Table S1. Additional model input parameters, 6 months – 17 years.

| Variable | Most Likely Estimate | Range for Sensitivity Analysis | Source |
| --- | --- | --- | --- |
| Probability of an outpatient visit for child with influenza illness1,2 |  |  | [[1](#_ENREF_1),[2](#_ENREF_2),[3](#_ENREF_3)] |
| 6-23 months | 0.5 | 0.17-0.83 |  |
| 2 years | 0.47 | 0.15-0.81 |  |
| 3-4 years | 0.43 | 0.12-0.78 |  |
| 5-11 years | 0.28 | 0.11-0.5 |  |
| 12-17 years | 0.24 | 0.06-0.5 |  |
| Probability of otitis media for a child with medically attended influenza illness3 |  |  | [[4](#_ENREF_4),[5](#_ENREF_5),[6](#_ENREF_6)], expert panel |
| 6-23 months | 0.63 | 0.33-0.8 |  |
| 2 years | 0.58 | 0.27-0.8 |  |
| 3-4 years | 0.39 | 0.17-0.6 |  |
| 5-11 years | 0.23 | 0.05-0.5 |  |
| 12-17 years | 0.15 | 0.01-0.4 |  |
| Probability of non-hospitalized pneumonia or other outpatient complication for child with medically-attended influenza illness4,5 |  |  | [[2](#_ENREF_2),[3](#_ENREF_3)], expert panel  |
| 6-23 months | 0.2 | 0.04-0.5 |  |
| 2 years | 0.15 | 0.02-0.4 |  |
| 3-4 years | 0.15 | 0.02-0.4 |  |
| 5-11 years | 0.11 | 0.02-0.3 |  |
| 12-17 years | 0.08 | 0.01-0.2 |  |
| Probability of long-term sequelae following influenza-related hospitalization6,7 | 0.01 | 0.001-0.03 | Expert panel |
| Probability of medically-attended vaccination-related adverse events |  |  |  |
| Injection site reaction |  |  |  |
| 6-23 months | 0.008 | 0.002-0.017 | [[7](#_ENREF_7)] |
| 2 years | 0.003 |  |  |
| 3-4 years | 0.002 |  |  |
| 5-11 years | 0.001 |  |  |
| 12-17 years | 0.0003 |  |  |

1 Estimates for healthy children shown in table. Probabilities are estimated to be twice as high for children at high risk for influenza-related complications.

2 Range for sensitivity analysis determined by expert opinion.

3 This was the conditional probability of otitis media given that a child had pH1N1 illness.

4 Estimates for healthy children shown in table. Probabilities are estimated to be twice as high for children at high risk for influenza-related complications.

5 This was the conditional probability of non-hosptiatlized pneumonia given that a child had pH1N1 illness.

6 E.g., acute necrotizing encephalopathy with irreversible neurologic damage.

7 This was the conditional probability of long-term sequelae given that a child had pH1N1 illness.

| Variable | Most Likely Estimate | Range for Sensitivity Analysis | Source |
| --- | --- | --- | --- |
| Systemic reaction (fever)8 |  |  |  |
| 6-23 months | 0.013 | 0.001-0.025 | [[8](#_ENREF_8)] |
| 2 years | 0.011 |  |  |
| 3-4 years | 0.009 |  |  |
| 5-11 years | 0.004 |  |  |
| 12-17 years | 0.003 |  |  |
| Anaphylaxis | 0.000001 | 0-0.000002 | [[9](#_ENREF_9)]  |
| Guillain-Barré syndrome (medically attended within 6 weeks of vaccination) | 0.000001 | 0 - 0.000115 | [[10](#_ENREF_10),[11](#_ENREF_11),[12](#_ENREF_12),[13](#_ENREF_13),[14](#_ENREF_14),[15](#_ENREF_15),[16](#_ENREF_16),[17](#_ENREF_17),[18](#_ENREF_18),[19](#_ENREF_19)] |
| Influenza-related costs |  |  |  |
| OTC medications9 | $3 |  | [[20](#_ENREF_20),[21](#_ENREF_21),[22](#_ENREF_22)], expert panel |
| Physician visit for uncomplicated influenza10 | $42 | $11-110 | [[23](#_ENREF_23)]11  |
| Physician visit for otitis media |  |  | [[23](#_ENREF_23)]12 |
| 6-23 months | $98 | $29-249 |  |
| 2-4 years | $105 | $29-253 |  |
| 5-17 years | $119 | $39-310 |  |
| Physician visit for non-hospitalized pneumonia |  |  | [[23](#_ENREF_23)]12 |
| 6-23 months | $227 | $78-905 |  |
| 2-4 years | $112 | $35-422 |  |
| 5-17 years | $138 | $389-636 |  |
| Hospitalization |  |  | [[24](#_ENREF_24)] |
| 6-23 months, LR | $7,045 | 5815-8275 |  |
| 2 years, LR | $5,703 | 2796-13642 |  |
| 3-4 years, LR | $6,150 | 2460-13866 |  |
| 5-17 years, LR | $7,156 | 447-39920 |  |
| 6-23 months, HR | $9,057 | 2348-24600 |  |
| 2 years, HR | $8,387 | 3019-38466 |  |
| 3-4 years, HR | $11,406 | 3019-38466 |  |
| 5-17 years, HR | $9,617 | 2460-57811 |  |
| Long-term sequelae following influenza-related hospitalization13 | $790,567 | $0-1,265,802 | [[25](#_ENREF_25)] |

