Medicaid Expansions and Health Spending Growth

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Anna Cornelius-Schecter, Edward Kong, Maggie Zhou and other research assistants contributed a great deal to this project.
The 2.5 Trillion Dollar Question (and Growing!)

- Why are health care costs increasing?
- Technology
  - Newhouse (1992,1999): decomposes growth by insurance, income, and aging, and residual is technology
  - Insurance can explain about 1/10 of 700% increase from 1950 to 1980 (based on price elasticity from Rand HIE)
- Insurance could have greater role
  - Finkelstein (2007): examines the impact of the inception of Medicare in 1965 on hospital spending
  - Insurance can explain about 50% of the increase from 1950 to 1990
What is the role of insurance in explaining health spending growth?

• Approach: use variation in Medicaid eligibility across time and states from inception to the present as a potential explanation for health spending growth
Examine State-level Growth in Response to Medicaid to Understand National Growth

• Unite many strands of literature in health economics to better understand health spending growth

  **Regional Variation: Dartmouth**
  • Documents huge variation in Medicare spending at a point of time

  **Time Series Variation: Cross-National Comparisons**
  • Documents variation in growth across countries, US is outlier

  **Insurance Policy Variation Across States and Time**
  • Huge literature examines changes in response to state-level insurance policy (taking policy as exogenous) – Medicaid expansions following Currie and Gruber, my own work on Massachusetts health reform, Finkelstein on Medicare – one time
Outline for Today

• Massive Data-Gathering Effort
• Preliminary Results and Next Steps
Massive Data-Gathering Effort: Calculator

- Medicaid Eligibility Calculator from 1966 (start of Medicaid) to the present
  - Earlier work focuses on shorter time periods, generally starting in the 1979 (Currie and Gruber)
  - Work near inception usually just examines staggered start date but not different thresholds by state
  - Literature generally focuses on one type of eligibility at a time
  - We apply the calculator to the CPS to isolate policy variation using simulation (in practice, does not make much of a difference in the national series)
The impact of the Omnibus Budget Reconciliation Act of 1989, however, was felt more widely by states. OBRA-89 mandated that all states, beginning April 1, 1990, cover pregnant women and children up to age six at 133 percent of the federal poverty level. As of that date, 32

Several states have further expanded coverage for pregnant women and children beyond Medicaid through state-funded programs. California covers pregnant women to 200 percent of the federal poverty level. The
• Administrative data on Medicaid – working on breakdown by age

Massive Data-Gathering Effort: Medicaid Expenditure and Enrollment
• Dig deeper into the health spending series to be explained
  • Economic Census (main component, taken every 5 years)
  • NHIS for outpatient visits in out of pocket spending (in process)
  • American Hospital Association (AHA) to examine real changes (Finkelstein used this too, but used 20 years and interpolated it through the 1990’s. We have variation over time.)

Massive Data-Gathering Effort: Health Spending
Table 1a. Summary Statistics for Firms Subject to Federal Income Tax for the State of Connecticut—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms and comparability of 1977 and 1982 censuses, see appendix A.]

<table>
<thead>
<tr>
<th>SIC code</th>
<th>Kind of business or operation</th>
<th>All establishments</th>
<th>Unincorporated businesses or operations</th>
<th>Establishments with payroll (1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Receipts ($1,000)</td>
<td>Individual proprietorships (number)</td>
</tr>
<tr>
<td>80, ex. 806</td>
<td>Health services, except hospitals</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>801</td>
<td>Offices of physicians</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>802</td>
<td>Offices of dentists</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>803</td>
<td>Offices of osteopathic physicians</td>
<td>#</td>
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<td>8041</td>
<td>Offices of chiropractors</td>
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<td>#</td>
</tr>
<tr>
<td>8042</td>
<td>Offices of optometrists</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>805</td>
<td>Nursing and personal care facilities</td>
<td>#</td>
<td>#</td>
<td>#</td>
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<td>8051</td>
<td>Skilled nursing care facilities</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>8059</td>
<td>Nursing and personal care facilities, n.s.c.</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
</tbody>
</table>

