The Antimicrobial Susceptibility of *Streptococcus pneumoniae* in Community-Acquired Lower Respiratory Tract Infection Varies with Patient Age.

The BSAC Extended Working Party on Respiratory Resistance Surveillance1 and GR Micro Limited2  
1British Society for Antimicrobial Chemotherapy, 16 Bridge Street, Birmingham, B1 2JS  
27 - 9 William Road, London, NW1 3ER

Methods
1328 *S. pneumoniae* from lower respiratory specimens were collected from 20 laboratories in the UK and Ireland in the winters of 1999-2000 and 2000-2001. Duplicate isolates (collected within 2 weeks of a previous isolate) and isolates from patients with cystic fibrosis or in hospital more than 48 hours were excluded. Isolates were centrally tested by the BSAC agar dilution MIC method and categorised by BSAC breakpoints.

Results
Multiple logistic regression identified patient age as a predictor of susceptibility in *S. pneumoniae*. In univariate analysis, the relationship was quadratic (U-shaped). Non-susceptibility to amoxicillin was too rare (1.3%) to relate to patient age. Non-susceptibility to erythromycin, clindamycin and ciprofloxacin increased with patient age. Non-susceptibility to penicillin, cefaclor, cefuroxime and tetracycline was higher for isolates from both younger and older patients. Non-susceptibility to cefotaxime, moxifloxacin and levofloxacin in *S. pneumoniae* was very rare (0.2 - 0.4%) and seen only in isolates from patients aged 50+.

The graphs show % non-susceptible in the age groups 0-4 (n=79), 5-24 (n=71), 25-49 (n=254), 50-74 (n=622) and 75+ (n=301).

Conclusion
Antimicrobial susceptibility in lower respiratory community-acquired *S. pneumoniae* varied with patient age. It was reduced for most drugs among isolates from older patients, and for a smaller number of drugs also among isolates from younger patients.

Acknowledgements


Statistical Advice: K. Parry1

1Southmead Hospital, Bristol; 2Addenbrookes Hospital, Cambridge; 3Abbott Laboratories Ltd.; 4GR Micro Ltd.; 5GlaxoSmithKline; 6Micron Research; 7Bayer Pharmaceuticals; 8Central Public Health Laboratory; 9BSAC; 10City Hospital Birmingham.

Collecting Laboratories: Royal Aberdeen; WGH Edinburgh; SGH Glasgow; Royal Belfast; Weath Adelaide Dublin; UCH Galway; UHW Cardiff; Wrexham Maesor; City Birmingham; Southmead Bristol; Addenbrookes Cambridge; St. James’s Leeds; Royal Leicester; University of Liverpool; St. Bartholomew’s and Royal London; UCH, London; Royal Victoria Newcastle; Derriford Plymouth; Hope Salford; Southampton.

Sponsored by: Abbott Laboratories
Aventis Pharma
Bayer Pharmaceuticals
GlaxoSmithKline

Supported by: BSAC

Central Laboratory: GR Micro Ltd, London

www.bsacsurv.org

Please address correspondence to: Dr. R. Reynolds, BSAC Resistance Surveillance Co-ordinator
Department of Medical Microbiology, Southmead Hospital, Bris tol, BS10 5NB, England.

ICAAC, San Diego, September 2002 C2-1635