864 (12%) urine cultures were repeats. Of the 864 index cultures, 75% were negative. The median time to repeat urine culture was 4 days. When negative index cultures were repeated at 0-3 days, the diagnostic yield for detecting a new bacteriuria was only 9%. Diagnostic yield at 3-6 days was 10%, not significantly higher compared to 0-3 days (p=0.620). Diagnostic yield at 6-9 days was 19%; this increase was significant compared to the 0-3 days group (p=0.014). When positive index cultures were repeated at 0-3 days, the diagnostic yield for detecting a new bacteriuria was only 8%. Diagnostic yield at 3-6 days was also 8%. Yield increased significantly to 15% at 6-9 days from index culture (p=0.013). When the threshold for significant bacteriuria was adjusted to 10,000 CFU/mL, more bacteriuria was detected overall, but primarily of gram-positive organisms. Whether the threshold for significant bacteriuria was 100,000 CFU/mL or 10,000 CFU/mL, the rate of detection of new gram-negative bacteriuria was similar, and remained less than 10% until 6-9 days from index culture (Figure 1). **Conclusions:** Among inpatients, most urine cultures repeated at less than 6 days provide redundant information. This unnecessary retesting offers an opportunity for diagnostic stewardship.

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**Blood Culture Utilization: How Many Follow-Up Cultures Are Needed?**
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**Background:** Follow-up blood cultures (BCx) are ordered after an initial positive culture in many instances. The number of follow-up cultures needed is not clear. Obtaining unnecessary BCx may cause unintended consequences. The optimal balance between stewardship and patient safety warrants investigation. We sought to assess the frequency with which a third set is positive after a negative second BCx. **Methods:** We conducted a retrospective study of BCx submitted to the microbiology laboratory from 1/1/18-11/1/23. We included all patients ≥18 years who had at least two follow-up BCx drawn 24-72 hours after an initial positive culture. Data were collected from electronic medical records. Cultures obtained within two hours of each other were counted as one set. Different strains of an organism were considered to be different organisms. Patients were divided into four groups based on BCx positivity, with a focus on the cohort with a positive culture after a negative follow-up set. **Results:** 28,875 patients had an initial positive BCx, of which 2,636 had at least two follow-up cultures drawn in the selected timeframe. Within this group, 585 (22.2%) had two positive follow-up sets, 1500 (56.9%) had two negative, 431 (16.4%) had a positive followed by a negative, and 120 (4.6%) had a negative followed by a positive. Of this cohort, 71 (2.7%) grew the same organism in the initial and second follow-up cultures, while 49 (1.9%) did not. In the same-organism subset, the most commonly identified bacteria were coagulase-negative staphylococci (n=21; 0.8%), gram-negative bacteria (n=17; 0.6%), methicillin-sensitive Staphylococcus aureus (n=13; 0.5%), and methicillin-resistant S. aureus (n=7; 0.3%). The most frequently isolated organisms in this subset were S. aureus (n=20; 0.8%), Staphylococcus epidermidis (n=16; 0.6%), and Escherichia coli (n=11; 0.4%). In the different-organism subgroup, 35 (1.3%) of the second follow-up sets had suspected contamination, though true bacteremia from skin/soft tissue (n=4; 0.2%), central line (n=4; 0.2%), unknown (n=3; 0.1%), and other sources was observed, often due to S. aureus (n=4; 0.2%), E. coli (n=2; 0.1%), and Candida (n=2; 0.1%). **Conclusion:** The number of patients with ongoing bacteremia that would have been missed with one follow-up BCx was small. The skip phenomenon has been described with S. aureus but was seen with gram-negatives as well. The second follow-up cultures were sometimes positive for contaminants. Further data are needed to determine when two follow-up sets should be obtained rather than one.

