between December 2017 and May 2019 were included. The vascular access team would forward requests for PICC insertions to the antimicrobial stewardship pharmacist. The pharmacist would approve/disapprove the PICC or recommend an infectious diseases consult. The variables collected were: infection types, infectious diseases consultation, reason for PICC denial and 30-day PICC-related complications.

Results: A total of 215 requests for PICC insertion (for IV antibiotics) were placed. Of these, 54% of the requests were denied, while 46% were approved. The reasons for PICC denial included: midline catheter preferred (47%), switched to oral antibiotics (33%), further work-up required (10%), or no antibiotics needed (7%). The types of infections treated were: bone and joint infections (28%), urinary tract infections (13%), intra-abdominal infections (12%), endocarditis/endovascular infections (11%), skin soft tissue infections (9%), pneumonia (7%), catheter-related bloodstream infections (6%), central nervous system infections (6%), bacteremia (4%) and others (4%).The infectious diseases consult team was involved in the care of 79% of the patients. Of those that received a PICC line, only 5% experienced any PICC-related complications. The overall cost savings for PICCs that were denied was ~ $294,000.

Conclusion: Mandatory antimicrobial stewardship/infectious diseases approval for PICC insertion can decrease healthcare cost and reduce the number of unnecessary PICC lines placed.

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

90. Impact of Discrepant Rapid Diagnostic Test (RDT) Results on Antimicrobial Stewardship Program (ASP) Interventions in Patients with Bloodstream Infections (BSI) due to Gram-Negative Bacilli (GNB)

Evan D. Robinson, MD[1]; Heather L. Cox, PharmD, BCPS-AQID, BCIDP[2]; April E. Attai, BS, MA, MLS (ASCP)[3]; Lindsay Donohue, PharmD, BCIDP[4]; Megan Shah, PharmD, BCIDP[2]; Brandon Hill, PharmD, BCIDP, BCPS[4]; Zach Elliott, PharmD, BCIDP[4]; Amy J. Mathers, MD, D(ABMM)[1]; Amy J. Mathers, MD, D(ABMM)[1]; [1]University of Virginia, Charlottesville, Virginia; [2]University of Virginia Health System, Charlottesville, VA; [3]University of Virgnia Health System, Charlottesville, VA; [4]UVA Health, Charlottesville, Virginia

Session: P-4. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background: Implementation of the Accelerate Pheno™ Gram-negative platform (AXDX) paired with ASP intervention projects to improve time to definitive institutional-preferred antimicrobial therapy (IPT). However, few data describe the impact of discrepant RDT results from standard of care (SOC) methods on antimicrobial prescribing. Here we evaluate the prescribing outcomes for discrepant results following the first year of AXDX + ASP implementation.

Methods: Consecutive, non-duplicate blood cultures for adult inpatients with GNB BSI following combined RDT + ASP intervention were included (July 2018 – July 2019). AXDX results were emailed to the ASP in real time then released into the EMR upon ASP review and communication with the treating team. SOC identification (ID; Vitek® MS/Vitek® 2) and antimicrobial susceptibility testing (AST; Trek Sensititre™) followed RDT as the reference standard. IPT was defined as the narrowest susceptible beta-lactam, and a discrepancy was characterized when there was categorical disagreement between RDT and SOC methods. When IPT by AXDX was found to be non-susceptible on SOC, this was characterized as "false susceptible". Conversely, "false resistance" was assessed when a narrower-spectrum agent was susceptible by SOC. Results were also deemed discrepant when the AXDX provided no/incorrect ID for on-panel organisms, no AST, or a polymicrobial specimen was missed.

Results: Sixty-nine of 250 patients (28%) had a discrepancy in organism ID or AST: false resistance (9%), false susceptible (5%), no AST (5%), no ID (4%), incorrect ID (2%), and missed polymicrobial (2%). A prescribing impact occurred in 55% of cases (Table 1), where unnecessarily broad therapy was continued most often. Erroneous escalation (7%) and de-escalation to inactive therapy (7%) occurred less frequently. In-hospital mortality occurred in 4 cases, none of which followed an inappropriate transition to inactive therapy.

