**Appendix 1: Scenario Analysis Evaluating Serotype 3 Incidence Weighted by Vaccine Coverage**

A scenario analysis was performed weighting country specific serotype 3 incidence based on local PCV vaccination coverage by year. PCV coverage was based on full schedule compliance as reported by the World Health Organization (WHO) (Table 1). This was chosen for consistency of weighting. Weights were applied for each country relative to the overall average of the final dose of PCV (abbreviated in the WHO document as PCV3) uptake for the year in consideration. Weights were then applied to the incidence for each country before any estimations of incidence rate ratios (IRRs were calculated). Resulting estimations and IRRs can be found in Table 2.

Data from global level WHO vaccine coverage estimates at: <http://www.who.int/entity/immunization/monitoring_surveillance/data/coverage_estimates_series.xls>

**Table 1:** Vaccine Uptake by Year and Country Derived from the World Health Organization Vaccination Coverage Database

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Year** | | | | | | | | |
|  |  | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **PCV10** | **Finland** | 92% | 92% | 92% | 92% | 92% | 92% | 87% | 85% | 85% |
| **Netherlands** | 96% | 96% | 96% | 96% | 95% | 94% | 94% | 93% | 93% |
| **Colombia** | 71% | 46% | 84% | 87% | 89% | 91% | 89% | 91% | 91% |
| **PCV13** | **United Kingdom** | 89% | 90% | 92% | 93% | 93% | 93% | 92% | 92% | 92% |
| **United States of America** | 92% | 94% | 92% | 92% | 93% | 93% | 93% | 93% | 93% |
| **Canada** | 61% | 66% | 97% | 79% | 79% | 79% | 79% | 80% | 80% |
| **Israel** | 92% | 92% | 93% | 94% | 94% | 94% | 93% | 94% | 94% |

**Table 2.** Serotype 3 Invasive Pneumococcal Disease Incidence and Calculated Incidence Rate Ratios (IRR) per year weighted by Serotype Coverage

