Antimicrobial susceptibility of invasive *Haemophilus influenzae*, 2008

The antimicrobial susceptibility of all 64 viable invasive isolates of *H. influenzae* referred to ESR in 2008 was tested (see table). Nine (14.1%) of the 64 isolates were serotype b. Eleven (17.2%) isolates produced β-lactamase. Sixteen isolates were ampicillin resistant, but not β-lactamase producing – so-called BLNARs (β-lactamase negative, ampicillin resistant). Five of the β-lactamase producing isolates appeared to also have the BLNAR mechanism of resistance, that is, an altered penicillin-binding protein (PBP).

Antimicrobial resistance among Haemophilus influenzae isolates from invasive disease, 2008

Antibiotic[1]	Number tested	Number resistant[2]	Percent resistant
Ampicillin	64	27	42.2
Co-amoxiclav	64	21	32.8
Cefuroxime	64	21	32.8
Cefaclor	64	21	32.8
Cefotaxime	64	0	0
Ciprofloxacin	64	0	0
Clarithromycin	64	0	0
Co-trimoxazole	64	4	6.3
Rifampicin	64	0	0
Tetracycline	64	1	1.6

1 Results for the full range of antibiotics tested are presented. Many are not appropriate for the treatment of invasive *Haemophilus* disease or the chemoprophylaxis of contacts.

2 All BLNAR *Haemophilus influenzae* have been considered resistant to ampicillin, co-amoxiclav, cefaclor and cefuroxime, in line with the Clinical and Laboratory Standards Institute's recommendations, although they often test as susceptible to these antibiotics in standard susceptibility tests.

Trends in ampicillin resistance and β-lactamase production among invasive *H. influenzae* since 2000 are shown in the figure below. Until 2005, most of the ampicillin resistance was due to β-lactamase production. However, since that time, only about half the ampicillin-resistant isolates have been producers of β-lactamase, with the other half being BLNAR *H. influenzae*.

Ampicillin resistance and beta-lactamase production among invasive Haemophilus influenzae, 2000-2008