

ORIGINAL RESEARCH

Antibiotic Stewardship Starts with Accurate Diagnosis: A Call for Enhanced Testing Strategies in Outpatient UTI Management

Fabrizia Faustinella, MD, PhD¹, Crystal Ugarte, MSN, APRN²

¹ Department of Family and Community Medicine, Baylor College of Medicine, ² Department of Family and community Medicine, Baylor College of Medicine

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This study examines antibiotic prescribing practices for suspected lower urinary tract infections (UTIs) in an outpatient setting. Although urine sample contamination is frequently cited as a significant contributor to antibiotic overprescription and undoubtedly plays a role, our findings indicate that the principal drivers of antibiotic overuse occur earlier in the clinical process, prior to the availability of urine culture results

Urinary tract infections are among the most common indications for antibiotic prescriptions, contributing significantly to healthcare costs and the growing challenge of antimicrobial resistance.

We conducted a retrospective review of antibiotic prescribing practices in 50 patients, 43 females (ages 21–64) and seven males (ages 38–79), presenting with symptoms suggestive of uncomplicated lower UTI over a two-week period in our walk-in clinic where patients can be seen without an appointment. Patients with suspected sexually transmitted infections were excluded. All patients underwent point-of-care (POC) urinalysis and had urine cultures sent to the laboratory.

Of the 50 patients, 30 had positive urine cultures (27 females, 3 males), while 20 had negative cultures (16 females, 4 males). Antibiotics were prescribed at the initial visit for 86% of female patients (37/43) and 85% of male patients (6/7). Importantly, 14 patients (11 females, 3 males) who received antibiotics had negative cultures, indicating that 32% of those treated were prescribed antibiotics unnecessarily.

These findings align with existing literature indicating that up to 87% of patients receive antibiotics before culture results are available. This pattern clearly suggests that over prescription begins at the first clinical encounter, driven not by contaminated cultures but by diagnostic uncertainty, and a tendency to “err on the side of caution.” Contributing factors include limitations in POC test accuracy, delayed culture results (2–3 days), symptom presentation, patient history, and expectations.

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Urinary tract infections are among the most common indications for antibiotic prescriptions, contributing significantly to healthcare costs and the growing challenge of antimicrobial resistance. Annual estimates of the total number of outpatient visits and emergency department visits for UTIs in the United States vary slightly across different studies and data sources, but they consistently indicate a substantial burden: 7–10 million outpatient visits and 1–3 million emergency department visits annually, with a total treatment cost approaching \$1.6 billion.

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Only one female patient with a positive culture did not receive antibiotics at the initial visit. Six patients (5 females, 1 male) with negative cultures were appropriately not treated with antibiotics.

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To reduce unnecessary antibiotic use and combat antimicrobial resistance, strategies should focus on improving POC diagnostic tools, expediting culture turnaround times, reinforcing evidence-based prescribing,³ and managing patient expectations.

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SUPPLEMENTARY MATERIALS

Figure 1

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