Is the length of time uninsured prior to gaining coverage associated with changes in relative utilization of ED and primary care?

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Introduction

• Utilization of hospital emergency departments (ED) as a safety net provider for routine
  and non-emergent care by the uninsured is an oft cited problem.
• Expansion of health insurance coverage under the Affordable Care Act (ACA) to those
  previously uninsured allows for a potential reallocation of care away from more expensive
  settings (e.g., ED to office-based primary care)
• If familiarity with the health care system and connection with a primary care provider is
  important, those with longer spells of being uninsured prior to gaining coverage may
  be less likely to shift their utilization of services towards primary care
• This study seeks to assess whether length of time uninsured is associated with changes
  in relative utilization of ED and primary care

Methods

• This study uses the Medical Expenditure Panel Survey (MEPS), a comprehensive survey
  of health insurance, healthcare utilization, and medical expenditures in the United States
• Population
  – Adults (18 years or older) who were fully insured (covered for all 12 months) in 2014
  – Fully insured - covered for all 12 months
  – Persistently uninsured - uninsured for all 12 months
  – Transiently uninsured - covered for 1-11 months
  – Education, employment, and family income (all in 2013)
• Policy variable
  – Insurance status in 2013
• Change in relative utilization of primary care to ED visits from 2013 to 2014
  – Relative utilization is defined as the proportion of the total number of
    office-based physician, office-based physician assistant, office-based nurse
    or nurse practitioner visits, and ED visits in a year that were not ED visits
  – If utilization was zero for both visit types in a given year, relative utilization
    was set to zero (i.e., no primary care used)
• Change in utilization of primary care and ED visits (separately) from 2013 to 2014
• Model
  – Ordinary least squares controlling for insurance status, age, gender, race/ethnicity,
    education, employment, and family income (all in 2013)
• Weighted using AHRQ-provided longitudinal survey weights

Results

Table 1. Sample characteristics, MEPS, 2013–2014

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Fully insured</th>
<th>Transiently uninsured</th>
<th>Persistently uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>13,321</td>
<td>4,049</td>
<td>1,071</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52.2%</td>
<td>51.8%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Female</td>
<td>47.8%</td>
<td>48.2%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>52.5%</td>
<td>52.3%</td>
<td>52.5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>47.5%</td>
<td>47.7%</td>
<td>47.5%</td>
</tr>
<tr>
<td>Other race</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>14.1%</td>
<td>14.4%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Some college</td>
<td>52.1%</td>
<td>52.3%</td>
<td>51.9%</td>
</tr>
<tr>
<td>Less than HS</td>
<td>33.8%</td>
<td>33.3%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;$20,000</td>
<td>11.5%</td>
<td>11.4%</td>
<td>11.6%</td>
</tr>
<tr>
<td>$20,000-$40,000</td>
<td>43.5%</td>
<td>43.7%</td>
<td>44.4%</td>
</tr>
<tr>
<td>$40,000-$60,000</td>
<td>23.3%</td>
<td>23.5%</td>
<td>23.6%</td>
</tr>
<tr>
<td>$60,000 or more</td>
<td>21.8%</td>
<td>21.5%</td>
<td>20.5%</td>
</tr>
</tbody>
</table>

Table 2. Ordinary least squares model of change in relative utilization of primary care

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Full model</th>
<th>Restricted model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully insured</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>Transiently uninsured</td>
<td>0.06**</td>
<td>0.04*</td>
</tr>
<tr>
<td>Persistently uninsured</td>
<td>0.09**</td>
<td>0.10**</td>
</tr>
<tr>
<td>0</td>
<td>5.5%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

Conclusions

• Being transiently uninsured in 2013 is associated with a 6.3 percentage point increase
  (p<0.01) in relative utilization of primary care in 2014 (compared with those who were
  fully insured)
• Being persistently uninsured in 2013 was associated with a 9.0 percentage point
  increase (p<0.01) in relative utilization of primary care in 2014 (compared with those
  who were fully insured)
• The restricted model, which excludes education and employment due to missing values,
  yields similar findings

Implications

• The potential for substitution away from ED utilization towards primary care by
  the persistently uninsured could help ease ED overcrowding and encourage earlier
detection and treatment of disease
• Further research is needed to determine whether selection bias may play a role in
  these findings (e.g., are persistently uninsured more likely to have a pre-existing
  condition that would encourage utilization of primary care when insured?)

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