**Table S1.** Reference population by age group and years

| Age groups | 2013 | 2014 | 2015 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| <5 | 249975 | 243813 | 236925 | 222294 | 229437 | 217452 |
| 5-17 | 560263 | 588346 | 594077 | 604352 | 638063 | 603638 |
| 18-64 | 1702057 | 1675222 | 1658254 | 1633929 | 1654821 | 1669827 |
| ≥65 | 522824 | 530099 | 535932 | 541939 | 550232 | 548247 |

**Table S2.** Incidence rates (per 100,000) of the top most prevalent serotypes by age group[c]

| Ages groups | Serotype | PSVP (IR*) | SVP (IR) | *p-value* | *Adjusted p-value** |
|---|---|---|---|---|---|
| All ages | **8** | 0.93 | 2.55 | **<0.001** | **0.004** |
| | **3** | 1.13 | 1.73 | **<0.001** | **0.004** |
| | **12F** | 0.93 | 1.10 | 0.123 | 0.189 |
| | **15A** | 0.32 | 0.67 | **<0.001** | **0.004** |
| | **22F** | 0.42 | 0.63 | **0.026** | **0.058** |
| <5 | **24F** | 3.15 | 3.14 | 0.345 | 0.345 |
| | **15A** | 0.41 | 1.64 | **0.026** | **0.058** |
| | **3** | 0.55 | 1.64 | **0.027** | **0.058** |
| | **19A** | 1.23 | 1.49 | 0.340 | 0.345 |
| | **15B/C** | 0.41 | 1.49 | **0.012** | **0.039** |
| | **8** | 0.27 | 1.34 | **0.027** | **0.058** |
| | **12F** | 0.96 | 1.34 | 0.184 | 0.250 |
| 5-17 | **8** | 0.11 | 0.33 | 0.103 | 0.183 |
| | **14** | 0.11 | 0.22 | 0.247 | 0.284 |
| | **18C** | 0.06 | 0.16 | 0.202 | 0.250 |
| | **3** | 0 | 0.11 | 0.132 | 0.190 |
| 18-64 | **8** | 1.11 | 2.76 | **<0.001** | **0.004** |
| | **3** | 0.62 | 1.19 | **0.001** | **0.004** |
| | **12F** | 0.93 | 0.85 | 0.325 | 0.345 |
| | **22F** | 0.32 | 0.46 | 0.124 | 0.189 |
| | **14** | 0.52 | 0.42 | 0.252 | 0.284 |
| >65 | **3** | 4.28 | 5.24 | 0.106 | 0.183 |
| | **8** | 1.57 | 4.88 | **<0.001** | **0.004** |
| | **12F** | 1.64 | 2.93 | **0.007** | **0.026** |
| | **15A** | 1.07 | 1.83 | **0.04** | 0.08 |
| | **22F** | 1.38 | 1.77 | 0.196 | 0.250 |

[c]IR, Incidence rate; PSVP, Pre-systematic vaccination period; SVP, Systematic vaccination period.

p<0.05 (Chi-square test).*Adjusted p-values* were calculated using FDR.

