The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention

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Appendix I

For the equation in the main text defining net returns due to vaccinations, savings from outcomes averted and the costs of vaccination are calculated as follows:

\[ \text{Savings from outcomes averted} = \sum (\text{Number with outcome before intervention}) \times \text{compliance} \times \text{vaccine effectiveness} \times \text{$value of outcome prevented} \]

\[ \text{age, risk group} \times \text{Outcomes death, hospitalization, outpatient, ill, no medical care} \]
group hospitalization,
outpatient, ill, no medical care

and:

Cost of vaccination = $\text{cost/vaccinee} \times \text{population} \times \text{compliance}

age, risk group

<table>
<thead>
<tr>
<th>Disease outcomes</th>
<th>0-19 yrs</th>
<th>20-64 yrs</th>
<th>65 + yrs</th>
<th>0-19 yrs</th>
<th>20-64 yrs</th>
<th>65 + yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>0.70</td>
<td>0.70</td>
<td>0.60</td>
<td>0.40</td>
<td>0.40</td>
<td>0.30</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>0.55</td>
<td>0.55</td>
<td>0.50</td>
<td>0.55</td>
<td>0.55</td>
<td>0.50</td>
</tr>
<tr>
<td>Outpatient visits</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>Ill, no medical care sought</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Vaccine effectiveness is defined as the reduction in the number of cases in each of the age and disease categories. Within a defined age group, it was assumed that there was no difference in vaccine effectiveness between subgroups at high risk and not at high risk. The terms high and low level of effectiveness are subjective and reflect only a judgment of the levels of effectiveness in the two scenarios relative to each other.

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