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**Evaluating appropriateness and clinical impact of a GI PCR panel: A Retrospective Study**
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**Background:** Acute gastroenteritis and diarrheal illnesses have a significant burden on the United States healthcare system, with over 500,000 estimated hospitalizations annually. Testing for these conditions is often ordered inappropriately at significant cost to the healthcare system. This study aimed to determine the appropriateness of ordering of gastrointestinal PCR panel (GIP) testing in our hospital system to guide improvements in ordering practices. It also aimed to evaluate the impact of a GIP in our system. **Method:** This was a retrospective chart review with the objective of quality improvement. The appropriate measures for ordering a GIP test included documentation of diarrhea in addition to fever, blood in stool, signs of sepsis or immunocompromise and without history of laxative use in preceding 48 hours. The result of a positive versus negative GIP test was measured in terms of its effect on isolation time and appropriate de-escalation of antibiotics. **Result:** Of the 402 records which were reviewed, 204 (50.7%) were deemed to have had an appropriately ordered test per our criteria. However, of these patients, 21 were noted to have either been on tube feeds or had received bowel regimen medications within the past 48 hours. When these patients were excluded, this left 183 (45.5%) patients with an appropriately ordered GIP test. Of note, 16 of these patients had a positive concomitant C. difficile test. Of the 93 (23.1%) positive tests, only 36 positive results were from appropriately ordered tests of which 9 tests impacted clinical management. Of the 57 remaining tests, 11 impacted clinical management. A negative test led to discontinuation of isolation precautions in 159 (76.1%) patients who had isolation placed for diarrheal illness prior to testing. Negative tests also led to discontinuation of antibiotics in 51 (39.5%) patients. There was no difference between these groups regardless of whether the test was ordered appropriately or not. **Conclusion:** The GIP test to detect a variety of gastrointestinal pathogens is not being ordered appropriately in our health system over half the time. It bears further investigation as to whether the monetary cost to patients and the health system of this test is offset by the apparent antibiotic stewardship and cost benefits in discontinuing isolation precautions and antibiotics. Interestingly, testing appeared to have utility regardless of appropriateness. Based on this finding, an updated set of guidelines to educate physicians in the appropriate ordering and interpretation of this test is required.

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**Community-acquired pneumonia work-up in areas where coccidioidomycosis is endemic: Undertested, underdiagnosed, and untreated**
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**Background:** The dimorphic fungus Coccidioides is endemic in the Southwestern USA and most commonly causes respiratory infection ("Valley Fever"). While the true community prevalence of this respiratory

infection is unknown, experts estimate that 30% of community-acquired pneumonia (CAP) cases in Southern Arizona are due to Coccidioides. We were interested in determining how often patients admitted for CAP are tested for coccidioidomycosis. **Methods:** We identified patients who were admitted to Banner University Medical Center – Phoenix with community-acquired pneumonia from 1/1/2019-6/30/2024 by the ICD-10 code J18.9. Among this patient population, we determined the percentage tested for coccidioidomycosis (via serological test) and the percentage that tested positive. Regarding management, we elicited whether an infectious diseases consultation occurred during the hospitalization and if treatment included the antifungal fluconazole versus ceftriaxone and Azithromycin. **Results:** We identified 9,677 patients admitted with an ICD-10 code J18.9 between 1/1/2019 and 06/30/2024. The mean age (SD) was 60.3 (17.2) years and 56.3% were males. 3,536 (36.5%) patients were tested for coccidioidomycosis, and 389/3,536 (11%) had a positive serology. 14.2% of CAP patients were seen by an ID specialist. Among those with coccidioidomycosis, 56.3% (n=219) were seen by an ID specialist. Only a small fraction (n=974, 10.1%) of all CAP patients received fluconazole. Among the 389 with Valley Fever, 52.2% received fluconazole, while almost 70% were given ceftriaxone and/or azithromycin at any point during the admission. Transfer to the ICU, length of stay and hospital mortality were not significantly different in those with detected coccidioidomycosis versus others. **Conclusions:** In this large observational study in an area endemic for coccidioidomycosis, only 36.5% of those admitted for community-acquired pneumonia were tested for coccidioidomycosis 11% of those who got tested were found to have Valley Fever. Positing a similar coccidioidomycosis prevalence in the remaining 63.5% of CAP patients who were not tested for it, one could extrapolate a total of 676 missed cases based on 11% positive serology rate. To determine the true prevalence of coccidioidomycosis in our region, broader testing should be implemented. Our data also indicate that antifungals are rarely offered for coccidioidal CAP, while unnecessary use of antibacterials for this endemic mycosis is a target for antimicrobial stewardship.