**Table S3.** Serotype variation along the years[d]

| Serotypes | | PSVP (n=1048) | | | SVP (n=1255) | | |
|---|---|---|---|---|---|---|---|
| | | 2013 | 2014 | 2015 | 2017 | 2018 | 2019 |
| **PCV13 serotypes** | *1* | 42 | 29 | 15 | 2 | 1 | 2 |
| | *3* | 34 | 29 | 40 | 43 | 55 | 60 |
| | *4* | 5 | 0 | 5 | 6 | 6 | 3 |
| | *5* | 0 | 0 | 0 | 1 | 0 | 0 |
| | 6A | 5 | 2 | 1 | 3 | 0 | 2 |
| | *6B* | 3 | 2 | 3 | 4 | 0 | 2 |
| | *7F* | 19 | 8 | 15 | 8 | 4 | 9 |
| | *9V* | 4 | 3 | 9 | 2 | 3 | 6 |
| | *14* | 22 | 34 | 34 | 12 | 16 | 18 |
| | *18C* | 2 | 2 | 7 | 3 | 6 | 6 |
| | *19A* | 21 | 18 | 14 | 20 | 13 | 13 |
| | *19F* | 6 | 8 | 4 | 7 | 8 | 7 |
| | *23F* | 4 | 2 | 3 | 5 | 2 | 2 |
| **Non-PCV13 serotypes** | 6C | 8 | 11 | 12 | 7 | 7 | 5 |
| | *8* | 20 | 26 | 39 | 59 | 63 | 110 |
| | *9N* | 16 | 6 | 15 | 9 | 12 | 15 |
| | *10A* | 8 | 10 | 14 | 5 | 16 | 8 |
| | *11A* | 10 | 12 | 5 | 11 | 10 | 12 |
| | *12F* | 22 | 30 | 33 | 20 | 33 | 47 |
| | 15A | 5 | 8 | 16 | 25 | 16 | 20 |
| | 16F | 6 | 7 | 7 | 10 | 11 | 10 |
| | *22F* | 14 | 8 | 16 | 21 | 19 | 17 |
| | 23A | 5 | 1 | 10 | 8 | 8 | 7 |
| | 23B | 8 | 3 | 9 | 6 | 17 | 6 |
| | 24F | 21 | 17 | 15 | 16 | 19 | 16 |
| | 31 | 3 | 6 | 7 | 6 | 8 | 9 |
| | *33F* | 5 | 5 | 7 | 9 | 9 | 14 |
| | 35B | 2 | 5 | 8 | 6 | 12 | 5 |
| | 38 | 2 | 3 | 8 | 7 | 7 | 5 |
| **Others (less prevalent serotypes)** | Others | 20 | 15 | 25 | 28 | 32 | 37 |

[d]PSVP, Pre-systematic vaccination period; SVP, Systematic vaccination period, PCV13, 13-valent pneumococcal conjugate vaccine. Serotypes marked in cursive and bold are the ones included in the PPSV23 vaccine. Other less prevalent serotypes (n<30) include serotypes (2, 6E, 7B/C, 9VA, 11B, 13, 15B, 15C, 17F, 18A, 20, 21, 22A, 22FA, 24B, 27, 28A, 29, 34, 35F, 37, Non-typeable)

**Table S4.** Clonal distribution across the different age groups for both periods[e]

| Age groups | CC/ST | No. PSVP | No. SVP | p-value | Adjusted p-value* |
|---|---|---|---|---|---|
| <5 | CC156 | 25 | 6 | <0.001 | 0.002 |
| | CC230 | 25 | 21 | 0.387 | 0.406 |
| | ST306 | 11 | 0 | <0.001 | 0.002 |
| | CC2372 | 9 | 6 | 0.281 | 0.327 |
| | CC989 | 7 | 7 | 0.436 | 0.436 |
| | CC97 | 7 | 5 | 0.343 | 0.379 |
| | CC180 | 3 | 6 | 0.1413 | 0.212 |
| 5-17 | ST306 | 20 | 1 | <0.001 | 0.002 |
| | CC53 | 1 | 5 | 0.071 | 0.135 |
| | CC156 | 1 | 4 | 0.121 | 0.212 |
| 18-64 | CC989 | 46 | 37 | 0.181 | 0.248 |
| | ST306 | 36 | 2 | <0.001 | 0.002 |
| | CC53 | 35 | 81 | <0.001 | 0.002 |
| | CC156 | 31 | 24 | 0.189 | 0.248 |
| | CC404 | 18 | 48 | <0.001 | 0.002 |
| | CC180 | 17 | 46 | <0.001 | 0.002 |
| ≥65 | CC156 | 39 | 33 | 0.201 | 0.248 |
| | CC180 | 37 | 63 | 0.007 | 0.016 |
| | CC260 | 27 | 20 | 0.132 | 0.212 |
| | CC989 | 26 | 42 | 0.036 | 0.075 |
| | CC53 | 13 | 49 | <0.001 | 0.002 |

[e]CC, Clonal Complex; ST, Sequence Type; PSVP, Pre-systematic vaccination period; SVP, Systematic

vaccination period.

