The work in this appendix is based on the 2007 Susenas survey of 285,000 households. It analyzes the differences in inpatient and outpatient utilization rates by socioeconomic characteristics (for example, age, income, urban-rural residence) and insurance coverage status. The probit analysis provides crude estimates of the likely behavioral-demand response on utilization that would result from increased insurance coverage and changing socioeconomic conditions in Indonesia.

Empirical evidence, as well as basic economics, suggests that utilization rates would probably be higher among those who are insured than among those who are not. Analysis of Susenas data from 2007 provides some support for this insurance-inducement effect on utilization rates. As table 1A.1 shows, outpatient utilization rates in the month preceding the survey for those who had any insurance averaged 17.3 percent, compared with 12.4 percent for those who had no insurance. The inducement was even higher for those covered by Jamkesmas, who reported outpatient utilization rates of around 18.2 percent. Similar patterns were observed for inpatient utilization rates, with those having insurance reporting more than double the utilization rates of those without insurance.
### Table 1A.1 Utilization Rates by Insurance Status

<table>
<thead>
<tr>
<th>Age category</th>
<th>Outpatient utilization, past month (percent)</th>
<th>Outpatient visits, past month</th>
<th>Inpatient utilization, past year (percent)</th>
<th>Average length of stay per admission, past year (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No insurance</td>
<td>Any insurance</td>
<td>Jamkesmas</td>
<td>No insurance</td>
</tr>
<tr>
<td>0–4</td>
<td>22.9</td>
<td>28.5</td>
<td>29.4</td>
<td>1.5</td>
</tr>
<tr>
<td>5–9</td>
<td>11.9</td>
<td>16.0</td>
<td>16.2</td>
<td>1.5</td>
</tr>
<tr>
<td>10–14</td>
<td>7.3</td>
<td>10.7</td>
<td>11.2</td>
<td>1.5</td>
</tr>
<tr>
<td>15–19</td>
<td>5.8</td>
<td>8.4</td>
<td>8.7</td>
<td>1.6</td>
</tr>
<tr>
<td>20–24</td>
<td>6.9</td>
<td>10.4</td>
<td>10.9</td>
<td>1.6</td>
</tr>
<tr>
<td>25–29</td>
<td>8.1</td>
<td>12.2</td>
<td>13.0</td>
<td>1.6</td>
</tr>
<tr>
<td>30–34</td>
<td>9.4</td>
<td>13.6</td>
<td>14.8</td>
<td>1.6</td>
</tr>
<tr>
<td>35–39</td>
<td>11.0</td>
<td>15.2</td>
<td>16.3</td>
<td>1.7</td>
</tr>
<tr>
<td>40–44</td>
<td>12.6</td>
<td>16.6</td>
<td>17.8</td>
<td>1.7</td>
</tr>
<tr>
<td>45–49</td>
<td>14.2</td>
<td>18.8</td>
<td>21.3</td>
<td>1.8</td>
</tr>
<tr>
<td>50–54</td>
<td>16.1</td>
<td>21.6</td>
<td>23.4</td>
<td>1.8</td>
</tr>
<tr>
<td>55–59</td>
<td>17.6</td>
<td>24.6</td>
<td>25.3</td>
<td>1.8</td>
</tr>
<tr>
<td>60–64</td>
<td>20.6</td>
<td>27.0</td>
<td>27.0</td>
<td>1.9</td>
</tr>
<tr>
<td>65–69</td>
<td>22.3</td>
<td>30.6</td>
<td>29.2</td>
<td>1.8</td>
</tr>
<tr>
<td>70–74</td>
<td>25.1</td>
<td>34.2</td>
<td>33.4</td>
<td>1.9</td>
</tr>
<tr>
<td>75+</td>
<td>24.9</td>
<td>34.4</td>
<td>32.6</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12.4</strong></td>
<td><strong>17.3</strong></td>
<td><strong>18.2</strong></td>
<td><strong>1.7</strong></td>
</tr>
</tbody>
</table>

Clearly, the utilization pattern differences reported in table 1A.1 are not all due to insurance inducement alone, especially if the characteristics of the people who did and did not have insurance were significantly different. It could be that those with insurance tended to have poorer health status (or were relatively better-off formal sector employees and civil servants). Or differences in the age, education, and income profiles of those with and without insurance might explain some of the differences in utilization rates across the different insurance coverage subgroups. One way to separate these effects is to measure the impact of insurance coverage on utilization, controlling for some of these other determinants, such as education, income, rural-urban residence, and age. The results of this exercise are reported in table 1A.2.

