

P0346 Increased *Streptococcus pneumoniae* vaccine serotype carriage and *Haemophilus influenzae* co-colonisation in Belgian children attending daycare centres after a PCV13 to PCV10 vaccine switch

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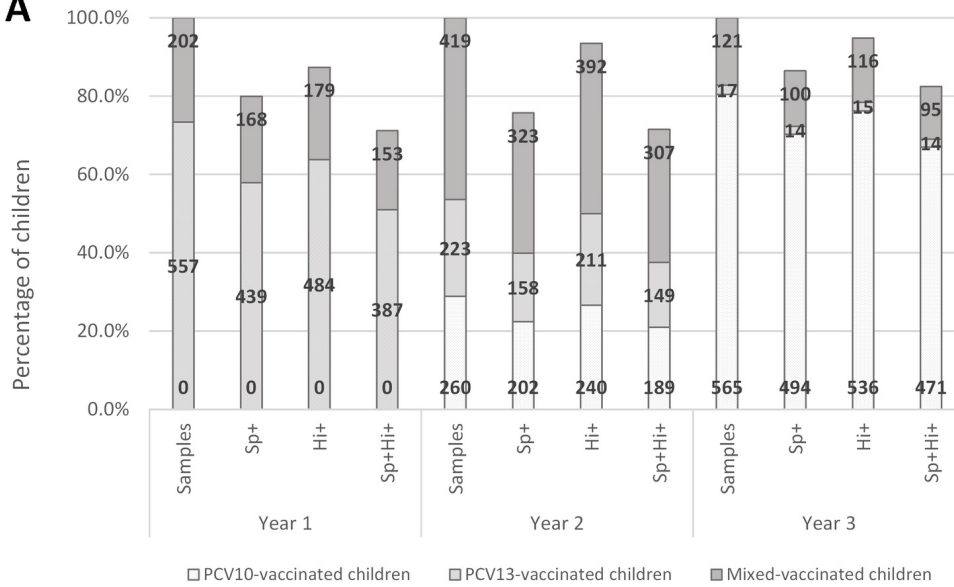
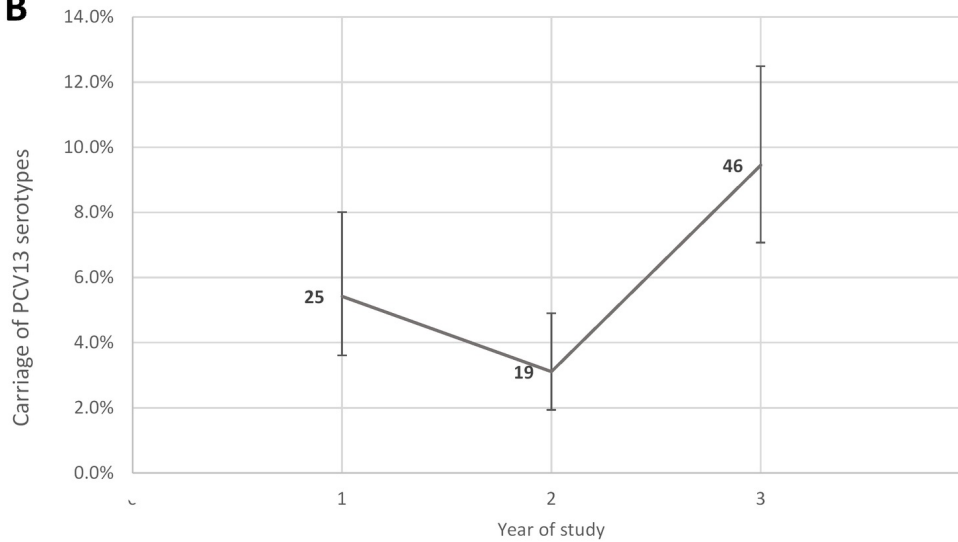
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Background: The predominantly “2+1” Belgian infant pneumococcal conjugate vaccine (PCV) programme changed from PCV13 to PCV10 in 2015-2016. A nationwide nasopharyngeal carriage study in children (6-30 months) attending day-care centres was initiated in January 2016. Carriage and co-colonisation of *S. pneumoniae* (Sp) and *H. influenzae* (Hi) were evaluated over a three year period.

Materials/methods: Single nasopharyngeal swabs were taken yearly between March 2016 and April 2018 (three 4-5 months periods). The collected samples were transported in 1ml STGG-medium. Sp and Hi were detected by culture and PCR. Sp-strains were serotyped by Quellung-reaction. Demographic characteristics and vaccination status were collected via a questionnaire. Children were categorised as exclusively vaccinated with PCV13, PCV10 or a mixed schedule. The presented prevalence changes are significant at a level of <0.02 by Chi² or Fisher’s Exact Test.

Results: Over the three successive years, 2364 samples were collected. The proportion of children that were age-appropriately vaccinated exclusively with PCV10 increased to 80.4% while the PCV13-vaccinated proportion decreased to 2.4% (Figure 1A). The PCR-based Sp-carriage and Hi-carriage prevalence increased from 80.0% to 86.5% and from 87.4% to 94.9% respectively. Co-colonisation increased from 71.1% to 82.5%. The culture-based carriage of the PCV13 serotypes increased from 5.4% to 9.4% (Figure 1B) and the carriage of the PCV13-specific serotypes (3, 6A, 19A) increased from 0.7% to 5.4%.

Conclusions: Carriage of Sp, Hi and their co-colonisation increased significantly over the study period. Furthermore, pneumococcal PCV13 serotype carriage increased as the proportion of children vaccinated exclusively with PCV10 increased.

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