8 Definitions and follow-up for incidence of fever following vaccination vary by study. Rates are 2X higher for higher-risk subgroups.

9 Vary by age, calculated by costing out recommended dose of acetaminophen for average weight in each age group.

10 Only a proportion of children with influenza illness are assumed to make a physician visit. ICD-9 codes: 487 and 487.0.

11 1993-1997 Marketscan database, The Medstat Group, Ann Arbor, MI.

12 2001-2003 Marketscan database, The Medstat Group, Ann Arbor, MI.

13 Includes costs of lifetime care and special education.

| Variable | Most Likely Estimate | Range for Sensitivity Analysis | Source |
| --- | --- | --- | --- |
| Costs of vaccination |  |  |  |
| Vaccine dose | $8.60 |  | HHS/BARDA14 |
| Administration |  |  |  |
| Mass vaccination | $11.30 |  | [[26](#_ENREF_26)], assumption |
| Physician office setting, existing visit | $13.71 |  | [[27](#_ENREF_27)] |
| Physician office setting, additional visit | $20.92 |  | [[27](#_ENREF_27)] |
| Parent time15 (hours), mass vaccination setting, 6 m – 4 y | 0.7 | - | [[26](#_ENREF_26)], assumption  |
| Parent time16 (hours), physician office setting | 1.0 | - | Assumption  |
| Hourly wage rate for parent time | $20.62 |  | [[28](#_ENREF_28)] |
| Vaccination-related adverse events |  |  | [[29](#_ENREF_29)] |
| Physician visit for injection site reaction17 | $77 | $38-864 |  |
| Anaphylaxis18 | $3,415 | $66-17,404 |  |
| Guillain Barré syndrome19 | $29,557 | $8,431-99,852 |  |
| Quality Adjustments20,21 (Disutility associated with an event) |  |  |  |
| Episode of influenza | 0.005 | 0.002-0.009 | [[30](#_ENREF_30)] |
| Otitis media | 0.042 | 0.023-0.065 | [[31](#_ENREF_31)] |
| Non-hospitalized complications (pneumonia) | 0.046 | 0.027-0.071 | [[31](#_ENREF_31)] |
| Hospitalization, pneumonia | 0.076 | 0.054-0.100 | [[31](#_ENREF_31)] |
| Anaphylaxis | 0.02 | 0.006-0.041 | [[30](#_ENREF_30)] |
| Guillain Barré syndrome | 0.141 | 0.092-0.199 | [[30](#_ENREF_30)] |

14 2009 government purchase price per dose of inactivated vaccine.

15 Includes travel, waiting, and vaccination time.

16 Assumes that a proportion of patients who receive their vaccination at the physician’s office will receive vaccinations as an adjunct to an existing visit which incurs 10 minutes in additional recipient time. 66% of vaccinations for recipients ≥65 years, 47% of vaccinations for recipients 50-65 years, and 44% of vaccinations for recipients 18-49 years occurred at an existing visit. Time required for a vaccine-initiated visit is assumed to be 1 hour.

17 5- minute visit, CPT code 99211

18 ICD-9 codes: 999.4, 995.0, 995.6x

19 ICD-9 code: 357.0

20 Quality adjustments are included in the model as a one-time decrement in utility for each temporary health state. For example, an episode of influenza results in a one-time loss of 0.005 quality-adjusted life years [QALYs]. Utility losses were calculated by dividing the discounted time-traded off by the respondent’s discounted life expectancy. In these studies, respondents were asked how much of their own lifetime they would be willing to trade in order to avoid a case of uncomplicated influenza (i.e., a time-tradeoff valuation) and respondents were instructed to include lost time from productive activities in the valuation task.

21 Average life span used to calculate total QALYs lost due to life-long sequelae and death was 77.9-78.2 years depending on child’s current age.

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