Background

- The BSAC Respiratory Resistance Surveillance Programme monitors antimicrobial susceptibility in the major organisms causing community-acquired lower respiratory tract infection.

Methods

- Each winter (October-April), 20-25 laboratories each submit up to 50 lower respiratory isolates of Streptococcus pneumoniae and Haemophilus influenzae and up to 25 Moraxella catarrhalis, excluding duplicates, cystic fibrosis and hospital-acquired infections (>48 hours after hospitalisation).
- MICs are measured and interpreted by BSAC methods.
- Detail: www.bsacsurv.org

In the UK, 4.3% of S. pneumoniae were intermediate and 0.4% resistant to penicillin, compared to 37% and 5% in Ireland. (The BSAC programme has few centres in Ireland, but this difference is also seen consistently in the much larger EARSS dataset.)

Similar differences exist for TET- and ERY-resistance, which are associated with PEN-non-susceptibility. CIP is not active against S. pneumoniae, but CIP MICs >8 mg/L (a good proxy for resistance to ‘respiratory’ fluoroquinolones) were seen in only 0.5% of isolates.

β-lactamase production in H. influenzae was similar to previous years at 16.5%; AMP resistance was slightly higher at 18%, and 5% appeared AMC-resistant. 12 of 18 β-lactamase-negative AMP-R isolates and 42 of 52 AMC-R isolates had MICs of 2 mg/L, just above the breakpoint for clinical resistance and (for AMC) within the EUCAST-defined wild-type range.

H. influenzae has inherent borderline resistance to ERY, with over 90% appearing intermediate. In the three most recent seasons, however, eight isolates have been detected with surprisingly high MICs for ERY (>128 mg/L) and nine similarly for CIP (>4 mg/L).

All were β-lactamase-negative and TET-susceptible. They were geographically spread across nine centres and all five countries of the UK and Ireland.

Conclusions

- The prevalence of antimicrobial resistance in the major pathogens of community-acquired lower respiratory infection in the UK and Ireland has changed little in recent years and remains quite low.
- A small number of H. influenzae requiring unusually high MICs of erythromycin and ciprofloxacin have been noted since 2005-06, meriting further study and surveillance.

Abbreviations:

- B-Lac = β-lactamase, R resistant, EARSS European Antimicrobial Resistance Surveillance System.
- AMC amoxicillin-clavulanate, AMP ampicillin, CIP ciprofloxacin, ERY erythromycin, PEN penicillin, TET tetracycline.