

## A retrospective database analysis of burden of IPD and pneumonia in children <15y in Veneto region

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### Background:

IPD and pneumonia are associated with high mortality and healthcare resource utilization (HCRU). This analysis assessed incidence, HCRU and costs of IPD and pneumonia following PCV13 introduction in 2010 in Veneto.

### Methods:

IPD, unspecified invasive disease episodes, outpatient pneumococcal and unspecified pneumonia episodes were identified in Pedianet, a pediatric primary care database from 2010-2017. HCRU includes primary care and specialist visits, antibiotic prescriptions, diagnostics, ER visits and hospitalizations. Incidence rates (IRs) were numbers of episodes/1,000 person-years. Standardized regional incidence rates (SRIRs) were calculated by standardizing IRs with regional population data by age and year. Regional expenditures (€/1,000 person-years) were calculated by multiplying SRIRs with average costs per episode. Interrupted time series (ITS) analyses assessed trends in annual IRs in the early and late PCV13 (2010-2013, 2014-2017) periods.

### Results:

During 2010-2017, IPD and unspecified invasive disease incidence decreased from 0.40 to 0.31/1,000 person-years. While incidence was numerically lower in 2017 than in 2010, ITS analysis did not detect a significant trend in the early (coef=1.97; p=0.63) or late PCV13 (coef=0.50; p=0.90) periods. Average cost per episode was €4206 and average regional expenditure was €171/1,000 person-year. SRIR for outpatient pneumonia decreased from 13.35 to 5.48/1,000 person-year during 2010 to 2017. Pneumonia episodes were associated with 0.29 ER visits and 0.15 short stay and 0.06 long

stay hospitalization. Average cost per episode was €345, majority of which was associated with ER visits (€50.8) and hospitalizations (€243.9). Regional expenditures decreased from €12852.31 to €5351.98/1,000 person-year.

**Conclusions:**

IPD and unspecified invasive disease burden did not change significantly following PCV13 introduction, while disease burden declined for outpatient pneumococcal and unspecified pneumonia.

**Key messages:**

- IPD and unspecified invasive disease burden did not change significantly following PCV13 introduction.
- Disease burden declined for outpatient pneumococcal and unspecified pneumonia following PCV13.