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Country** | **Year** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2001** | | **2002** | | **2003** | | **2004** | | **2005** | | **2006** | | **2007** | | **2008** | | **2009** | | **2010** | **2011** | | **2012** | | **2013** | | **2014** | | **2015** | | **2016** | | **2017** | | **2018** | |
| **A.              Individuals < 5 years of age - PCV13 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Australia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 1.1 | | 0.49 | 1.33 | | 1.02 | | 1.3 | | 1.97 | | 1.34 | | 3.53 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.45 | 1.21 | | 0.93 | | 1.18 | | 1.79 | | 1.22 | | 3.21 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.45 | 1.21 | | 0.93 | | 1.18 | | 1.79 | | 1.22 | | 3.21 | |  | |  | |
| **Canada (Toronto)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 0.40 | | 0.00 | | 0.00 | | 0.40 | | 0.42 | | 0.40 | | 2.10 | | 0.46 | | 2.24 | | 0.66 | 1.44 | | 0.53 | | 0.46 | | 0.90 | | 1.21 | | -- | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.29 | 0.64 | | 0.23 | | 0.21 | | 0.40 | | 0.54 | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.92 | 2.01 | | 0.73 | | 0.65 | | 1.25 | | 1.69 | |  | |  | |  | |
| **Israel** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | 0.47 | | 0.35 | | 0.63 | | 0.38 | | 0.46 | | 0.26 | | 1.01 | 0.89 | | 0.51 | | 0.89 | | 0.76 | | 0.12 | | 0.36 | | 0.36 | | 0.35 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 3.85 | 3.41 | | 1.96 | | 3.41 | | 2.88 | | 0.47 | | 1.38 | | 1.36 | | 1.32 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 2.38 | 2.10 | | 1.21 | | 2.10 | | 1.78 | | 0.29 | | 0.85 | | 0.84 | | 0.81 | |
| **United Kingdom** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 0.27 | | 0.40 | | 0.46 | | 0.38 | | 0.61 | | 0.80 | | 0.55 | | 0.87 | | 0.90 | | 0.75 | 0.75 | | 0.32 | | 0.40 | | 0.27 | | 0.32 | | 0.50 | | 0.58 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.83 | 0.84 | | 0.36 | | 0.45 | | 0.30 | | 0.35 | | 0.56 | | 0.65 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.28 | 1.30 | | 0.55 | | 0.69 | | 0.46 | | 0.54 | | 0.86 | | 1.00 | |  | |
| **United States** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 0.55 | | 0.62 | | 1.57 | | 1.07 | | 0.64 | | 0.98 | | 1.01 | | 0.48 | | 0.66 | | 1.08 | 0.75 | | 0.24 | | 0.49 | | 0.35 | | 0.44 | | 0.50 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.64 | 1.15 | | 0.36 | | 0.74 | | 0.53 | | 0.67 | | 0.76 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.28 | 0.90 | | 0.28 | | 0.58 | | 0.41 | | 0.52 | | 0.59 | |  | |  | |
| **Average IRRs** |  |  | |  | |  | |  | |  | |  | |  | |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.65 (0.12,3.19) | 1.51 (0.25, 2.77) | | 0.73 (-0.08, 1.53) | | 1.20 (-0.26, 2.66) | | 1.03 (-0.19, 2.24) | | 0.76 (0.38, 0.64) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.46 (0.84, 2.08) | 1.58 (1.01, 2.14) | | 0.69 (0.31, 1.08) | | 1.00 (-0.29, 1.72) | | 0.98 (0.33, 1.62) | | 0.76 (0.15, 1.38) | |  | |  | |  | |
| **B.     Individuals < 5 years of age - PCV10 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Colombia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 0.84 | | 0.73 | 0.47 | | 0.73 | | 2.03 | | 1.21 | | 1.58 | | 1.86 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.87 | 0.56 | | 0.87 | | 2.42 | | 1.44 | | 1.89 | | 2.21 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.87 | 0.56 | | 0.87 | | 2.42 | | 1.44 | | 1.89 | | 2.21 | |  | |  | |
