**Abstract**

**Background:** The Canadian Bacterial Surveillance Network (CBSN) has been monitoring trends in antibiotic resistance in pneumococcal isolates in Canada since 1993.

**Methods:** CBSN is a collaborative network of Canadian microbiology laboratories that systematically sample pneumococci for reference with minimal microsaturation testing performed in CSL standards. Non-enzymatic breakpoints were used for interpretation of ampicillin and cotrimoxazole resistances. Methicillin breakpoints were used for penicillin. Serotype and resistance to erythromycin were determined using latex pneumococcal antisera (Bio-Rad Seramun Institute, OK) and Quellung reaction as required.

**Results**

From 2000 to 2010, 95% of PCV7 isolates from sterile sites were collected, including M60 (10.4%) from blood, 274 (2.6%) from C/S, 167 (1.7%) from pleural fluid, and 274 (2.4%) from other sterile sites. All isolates underwent susceptibility testing and serotyping. PCV7 resistance was common in 19A cases (19%) and 6A (14%); in cases of adult (1:34y) cases 45.2%, and older adults (≥65y) 31.7%. Overall, 60.6 of isolates were from Ontario. 181% from the Prairies/Northwest Territories. 8.9% from Atlantic provinces, 6% from Quebec, and 5% from British Columbia/Fusion.

In 2009/2010, the most common serotypes in paediatric and adult IPD were 19A (30.4%), 6B (9.6%), respectively, 16 (15.5%-15.8%), 22F (8.8%), and 1 (15.8%). Serotypes 19A was the most common in samples from blood (18.8%), C/S (14.7%), and other sterile sites (11.5%). Serotypes 31 was most common from pleural fluid (17.4%).

From 2000 to 2010, among paediatric isolates, the percent of PCV7 serotypes decreased (83.9% to 3.3%) while the percent of PCV10/not7 serotypes increased from 0.8% to 21.5%, and the percent of NPCV13/not10 serotypes increased from 8.3% to 39.7%. The percent of PCV10/not10 serotypes also increased from 7.0% to 31.5%. Similar trends were seen in adult isolates although the decrease in the proportion of PCV7 serotypes has been slower (Figure 2).

**Acknowledgements**

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**References**