

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 also readily detect asymptomatic colonization. There are reports of non-FDA approved laboratory-developed multiplex tests for the diagnosis of urinary tract infections (UTI) including among nursing home residents.

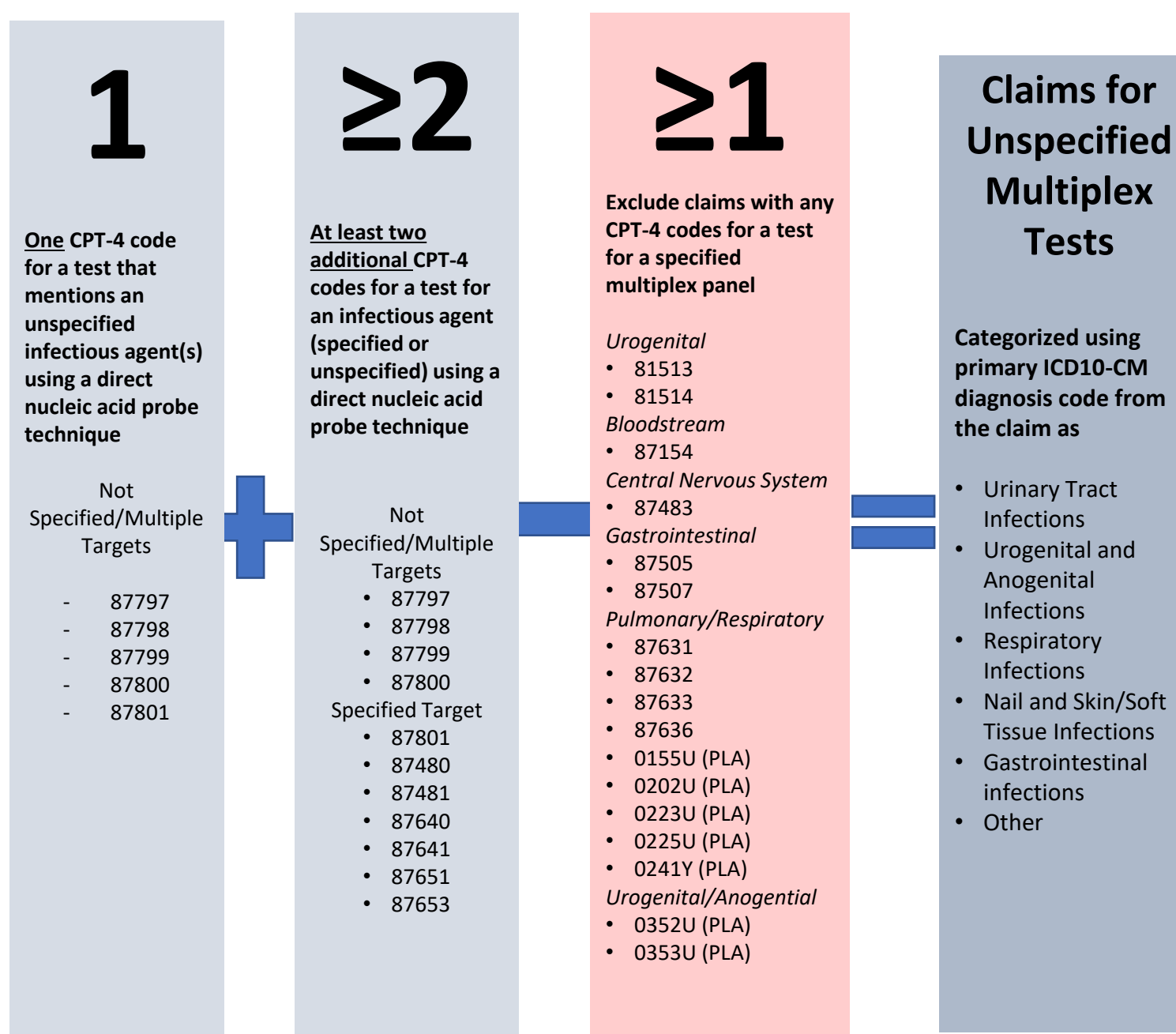
Concern: Differentiating UTI from asymptomatic bacteriuria is challenging, especially in older adults. The increased sensitivity of multiplex tests may exacerbate this challenge.

Objective: 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 (Figure)

