

BSAC Bacteraemia Resistance Surveillance Update 2007

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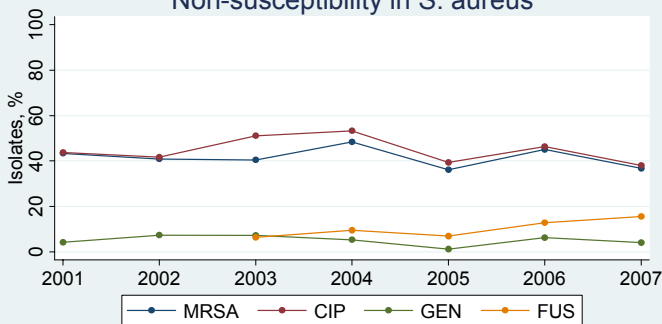
Background

The BSAC Bacteraemia Resistance Surveillance Programme monitors antimicrobial susceptibility in the major organisms causing bacteraemia in the UK and Ireland.

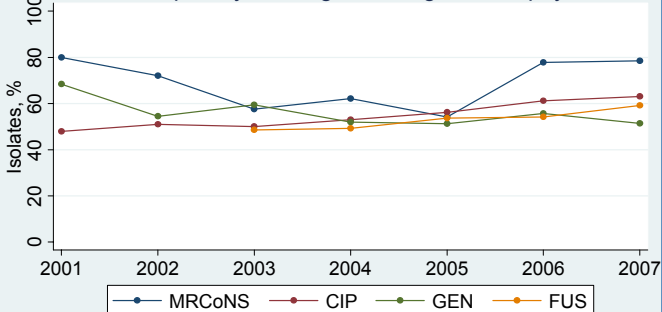
Methods

- 25 laboratories each submit up to 10 blood isolates from each of 12 organism groups, excluding duplicates.
- MICs are measured and interpreted by BSAC methods.
- Detail: www.bsacsurv.org or JAC, 2008, 62, suppl 2 ii15 - ii28

Non-susceptibility in *S. aureus*



Non-susceptibility in Coagulase-negative Staphylococci



37% of *S. aureus* in 2007 were MRSA, down from a previous 5-year average of 42%. The HPA LabBase system has reported a similar drop. Resistance to ciprofloxacin and gentamicin tracked MRSA, but resistance to fusidic acid has increased.

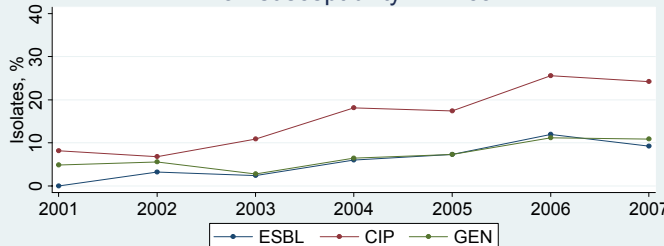
Methicillin-resistance showed no trend in CoNS, while resistance to ciprofloxacin and fusidic acid increased.

The first linezolid-resistant isolates in 7 years' surveillance were seen in 2007 - one MRSA (MIC 8 mg/L) and one MRCoNS (16 mg/L), from the same laboratory and with the same G2576T mutation in their 23S rRNA genes.

Non-susceptibility in streptococci and enterococci was little changed from previous years.

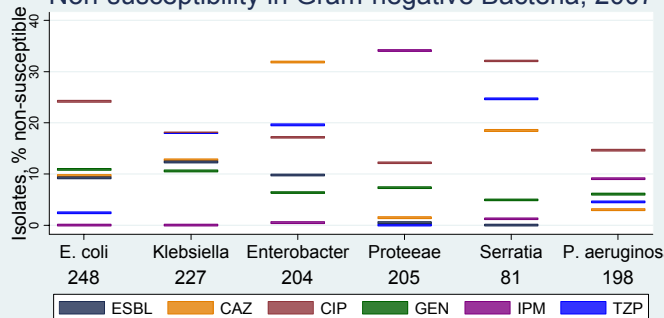
Abbreviations: ESBL extended-spectrum β -lactamase, MRSA/MRCoNS methicillin-resistant *S. aureus*/coagulase-negative staphylococci. CAZ ceftazidime, CIP ciprofloxacin, GEN gentamicin, IPM imipenem, TGC tigecycline, TZP piperacillin-tazobactam.

Non-susceptibility in *E. coli*



After increasing dramatically from 2001 to 2006, the prevalence of ESBLs and non-susceptibility to CIP and GEN in *E. coli* steadied at 9, 24 and 11% respectively.

Non-susceptibility in Gram-negative Bacteria, 2007



Resistance rates in other Enterobacteriaceae were similar to those of the last three years, and there was little change in *Pseudomonas* and *Acinetobacter* spp..

Acquired carbapenem resistance was rare in Enterobacteriaceae apart from ETP resistance in AmpC-derepressed *Enterobacter* spp., but we found MICs indicating reduced susceptibility to IPM in one isolate of *Enterobacter* (8 mg/L) and one *Serratia* (4 mg/L); both were susceptible to GEN.

One *Acinetobacter baumannii/calcoaceticus* (out of 14 tested) was resistant to IPM at 16 mg/L and also to CIP, GEN, TZP and TGC at 128, 128, 512 and 8 mg/L, the second isolate in four years fully resistant to these agents.

Conclusions

- Methicillin- and associated resistances have become less prevalent in *S. aureus*.
- The rise in ESBLs and associated resistances in *E. coli* appears to have levelled off.
- Though rare as yet, the detection of linezolid-resistant staphylococci and highly multi-resistant *Acinetobacter* in these relatively small sample groups is unwelcome.

BSAC Bacteraemia Resistance Surveillance Programme 2001 - 2006, 2007. Sponsors: Astellas, AstraZeneca, Chiron, Cubist, Johnson & Johnson, MSD, Novartis, Pfizer, Theravance, Wyeth. **Support:** BSAC. **Collecting laboratories:** please see www.bsacsurv.org
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