| **Finland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | 0.35 | | 0.00 | | 0.70 | | 0.00 | | 0.68 | | 0.34 | | 0.73 | 1.11 | | 0.99 | | 1.68 | | 1.68 | | 0.34 | | 1.33 | | 1.95 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 2.13 | 3.24 | | 2.89 | | 4.91 | | 4.93 | | 1.01 | | 3.90 | | 5.71 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 2.10 | 3.19 | | 2.85 | | 4.84 | | 4.86 | | 0.99 | | 3.84 | | 5.63 | |  | |
| **The Netherlands** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | 0.40 | | 0.45 | | 0.45 | | 0.48 | | 0.45 | | 0.00 | 0.49 | | 0.40 | | 0.45 | | 0.40 | | 0.93 | | 0.95 | | 0.48 | | 0.48 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0 | 1 | | 0.89 | | 1 | | 0.89 | | 2.09 | | 2.14 | | 1.07 | | 1.07 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0 | 1 | | 0.89 | | 1 | | 0.90 | | 2.10 | | 2.15 | | 1.07 | | 1.07 | |
| **Average IRRs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.00 (-0.21, 2.21) | 1.63 (0.03, 3.24) | | 1.55 (0.23, 2.86) | | 2.78 (0.53, 5.02) | | 2.42 (-0.06, 4.90) | | 1.66 (1.01, 2.31) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.99 (-0.20, 2.18) | 1.62 (0.04, 3.19) | | 1.53 (0.25, 2.82) | | 2.76 (0.56, 4.95) | | 2.40 (-0.03, 4.83) | | 1.66 (1.00, 2.32) | |  | |  | |  | |
| **C.     Individuals ≥ 65 years - PCV13 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Australia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 1.8 | | 2.14 | 1.82 | | 2.26 | | 1.51 | | 1.59 | | 1.23 | | 1.86 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.19 | 1.01 | | 1.26 | | 0.84 | | 0.88 | | 0.68 | | 1.03 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.19 | 1.01 | | 1.26 | | 0.84 | | 0.88 | | 0.68 | | 1.03 | |  | |  | |
| **Canada (Toronto)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 2.00 | | 3.19 | | 3.28 | | 4.24 | | 2.59 | | 3.21 | | 2.08 | | 4.40 | | 3.42 | | 2.02 | 1.80 | | 3.37 | | 2.82 | | 1.62 | | 1.07 | | -- | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.59 | 0.52 | | 0.99 | | 0.82 | | 0.47 | | 0.31 | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.64 | 0.57 | | 1.07 | | 0.89 | | 0.51 | | 0.34 | |  | |  | |  | |
| **Israel** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 3.74 | 4.53 | | 3.45 | | 3.39 | | 2.05 | | 1.86 | | 2.82 | | 3.26 | | 2.72 | |
| **United Kingdom** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 2.05 | | 2.28 | | 2.55 | | 2.72 | | 2.84 | | 2.85 | | 2.26 | | 2.77 | | 3.02 | | 2.95 | 3.02 | | 2.32 | | 1.96 | | 1.67 | | 2.25 | | 2.71 | | 3.43 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.98 | 1.00 | | 0.77 | | 0.65 | | 0.55 | | 0.75 | | 0.90 | | 1.13 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.14 | 1.16 | | 0.90 | | 0.76 | | 0.64 | | 0.87 | | 1.05 | | 1.32 | |  | |
| **United States** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 3.57 | | 3.97 | | 4.09 | 4.41 | | 3.43 | | 3.76 | | 2.56 | | 3.43 | | 3.09 | | 3.85 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.03 | 1.11 | | 0.86 | | 0.95 | | 0.65 | | 0.86 | | 0.78 | | 0.97 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.08 | 1.17 | | 0.91 | | 1.00 | | 0.68 | | 0.91 | | 0.82 | | 1.02 | |  | |
| **Average IRR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.86 (0.59, 1.14) | 0.88 (0.53, 1.23) | | 0.87 (0.75, 1.00) | | 0.81 (0.64, 0.98) | | 0.56 (0.46, 0.65) | | 0.64 (0.31, 0.97) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.95 (0.64, 1.26) | 0.97 (0.58, 1.36) | | 0.96 (0.85, 1.07) | | 0.88 (0.75, 1.02) | | 0.61 (0.51, 0.71) | | 0.71 (0.35, 1.07) | |  | |  | |  | |
| **D.     Individuals ≥ 65 years - PCV10 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Colombia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 2.06 | | 2.28 | 1.99 | | 3.15 | | 4.38 | | 3.34 | | 4.74 | | 6.07 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.11 | 0.97 | | 1.53 | | 2.12 | | 1.62 | | 2.30 | | 2.95 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.11 | 0.97 | | 1.53 | | 2.12 | | 1.62 | | 2.30 | | 2.95 | |  | |  | |