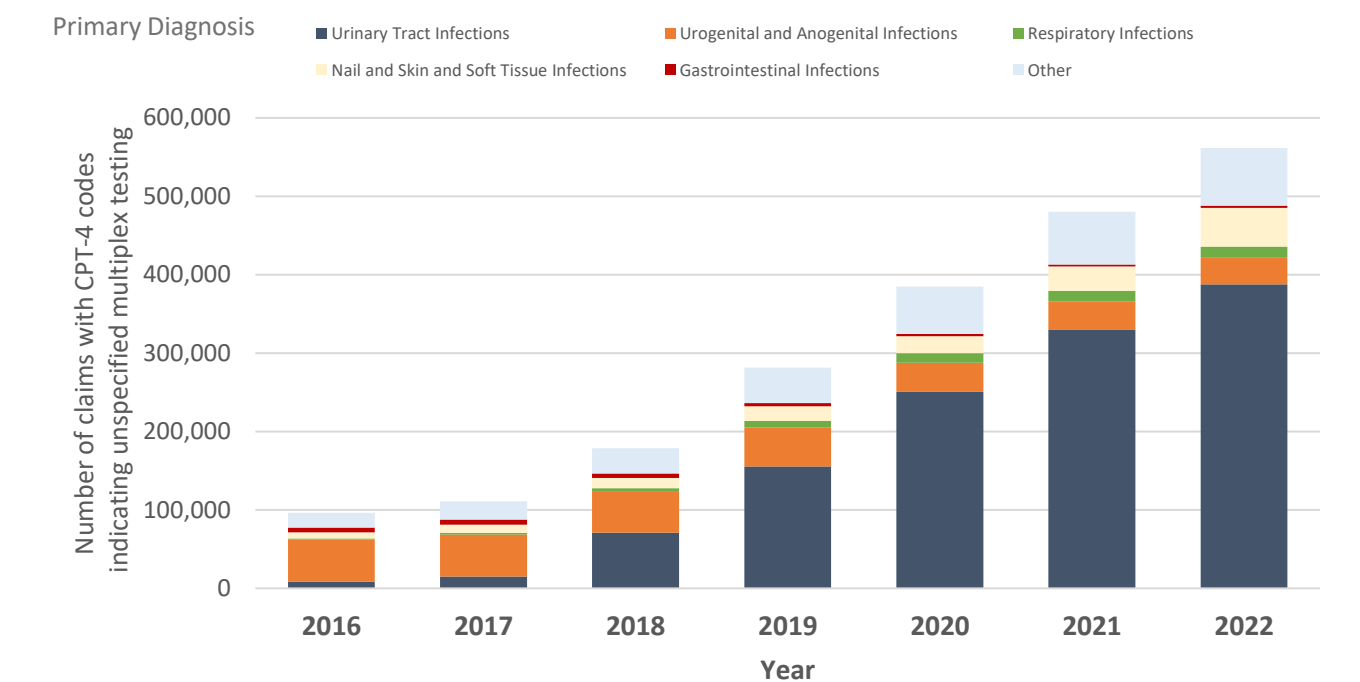
Conclusions: The use of this testing in the Medicare population is of potential concern given inappropriate treatment of asymptomatic bacteriuria is common in older adults. Future research may include understanding how UTI multiplex testing influences antibiotic prescribing. Clear communication regarding appropriate diagnostic stewardship of UTI multiplex tests may improve patient care.

Figure 1: Unspecified Multiplex Tests are identified in Medicare Carrier Claims that include:



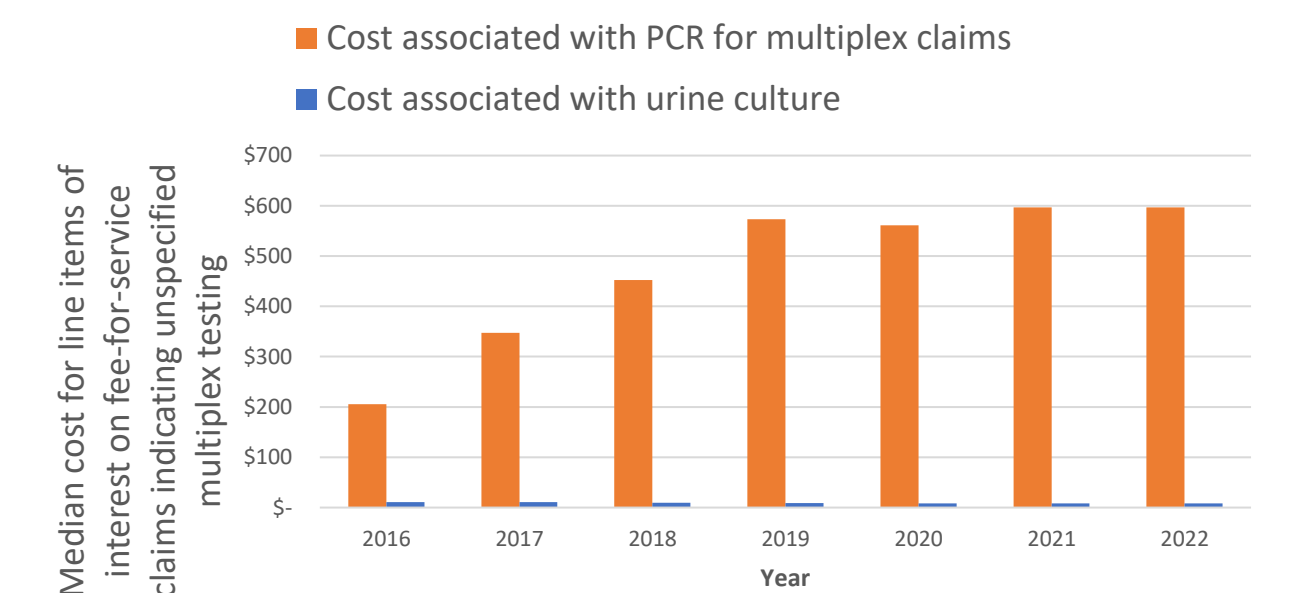
Claims for non-FDA approved multiplex tests associated with urinary tract infections have increased nearly 45 times from 2016–2022

Number of fee-for-service Medicare claims indicative of unspecified multiplex testing by year, 2016–2022



Marked increases in claims for unspecified multiplex testing is driven by claims with a primary diagnosis indicative of a urinary tract infection.

Median costs per claim for line items on carrier claims with CPT-4 codes indicating unspecified multiplex tests with primary diagnosis of UTI were **over \$500** per claim in recent years and substantially more than line items associated with urine culture



Laboratories

In 2022, **647** distinct laboratories submitted claims indicative of multiplex testing for UTIs

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