Forest (RF) were used as model algorithms. The models were evaluated by an area under the curve of receiver operator characteristics curve (AUROC), precision-recall curve (AUPRC), and its calibration. All codes are available in https://github.com/ABMI/AbxBetterChoice Reduces Treatment of Asymptomatic Bacteriuria Niki Arab, PharmD1; Bali Gupta, MD1; Brian Kim, PharmD1; Arthur Jeng, MD2; Olive View-UCLA Medical Center, Sylmar, California

Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing Background. Treatment of asymptomatic bacteriuria (ASB) outside of pregnancy and urological procedures increases the risk of antibiotic resistance without improving outcomes. At Olive View UCLA Medical Center (Sylmar, CA), the CDC U.S. Antibiotic Awareness Week (AAW) was utilized as a platform to promote antimicrobial stewardship (AS) for ASB. We evaluated the incidence of antibiotic treatment of ASB pre-AAW vs post-AAW, and the impact of AS education on future prescribing practices for ASB.

Methods. In this single-center retrospective observational study, AS education defining ASB vs urinary tract infection (UTI) was provided via visual aids distributed throughout the hospital during AAW from 11/18/2020 to 11/24/2020 (Figure 1). All positive urine cultures (Ucx) for adult inpatients were reviewed prior to AAW from 9/2020 to 11/2020 and after AAW from 12/2020 to 1/2021. Patients were excluded if they were unable to report UTI symptoms, pregnant, or undergoing urological procedure. The incidence of ASB treatment pre- and post-AAW was compared. A survey was sent to providers to compare the impact on antibiotic prescribing behavior for ASB pre- and post-AAW. Fisher's exact and Chi-squared tests were used for statistical analysis.

Disclosures. All Authors: No reported disclosures

173. Antimicrobial Stewardship Education Changes Prescribing Behavior and Reduces Treatment of Asymptomatic Bacteriuria
Niki Arab, PharmD1; Bali Gupta, MD1; Brian Kim, PharmD1; Arthur Jeng, MD2; Olive View-UCLA Medical Center, Sylmar, California

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

Discussion.
174. Development of a Machine Learning Prediction Model to Select Empirical Antibiotics in Patients with Clinically Suspected Urinary Tract Infection using Urine Culture Data
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Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Increasing antimicrobial resistance and the emergence of superbugs are problems globally. Inappropriate empiric antibiotic use would be a reason to cause antibiotic resistance. However, it has been a challenge to prescribe empiric antibiotics as it is difficult to identify the causative organism beforehand. In this study, we aimed to develop a prediction model to estimate the risk of antibiotics resistance using urine culture tests.

Method. The study population included adult patients who had at least one of the results from a urine culture test and antibiotic susceptibility tests (from ampicillin, ceftriaxone, ciprofloxacin, gentamicin, levofloxacin, nitrofurantoin, tetracycline, trimethoprim/sulfamethoxazole) on admission to Ajou University Medical Center. Outcomes were defined as a resistant or intermediate susceptibility. Candidate predictors were diagnosis, prescription, visit, laboratory, procedures of the study population. We split data to 75:25 for training and test. Lasso logistic regression (LLR), extreme gradient boosting machine (XGB), Random Forest (RF) were used as model algorithms. The models were evaluated by an area under the curve of receiver operator characteristics curve (AUROC), precision-recall curve (AUPRC), and its calibration. All codes are available in https://github.com/ABMI/AbxBetterChoice

Results. Total 33 covariates were selected for final prediction models. The RF showed the highest AUROC in the ceftriaxone and tetracycline models (0.823, 0.626, respectively). The XGB presented the highest AUROC for ciprofloxacin and nitrofurantoin (0.731, 0.706, respectively). The AUROC of RF and the XGB were the same in an ampicillin model (0.633). For gentamicin, levofloxacin, and trimethoprim/sulfamethoxazole, the AUROC of LLR was the highest (0.731, 0.706, respectively). Among the models, the AUROC was the highest in the gentamicin model regardless of algorithms. All calibrations of the models were acceptable.

Table 1 Overall performance of antibiotics susceptibility test prediction model with three different machine-learning algorithms

Conclusion. We developed prediction models with competing performances of discrimination and calibration. It would contribute to the proper selection of empiric antibiotics susceptible to those causative pathogens in hospitalized patients with a clinically suspected urinary tract infection.

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176. Topical Antibiotic and Antiseptic Use in the Operating Room: An Opportunity for Antimicrobial Stewardship?  
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Background.  
We conducted a retrospective 28-day period prevalence study of topical antibiotic and antiseptic use during surgical procedures performed in the operating room by 6 surgical specialties at a tertiary care medical center. For the subset of patients undergoing orthopedic surgeries, we evaluated the types of topical antibiotics received and the rates of surgical site infections (SSI) and adverse drug events within 28 days of the procedure.

Methods.  
We developed a 28-day period prevalence study of topical antibiotic and antiseptic use during surgical procedures performed in the operating room by 6 surgical specialties at a tertiary care medical center. For the subset of patients undergoing orthopedic surgeries, we evaluated the types of topical antibiotics received and the rates of surgical site infections (SSI) and adverse drug events within 28 days of the procedure.

