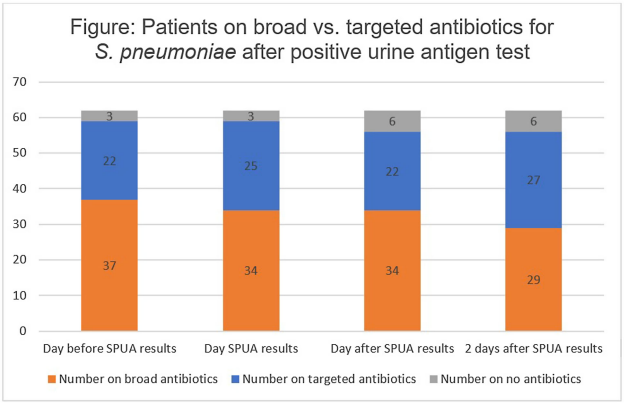

Abbreviations: SPUA (Streptococcus pneumoniae urine antigen test)

(PMID:23111919, PMID: 28053969). The SPUA test cost approximately $44,022 (based on $29 test price) but has limited utility in a real-world setting.

Disclosure: Krutika Hornback: Speaker's Bureau - Cepheid Diagnostics

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s77–s78

doi:10.1017/ash.2024.209

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

Utilization of multiplex molecular panels for urinary tract infections, Medicare claims, 2016 – 2022

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Background: Multiplex molecular tests for infectious diseases can provide highly sensitive results rapidly; however, these tests may more readily detect asymptomatic colonization. There are reports of non-FDA approved laboratory-developed multiplex tests for the diagnosis of urinary tract infections (UTI). Differentiating UTI from asymptomatic bacteriuria is challenging, especially in older adults. The increased sensitivity of multiplex tests may exacerbate this challenge. We sought to describe the use of multiplex testing for UTIs in Medicare claims. **Methods:** Multiplex testing was identified using carrier claims submitted by non-institutional providers using the Chronic Conditions Warehouse for 2016 – 2022. Because there are no CPT-4 codes specifying UTI multiplex testing, we included claims as described in Figure 1 and categorized claims based on the primary ICD-10-CM diagnosis. The payment amounts for line items related to testing for infectious agents were summed. Laboratories were counted using CLIA numbers listed on corresponding claims. Beneficiaries residing in a nursing home at the time of their claim were identified using stay information derived from the Minimum Dataset 3.0. For comparison, similar characteristics among carrier claims with a CPT-4 code indicating urine culture were also described. **Results:** Claims for unspecified multiplex molecular tests overall have increased, driven by increases in claims with a primary UTI diagnosis (from 8,521 in 2016 to 386,943 in 2022), while urine cultures have not (Figure 1). In 2022, 65% of all unspecified multiplex tests were linked to a diagnosis of UTI; UTI multiplex claims were associated with 647 laboratories. For UTI claims, the median cost per claim for line items related to multiplex testing was $589 compared to $13 for urine culture-related line items. Overall, 8% of UTI multiplex claims were for beneficiaries residing in a nursing home. **Conclusions:** Claims for non-FDA approved unspecified multiplex tests associated with a primary diagnosis of UTI have increased >45-times between 2016-2021 and have >45-times higher median costs than urine cultures. The use of this testing in the Medicare population, including nursing home residents, is of potential concern given that inappropriate treatment of asymptomatic bacteriuria has been described to be common in older adults. Research is needed to outline use cases where UTI multiplex testing may be beneficial. Appropriate use of diagnostic testing is important to minimize diagnostic errors and avoid unnecessary antibiotic use.

Figure 1. Overview of method to identify Medicare carrier claims for unspecified multiplex tests.

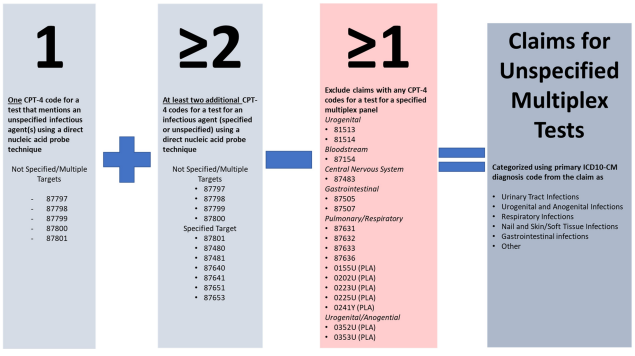
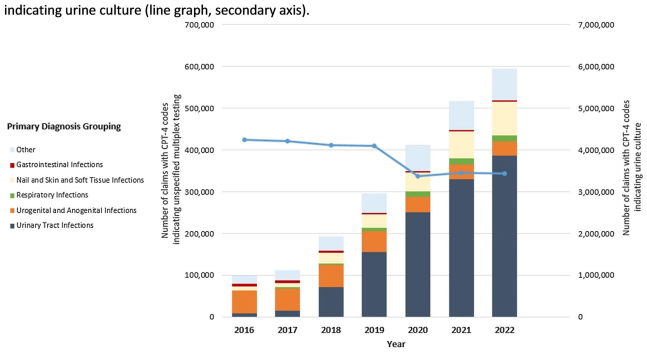


Figure 2. Annual number of carrier claims with CPT-4 codes indicating unspecified multiplex tests (bar graph) stratified by primary infection diagnosis and annual number of carrier claims with CPT-4 codes indicating urine culture (line graph, secondary axis).



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

High Prevalence of Laxative Use Among Those Tested for Clostridioides difficile Infection in VA Hospitals

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Background: Clostridioides difficile infection (CDI) is associated with 500,000 infections and 30,000 deaths per year. Inappropriate testing and treatment of patients with asymptomatic colonization occurs frequently (between 15% and 41%). The VA CDI guidelines emphasize avoidance of CDI testing in patients with laxative use within the previous 48 hours due to the high likelihood of non-infectious diarrhea. The objective of this

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s78

doi:10.1017/ash.2024.210