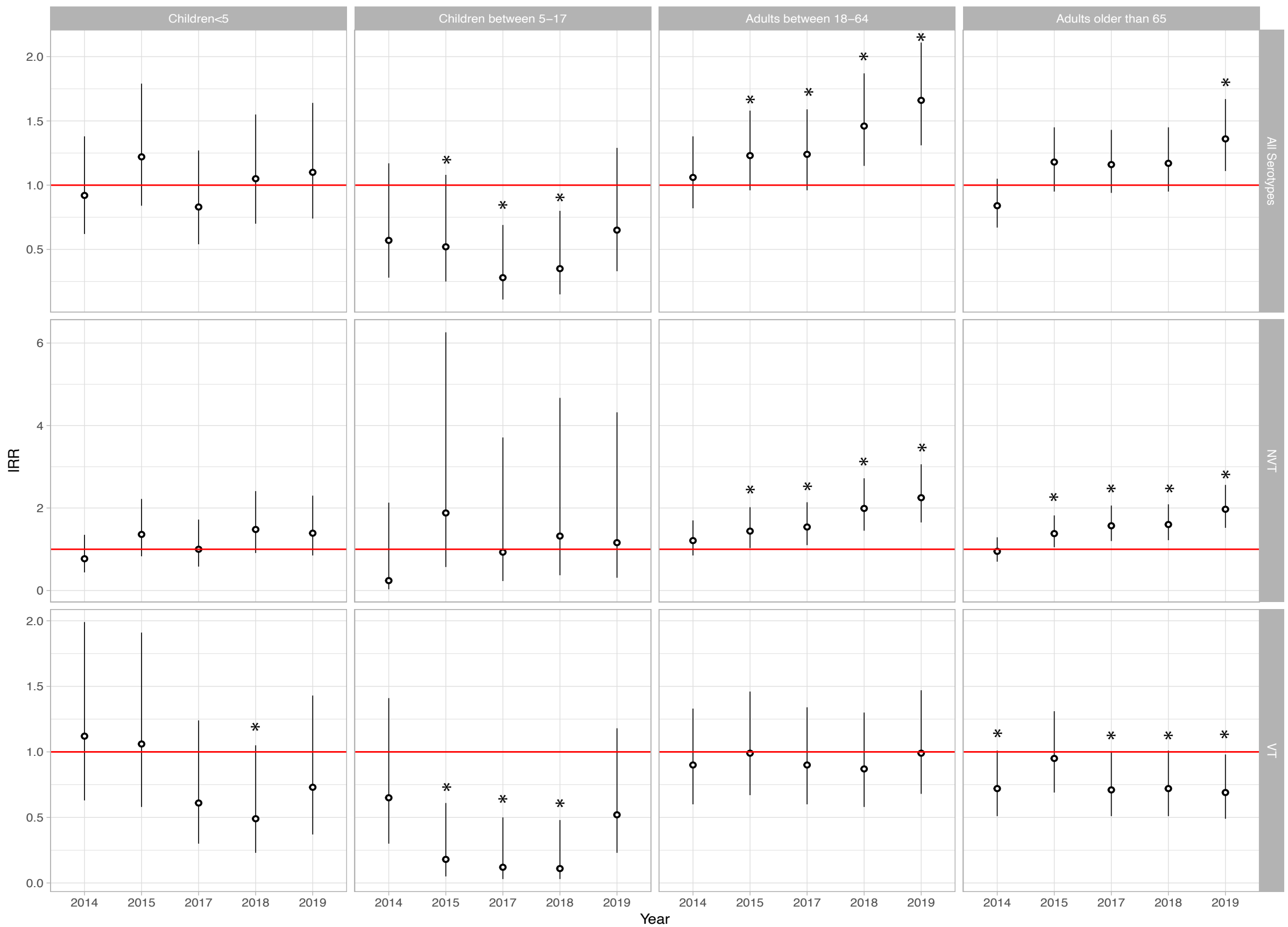p<0.05 (Chi-square test). *Adjusted p-values were calculated using FDR.

**Figure S1. Post-PCV13 introduction invasive pneumococcal disease IRRs.** The data are pooled IRRs. IRRs were estimated by comparing the observed incidence (in each of the years 2014, 2015, 2017, 2018 and 2019) to expected incidence (2013) for each age-serotype group. 95% CIs are represented on logarithmic sale by error bars.