

BACKGROUND

- Several switches in the childhood pneumococcal conjugate vaccines (PCVs) programme in Belgium



- PCV13 compared to PCV10: three additional pneumococcal serotypes = serotypes 3, 6A and 19A

MATERIALS

- Stable laboratory-based surveillance for IPD in Belgium: yearly +/- 100 laboratories, evenly spread over the country, send isolates to NRC
- Capsular typing by Quellung reaction
- Analysis includes IPD cases in children (<2 years) diagnosed in the years 2014 to 2021

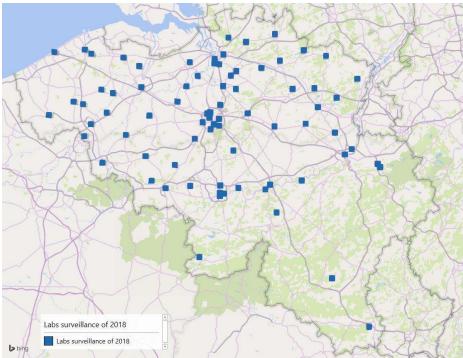


Figure 1: Laboratory-based IPD surveillance (2018)

- Impact COVID-19 pandemic: reduction 39% of IPD cases in children in 2020 and 34% in 2021 vs 2018-2019
- Evaluation of proportion of serotypes 3, 6a and 19A for
 - 2014-2015 (PCV13)
 - 2018-2019 (PCV10)
 - 2021 (second year post re-switch PCV13)

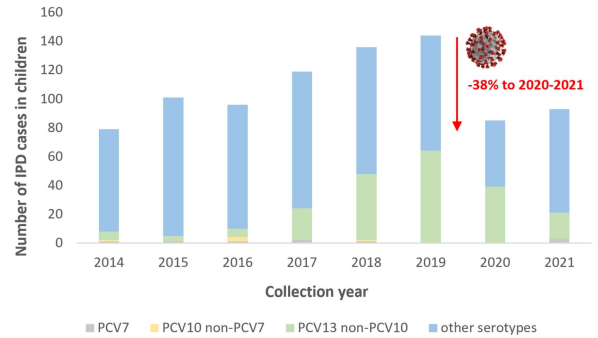


Figure 2: Significant and sustained reduction in IPD cases in children for 2020 and 2021 due to COVID-19 restrictive measures

RESULTS

- Significant increase of 19A cases in children following the PCV13 to PCV10 switch (Desmet *et al.* 2021): multiplying proportion 10-times (from 3.3% to 33.9%)
- After re-switch to PCV13: reduction by 59% for serotype 19A in 2021 (from 33.9% to 14.0%)
- While serotype 6A was not reported, a steady but slow and stable increase of serotype 3 was observed
- Cross-reactivity serotype 6C: very low number of cases

Serotype	2014-2015 (PCV13)	2018-2019 (PCV10)	2021 (PCV13)
3	2.2%	5.4%	5.4%
6A	0.0%	0.0%	0.0%
19A	3.3%	33.9%	14.0%

x 10 -59%

Table 1: Distribution PCV13 non-PCV10 serotypes for children over time

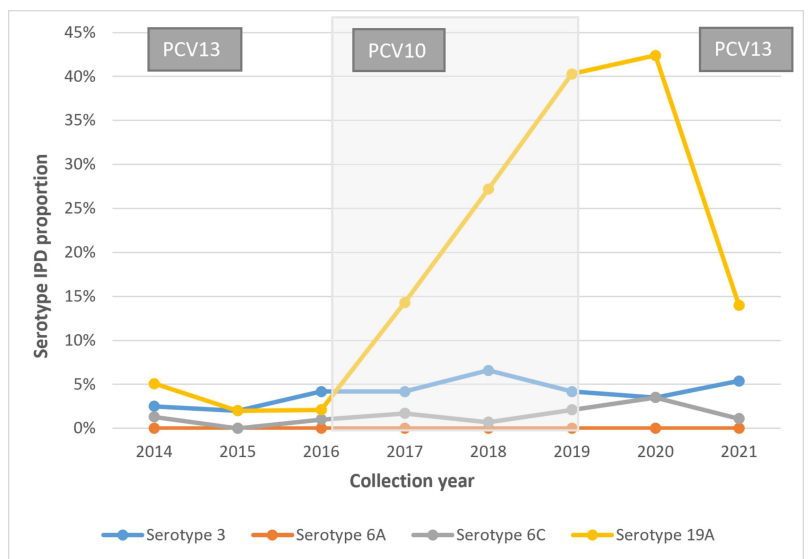


Figure 3: PCV13 non-PCV10 serotypes (+serotype 6C) for children over time (2014-2021)

CONCLUSION

Belgium has a unique experience of switching PCV's in the childhood vaccination programme over time. While IPD epidemiology is disturbed by the COVID-19 pandemic, serotyping data from 2021 indicate again a decrease in the proportion of serotype 19A IPD, one to two years post PCV10 to PCV13 switch.