

"Antimicrobial resistance of *Escherichia coli* causing uncomplicated urinary tract infections – a European update 2014 and comparison with 2000"G. Kahlmeter¹, E. Matuschek¹¹EUCAST Development Laboratory, Växjö, Sweden

Objectives: to update European antimicrobial resistance rates of *Escherichia coli* (*E. coli*) from women with acute uncomplicated UTI in France (FR), Germany (DE), Spain (ES), Sweden (SE) and United Kingdom (UK) to mecillinam (MEC), amoxicillin-clavulanic acid (AMC), cefadroxil (CFR), nitrofurantoin (NIT), ciprofloxacin (CIP) and trimethoprim (TMP) and to compare the results with resistance rates obtained through the ECO-SENS I survey in 2000¹.

Methods: The susceptibility of *E. coli* isolated from women with acute uncomplicated UTI in FR, DE, ES, SE and UK was determined to MEC, AMC, CFR, NIT, CIP and TMP by disc diffusion according to EUCAST breakpoints and methodology. Urine samples were obtained from women in primary healthcare with the exception of Germany, where the origin of the isolates could not be guaranteed beyond the fact that they were from women with UTI. Resistance in 2014 and 2000 were compared. Statistical comparison was by Fisher's Exact Test, 2-tailed, $p < 0.05$ indicating statistical significance.

Results: Percentage susceptibilities are given in Table 1. A comparison between 2014 and 2000 is given in table footnotes.

Conclusion: *E. coli* isolates, from women with acute uncomplicated UTI, showed a significant increase in antimicrobial resistance since 2000, particularly to AMC (FR, DE, ES and UK), ciprofloxacin (DE, ES, SE and UK) and TMP (DE, ES, SE and UK). However, resistance for mecillinam and nitrofurantoin has mostly remained at the same low level.

1. J Antimicrob Chemother 51 (2003), 69-76

Table 1. Percentage susceptibilities of *E. coli* isolated from women with acute uncomplicated UTI.

Country	No of isolates	MEC	AMC	CFR	NIT	CIP	TMP
France (FR)	166	97	94	97	100	95	82
Germany (DE)	133	97	92	88	98	80 [#]	63
Spain (ES)	169	93	80	92	100	69	63
Sweden (SE)	137	99	94	97	99	93 [#]	84 [#]
United Kingdom (UK)	124	95	86	95	94	85	54

[#]additional 1% intermediate susceptibility

Comparison with 2000:

FR: significant increase in resistance to AMC (1.5% to 6%; $p < 0.05$)

DE: significant increase in resistance to AMC (2% to 8%; $p < 0.05$), CFR (1% to 12%; $p < 0.001$), CIP (2% to 21%; $p < 0.0001$) and TMP (23% to 37%; $p < 0.05$). However, note that the origin of the isolates were not necessarily comparable between the two years.

ES: significant increase in resistance to MEC (1% to 7%; $p < 0.005$), AMC (4% to 20%; $p < 0.0001$), CFR (3% to 8%; $p < 0.05$), CIP (15% to 31%; $p < 0.0001$), and TMP (25% to 37%; $p < 0.05$) and decrease in resistance to NIT (4% to 0%; $p < 0.01$)

SE: significant increase in resistance to CIP (0% to 7%; $p < 0.001$) and TMP (9% to 17%; $p < 0.05$)

UK: significant increase in resistance to CIP (1% to 15%; $p < 0.0001$) and TMP (13% to 46%; $p < 0.0001$)