Supplementary figure S1

Percentage vaccinated (Base: 89%, LB: 71.2%, UB: 100%)
Percentage pneumococcal pneumonia (historical period): 2 - 4 (Base: 29%, LB: 16%, UB: 24%)
Maximum proportion that overall IDP disease can re-emerge (Base: 187.5%, LB: 150%, UB: 25.5%)
Percentage pneumococcal acute otitis media (historical period): 2 - 4 (Base: 32%, LB: 25.5%, UB: 38.4%)
Percentage pneumococcal pneumonia (historical period): 0 - <2 (Base: 29%, LB: 16%, UB: 24%)
Percentage pneumococcal pneumonia (current period): 2 - 4 (Base: 29%, LB: 16%, UB: 24%)
Percentage pneumococcal acute otitis media (historical period): 0 - <2 (Base: 32%, LB: 25.5%, UB: 38.4%)
Otitis Media (mild) utility decrement (Base: 0.050, LB: 0.0040, UB: 0.0060)
Percentage pneumococcal pneumonia (current period): 0 - <2 (Base: 20%, LB: 16%, UB: 24%)
Prevaccine incidence: 65+ (Base: 8.72, LB: 6.98, UB: 10.47)
Mortality per 100,000: 65+ (Base: 21,900.00, LB: 17,520.00, UB: 26,280.00)
Percentage pneumococcal acute otitis media (current period): 0 - <2 (Base: 20%, LB: 16%, UB: 24%)
Prevaccine incidence: 25 - 49 (Base: 1.08, LB: 1.03, UB: 2.02)
Prevaccine incidence: 50 - 64 (Base: 1.64, LB: 1.31, UB: 1.97)
Direct costs pneumonia (hospitalized): 2 - 4 (Base: €1,948, LB: €1,558, UB: €2,338)

Lower Bound  Upper Bound

€ 17,891.12  € 35,805.97
€ 24,519.99  € 34,191.46
€ 25,761.65  € 34,825.57
€ 26,185.27  € 34,343.87
€ 25,483.88  € 33,176.68
€ 25,752.87  € 33,157.45
€ 26,341.08  € 33,247.74
€ 26,132.58  € 32,482.26
€ 26,414.28  € 32,391.71
€ 27,731.61  € 31,466.46
€ 27,775.97  € 30,082.30
€ 28,429.93  € 30,684.89
€ 28,121.56  € 30,264.48
€ 28,083.36  € 30,202.53
€ 27,930.17  € 29,996.82

Incremental impact

€ 10,000  € 15,000  € 20,000  € 25,000  € 30,000  € 35,000  € 40,000  € 45,000
Supplementary figure S2
**Supplementary Table S1**

Total incremental diseases cases and death avoided with a PCV13 program, vaccination costs, and budget impact by Italian Region.

| Cumulative over 5 Years (PCV13 vs PCV10) | Incremental Disease Cases Avoided (PCV13 vs PCV10) | Incremental Deaths Avoided (PCV13 vs PCV10) |
|----------------------------------------|---------------------------------------------------|----------------------------------------------|
| Abruzzo                                | 8,543.0                                           | 16.3                                         |
| Basilicata                             | 4,018.2                                           | 7.7                                          |
| Calabria                               | 13,844.3                                          | 26.4                                         |
| Campania                               | 41,136.4                                          | 78.4                                         |
| Emilia Romagna                         | 31,342.1                                          | 59.7                                         |
| Friuli Venezia Giulia                  | 8,579.9                                           | 16.4                                         |
| Lazio                                  | 41,552.3                                          | 79.2                                         |
| Marche                                 | 10,835.6                                          | 20.7                                         |
| Liguria                                | 11,027.6                                          | 21.0                                         |
| Lombardia                              | 70,585.1                                          | 134.5                                        |
| Molise                                 | 2,187.1                                           | 4.2                                          |
| Piemonte                               | 30,945.4                                          | 59.0                                         |
| Puglia                                 | 28,630.1                                          | 54.6                                         |
| Sardegna                               | 11,646.3                                          | 22.2                                         |
| Sicilia                                | 35,624.1                                          | 67.9                                         |
| Trentino Alto Adige                    | 7,487.9                                           | 14.3                                         |
| Tuscany                                | 26,365.5                                          | 50.3                                         |
| Umbria                                 | 6,262.4                                           | 11.9                                         |
| Valle d’Aosta                          | 893.9                                             | 1.7                                          |
| Veneto                                 | 34,573.6                                          | 65.9                                         |