By taking other determinants into account, the basic pattern of differences in utilization rates observed in table 1A.1 remain but the magnitudes are different, and there are differences related to the type of insurance coverage (for example, Jamkesmas vs. Askes/Jamsostek vs. other insurance). Controlling for other determinants, those who had any insurance had outpatient utilization rates in the previous month that were 4.7 percent higher than those who had no insurance. Those with Jamkesmas had outpatient utilization rates about 2.5 percent higher than those without insurance. Similarly, inpatient utilization rates in the previous year were about 1.6 percent higher for those with any insurance, whereas for those with Jamkesmas coverage, the inpatient utilization rates were about 1.0 percent higher.

By relying, in part, on these estimates, Walker (2008) projects the following increases in utilization resulting from both demographic and insurance coverage effects, assuming the entire uninsured population is covered by Jamkesmas by 2015:

- **Outpatient**: 33.4 percent increase from demographics alone, 79.4 percent increase from demographic changes together with insurance inducement.
- **Inpatient**: 30.4 percent increase from demographics alone, 133.9 percent from demographic changes together with insurance inducement.
### Table 1A.2 Probit Analysis of Utilization Differentials by Insurance Status and Socioeconomic Factors

<table>
<thead>
<tr>
<th>Insurance status</th>
<th>Outpatient utilization (past month)</th>
<th>Inpatient utilization (past year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model I</td>
<td>Model II</td>
</tr>
<tr>
<td>Insurance coverage (Base = no insurance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any insurance</td>
<td>0.047**(0.001)</td>
<td>0.016**(0.000)</td>
</tr>
<tr>
<td>Askes/Jamsostek</td>
<td>0.061**(0.001)</td>
<td>0.021**(0.000)</td>
</tr>
<tr>
<td>Jamkesmas</td>
<td>0.025**(0.002)</td>
<td>0.010**(0.000)</td>
</tr>
<tr>
<td>Other insurance</td>
<td>0.041**(0.002)</td>
<td>0.018**(0.001)</td>
</tr>
<tr>
<td>Age category (Base = 0–4 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–9 years</td>
<td>-0.081**(0.001)</td>
<td>-0.081**(0.002)</td>
</tr>
<tr>
<td>10–14 year</td>
<td>-0.102**(0.002)</td>
<td>-0.102**(0.001)</td>
</tr>
<tr>
<td>15–19 years</td>
<td>-0.107**(0.001)</td>
<td>-0.108**(0.001)</td>
</tr>
<tr>
<td>20–24 years</td>
<td>-0.099**(0.001)</td>
<td>-0.100**(0.001)</td>
</tr>
<tr>
<td>25–29 years</td>
<td>-0.092**(0.001)</td>
<td>-0.093**(0.001)</td>
</tr>
<tr>
<td>30–34 years</td>
<td>-0.084**(0.002)</td>
<td>-0.086**(0.001)</td>
</tr>
<tr>
<td>35–39 years</td>
<td>-0.076**(0.002)</td>
<td>-0.077**(0.002)</td>
</tr>
<tr>
<td>40–44 years</td>
<td>-0.069**(0.002)</td>
<td>-0.070**(0.002)</td>
</tr>
<tr>
<td>45–49 years</td>
<td>-0.061**(0.002)</td>
<td>-0.062**(0.002)</td>
</tr>
<tr>
<td>50–54 years</td>
<td>-0.051**(0.002)</td>
<td>-0.051**(0.002)</td>
</tr>
<tr>
<td>55–59 years</td>
<td>-0.041**(0.002)</td>
<td>-0.041**(0.002)</td>
</tr>
<tr>
<td>60–64 years</td>
<td>-0.027**(0.003)</td>
<td>-0.027**(0.003)</td>
</tr>
<tr>
<td>65–69 years</td>
<td>-0.015**(0.003)</td>
<td>-0.015**(0.003)</td>
</tr>
<tr>
<td>70–74 years</td>
<td>0.002**(0.004)</td>
<td>0.001**(0.004)</td>
</tr>
<tr>
<td>75+ years</td>
<td>-0.014**(0.001)</td>
<td>-0.013**(0.001)</td>
</tr>
<tr>
<td>Urban (Base = rural)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of schooling</td>
<td>-0.003**(0.000)</td>
<td>-0.002**(0.000)</td>
</tr>
<tr>
<td>Males (Base = females)</td>
<td>-0.004***(0.000)</td>
<td>-0.004***(0.001)</td>
</tr>
<tr>
<td>Economic status (Base = poorest quintile)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second quintile</td>
<td>0.023**(0.001)</td>
<td>0.024**(0.001)</td>
</tr>
<tr>
<td>Third quintile</td>
<td>0.043**(0.002)</td>
<td>0.045**(0.002)</td>
</tr>
<tr>
<td>Fourth quintile</td>
<td>0.059**(0.002)</td>
<td>0.063**(0.002)</td>
</tr>
<tr>
<td>Richest quintile</td>
<td>0.065**(0.002)</td>
<td>0.072**(0.002)</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>0.04</td>
<td>0.04</td>
</tr>
</tbody>
</table>


Note: — = No data available. Standard error in parentheses. ** = significant at the 10 percent level.
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