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

Martin I. Meltzer, Nancy J. Cox, and Keiji Fukuda

Centers for Disease Control and Prevention, Atlanta, Georgia, USA


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:

Savings from outcomes averted = \sum (Number with outcome before intervention)

For outcomes:
- death,
- hospitalization,
- outpatient, ill,
- no medical care

For vaccine:
- effectiveness

For compliance:
- x

For value:
- $value of outcome prevented)

For age and risk:
- age, risk

For outcomes:
- Outcomes

For death:
- death,
Cost of vaccination = $\text{cost/vaccinee} \times \text{population} \times \text{compliance}

age, risk group

age, risk group

age, risk group

Table. High and low levels of assumed vaccine effectiveness

<table>
<thead>
<tr>
<th>Disease outcomes</th>
<th>High\textsuperscript{a}</th>
<th>Low\textsuperscript{a}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-19 yrs</td>
<td>20-64 yrs</td>
</tr>
<tr>
<td>Death</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>0.55</td>
<td>0.55</td>
</tr>
<tr>
<td>Outpatient visits</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>
</tr>
</tbody>
</table>

\textsuperscript{a}Vaccine effectiveness is defined as the reduction in the number of cases in each of the age and disease categories.

\textsuperscript{b}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.

\textsuperscript{c}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.

Address for correspondence: Martin Meltzer, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Clifton Road, Mail Stop C12, Atlanta, GA 30333, USA; fax: 404-639-3039; e-mail: qzm4@cdc.gov.