Results.  
The most commonly used antiseptic was hydrogen peroxide (42.8%, vs 29.8%, p = 0.013). In both phases, 57% of those who had not implemented AUC monitoring had plans to do so over the next year. Additionnally, 46.2% of respondents reported COVID-19 impacted their ability to transition to AUC monitoring citing issues such as lack of time and inadequate resources. The most common AUC monitoring programs utilized at baseline and 1-year post guideline were purchased Bayesian software (38.3% vs. 35.6%) and home-made software (26.1% vs 23.7%). Perceived challenges to implementing AUC monitoring included cost, difficult use and integration.

Conclusion.  
Increased uptake of vancomycin AUC monitoring occurred from baseline to 1-year post guideline publication. However, less than half of hospitals implemented this recommendation. Although COVID-19 impacted a large portion respondents’ ability to implement AUC monitoring, majority plan to transition to AUC monitoring over the next year. AUC monitoring should be adopted by all hospitals to optimize vancomycin efficacy and safety.

Disclosures.  
All Authors: No reported disclosures

177. User Preferences for Visualization of Antibiogram Data in Clinical Practice for Empiric Prescription of Antibiotics  
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Background.  
Antibiograms are widely used to present antibiotic susceptibility data, but user preferences for data visualization have received little attention. We report on a qualitative research study designed to gauge preferences for presenting antibiotic resistance data, with the goals of improving speed and effectiveness of prescribing empiric antibiotics in out-patient practices to meaningfully influence antibiotic stewardship programs.

Methods.  
Criteria for online focus groups included having the ability to prescribe antibiotics, practice in Washington state, and familiarity with antibiogram usage. A preliminary survey (Fig. 1) was sent to select participants to understand their role in healthcare and their current attitudes towards antibiograms. During focus groups, we presented examples of 3 antibiograms: standard (Fig. 2A), color-coded for % susceptible (Fig. 2B), and color-coded for change in % susceptible from 2013 to 2016 (Fig. 2C).

Methods.
Antibiograms are widely used to present antibiotic susceptibility data, but user preferences for data visualization have received little attention. We report on a qualitative research study designed to gauge preferences for presenting antibiotic resistance data, with the goals of improving speed and effectiveness of prescribing empiric antibiotics in out-patient practices to meaningfully influence antibiotic stewardship programs. A preliminary survey (Fig. 1) was sent to selected participants to understand their role in healthcare and their current attitudes towards antibiograms. During focus groups, we presented examples of 3 antibiograms: standard (Fig. 2A), color-coded for % susceptible (Fig. 2B), and color-coded for change in % susceptible from 2013 to 2016 (Fig. 2C).

Figure 1. Preliminary Survey via RedCap

Confidential
Antibiotic General Use (Preliminary Survey)  
Please complete the survey below.

Thank you!

Table 1: Prevalence of topical antibiotic and antiseptic use by surgical specialty, No. (%)  
| Surgical specialty | Number of procedures | Use of topical antibiotics (alone or with topical antiseptic) | Use of topical antiseptics (alone or with topical antibiotics) | Use of both | Use of none |
|-------------------|----------------------|-------------------------------------------------|-------------------------------------------------|-----------|-----------|
| All services      | 744                  | 127 (17.1)                                      | 71 (9.5)                                        | 18 (2.4)  | 564 (75.8) |
| Orthopedics       | 39                   | 52 (13.2)                                      | 48 (20.1)                                       | 6 (3.3)   | 347 (87.5) |
| Podiatry          | 44                   | 4 (9.1)                                        | 8 (18.2)                                        | 12 (2.7)  | 33 (75.0)  |
| Neurosurgery      | 137                  | 68 (49.6)                                      | 9 (6.6)                                        | 69 (50.4) |
| Hand              | 125                  | 0 (0.0)                                        | 5 (4.0)                                        | 0 (0.0)   | 120 (96.0) |
| Vascular          | 79                   | 2 (2.5)                                        | 0 (0.0)                                        | 77 (97.5) |
| Plastics          | 120                  | 1 (0.8)                                        | 1 (0.8)                                        | 0 (0.0)   | 118 (98.3) |

Table 2: Clinical outcomes within 28 days of procedure, No. (%)  
| Number of procedures | Topical antibiotic alone (n=218) | Topical antibiotic alone (n=434) | Topical antibiotic alone (n=61) | Both (n=113) | None (n=129) | P-value |
|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------|-------------|---------|
| Surgical site infection | 0.004 | 9 (1.4) | 3 (7.1) | 0 | 3 (27.3) | 2 (2.3) | 0.004 |
| Adverse event | 0.424 | 2 (0.9) | 1 (2.0) | 0 | 0 (0.8) | 1 (0.8) | 0.424 |

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A preliminary survey via RedCap was sent all focus group participants to capture current attitudes towards antibiograms and antibiotic resistance data.