

1101. The Gap Widens: Invasive Pneumococcal Serotype Distribution among Adults

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Background. Indirect effects of routine pediatric use of pneumococcal conjugate vaccines (PCVs) influence which serotypes cause adult invasive pneumococcal disease (IPD). We sought to describe how those changes correspond to the proportion of IPD cases targeted by the 23-valent pneumococcal polysaccharide vaccine (PPSV23) or PCV13, using the most recent data available.

Methods. We reviewed PubMed and national websites for reports from 2003 to 2014 describing the proportions and incidence of adult IPD matching PPSV23 or PCV13. Eligible studies came from settings with widespread uptake of PCV10 or PCV13 among children, involved ≥ 150 adult isolates, typed for ≥ 20 serotypes, and excluded cases < 2 years of age.

Results. Eligible studies described Australia, Austria, Canada, Denmark, England, France, Germany, Ireland, New Zealand, Norway, Portugal, and the USA. The

European CDC reported a composite measure for 23 countries. For adult IPD serotype distribution before pediatric PCV7 use, the proportion of IPD isolates matching the 23-serotype bundle was 88.4% and 74.8% for the 13-serotype bundle, with a median differential between the two bundles of 16.3%. In the most recent analyses, after widespread pediatric PCV uptake, IPD proportions were 77.1% for the 23-serotype bundle and 49.2% for the 13-serotype bundle, with a median differential of 28.8%. German articles describing serotype-specific adult IPD incidence rates from settings with widespread pediatric adoption of PCV10 or PCV13 were not yet available on May 1, 2014.

Conclusion. The differences between the proportions of IPD cases due to serotypes included in PPSV23 vs PCV13 have widened further, consistently across multiple countries, following extensive pediatric use of PCV10 or PCV13. Clinicians and policy-makers should consider the increasing proportion of adult IPD cases caused by serotypes targeted by PPSV23 when making vaccine decisions.

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