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**Is It Worth It? Assessing the Clinical Impact of the S. pneumoniae Urine Antigen Test**

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**Background:** It is challenging to identify a pathogen in most cases of community acquired pneumonia (CAP) as most available diagnostic tests either lack sensitivity or require an invasive specimen. S. pneumoniae urine antigen test (SPUAT), which detects the most common cause of bacterial CAP, has been used due to its higher sensitivity, non-invasive specimen collection, and more rapid turnaround time. However, the most recent IDSA/ATS guidelines only weakly recommend obtaining SPUAT as results have limited effects on clinical management given current CAP treatment guidelines. Our study aimed to determine whether use of the SPUAT resulted in meaningful changes in clinical management within the Emory Healthcare system. **Method:** We studied all patients within our 6-hospital healthcare system who had a SPUAT performed between 12/1/2023 and 11/30/2024 (n = 1258). Chart review for each positive SPUAT case was performed by two separate reviewers to identify change in management based on SPUAT, alternative diagnostic tests that identified S. pneumoniae, and time to positivity of alternative diagnostic tests. Disagreements were adjudicated by discussion between the two reviewers. Proportions and 95% confidence intervals were calculated using prop.test in R version 4.3.1. **Result:** There were a total of 66 positive SPUAT out of 1258 total tests resulted (5.3%, 95%CI 4.1% – 6.6%) over 12 months. In 18 of the 66 positive SPUAT cases, an alternative diagnostic test was also positive for S. pneumoniae. In these cases, blood cultures were the most common alternative positive test (14/18) while the second most common alternative test was the pneumonia pathogen panel (11/18). In the majority (13/18) of cases with positive alternative tests, the alternative test resulted prior to the SPUAT. The median time to result for the first alternative test was 9.5 hours sooner than the SPUAT (IQR -0.2 hours - 37.9 hours). In 15 cases, a positive SPUAT resulted in a change in antibiotic management (1.2%, 95%CI 0.7%-2.0%). In cases where there was a change in management, de-escalation of antibiotics was the most common change in management identified (Table). The number of tests required for one management change was 84 tests at an estimated cumulative cost of $2100. **Conclusion:** In our healthcare system, SPUAT had a low test-positivity rate and an even lower rate of management changes per test ordered at a high cumulative cost per management change.

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**Table: Characteristics of cases with positive S. pneumoniae urine antigen tests**

| Case Characteristics | # | % (95% CI) |
|---|---|---|
| **Positive tests** (n=1258) | 66 | 5.3 (4.1-6.6) |
| **Management change** (n = 1258) | 15 | 1.2 (0.7-2.0) |
| **Type of management change** (n=15) | | |
| De-escalate/Keep antibiotics off | 7 | 46.6 (22.3 – 72.6) |
| Change antibiotics | 4 | 26.7 (8.9 – 55.2) |
| Escalate/Start antibiotics | 4 | 26.7 (8.9 – 55.2) |
| **Alternative positive test** (n = 66) | 18 | 27.3 (17.4 – 39.8) |
| **Time advantage of alternative test** (median, IQR, n=18) | | 9.51 h (-0.23h – 41.45 h) |
| **Alternative tests** (n=18) | | |
| Blood culture | 14 | 77.8 (51.9 – 92.6) |
| Respiratory culture | 3 | 16.7 (4.4 – 42.3) |
| Pneumonia pathogen panel | 11 | 61.1 (36.1 – 81.7) |
| CSF culture | 1 | 5.6 (0.3 – 29.4) |

**Presentation Type:**
Poster Presentation
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**The Power of Suggestion: Irrelevant Test Options in Order Panels, an Interrupted Time Series with Cost Analysis**

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**Introduction:** Grouping of medical tests in an order panel or set may facilitate standardized care but could have the unintended consequence of increasing unnecessary testing. At our institution, one such panel includes studies performed on stool for the purposes of diagnosing infectious diarrhea (Figure 1). We removed stool enterovirus polymerase chain reaction (PCR) from this order panel given limited data supporting its use in the diagnosis of the etiology of diarrhea. **Objectives:** We aimed to evaluate the impact of removing the stool enterovirus PCR from this panel and whether there were associated decreased costs from this intervention. **Methods:** We conducted an interrupted time series to estimate the initial impact of implementing this order panel, followed by the later removal of the enterovirus order from the panel, using gastrointestinal (GI) bacterial PCR orders as a control. Additionally, we conducted a cost-savings analysis by multiplying the cost per test by the decrease in tests/month after removing the order from this panel averaged over a year. **Results:** After the panel's creation, there was an immediate significant increase in enterovirus stool PCR ordering from a predicted mean of 28 tests/month to 43 tests/month (difference of 15 tests/month, $p < 0.0001$) (Figure 2, blue). Similarly, the bacterial stool PCR ordering increased from a predicted mean of 98 tests/month to 136 tests/month (increased by 37 in the month following panel creation, $p < 0.0001$). Conversely, after the removal of