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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Poster Presentation
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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
**Subject Category:** Diagnostic Stewardship
**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

enterovirus PCR from the panel, there was an immediate significant decrease in testing from a predicted mean of 60 tests/month to 17 tests/month (decreased by 43 tests/month, p < 0 .0001), without a significant change in bacterial stool PCR ordering (16 test/month decrease, p=0.10) (Figure 2, red). We estimate that this simple intervention will save an average of $8,500 annually in direct costs each year. **Discussion:** Enterovirus PCR ordering significantly increased after the introduction of an order panel bundling stool studies targeted at diagnosing diarrhea. When this order was removed from the panel, there was a significant decrease in ordering without a change in infectious stool testing overall, as evidenced by no significant change in GI bacterial panel ordering. We hypothesize that clinicians utilize this panel to craft a differential for acute-onset diarrhea. Therefore, when the stool enterovirus PCR option was removed from this panel, it is possible that it was no longer considered on the differential. Reviewing such order panels may be helpful in reducing unnecessary testing and costs to healthcare systems.

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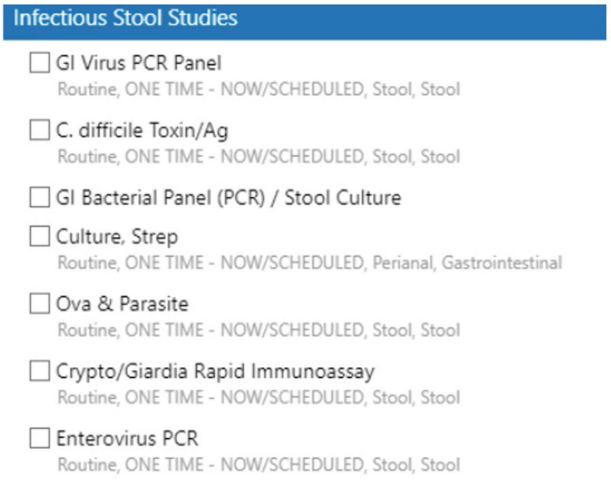


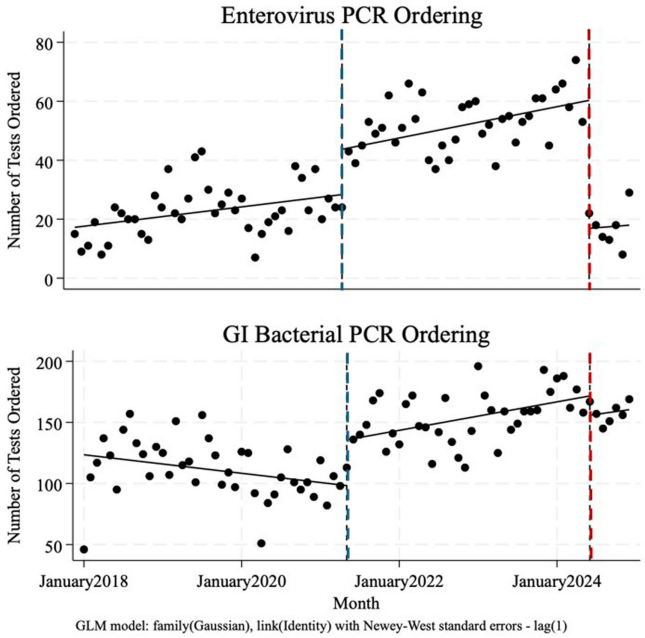


**Presentation Type:**
Poster Presentation
**Subject Category:** Diagnostic Stewardship

**After an initial positive blood culture, when are repeat blood cultures necessary in the Neonatal Intensive Care Unit (NNICU)?**

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**Background:** Data in adults and older children demonstrate repeat blood cultures (BlCx) are not always necessary. Indications for repeat BlCx include Staphylococcus aureus or yeast in the initial blood culture, or the presence of a central venous catheter (CVC). Blood collection in premature babies can be challenging and there are little data regarding when repeat BlCxs are necessary after an initial positive. The goal of this study is to determine risk factors for persistent bloodstream infection (BSI) to determine when unnecessary blood cultures can be avoided. **Methods:** The Yale New Haven Children's Hospital NNICU is a 68-bed level 4 unit. Babies in the NNICU with a positive blood culture from 8/1/16 to 12/31/21 were included. Persistent BSI was defined as a repeat positive BlCx with the same organism >48 hrs. after the original culture. A BlCx > 7 days after the original BlCx was considered a new event. Babies who died within 48 hrs. of the initial culture were excluded. In preliminary analysis we did not distinguish between true BSI and contamination. Data were extracted from the medical record by the Yale Data Analytics Team and by manual chart review. Data were stored in excel for descriptive statistics. Additional statistical analysis in SPSS is ongoing to account for multiple variables. **Results:** 142 babies had a positive BlCx with 122 babies alive at 48 hrs. and included in the study. These 124 babies had 139 positive BlCx growing 145 organisms. Persistent BSI occurred in 17.3% (24/139) of BlCxs. Factors associated with persistence in univariate analyses included the presence of a CVC and recovery of S. aureus. (Table 1) No babies with either streptococcal infection or early onset sepsis had persistent BSI. (Table 1) Additional variables under evaluation in a multiple regression model to determine the probability of persistent BSI include other sources of infection, white blood cell count at the time of BlCx, congenital heart disease, immunosuppressive agents such as steroids and whether empiric antibiotic therapy was appropriate. We will also define probable contaminants and repeat the analyses with and without these BSI episodes. **Conclusions:** Preliminary analysis shows that neonates have similar risk factors for persistent BSI as adults including the presence of a CVC and the recovery of S. aureus that require repeat BlCx to confirm clearance. For babies with streptococcal infection, repeat BlCx may not be routinely required. Current work is examining additional potential risk factors in multi-variable models.

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**Table 1. Variables associated with persistent BSI in neonates**

| Variable | Persistent BSI (n=24) | No persistent BSI (n= 115) | Univariate significance |
|---|---|---|---|
| Gender* | | | |
| *Male (n=61)* | 16/67 (23.9%) | 51/67 (76.1%) | p=.07, fishers exact |
| *Female (n=61)* | 8/72 (11.1%) | 64/72 (88.9%) | |
| Median Gestational Age | 26 weeks | 30 weeks | p=.058 Kruskal-Wallis |
| Presence of Central Venous Catheter | 20/24 (83.3%) | 48/115 (41.7%) | p=.0002, fishers exact |
| Early onset sepsis | 0/24 (0%) | 36/110 (32.7%) | p=.004, fishers exact |
| | | | |
| Most commom microorganisms recovered | | | p=.003, chi square |
| *Staphylococcus aureus* | 15/37 (40.5%) | 22/37 (59.5%) | |
| Enteric gram negative rods | 5/42 (11.9%) | 37/42 (88.1%) | |
| Enterococcus sp | 1/7 (14.3%) | 6/7 (85.7%) | |
| Coagulase negative staphylococcus | 2/29 (6.9%) | 27/29 (93.1%) | |
| Streptococcal sp | 0/18 (0%) | 18/18 (100%) | |

*61 males had 67 positive blood cultures, 61 females had 72 positive blood cultures