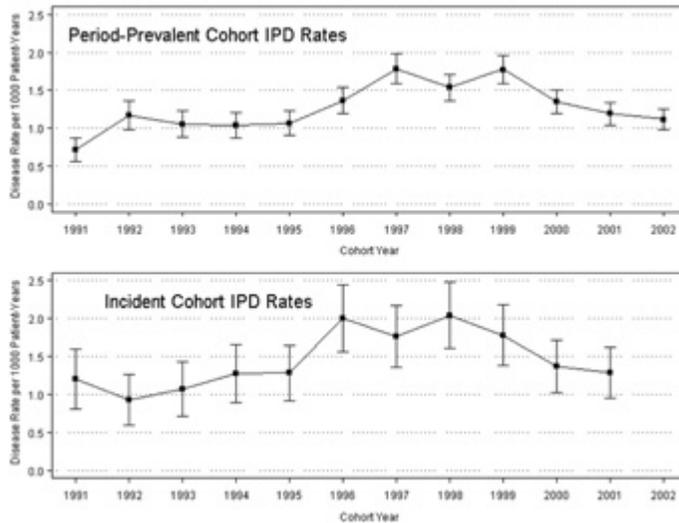


Evidence of Herd Immunity to Invasive Pneumococcal Disease Following Introduction of Pneumococcal Conjugate Vaccine.

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Whitney et al (*NEJM*, 348;18:1737-1746) reported declines in invasive pneumococcal disease (IPD) rates among adults following the February 2000 introduction of the pneumococcal conjugate vaccine (PCV) for young children. We calculated IPD rates among end-stage renal disease (ESRD) patients on the basis of Medicare claims. First, we analyzed period-prevalent ESRD patients from 1991 to 2002. For each year, patients were prevalent at least 90 days before December 31 of the previous year, and were alive on December 31 of the previous year. Second, we analyzed incident ESRD patients from 1991 to 2001. For each year, patients became incident between October 1 of the previous year and September 30, and survived throughout the 90 days following incidence. In both cases, patients were followed until death or the conclusion of one year, and carried Medicare as primary payer throughout follow-up. An IPD event was indicated by the presence of a claim for septicemia (ICD-9-CM 038.2) or meningitis (ICD-9-CM 320.1) in Medicare Part A Inpatient claims.



After peaking at 1.8 events per 1000 patient-years (epK) [95% confidence interval (CI): (1.6, 2.0)] in 1999, period-prevalent IPD rates have fallen significantly ($p < 0.001$), to 1.1 epK [95% CI: (1.0, 1.3)] in 2002. IPD rates among incident pts have also fallen significantly ($p = 0.007$), from 2.0 epK [95% CI: (1.6, 2.5)] in 1998, to 1.3 epK [95% CI: (1.0, 1.7)] in 2001. The timing of the declines in IPD rates strengthens the hypothesis that introduction of PCV in the pediatric population has resulted in protection of the ESRD population against IPD, due to herd immunity.