BSAC Bacteraemia Resistance Surveillance Update 2005

Introduction & Methods
The BSAC Bacteraemia Resistance Surveillance Programme monitors resistance in pathogens from blood. Since 2001, a total of 30 centres have contributed over 13,000 isolates, with over 200,000 MIC results obtained by central testing with BSAC MIC methods.

Results - Enterobacteriaceae
The prevalence of ESBLs and ciprofloxacin resistance in E. coli and Klebsiella rose markedly from 2001 to 2004, but steadied in 2005, at 7 and 17% respectively in E. coli, and 13 and 16% in Klebsiella. CTX resistance was more common in Enterobacter (36%) in 2005, 23% of resistant isolates having both derepressed AmpC and ESBLs). IPM and DOR retained near-universal activity against Enterobacteriaceae, but 7/213 Enterobacter spp were ETP-resistant. 11% of 237 Enterobacter and 11% of 213 Klebsiella were non-susceptible to TGC in 2005. E. coli were susceptible to TGC in 2005, 23% of resistant isolates having both derepressed AmpC and ESBLs.

Results - Gram positive
36% of S. aureus in 2005 were MRSA, compared with 40 - 48% in 2001-04. There was a suggestion of upward creep of vancomycin MICs in S. aureus, roughly 2-fold from 2001 to 2005, without frank resistance. Telavancin, tigecycline and linezolid had near-universal anti-Gram-positive activity; ceftobiprole and daptomycin did so against staphylococci and streptococci.

Results - Pseudomonas
Non-susceptibility in P. aeruginosa was typically near 20% for CIP and 3 - 7% for other relevant agents.

Abbreviations AMP ampicillin, AMX amoxicillin, CAZ ceftazidime, CIP ciprofloxacin, CLI clindamycin, CTX cefotaxime, DOR doripenem, ERY erythromycin, ESBL extended-spectrum β-lactamase, GEN gentamicin, IPM imipenem, LZD linezolid, PEN penicillin, TEC teicoplanin, TGC tigecycline, TZP piperacillin-tazobactam, VAN vancomycin.

Conclusions
The recent up-trends in cephalosporin and quinolone resistance in Enterobacteriaceae are disturbing but the 2005 data show little worsening from 2004. Other species have not shown rising resistance.