antibiotic. Among screen pos. cases, final antibiotics definitely covered in 75% and possibly in 25%.

Conclusion. Conclusions: The MDR *Enterobacterales* screening tool for abdominal infections had limited impact on final antibiotic choice, but was useful when positive. Further directions include assessment of provider understanding of the MDR screen results and investigation of utility of screen in other infection types.

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89. Follow-Up Blood Cultures (FUBC) in the Management of Gram-Negative Bacilli (GNB) Bloodstream Infections (BSIs): Frequently Obtained and Rarely Helpful

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Session: P-05. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background. While GNB BSIs remain a major cause of morbidity and mortality, no clear guidelines exist on the utilization of FUBCs to guide management. Despite the recognition of persistent bacteremia as a risk factor for increased mortality, early studies suggested FUBCs were low yield in this setting, and thus had low utility. More recently, some controversy has arisen with multivariate analyses suggesting FUBC acquisition may be associated with lower mortality. We sought to characterize the utilization and yield of FUBCs for GNB BSIs at our institution.

Methods. We performed a retrospective review of 514 episodes of consecutive blood cultures from unique adult inpatients with GNB BSI between July 2017-July 2019. Exclusion criteria included prior positive culture, polymicrobial Gram stain, or discharge, death, or comfort measures only within 24 hours of Gram stain. FUBCs were defined as blood cultures collected between 24 hours to 7 days after the index blood culture. Baseline clinical and microbiologic characteristics were compared between groups, as well as clinical outcomes.

Results. Of 514 episodes, 338 (66%) had FUBCs performed, with a median of 2 FUBCs/episode. The majority of FUBCs (322/338; 95%) were negative, with 9 (3%) yielding the same organism and 9 (3%) yielding a different organism. Most initial FUBCs were obtained prior to index antimicrobial susceptibility results (227/338; 67%). Patients with FUBCs performed had a higher median Pitt bacteremia score (2 vs 1; p = 0.015) and were more likely to have hospital onset (36% vs 22%; p = 0.002), severe neutropenia (16% vs 4%; p < 0.001) and a catheter-associated source (13% vs 4%; p = 0.001). 30-day mortality did not differ between patients with or without FUBCs (10% vs 11%; p = 0.84).

Conclusion. FUBCs were frequently obtained, but were of low yield even in comparison to recent similar studies. Though FUBCs were performed in more severe cases, a difference in mortality was not observed. Delaying the decision of whether to obtain FUBCs until after index antimicrobial susceptibility results are available would reduce unnecessary testing in most cases. Further study could better define where FUBCs after antimicrobial susceptibility testing would be most helpful.

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

90. Deimplementation: Use of Electronic Clinical Decision Support to Reduce Unnecessary Erythrocyte Sedimentation Rate (ESR) Ordering

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Session: P-05. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background. In recent years, several de-implementation initiatives have focused on diagnostic testing. One such initiative, the Choosing Wisely campaign, recommends against routine use of erythrocyte sedimentation rate (ESR) for assessment of acute undiagnosed inflammation or infection. With the development of newer biomarkers of inflammation, particularly C-reactive protein (CRP), there is a decreasing role for ESR in screening for acute-onset conditions; however, ESR continues to be commonly ordered.

Methods. We examined ESR and CRP ordering practices at the Children's Hospital of Philadelphia (CHOP) from July 2019 to July 2020 and found that 80% of ESR orders were placed concurrently with an order for CRP. We aimed to reduce ESR ordering by 20% at CHOP by using electronic clinical decision support in the form of embedded order guidance for ESR orders placed in the Emergency Department (ED) and inpatient setting. We examined the effect of the clinical decision support by assessing ESR ordering rate, defined by ESR orders per monthly patient days for the inpatient setting and ESR orders per monthly ED visits for the ED setting. We then examined differences in ordering rates using a quasi-experimental model with a concurrent control (basic metabolic panel).

ESR Electronic Clinical Decision Support Intervention

ESR Electronic Decision Support

Inpatient setting

ED setting

Inpatient and ED versions of the embedded electronic clinical decision support for ESR orders.

Results. Prior to implementation of the electronic decision support intervention, the median monthly rate of ESR orders was 13.6 per 1000 patient days and 70.3 per 1000 ED visits. During the initial month after implementation, we found that ESR ordering was 12.5 in inpatient and 46.4 in ED, reflecting decreased rates of ordering. The median monthly rate of basic metabolic panel orders (concurrent control) was 194.5 per 1000 patient days and 110.0 per 1000 ED visits. This was unchanged after intervention.

Conclusion. We conclude that electronic clinical decision support is a potentially effective deimplementation method for improving diagnostic test utilization, even with non-disease specific testing such as inflammatory markers. However, continued post-implementation data monitoring and analysis is needed to determine if this is a true difference and sustainable trend.