- Coded similar numbers for each state and year

Example: 1982 CT Economic Census
Massive Data-Gathering Effort:
Other Determinants of Health Spending

- Any insurance from CPS and new sources
- Goal: examine Medicaid net of crowd-out
- Private Insurance
- Private expenditure
- Out of pocket from CEX
- Hospital expenditure
- Hospital utilization from AHA
- Doctor visits from restricted use NHIS
Massive Data-Gathering Effort:
Summary

• Longer data series
  • Can examine whether first expansions had a larger impact
    • Perhaps sicker people covered first (ex: child expansions came later)
  • Can explore variation in era of managed care (advantage over Medicare or Rand)
• More data series breakdowns by policy variation
  • Can examine heterogeneous treatment effects:
    • AFDC, AFDC-up, parents, pregnancy, children, childless adults
• New data series
  • Can better control for crowd-out through new private coverage series
Outline for Today

• Massive Data-Gathering Effort
• Preliminary Results and Next Steps
Inception of Medicare (50%)
- General equilibrium
- Old, Sick population
- Nothing like Medicare in place before inception

Variation in Medicaid by State and Time
- Between partial and general equilibrium
- Sick population, not as old as Medicare
- Medicare already existed

Rand HIE (10%)
- Partial equilibrium
- Healthy population, not as old as Medicare
- Medicare already existed

Expect results somewhere in the middle
A one person increase in the number of people eligible for Medicaid increases real total health expenditure by $4,750 per year.

Medicaid eligibility explains 20% of the change in total health expenditure over the period 1965-2009.

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**Preliminary results in middle (20%)**
A one person increase in the number of people eligible for Medicaid increases enrollment by 0.152 people.

Medicaid eligibility explains 23% of the change in Medicaid enrollment over the period 1965-2009.
A one person increase in the number of people eligible for Medicaid increases Medicaid expenditure by $1,724.

Medicaid eligibility explains 42% of the change in Medicaid expenditure over the period 1965-2009.

**Mechanical Relationships**

**Medicaid Expenditure ($2012)**

| Eligibility | 1724.877**  
|            | (767.918)  
| Population | 299.633  
|            | (549.214)  
| R2         | 0.89  
| N          | 2,287  
| Mean dep var | 2,806,000,000  
| Instrument (elig share of pop) | sim1  
| Eligibility type | All  
| State fixed effects | x  
| Time fixed effects | x  
| Controls | pop  

**Calculation:**

- `x-mean (start year)` $= 0$
- `x-mean (endyear)` $= 1,851,931$
- `y-mean (start year)` $= 0$
- `y-mean (endyear)` $= 7,536,000,000$
- `% depvar change explained by medicaid change` $= 42.4%$
Some evidence of spillovers to private expenditure

- A one person increase in the number of people eligible for Medicaid increases real private health expenditure by $1,633 per year.
- Medicaid eligibility explains 15% of the change in real private health expenditure over the period 1980-2009.

### Spillovers

**Private Health Expenditure ($2012)**

<table>
<thead>
<tr>
<th>Eligibility</th>
<th>1633</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1023.176)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Population</th>
<th>4640.350***</th>
</tr>
</thead>
<tbody>
<tr>
<td>(960.534)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R2</th>
<th>0.98</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>1,530</td>
</tr>
<tr>
<td>Mean dep var</td>
<td>17,250,000,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instrument (share of pop)</th>
<th>sim1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligibility type</td>
<td>All</td>
</tr>
<tr>
<td>State fixed effects</td>
<td>x</td>
</tr>
<tr>
<td>Time fixed effects</td>
<td>x</td>
</tr>
<tr>
<td>Controls</td>
<td>pop</td>
</tr>
</tbody>
</table>

**Calculation:**

- X-mean (start year) = 184,299
- X-mean (endyear) = 1,851,931
- Y-mean (start year) = 8,533,000,000
- Y-mean (endyear) = 26,710,000,000

% depvar change explained by medicaid change = 15.0%
• More outcomes from NHIS
  • Insurance (all insurance, public/private)
  • Utilization (#primary care visits, hospital use)
• Heterogeneity by time period
• Heterogeneity by demographic groups
  • Race, Gender, Income

Next steps