Table 1: Metrics and outcomes at baseline and during successive PDSA cycles

	Baseline, n (%) (Jun 11, 2019 – Oct 31, 2019)	PDSA Cycle 1, n (%) (Nov 11, 2019 – Dec 11, 2019)	PDSA Cycle 2, n (%) (Dec 12, 2019 – Jan 11, 2020)
Documented penicillin allergy	96	16	24
Nursing intervention (%)	0 (0)	4 (25)	19 (80)
Eligibility for intervention by pharmacists (%)	--	3/4 (75)	11/19 (58)
Intervention by pharmacists (%)	--	1/3 (33)	9/11 (82)
Eligibility for review by allergists after pharmacists' review (%)	--	1/1 (100)	7/9 (77)
Intervention by allergists	--	0	0
Penicillin allergy de-labeled per protocol (%)	2 (2%)	0 (0)	9/19 (47.4)
Eligible for cephalosporin use (%)	--	1/4 (25)	7/19 (37)

Conclusion: Various factors contribute to penicillin allergy mislabeling. Our comprehensive algorithm addresses nuances of penicillin allergic reactions and increased accurate penicillin allergy labeling in 47.4% of the cases. Beta-lactam use also increased to 37% through our pilot project while maintaining patient safety. A multi-disciplinary and patient-centered approach aligned with institutional workflows is necessary to improve patient outcomes.

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154. Development of an Electronic Algorithm to Target Outpatient Antimicrobial Stewardship Efforts for Adults with Acute Pharyngitis

Ebbing Lautenbach, MD, MPH, MSCE[1]; Keith W. Hamilton, MD[2]; Robert Grundmeier, MD[3]; Melinda M. Neuhauser, PharmD, MPH[4]; Lauri Hicks, DO, MPH[5]; Anne Jaskowiak, MS[1]; Leigh Cressman, MA[6]; Tony James, BA[1]; Jacqueline Omorogbe, MBE[1]; Nicole Frager, MPH[1]; Muida Menon, MS[3]; Ellen Kratz, BA[3]; Jeffrey Gerber, MD, PhD[3]; [1]University of Pennsylvania, Philadelphia, New York [2]Divison of Infectious Diseases, Philadelphia, Pennsylvania; [3]Children's Hospital of Philadelphia, Philadelphia, Pennsylvania; [4]Centers for Disease Control and Prevention, Chicago, Illinois; [5]CDC, Atlanta, Georgia; [6]University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania

Session: P-6. Antimicrobial Stewardship: Program Development and Implementation

Background: Although most antibiotic use occurs in outpatients, antibiotic stewardship programs (ASPs) have primarily focused on inpatients. A major challenge for outpatient ASPs is lack of accurate and accessible electronic data to target interventions. We developed and validated an electronic algorithm to identify inappropriate antibiotic use for adult outpatients with acute pharyngitis.

Methods: In the University of Pennsylvania Health System, we used ICD-10 diagnostic codes to identify patient encounters for acute pharyngitis at outpatient practices between 3/15/17 – 3/14/18. Exclusion criteria included immunocompromising conditions, comorbidities, and concurrent infections that might require antibiotic use. We randomly selected 300 eligible subjects. Inappropriate antibiotic use based on chart review served as the basis for assessment of the electronic algorithm which was constructed using only data in the electronic health record (EHR). Criteria for appropriate prescribing, choice of antibiotic, and duration included positive streptococcal testing, use of penicillin/amoxicillin (absent b-lactam allergy), and 10 days maximum duration of therapy.

Results: Of 300 subjects, median age was 42, 75% were female, 64% were seen by internal medicine (vs. family medicine), and 69% were seen by a physician (vs. advanced practice provider). On chart review, 127 (42%) subjects received an antibiotic, of which 29 had a positive streptococcal test and 4 had another appropriate indication. Thus, 74% (94/127) of patients received antibiotics inappropriately. Of the 29 patients who received appropriate prescribing, 27 (93%) received an appropriate antibiotic. Finally, of the 29 patients who were appropriately treated, 29 (100%)

received the correct duration. Test characteristics of the EHR algorithm (compared to chart review) are noted in the Table.

Conclusion: Inappropriate antibiotic prescribing for acute pharyngitis is common. An electronic algorithm for identifying inappropriate prescribing, antibiotic choice, and duration is highly accurate. This algorithm could be used to efficiently assess prescribing among practices and individual clinicians. The impact of interventions based on this algorithm should be tested in future work.

Test Characteristics of Electronic Algorithm for Inappropriate Prescribing, Agent, and Duration

Test Characteristic	Value
Inappropriate Prescribing	
Sensitivity	100% (94/94)
Specificity	97% (200/206)
Positive Predictive Value	94% (94/100)
Negative Predictive Value	100% (200/200)
Inappropriate Agent	
Sensitivity	100% (2/2)
Specificity	100% (25/25)
Positive Predictive Value	100% (2/2)
Negative Predictive Value	100% (25/25)
Inappropriate Duration	
Sensitivity	NA (0/0)
Specificity	100% (27/27)
Positive Predictive Value	NA (0/0)
Negative Predictive Value	100% (27/27)

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

155. Development of antibiotic classification for measuring antibiotic usage in Korean hospitals using a modified Delphi method

Bongyoung Kim, MD, PhD[1]; Young Kyung Yoon, MD[2]; Dong-Sook Kim, PhD[3]; Su Jin Jeong, MD, PhD[4]; Song Vogue ahn, MD, PhD[5]; Sun Hee Park, MD, PhD[6]; Ki Tae Kwon, MD, PhD[7]; Hong Bin Kim, MD, PhD[8]; Yoon Soo Park, MD, PhD[9]; Shin-Woo kim, MD, PhD[10]; Sungmin Kiem, MD, PhD[11]; Jun yong Choi, MD, PhD[12]; [1]Hanyang University College of Medicine, Seongdong-gu, Seoul-t'ukpyolsi, Republic of Korea; [2]Korea University, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [3]Health Insurance Review & Assessment Service, Wonju, Kangwon-do, Republic of Korea; [4]Yonsei University college of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [5]Department of Health Convergence, Ewha Womans University, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [6]Division of Infectious Diseases, Department of Internal Medicine, College of Medicine, The Catholic University of Korea, Seoul, Korea, Daejon, Taejon-jikhalsi, Republic of Korea; [7]Division of Infectious Diseases, Department of Internal Medicine, School of Medicine, Kyungpook National University, Daegu, Korea, Daegu, Taegu-jikhalsi, Republic of Korea; [8]Seoul National University Bundang Hospital, Seongnam, Kyonggi-do, Republic of Korea; [9]Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [10]School of Medicine, Kyungpook National University, Daegu, Taegu-jikhalsi, Republic of Korea; [11]Sejong Chungnam National University Hospital, Sejong, Ch'ungch'ong-namdo, Republic of Korea; [12]Yonsei University College of Medicine, Seoul, South Korea, Seoul, Seoul-t'ukpyolsi, Republic of Korea

The Korean Society of Infectious Diseases, The Korean Society for Antimicrobial Therapy, and Health Insurance Review & Assessment Service

Session: P-6. Antimicrobial Stewardship: Program Development and Implementation

Background: In 2019, the project about developing a system for measure and benchmark antibiotic usage in each hospital was launched. As the basic work for the project, we developed 'antibiotic classification for measuring antibiotic usage in Korean hospitals' using a modified Delphi method.