| **Finland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | 1.83 | | 2.16 | | 2.35 | | 1.96 | | 2.95 | | 2.89 | | 3.52 | 4.07 | | 3.39 | | 3.63 | | 5.85 | | 7.13 | | 6.41 | | 6.10 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.22 | 1.41 | | 1.17 | | 1.26 | | 2.02 | | 2.46 | | 2.22 | | 2.11 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.49 | 1.73 | | 1.44 | | 1.54 | | 2.48 | | 3.02 | | 2.72 | | 2.59 | |  | |
| **The Netherlands** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | 3.55 | | 4.00 | | 3.43 | | 5.10 | | 3.30 | | 4.85 | 6.45 | | 3.69 | | 3.87 | | 3.13 | | 5.07 | | 4.43 | | 4.06 | | 5.89 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.47 | 1.96 | | 1.12 | | 1.18 | | 0.95 | | 1.54 | | 1.34 | | 1.23 | | 1.79 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.25 | 1.66 | | 0.95 | | 1.00 | | 0.81 | | 1.31 | | 1.14 | | 1.05 | | 1.52 | |
| **Average IRRs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.27 (1.05, 1.48) | 1.44 (0.88, 2.01) | | 1.27 (1.02, 1.52) | | 1.52 (0.92, 2.11) | | 1.53 (0.92, 2.14) | | 2.10 (1.54, 2.66) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.28 (1.06, 1.51) | 1.45 (0.97, 1.93) | | 1.31 (0.96, 1.66) | | 1.55 (0.92, 2.19) | | 1.64 (0.69, 2.58) | | 2.21 (1.24, 3.18) | |  | |  | |  | |
| **E.     All ages – PCV13 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Australia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 0.71 | | 0.73 | 0.71 | | 0.68 | | 0.56 | | 0.67 | | 0.57 | | 0.85 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.03 | 1.00 | | 0.96 | | 0.79 | | 0.94 | | 0.80 | | 1.20 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.03 | 1.00 | | 0.96 | | 0.79 | | 0.94 | | 0.80 | | 1.20 | |  | |  | |
| **Canada (Toronto)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 0.44 | | 0.74 | | 0.60 | | 0.77 | | 0.73 | | 0.72 | | 0.57 | | 0.81 | | 0.87 | | 0.51 | 0.44 | | 0.81 | | 0.74 | | 0.67 | | 0.50 | | -- | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.59 | 0.51 | | 0.93 | | 0.86 | | 0.77 | | 0.57 | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.74 | 0.64 | | 1.17 | | 1.07 | | 0.97 | | 0.72 | |  | |  | |  | |
| **Israela** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 0.57 | 0.68 | | 0.58 | | 0.59 | | 0.40 | | 0.28 | | 0.50 | | 0.54 | | 0.53 | |
| **United Kingdom** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | 0.68 | | 0.74 | | 0.78 | | 0.81 | | 0.72 | | 0.72 | | 0.64 | | 0.74 | | 0.80 | | 0.75 | 0.77 | | 0.59 | | 0.52 | | 0.41 | | 0.51 | | 0.69 | | 0.92 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.93 | 0.95 | | 0.73 | | 0.65 | | 0.51 | | 0.64 | | 0.86 | | 1.15 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.01 | 1.04 | | 0.80 | | 0.71 | | 0.55 | | 0.69 | | 0.93 | | 1.25 | |  | |
| **United Statesb** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | |
| **Average IRR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.76 (0.43, 1.19) | 0.73 (0.30, 1.03) | | 0.83 (0.63, 1.47) | | 0.75 (0.55, 1.31) | | 0.64 (0.38, 1.02) | | 0.60 (0.54, 1.14) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.88 (0.61, 1.49) | 0.84 (0.45, 1.28) | | 0.98 (0.62, 1.60) | | 0.89 (0.54, 1.43) | | 0.76 (0.36, 1.12) | | 0.70 (0.68, 1.39) | |  | |  | |  | |
