

Diagnostic Stewardship Protects Patients:

Decreasing Overdiagnosis & Overtreatment of Urinary Tract Infections

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OBJECTIVE:

Improve patient safety by reducing overtreatment of asymptomatic bacteriuria through diagnostic stewardship.

BACKGROUND:

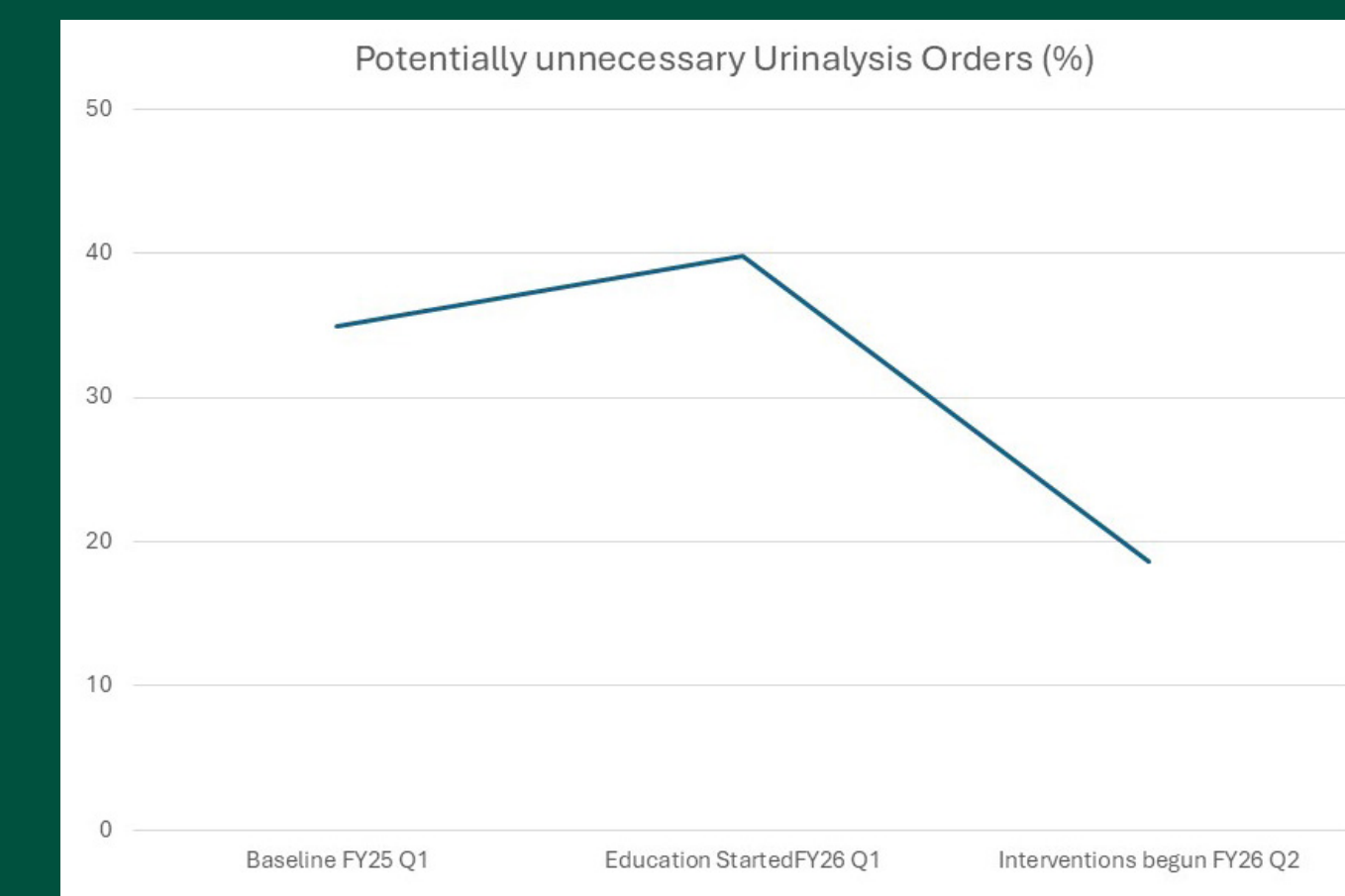
Asymptomatic bacteriuria (ASB) is common, particularly among older adults.

