

BSAC Respiratory Resistance Surveillance - Extension to Hospital-acquired Infections

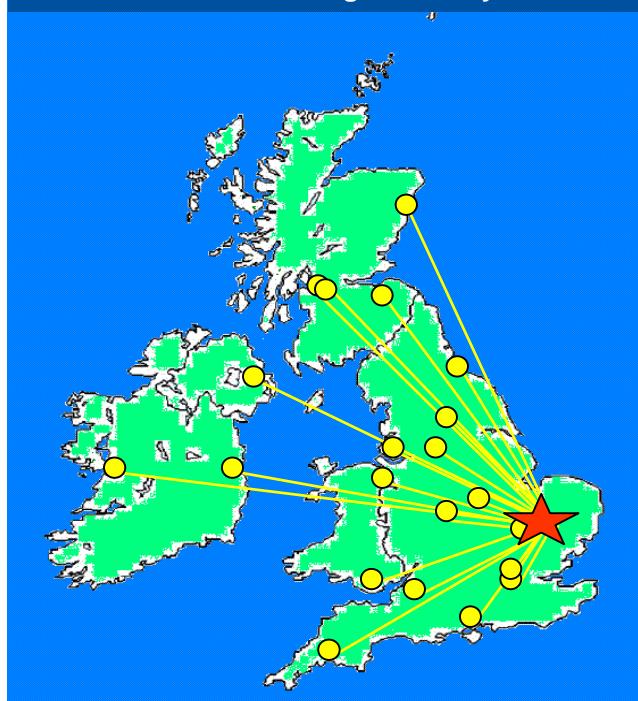
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Background

- Antimicrobial resistance rates in the major pathogens of community-acquired lower respiratory tract infection in the UK and Ireland, monitored by the BSAC Respiratory Resistance Surveillance Programme, have been quite stable from 1999/2000 to 2007/08 and are generally low by European standards.
- Hospital-acquired lower respiratory infections are also an important source of morbidity, are associated with substantial mortality, and are caused by a wider range of pathogens harbouring more diverse resistance mechanisms.
- From October 2008, BSAC surveillance has been extended to include hospital-acquired lower respiratory pathogens.

Contributing laboratories & central testing laboratory



Methods

- Hospital-acquired isolates are defined as those first obtained in hospital >48 hours after admission; all others are treated as community-acquired.
- Over 20 laboratories collect up to a defined quota of isolates in each surveillance season, now Oct-Sept (previously Oct-April).
- The table shows the organisms collected, their planned total number, and the tests to be performed.
- After central identification of Enterobacteriaceae, only *Escherichia coli*, *Klebsiella* spp. and *Enterobacter* spp. are tested and reported. (Collecting laboratories do not routinely identify these organisms to species level.)
- MICs are measured and interpreted by BSAC methods.
- Detail: www.bsacsurv.org or *JAC*, 2008. **62**, suppl 2 ii15 - ii28

Planned annual collection & TESTS	Community-acquired (in hospital ≤48 h)			Hospital-acquired (in hospital >48 h)			
	<i>S. pneumoniae</i>	<i>H. influenzae</i>	<i>M. catarrhalis</i>	<i>S. aureus</i>	Enterobacteriaceae	<i>Pseudomonas</i>	<i>Acinetobacter</i>
Isolates/year	500	500	250	250	1000	250	250
β-lactamase		✓	✓				
Nalidixic acid		✓	✓				
Amoxicillin	✓	✓			✓		
Amoxicillin-clavulanate		✓	✓		✓		
Ampicillin		✓					
Cefotaxime	✓	✓			✓		
Cefoxitin					✓		
Ceftazidime					✓	✓	✓
Cefuroxime	✓	✓	✓		✓		
Ciprofloxacin	✓	✓	✓	✓	✓	✓	✓
Clindamycin	✓				✓		
Erythromycin	✓	✓	✓	✓			
Fusidic acid				✓			
Gentamicin				✓	✓	✓	✓
Imipenem					✓	✓	✓
Mupirocin				✓			
Oxacillin				✓			
Penicillin	✓			✓			
Piperacillin-tazobactam					✓	✓	✓
Rifampicin				✓			
Teicoplanin				✓			
Tetracycline	✓	✓	✓	✓	✓		✓
Trimethoprim	✓	✓		✓			
Vancomycin				✓			
<i>mecA</i>				✓			
<i>mupA</i>				✓			
CTX-M					✓		

Summary

- The greater diversity of hospital pathogens and the resistance burden they entail demands continuous development in the clinical approach to infections caused by these often difficult-to-treat organisms.
- The extension of BSAC surveillance to hospital-acquired lower respiratory tract infections will provide essential information on antimicrobial resistance in a critical therapeutic area.

BSAC Resistance Surveillance Project. Sponsors (2009 surveillance year): Astellas, Cerexxa, Johnson & Johnson, Novartis, Pfizer, Wyeth. **Support:** BSAC. **Respiratory Programme Collecting laboratories:** please see www.bsacsurv.org **Central Laboratory:** Quotient Bioresearch Ltd., Microbiology, Cambridge. **Organism ID and Susceptibility Testing:** K. Maher, staff at Quotient Bioresearch.