Table 1: Discrepant RDT Results and Outcomes

Discrepancy Type	Continued Unnecessary Broad Therapy	Erroneous Escalation	De-escalation to Inactive Therapy	No Impact
Identification				
No ID* (10)	6 (60)	-	-	4 (40)
Incorrect ID (6)	3 (50)	-	-	3 (50)
Missed Polymicrobial* (6)	1 (17)	-	2 (33)	3 (50)
Susceptibility				
False Resistance (23)	7 (30)	5 (22)	-	11 (48)
False Susceptible (12)	3 (25)	-	3 (25)	6 (50)
No AST Result (12)	8 (67)	-	-	4 (33)
Total (69)	**28 (41)**	**5 (7)**	**5 (7)**	**31 (45)**

Data presented as n (% of row).
*On-panel organisms only

Conclusion: Though the AXDX platform provides rapid ID and AST results, close coordination with Clinical Microbiology and continued ASP follow up are needed to optimize therapy. Although uncommon, the potential for erroneous ASP recommendations to de-escalate to inactive therapy following AXDX results warrants further investigation.

Disclosures: Amy J. Mathers, MD, D(ABMM), Accelerate Diagnostics (Consultant)

91. Implementing Criteria to Reduce Blood Cultures Ordering: A Pre- and Post-Intervention Retrospective Study in a Critical Access Hospital

Rattanaporn Mahatanan, MD[1]; Gina Gomez, MD[2]; Bridget Olsen, MS[3]; Racheal Henderson, MS[4]; [1]Harvard T.H Chan school of public health, Skowhegan, ME; [2]Redington Fairview General Hospital, Skowhegan, Maine; [3]Tufts school of medicine, Portland, Maine; [4]Tufts School of Medicine, Portland, Maine

Session: P-4. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background: Blood culture utilization has been performed widely. Typically, clinicians order blood cultures in patients whom bacteremia is suspected. Our previous study showed that 35% of blood cultures performed in May 2019 could have been prevented since they did not meet the certain criteria. This study sought to examine the outcomes after education intervention by implementing criteria of blood culture ordering whether it could reduce unnecessary blood cultures.

Methods: Electronic medical records of adult patients who had blood cultures done during pre-and post-study period were reviewed. Demographic data, clinical presentation, vital signs, location, quantities and sites of blood cultures were obtained. The measurement of qSOFA, SIRS and severe sepsis criteria were collected on the presentation. There were some clinical prediction rules for blood stream infection described in the previous studies. For this study, we use the criteria of at least 2 SIRS and/or at least one of the qSOFA criteria or severe sepsis to be a minimum indication for ordering blood cultures. The follow-up study was done after 6 weeks of educational intervention with implementation of criteria. Chi-square was used to compare the differences between two groups.

Results: There were a total of 165 patients included in our study (112 in pre- and 53 in post-intervention group). There were a total of 18 patients with positive blood cultures (12/112;10.71% in pre-intervention gr. vs 6/53;11.32% in post-intervention gr., p=0.91). Six out of 18 (33%) were deemed to be contaminated (3/12;25% vs 3/6;50%, p=0.29). Gram positive cocci were the most common organisms of the true positive blood cultures (10/12;83%). Of 165 patients, 78 (47%) had at least one of qSOFA (47/112;41% vs 31/53;58%, p=0.05), 18 (11%) had met severe sepsis criteria (9/112;8% vs 9/53;17%, p=0.09). There were 47 (28%) patients who had less than 2 criteria of SIRS and did not meet either criteria of qSOFA or severe sepsis (39/112; 35% vs 8/53; 15%, chi 6.87, p< 0.01). There was no true bacteremia in this group of patients.