- Positive urinalysis alone does not indicate urinary tract infection.
- Inappropriate treatment contributes to adverse drug events, *Clostridioides difficile* infection, antimicrobial resistance, and unnecessary healthcare costs.
- National guidelines recommend not treating ASB unless specific clinical indications exist.

ACTIONS TAKEN:

- Formed multidisciplinary diagnostic stewardship workgroup
- Performed 18 months of Emergency Department chart audits
- Reviewed urine testing practices and antibiotic prescribing patterns
- Identified common opportunities for improvement
- Shared findings with Emergency Department Committee
- Educated providers on IDSA guidelines and symptom-based urine testing
- Developed recommendations to reduce unnecessary urinalysis and antibiotic treatment
- Continued collaboration with antimicrobial stewardship team

METRICS:



ANALYSIS:

Review of ED charts demonstrated that urinalysis was frequently obtained for patients presenting with non-genitourinary complaints, including headache, sprains, fractures, and other conditions without urinary symptoms. These findings suggested that urine testing was often driven by routine practice rather than symptom-based criteria, increasing the likelihood of diagnosing and treating asymptomatic bacteriuria unnecessarily. The audit findings supported the need for diagnostic stewardship interventions and provider education.

NEXT STEPS:

- Continue quarterly chart audits
- Ongoing provider education
- Implement symptom-based UA algorithm
 - Explore EHR clinical decision support
 - Monitor antibiotic prescribing trends
- Sustain diagnostic stewardship through ongoing multidisciplinary collaboration and antimicrobial stewardship oversight.

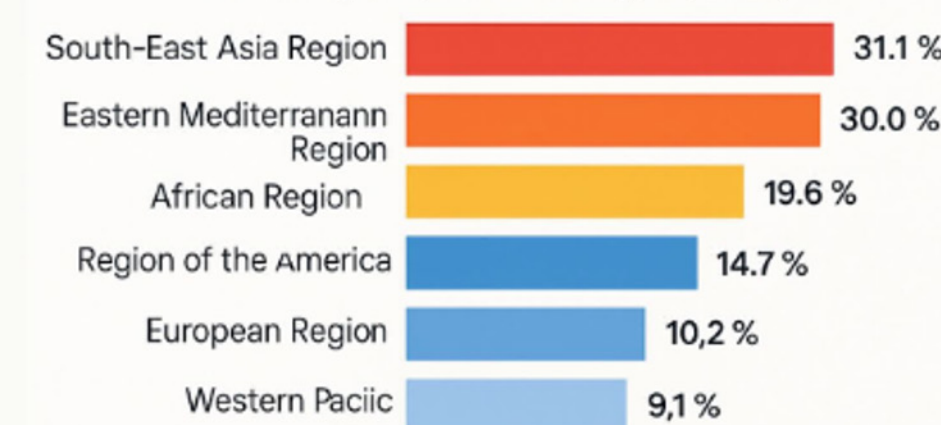
Global Antimicrobial Resistance

2025 WHO Global antibiotic resistance surveillance report

–1 in 6 infections globally are antibiotic-resistant.

Highest burden in urinary tract infections (–1 in 3) and bloodstream infections (–1 in 6).

Median proportion of resistant infections by WHO region (all infection types, 2023)



Key global signals (BSI data)

Pathogen / Resistance Type	Global %
<i>E. coli</i> (3GC-resistant, ESBL proxy)	44.8 %
<i>K. pneumoniae</i> (3GC-resistant, ESBL proxy)	55.2 %
<i>Acinetobacter</i> spp. (imipenem-resistant)	54.3 %



Deaths from antimicrobial resistant infections and other cause in 2050:

