Enterobacteriaceae in the UK and Ireland 2011: Susceptibility to Old and New Agents

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BACKGROUND
Increasing concern about resistance in Gram-negative bacteria has prompted the development of new antibiotics and the revival of old. The BSAC Resistance Surveillance Project monitors non-susceptibility in the UK and Ireland.

METHODS
38 centres in the UK and Ireland supplied isolates from blood in 2011 and hospital-onset (≥48 hours) lower respiratory tract infection (LRTI, Oct 2010–Sept 2011). MICs were measured centrally using BSAC agar dilution methods and breakpoints.

Non-susceptibility to carbapenems was rare (0/796 E. coli, 74/474 Klebsiella, 0/320 Enterobacter, 2/202 Serratia and 1/262 Proteaeae) but VIM and OXA-48 carbapenemases were detected. These isolates were mostly multi-resistant with very high MICs for all tested β-lactams, ciprofloxacin and gentamicin.

Non-susceptibility was more common in hospital-onset LRTI than in bacteremia for E. coli; differences for Klebsiella and Enterobacter were less consistent.

Ceftolozane/tazobactam (CXA-201) did not overcome carbapenem resistance but had good activity against most ESBL-producers in all three genera.

CONCLUSIONS
• Ceftolozane/tazobactam overcame resistance in most ESBL-producers, regardless of genus.
• Colistin was generally active, but with a wide geographical scatter of non-susceptibility amongst Enterobacter.