| **F.     All ages – PCV10 Countries** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Colombia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 0.61 | | 0.54 | 0.48 | | 0.80 | | 1.14 | | 0.88 | | 1.28 | | 1.54 | | -- | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.89 | 0.78 | | 1.32 | | 1.87 | | 1.46 | | 2.11 | | 2.54 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.89 | 0.78 | | 1.32 | | 1.87 | | 1.46 | | 2.11 | | 2.54 | |  | |  | |
| **Finland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | 0.94 | | 1.05 | | 1.03 | | 1.26 | | 1.80 | | 1.47 | | 2.07 | 1.91 | | 1.61 | | 1.91 | | 2.75 | | 3.29 | | 3.62 | | 3.43 | | -- | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.41 | 1.30 | | 1.09 | | 1.30 | | 1.87 | | 2.24 | | 2.47 | | 2.34 | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.64 | 1.52 | | 1.27 | | 1.52 | | 2.18 | | 2.61 | | 2.88 | | 2.72 | |  | |
| **The Netherlands** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | 0.90 | | 0.95 | | 0.73 | | 1.07 | | 0.87 | | 1.18 | 1.54 | | 1.07 | | 1.08 | | 0.90 | | 1.31 | | 1.24 | | 1.29 | | 1.71 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.35 | 1.77 | | 1.23 | | 1.24 | | 1.03 | | 1.51 | | 1.42 | | 1.47 | | 1.96 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.30 | 1.70 | | 1.18 | | 1.20 | | 0.99 | | 1.45 | | 1.37 | | 1.42 | | 1.89 | |
| **Average IRR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.22 (0.89, 1.54) | 1.28 (0.73, 1.84) | | 1.21 (1.09, 1.34) | | 1.47 (1.08, 1.87) | | 1.45 (0.98, 1.93) | | 1.96 (1.51, 2.40) | |  | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.28 (0.85, 1.70) | 1.33 (0.79, 1.88) | | 1.26 (1.18, 1.34) | | 1.53 (1.15, 1.91) | | 1.54 (0.87, 2.22) | | 2.06 (1.40, 2.72) | |  | |  | |  | |
| **G.    Countries with Mixed PCV10/PCV13 use** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **New Zealand: PCV7 (2008); PCV10 (2011); PCV13 (2014); PCV10 (2017)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **< 5 years** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 0 | | 0.96 | | 1.26 | 0 | | 0.64 | | 0.97 | | 2.93 | | 0.66 | | 1.31 | | 1.31 | | 0.66 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 1.31 | 0 | | 0.67 | | 1.01 | | 3.05 | | 0.69 | | 1.36 | | 1.36 | | 0.69 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 2.63 | 0 | | 1.33 | | 2.02 | | 6.1 | | 1.38 | | 2.73 | | 2.73 | | 1.38 | |
| **≥ 65 years** |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Incidence | -- | | -- | | -- | | -- | | -- | | -- | | -- | | 2.22 | | 1.98 | | 1.4 | 2.7 | | 2.28 | | 1.72 | | 2.27 | | 2.33 | | 1.41 | |  | |  | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.71 | 1.36 | | 1.15 | | 0.87 | | 1.15 | | 1.18 | | 0.71 | |  | |  | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1.0 | | 0.67 | 1.29 | | 1.09 | | 0.82 | | 1.08 | | 1.11 | | 0.67 | |  | |  | |
| **All ages** |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |
| Incidence |  | |  | |  | |  | |  | |  | |  | | 0.65 | | 0.6 | | 0.48 | 0.86 | | 0.56 | | 0.51 | | 0.92 | | 0.71 | | 0.57 | | 0.67 | | 0.68 | |
| IRR (Analysis 1A) |  | |  | |  | |  | |  | |  | |  | |  | | 1 | | 0.92 | 0.74 | | 1.32 | | 0.86 | | 0.78 | | 1.42 | | 1.09 | | 0.88 | | 1.03 | |
| IRR (Analysis 1B) |  | |  | |  | |  | |  | |  | |  | |  | | 1.0 | | 0.77 | 1.38 | | 0.9 | | 0.82 | | 1.47 | | 1.14 | | 0.91 | | 1.07 | | 1.09 | |

“—" = not available

aIncidence data for Israel were not available prior to 2010 in this age group

bIncidence data for the United States were not available in this age group

Analysis 1A: IRRs comparing serotype 3 incidence for each year were compared with 2009, the last year before PCV13 or PCV10 were introduced in the infant immunization program.

Analysis 1B: IRRs compared serotype 3 incidence each year to the average serotype 3 incidence for all years before higher valent PCV introduction.