

reduce invasive disease, but also eradicate upper respiratory tract carriage of serotypes associated with antibiotic resistance^{15,16}.

The epidemiology of multiple drug-resistant pneumococci has been associated with hospitalised children and adults receiving antibiotics¹. In our study only two of five cases of bacteraemia diagnosed at Princess Alexandra Hospital were nosocomial infections. In the wider community however, the carriage and transmission of multiple drug-resistant pneumococci among young children may increase the distribution of multiple drug-resistant types in adults. Two American studies of community acquired multiple drug-resistant pneumococcal infection in day care centres found that, in addition to children occupying the same room as the index cases, staff and parents also became colonised with the multiple drug-resistant strain^{17,18}.

The most common resistance patterns encountered in the current study included those of strains resistant to four or more antibiotics. Fifteen of 17 such isolates belonged to types 19F (10 strains) and 14 (5). Analysis of resistance patterns suggests that several clones, distinct from those in north Queensland, exist in south-east Queensland and that one has caused two cases of bacteraemia. Two clones of multiple drug-resistant type 14 pneumococci, both responsible for invasive disease, have also been identified. The resistance profiles of four type 23F isolates differ significantly. The genomic DNA of all multiple drug-resistant pneumococci will be examined to determine their type-specific genetic relatedness.

The emergence of multiple drug-resistant pneumococcal clones in Queensland is in keeping with a recently published national survey and further highlights the need for increased awareness and vigilance by diagnostic laboratories and

clinicians¹⁹. The occurrence of multiple drug-resistant strains with high level resistance to both penicillin and third generation cephalosporins in invasive infection, particularly meningitis, will create a real dilemma in the choice of antibiotic therapy for these conditions.

The true prevalence of multiple drug-resistant pneumococci in Queensland is unknown since a number of hospitals in central and south-east Queensland are not linked to the surveillance network. A laboratory-based monitoring system is required which ensures that all pneumococci isolated from normally sterile sites are submitted for typing and antibiotic susceptibility testing. In addition, cross sectional studies incorporating longitudinal upper respiratory tract sampling of at-risk populations such as children in day care centres, inpatients of paediatric wards and children residing in Aboriginal communities are needed to determine the prevalence of, and increase in, drug-resistant pneumococci in upper respiratory sites.

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Meningitis in New South Wales

Fifteen cases of meningococcal disease were reported from western Sydney between January and May 1997. Seven cases were aged under five years and five were aged 15 - 24 years. Of the 15 cases, six were due to serogroup C, four serogroup B (two untypable, one B:4:P1.4 and one B:2b:P1.10) and five were based on a clinical diagnosis. The Western Sector Public Health Unit has not established an epidemiological link between cases, however five isolates were phenotype C:2a:P1.5, which was the phenotype identified in a western Sydney outbreak in 1996. Thirty-six cases of meningococcal disease have been reported in New South Wales during 1997. A total of 165 cases was reported during 1996.