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

91. Knowledge, Attitudes, and Practice of Antibiotic Prescribing among Nurse Practitioners

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Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Antibiotic overuse (AO) in ambulatory care is an important public health problem. Nurse practitioners (NPs) account for a growing proportion of outpatient antibiotic prescriptions: 14.6% in 2016. Our objective was to assess NPs' attitudes about antibiotic prescribing practices and knowledge and use of antibiotic prescribing guidelines (APG) in their practice.

Methods. We distributed a survey via email to NPs listed as licensed by the North Carolina Board of Nursing. Surveys were distributed three times; duplicate responses were not permitted. Respondents who reported not prescribing antibiotics in the outpatient setting were ineligible. Three randomly selected respondents received gift cards. Questions assessed degree type, practice type, years in practice, and attitudes about antibiotic prescribing practices antibiotic stewardship. Respondents answered four questions assessing knowledge of APG. Analyses were descriptive; scores on knowledge questions were compared using T-tests.

Results. Survey requests were sent to 10,094 listed NPs; there were 846 completed responses (8.4%), of which 672 respondents (79.4%) reported prescribing antibiotics in outpatient care. Of those, 595 (88.5%) treat adult patients. Most respondents agreed that AO is a problem in their state (84.5%); 41.3% agreed that it was a problem in their practice. Patient/family satisfaction was the most frequently

reported driver of AO (90.1%). Most respondents agreed that national APG are appropriate (95.4%) and that quality improvement (QI) is warranted (93.4%). Respondents reported following APG always (18.5%) or more than half the time (61.0%). Respondents answered a mean of 1.89 out of 4 knowledge questions correctly, with higher scores among those reporting following APG more than half the time (1.97 vs 1.58, p< 0.0001).

Statements	Strongly Agree	Somewhat Agree	Neither agree nor disagree	Somewhat Disagree	Strongly Disagree
Overuse of antibiotics is a problem in my state.	243 (41.0%)	260 (43.8%)	77 (13.0%)	10 (1.7%)	3 (0.5%)
Overuse of antibiotics is a problem in the region where I practice.	183 (32.3%)	268 (47.3%)	92 (16.2%)	19 (3.4%)	5(0.9%)
Overuse of antibiotics is a problem in our practice.	62 (10.7%)	184 (31.6%)	112 (19.2%)	139 (23.9%)	85 (14.6%)
When deciding whether to prescribe antibiotics, my experience as a clinician is more important than guidelines.	23 (3.9%)	144 (24.3%)	166 (28.0%)	187 (31.6%)	72 (12.2%)
National guidelines are appropriate to use for my patient population.	379 (63.8%)	189 (31.8%)	17 (2.9%)	9 (1.5%)	0 (0.0%)
National guidelines are based on appropriate interpretation of the evidence.	425 (71.4%)	153 (25.7%)	14 (2.4%)	1 (0.2%)	2 (0.3%)
I believe quality improvement initiatives to improve antibiotic prescribing in primary care are warranted.	362 (61.1%)	194 (32.7%)	32 (5.4%)	5 (0.8%)	0 (0.0%)
I personally would welcome feedback about my antibiotic prescribing practices in comparison to my peers.	317 (53.3%)	168 (28.2%)	91 (15.3%)	12 (2.0%)	7 (1.2%)
More education about antibiotic prescribing for common infection would be helpful for me in my practice.	267 (44.9%)	220 (37.0%)	80 (13.5%)	22 (3.7%)	6 (1.0%)

Overall attitudes about antibiotic prescribing, antibiotic prescribing guidelines, and acceptance of Quality Improvement. N=595.

Statements	# of providers who agree N = 595
Many patients/parents are unsatisfied without an antibiotic prescription.	536 (90.1%)
Providers recall adverse outcomes when antibiotics were not prescribed in time.	161 (27.1%)
Providers worry about missing an important diagnosis.	294 (49.4%)
Providers do not adhere to national guidelines.	269 (45.2%)
It is often difficult to determine if the patient has a bacterial or viral infection.	248 (41.7%)
Outpatient providers do not have enough time with their patients	233 (39.2%)

Respondents' reported drivers of antibiotic overuse. Respondents were permitted to select more than one driver.

How often do you follow the recommendations in antibiotic prescribing guidelines?	# of providers	Correct responses (mean ± SD)*
Overall	N = 595	1.89 ± 1.08
Always or more than half the time	473 (79.5%)	1.97 ± 1.07
Half of the time or less or not familiar	122 (20.5%)	1.58 ± 1.10

*Average scores based on the 4 answered questions (Q1, Q2, Q5, and Q6 in Supplemental Table 1). Comparing the scores of providers who followed the guidelines more than half of the time with those who did not: p < 0.0001.

