

# An up-to-date snapshot of urinary AMR from Berkshire, UK

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## Summary

01

**Bridges a critical knowledge gap:** this study presents an up-to-date, local antibiogram informing on the current state of uropathogen AMR.

02

**Robust dataset:** Antibiogram is based on 181,408 antibiotic sensitivity tests performed on 20,785 positive urinary isolates.

03

**High-resistance rates** for commonly prescribed first-line antibiotics such as: amoxicillin (44.2%) and trimethoprim (24.4%).

04

**E. coli prevalence:** the commonest uropathogen isolated, accounting for ~55% of all positive urinary isolates.

05

**Actionable data:** a valuable resource for clinicians and researchers in optimising empirical antibiotic choices and for informing local infection control strategies.

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## Introduction

- Antimicrobial resistance (AMR) is a **growing global health crisis**.
- Urinary tract infections (UTIs) are a major burden:** >1 million hospital admissions in the UK (2018-2023).
- Scientific literature **lacks uropathogen-specific antibiograms**. This study presents the latest AMR data in uropathogens.

## Study Details

- Design: Retrospective analysis of positive **urine cultures** (hospital & community).
- Setting: **Berkshire, UK**
- Source data: **ICNet**
- Time Frame: January to December **2023**

## Methodology

## Analysis Approach

- Cumulative % susceptibility** rates calculated
- Only bacterial **species with ≥30 isolates** included.
- Duplicate samples** within 14 days from the same patient were **removed**.

## Results

Total positive urinary isolates:  
**20,785.**

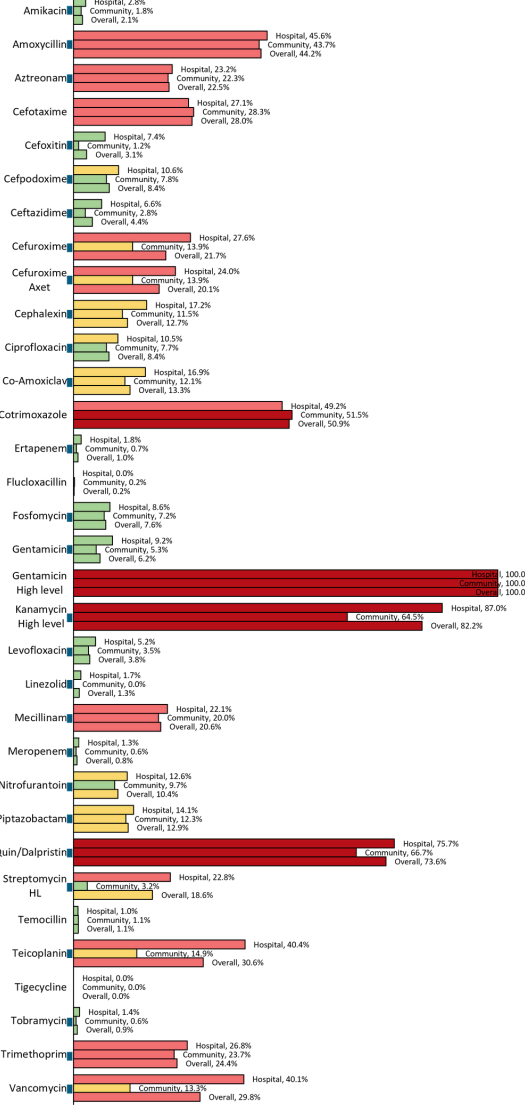
Total number of antibiotic sensitivity tests performed:  
**181,408**

Most prevalent pathogen:  
***Escherichia coli***  
(n=11,518)

High resistance to:  
**penicillins, diaminopyrimidines**

Low resistance to:  
**aminoglycosides, fluoroquinolones, β-lactamase-resistant penicillins and carbapenems.**

## Average Antibiotic Resistance Rates



Antibiogram (Hospital & Community) Jan 1, 2023 - Dec 31, 2023	<i>Escherichia coli</i>	<i>Enterococcus spp</i>	<i>Klebsiella spp</i>	<i>Proteus spp</i>	<i>Pseudomonas aeruginosa</i>	<i>Staphylococcus spp</i>	<i>Citrobacter spp</i>	<i>Enterobacter spp</i>
Total Isolates	11518	3754	1987	1227	787	614	604	294
Amikacin	2.3%		1.9%	3.1%			0.0%	0.0%
Amoxycillin	46.6%	4.2%	100.0%	25.7%		4.7%	98.3%	99.0%
Aztreonam	28.6%		18.0%	1.4%			2.0%	9.7%
Cefotaxime	34.6%		19.3%	2.7%			25.6%	22.7%
Cefoxitin	7.9%		20.5%	6.2%		0.2%		
Cefpodoxime	8.8%		6.9%	1.0%			6.3%	35.3%
Ceftazidime	15.2%		25.6%	1.5%	1.1%			
Cefuroxime	22.9%		30.8%	5.7%				
Cefuroxime Axet	22.3%		30.8%	7.7%				
Cephalexin	11.0%		16.6%	11.4%		0.2%	9.8%	92.5%
Ciprofloxacin	9.3%		7.8%	5.9%	6.6%	4.9%	1.3%	6.5%
Co-Amoxiclav	15.2%	2.3%	20.1%	5.4%		0.2%	10.1%	91.8%
Cotrimoxazole	59.4%		50.7%	60.3%			16.3%	9.4%
Ertapenem	0.5%		2.1%	0.3%			0.0%	4.0%
Flucloxacillin						0.2%		
Fosfomycin	6.7%		23.2%	15.7%				
Gentamicin	7.0%		2.7%	8.4%	7.2%	2.2%	1.8%	3.7%
Gentamicin High level		100.0%						
Kanamycin High level		82.2%						
Levofloxacin						3.8%		
Linezolid		1.3%						
Mecillinam	15.4%		21.0%	61.7%				
Meropenem	0.1%		0.5%	0.3%	3.7%		0.0%	0.0%
Nitrofurantoin	1.7%	1.3%	24.2%	100.0%		0.3%	4.6%	24.1%
Piptazobactam	14.7%		22.2%	1.2%	1.9%		23.5%	20.2%
Quin/Dalpristin		73.6%						
Streptomycin HL		18.6%						
Temocillin	1.2%		1.7%	0.3%			0.0%	0.4%
Teicoplanin		30.6%						
Tigecycline		0.0%						
Tobramycin					0.9%			
Trimethoprim	26.7%		21.0%	28.8%		7.3%	4.6%	16.0%
Vancomycin		29.8%						

Resistance rate colours: **Very High (≥50%); High (20% - 49.9%); Medium (10% - 19.9%); Low (<10%); Hospital resistance exceeds community by ≥0.1 percentage point**