Conclusion: Our study found that implementation of criteria for blood cultures successfully reduces the unnecessary blood cultures orders approximately 20% without missing true bacteremia in suspected patients.

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

92. Utility of Sinus CT in the Evaluation of Patients with Febrile Neutropenia

Pooja Gurram, MBBS[1]; Natalia E. Castillo Almeida, MD[1]; Prakhar Vijayvargiya, MBBS[2]; Christopher Grimont, BS[2]; Zerelda Esquer Garrigos, MD[3]; Sarwat Khalil, MBBS[4]; Ruaa Al Ward, MD[2]; Maryam Mahmood, M.B., ChB[2]; M. Rizwan Sohail, MD[5]; [1]Mayo Clinic, Rochester, Rochester, MN; [2]Mayo Clinic, Rochester, MN; [3]Mayo Clinic College of Medicine, Rochester, Minnesota; [4]University of Minnesota, Minneapolis, Minnesota; [5]Infectious diseases, Rochester, Minnesota

Session: P-4. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background: The etiology of febrile neutropenia in patients with hematological malignancy is identified in only 20–30% of cases. Sinus computed tomography (CT) is often used, regardless of symptoms, to rule out rhinocerebral source of infection. There are no clear guidelines on when to perform sinus CT in this population. In this study, we evaluated the role of sinus CT in febrile neutropenic patients.

Methods: We retrospectively reviewed medical records of all adults (age ≥18 years) with febrile neutropenia (T≥ 38.3°C, ANC < 0.5 x 10^9/L) and hematological malignancies who underwent sinus CT from January 2014 to May 2020. We present the preliminary analysis of the impact of sinus CT findings on the management of febrile neutropenia.

Results: 47 patients with a total of 56 episodes of febrile neutropenia met the inclusion criteria. The median age at presentation was 57 years (IQR: 42 - 68 years). The most common underlying malignancy was acute myeloid leukemia (51%), followed by myelodysplastic syndrome (19%). At presentation, 47% had refractory disease, 21% were newly diagnosed, 15% had relapsed, 15% were in complete remission, and 2% were in partial remission. Of the total 56 episodes, 29 (52%) had symptoms of rhinorrhea (20%), facial pain (14%), and sinus congestion (14%). The remaining 27 of 56 episodes (48%) had no sinus symptoms. Sinus CT was abnormal in 48 of 56 episodes (86%); the most common finding was mucosal thickening (47/48; 98%), followed by air-fluid levels (7/48; 14.5%), partial opacification (6/48; 12.5%), complete opacification (2/48; 4%), and bony invasion (2/48; 4%). The source of febrile neutropenia was attributed to the CT sinus findings in 9 cases (9/48; 29%), leading to a change in therapeutic management. All 9 patients were symptomatic, with evidence of necrosis in 22% (2/9) and purulence in 22% (2/9) on nasal endoscopy.

Table 1

Comparison between febrile neutropenic episodes with abnormal CT findings (n=48) with and without a change in management.			
Variables	Change in management (n=9)	No change in management (n=39)	P value
Median Age: years (IQR)	50 (27 to 67)	59 (45 to 68)	0.25
Disease status, Complete remission: n (%)	1 (11%)	5 (13%)	1.00
No symptoms related to sinuses: n (%)	0	21 (53%)	0.003
Mucosal thickening: n (%)	8 (88%)	39 (100%)	0.18
Air fluid levels: n (%)	5 (55%)	2(5%)	0.0013
Partial opacification: n (%)	3 (33%)	3 (7%)	0.07
Complete opacification: n (%)	2 (22%)	0	0.03
Bone invasion: n (%)	2 (22%)	0	0.03

Conclusion: Mucosal thickening is a frequent and non-specific imaging finding, particularly in patients without sinus symptoms. Sinus CT findings in patients with febrile neutropenia without sinus symptoms had no impact on clinical management. Consequently, sinus CT may be reserved for patients presenting with sinus symptoms.

Disclosures: **M. Rizwan Sohail, MD**, **Aziyo Biologics** (Consultant)**Medtronic Inc** (Consultant, Research Grant or Support)

93. A Diagnostic Stewardship Intervention to Improve Utilization of 1,3-β-D-glucan Testing

Jonathan A. Kendall, MD[1]; Jordan Colson, MD[1]; Lyla Saeed, MD[1]; Masako Mizusawa, MD, PhD[1]; Takeru Yamamoto, MD[1]; [1]UMKC School of Medicine, Kansas City, Missouri

Session: P-4. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background: 1,3-β-D-glucan (BDG) is a cell wall component of fungi such as *Aspergillus* spp., *Candida* spp., and *Pneumocystis jirovecii*. BDG assay is used as a screening test to aid early diagnosis of invasive fungal infections (IFI) that are associated with significant morbidity and mortality in immunocompromised patients. The diagnostic performance varies depending on IFI risks among study populations, thus it is important to appropriately select patients with risk factors for IFI to optimize utilization of the BDG test.

Figure 1.

Figure 1. Monthly Numbers of 1,3-β-D-Glucan Tests Performed in the Pre-intervention Period and 1,3-β-D-Glucan Test Requests in the Post-intervention Period

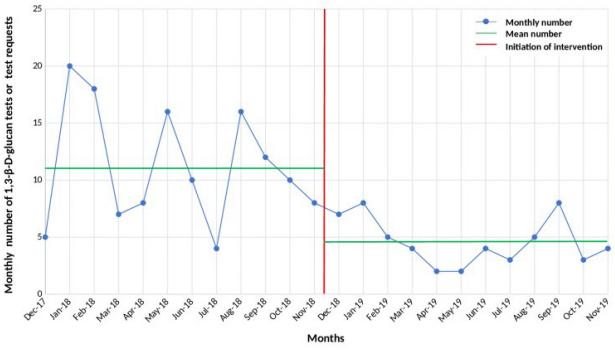
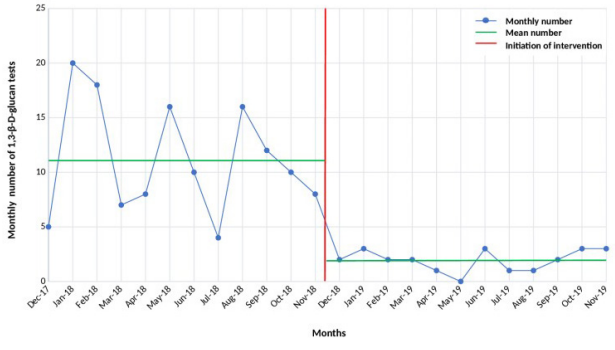


Figure 2.

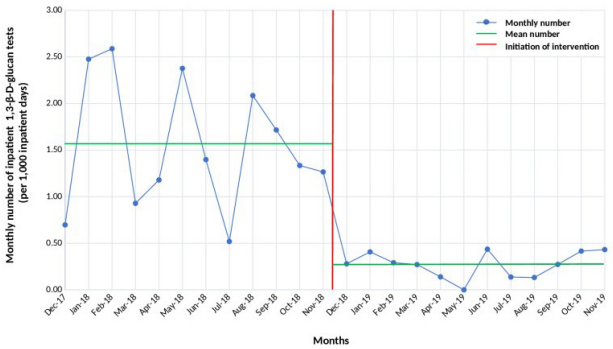
Figure 2. Monthly Numbers of 1,3-β-D-Glucan Test Performed in the Pre-intervention Period and Approved 1,3-β-D-Glucan Tests in the Post-intervention Period



Methods: An intervention to improve BDG test utilization was initiated at Truman Medical Center on November 28, 2018. The BDG test order was replaced by a BDG test request. The request was sent to the inbox of an on-call pathology team. Patient information was reviewed and the on-call pathology team called the ordering physician to discuss the case based on the approval algorithm chart. The criteria for BDG test approval were 1) immunocompromised or ICU patient, and 2) on empiric antifungal therapy, or inability to perform specific diagnostic tests such as bronchoscopy. If approved, a BDG test order was immediately processed. Retrospective chart review was conducted for 1 year pre- and post- intervention to obtain demographic, clinical, and laboratory data for 4 patient groups. Group 1 included patients who had BDG tests during pre-intervention period. Group 2 was composed of all patients who had BDG test requests during post-intervention period. Group 2a and 2b were the post-intervention patients with approved and rejected BDG test requests, respectively.

Figure 3.

Figure 3. Monthly Numbers of Inpatient 1,3-β-D-Glucan Tests Performed in the Pre-intervention Period and Approved Inpatient 1,3-β-D-Glucan Tests in the Post-intervention Period (per 1,000 inpatient days)



Results: The number of BDG tests performed per year decreased from 156 pre-intervention to 24 post-intervention. The number of test requests was 65 and 41 of them were rejected which led to $7,380 direct cost savings. There was no significant difference in age or the proportion of immunocompromised and ICU patients between Group 1 and 2. The test positivity rate was significantly higher in Group 2-a compared to Group 1 (45.8 % vs. 25.3%, p=0.038). There was no delay in IFI diagnosis or IFI-related mortality in patients for whom BDG test requests were rejected.

Conclusion: We successfully and safely implemented a diagnostic stewardship intervention for BDG testing and improved test utilization.

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

94. Appropriate Urine Legionella Antigen Testing: A Step Towards Diagnostic Stewardship.

Faran Ahmad, MBBS[1]; Moeed Ahmed, MBBS[2]; Manasa Velagapudi, MBBS[2]; Marvin J. Bittner, MD[3]; [1]Creighton University Medical Center., Webster, NY; [2]CHI Health - Creighton University Medical Center - Bergan Mercy, Omaha, Nebraska; [3]Creighton University School of Medicine and VA Nebraska-Western Iowa Health Care System, Omaha, Nebraska

Session: P-4. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background: Pneumonia is a leading cause of sepsis and hospitalization. Infectious Diseases Society of America and American Thoracic Society (IDSA/ATS) published 2019 practice guidelines for community-acquired pneumonia (CAP), recommending urinary antigen testing (UAT) for *Legionella pneumophila* (LP) only in patients with severe pneumonia or having epidemiological risk factors. In the last 20 years, there has been no Legionella outbreak in Nebraska. Currently, the urine antigen test is considered based on the discretion of the ordering provider. However, this usually results in over-utilization of the test and associated financial burden.

Methods: Retrospective chart review of patients admitted to Bergan Mercy Medical Center, Creighton University, Omaha with the admission diagnosis of community-acquired pneumonia in the year 2019, by using electronic medical records. The charts were reviewed for baseline characteristics, admission diagnoses, and clinical outcomes. The project was submitted to and reviewed by the institutional review board.

Results: From January to December 2019, 4738 patients were admitted to the general medical floors with the diagnosis of community-acquired pneumonia. Among those patients, 826 patients (17.43%) had urine Legionella antigen tests done, only 11 (0.23%) were tested positive. Moreover, 140 patients (2.95%) had urine Legionella antigen tests in the absence of a documented diagnosis of community-acquired pneumonia. Patients admitted to intensive care units were not included in the study as guidelines do not restrict from ordering urine Legionella tests in patients with severe sepsis secondary to community-acquired pneumonia.

Conclusion: A diagnostic stewardship approach should be considered for urine Legionella antigen testing. Moreover, such a retrospective review provides an opportunity for quality improvement initiatives at the academic medical facilities with lower *Legionella* outbreaks.

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