Appendix Table 1. Adverse event rates and relative incidence comparing PCV13 in 2015 and PPSV23 in 2014-2015 in elderly ≥65 years old

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **PCV13**a  (N = 313,136) | | **PPV23**b  (N = 77,597) | | **Relative Incidence** | | | | | | | | |
| Adverse Event Groups |  | Number of adverse events | Total follow-up time in risk window (person-days) | Number of adverse events | Total follow-up time in risk window (person-days) | **Unadjusted** | **95%  Confidence Interval** | | **IPTW**c **Weighted** | **95%  Confidence Interval** | | **IPTW Weightedd** | **95%  Confidence Interval** | |
| **Group 1. Cardiovascular events** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute myocardial infarction |  | 534 | 13,024,960 | 121 | 3,194,259 | 1.08 | 0.89 | 1.32 | 0.76 | 0.55 | 1.04 | 0.78 | 0.57 | 1.07 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute pericarditis |  | 6 | 13,024,960 | 2 | 3,194,259 | 0.74 | 0.15 | 3.64 | 1.26 | 0.25 | 6.38 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation |  | 702 | 13,024,960 | 134 | 3,194,259 | 1.28 | 1.07 | 1.55 | 0.52 | 0.34 | 0.79 | 0.59 | 0.42 | 0.85 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cardiomyopathy; heart failure (defined as heart failure code plus cardiomyopathy code) |  | 838 | 13,024,960 | 172 | 3,194,259 | 1.19 | 1.01 | 1.41 | 0.63 | 0.46 | 0.85 | 0.65 | 0.49 | 0.86 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 2. Bell’s Palsy** |  | 69 | 13,024,960 | 14 | 3,194,259 | 1.21 | 0.68 | 2.15 | 1.32 | 0.66 | 2.62 | 1.18 | 0.58 | 2.39 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 3. Guillain-Barre Syndrome** |  | 4 | 13,024,960 | 2 | 3,194,259 | 0.49 | 0.09 | 2.68 | 0.47 | 0.07 | 3.27 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 4. Syncope (risk 0 day)** |  | 22 | 313,136 | 24 | 77,597 | 0.23 | 0.13 | 0.41 | 0.21 | 0.10 | 0.44 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 5. Erythema multiforme** |  | 2 | 13,024,960 | 1 | 3,194,259 | 0.49 | 0.04 | 5.41 | 1.39 | 0.13 | 15.36 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 6. Thrombocytopenia** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thrombocytopenia I |  | 17 | 8,718,620 | 4 | 2,145,460 | 1.05 | 0.35 | 3.11 | 0.47 | 0.12 | 1.80 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thrombocytopenia II |  | 96 | 8,718,620 | 29 | 2,145,460 | 0.81 | 0.54 | 1.23 | 0.44 | 0.25 | 0.79 | 0.43 | 0.24 | 0.79 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 7. Cellulitis and infection** |  | 1,915 | 2,188,604 | 488 | 541,115 | 0.97 | 0.88 | 1.07 | 0.90 | 0.77 | 1.06 | 0.85 | 0.73 | 0.99 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 8. Allergic reaction** |  | 49 | 2,188,604 | 23 | 541,115 | 0.53 | 0.32 | 0.86 | 0.72 | 0.40 | 1.29 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Group 9. Anaphylaxis** |  | 5 | 626,152 | 1 | 155,103 | 1.24 | 0.14 | 10.60 | 5.21e | 0.59 | 45.59 | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. PCV13: 13-valent pneumococcal conjugate vaccine
2. PPSV23: 23-valent pneumococcal polysaccharide vaccine
3. IPTW: Inverse probability of treatment weighting
4. Added additional sites and inpatient visit numbers in model.
5. All anaphylaxis diagnoses at 0-1 days following vaccination were chart reviewed and one patient receiving 5 vaccines concomitantly, including PCV13, was confirmed as anaphylaxis.

**Appendix Figure 1. Secular trend of rates of pre-specified adverse events between January 2011 and September 2015 among adults aged ≥65 years**

1. **Acute myocardial infarction**



1. **Acute pericarditis; myocarditis**



1. **Atrial fibrillation**



1. **Cardiomyopathy; heart failure**



1. **Bell’s palsy**



1. **Guillain Barré Syndrome**



1. **Syncope**



1. **Erythema multiforme**



1. **Cellulitis and infection**



1. **Allergic reaction**



1. **Anaphylaxis**



Horizontal lines line from top to bottom indicate Mean+3 standard deviation (sd), Mean+2sd, Mean, Mean-2sd, and Mean-3sd