Content question performance by self-reported guideline compliance; scores represent the number correct out of four questions.

Conclusion. Respondents agree that AO is a problem but place responsibility externally. Confidence in APG was high; most respondents endorsed following APG most of the time. Performance on knowledge questions suggests a need for education. Most respondents would welcome QI focused on AO, including education and personalized feedback. Similar work is needed in other regions and among other prescriber groups. The results will inform outpatient antibiotic stewardship.

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92. Clinical Decision-Making about Chronic Antibiotic Suppression after Prosthetic Joint Infection Treatment: Qualitative Insights for Antibiotic Stewardship

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Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Patients who develop prosthetic joint infections (PJI) may be prescribed chronic antibiotic suppression (CAS) (> 6 months of antibiotics) after initial antibiotic treatment for the PJI. Patients at low risk of recurrent infection may be good targets for antibiotic stewardship. De-implementation of CAS could potentially reduce the emergence of antibiotic resistant organisms and decrease antibiotic-associated adverse events. Our ongoing study aims to characterize clinical decision-making processes about CAS prescribing and identify points for antibiotic stewardship interventions to stop CAS prescribing for patients who will not benefit.

Methods. We conducted semi-structured interviews with 33 physicians and nurses at 8 Veterans Affairs hospitals, chosen for variation in hospital size, complexity, region, and CAS prescribing. Interviewees included orthopedic surgeons, infectious disease (ID) physicians, hospital epidemiologists, nurses, nurse managers, and primary care physicians (PCPs). We conducted inductive, consensus-based thematic analysis on interview transcripts, using the program MAXQDA.

Results. Participants reported a complex decision-making process that included a range of collaborative approaches with other clinicians and patients. Their risk-benefit calculation for CAS usually included the type of revision surgery performed, the evidence base, the organism, and patient factors. Surgeons and ID physicians, the primary CAS prescribers, collaborated variably and sometimes consulted pharmacists or antibiotic stewards. Participants emphasized the importance of clinician autonomy and buy-in to order to effect practice change based on evidence, rather than top-down policies. They identified other significant time points that occurred before or after the CAS prescribing decision (initial PJI treatment decisions, follow-up appointments) and identified other decision makers about CAS maintenance (e.g., patients, PCPs). (See Figure 1).

Figure 1. Decision Points Relevant to Prescribing or Maintenance of Chronic Antibiotic Suppression after PJI. PJI, prosthetic joint infection; ID, Infectious Diseases physician; PCP, primary care physician; IV, intravenous
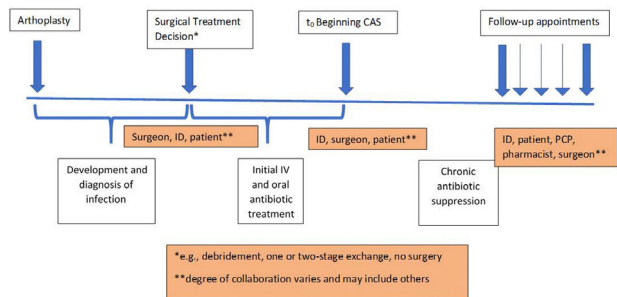
Conclusion. Interventions to optimize CAS prescribing should incorporate clinician concerns about prescriber autonomy and a preference for collaborative decision-making as well as understanding the range of decision makers across time.

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93. Developing Urinary Tract Infection Clinical Vignettes for the Nursing Home Setting: A Mixed-Methods Approach

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Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Little is known about how providers choose antibiotics for nursing home residents when concerned about urinary tract infections. To better assess this in a simulated setting, we used a mixed-methods approach to develop robust clinical vignettes.

Methods. First, we developed 7 vignettes and distributed them to resident physicians as a survey, randomizing participants' response type to rank-order or free-text entry. Second, we shared 5 vignettes with nursing home prescribers and conducted semi-structured interviews that asked providers to explain their thinking out loud (Think Aloud structure). Interviews were continued until content saturation was achieved. Two authors (LT & RJ) determined appropriateness of decisions about antibiotic initiation and antibiotic choice; two authors (LT & JI) coded feedback on the vignettes with adjudication by a third (RJ).

Results. Of 23 residents (11 rank-choice; 12 free-response) that participated in the pilot survey, only 6 (26%) completed 7 vignettes, with a mean completion of 69.4%. Completion of all vignettes was similar between groups, however, greater attrition at the first question was observed in respondents randomized to rank-choice (4/11) compared to free-response (6/12). Of the original 7 vignettes, 5 free-response cases were chosen for further development. We conducted semi-structured interviews with 7 nursing home prescribers, 4 of whom were physicians. The prescribers had a median