The Medicaid Undercount: Synthesis of Research

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Coauthors and sponsors

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Introducing the Medicaid Undercount

- Refers to fact that surveys produce lower counts of people on Medicaid than administrative records indicate are enrolled
- Survey measurement error contributes to discrepancy a couple of ways
  - Medicaid recipients report they have NO coverage
  - Medicaid recipients report coverage other than Medicaid
- Surveys are only source of several policy relevant estimates; the discrepancy undermines confidence in survey estimates

Research questions

- What do respondents for Medicaid enrollees report when asked questions about health insurance coverage?
- What factors are associated with accurate and inaccurate reports of coverage?
- What do we know about the magnitude of bias to estimates of uninsurance due to misreports among respondents for Medicaid enrollees?
Methods: State experiments

- “Medicaid undercount experiment” (MUE) in California, Florida and Pennsylvania
  - Surveyed known non-institutionalized Medicaid enrollees (between ~1100 and 1500)
  - Telephone survey only
  - Use of different surveys and vendors, with varied response rates per state (between ~30% and 56%)
  - All use point-in-time concept of health insurance coverage; placement of coverage questions in survey varied
  - Medicaid enrollment was verified on the day survey completed; those no longer enrolled are omitted from analysis

Methods: Matching study

  - There are important limitations of the linking
    - 9% of all full benefit Medicaid cases in MSIS are missing linking keys
      - Analysis limited to full-benefit Medicaid enrollees with linking identifiers
    - In 2001 20% of CPS cases are missing linking keys (largely due to refusal to provide data)
      - Remaining CPS cases are reweighted to equal the whole population
  - Other limitation
    - Universe differences across CPS and MSIS data files (roughly half of the difference is due to Inst/group quarters cases in MSIS)
    - This analysis is based on reported health insurance data only (exclude edited and imputed CPS cases)
Outline of analyses reported

- Present weighted results of self-reported health insurance coverage among known enrollees
- Multivariate logistic regressions are used to examine factors associated with...
  - Accurate reports of Medicaid coverage
    • State experiments
  - Misreports of uninsurance
    • State experiments and CPS matching study
- Show the amount of upward bias in uninsurance rates due to misreports of a lack of coverage across existing undercount studies

What respondents report about insurance for Medicaid enrollees

<table>
<thead>
<tr>
<th>Self-Reported Coverage</th>
<th>State Experiments</th>
<th>CPS Match</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CA</td>
<td>FL</td>
</tr>
<tr>
<td>Any Medicaid</td>
<td>83.1%</td>
<td>87.0%</td>
</tr>
<tr>
<td>Otherwise Public</td>
<td>1.7%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Otherwise Private</td>
<td>4.7%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Uninsured</td>
<td>10.4%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

Health insurance measurement:
- All provide a list of insurance types; verify uninsurance for those saying "no" to all types.
- State surveys ask about current health insurance coverage.
- CPS asks about insurance coverage during the prior calendar year.
- Health insurance series comes later in survey for CA and CPS
- Note: CA MUE include those with partial Medicaid benefits
Selected covariates of reporting error

• Covariates common to state MUEs and CPS regression analyses
  – Age
  – SSI, TANF, managed care, dual eligibility
  – Poverty status
  – Sex
  – Race and ethnicity
• Covariates used in state MUE regressions
  – US born, education, employment, survey language, self-reported health status, partial/limited benefit coverage
• Covariates used in CPS regressions
  – Imputation/editing
  – Healthcare utilization under Medicaid
  – Length of enrollment
  – Recency of enrollment
  – Relationship to household reference person
  – State

Factors consistently associated with odds enrollee will be correctly reported as covered by Medicaid

• Those who get it right (state experiments):
  – Lower income households
  – Age; reports of children’s coverage more likely to be correct than adults
  – Those with more contact with health care and social services (e.g., received medical care (CA only), worse self-reported health status, receipt of SSI and TANF)
  – Those who are unemployed
  – Those enrolled in Medicaid managed care and receiving full benefits
Factors consistently associated with odds enrollee with be *Falsely* reported as being uninsured

- **State experiment and CPS:**
  - Age and relationship (e.g., 18 to 64 year olds misreport more than those 65 and above; adults and parents of child enrollees)
  - Those with less contact with health care and social services (e.g., no medical care received, better self-reported health status, no receipt of SSI and TANF)
  - Those enrolled in the FFS sector

- **State survey factors:**
  - Those receiving partial Medicaid benefits

- **CPS factors:**
  - Those with less intense and less recent enrollment
  - Misreporting varies across states

Summary of multivariate logistic models

- Some characteristics of recipients are associated with *accurate* reports of Medicaid participation (esp. age and income); fewer are predictive of *misreports* of uninsurance

- **Characteristics of program enrollment** such as service sector (e.g., managed care), the receipt of other public benefits are consistently highly predictive in their impact on *accurate* reports of Medicaid participation and *misreports* of a lack of insurance

- In addition for the CPS, recency and intensity of enrollment, and relationship of reference person impact accuracy of measurement
Impact of misreports on bias to estimates of
uninsurance: What is known to date

<table>
<thead>
<tr>
<th>Studies and Target Population</th>
<th>Percent of Medicaid Population with Misreport of Uninsurance</th>
<th>Percentage Point Upward Bias in the Uninsured Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults on Medicaid in CA 2004</td>
<td>10.4%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Adults on Full Benefit Medicaid in CA 2004</td>
<td>5.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Non-Elderly (&gt;65) Persons on Medicaid in FL 2004</td>
<td>4.9%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Persons on Medicaid in PA 2004</td>
<td>3.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Children on Medicaid in MN 1999</td>
<td>4.5%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Persons on Medicaid in MN 1999</td>
<td>4.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Adults on Medicaid in Blue Cross in MN 2003</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Persons on Medicaid in MD 2004</td>
<td>4.4%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Adults (age 15-64) on Medicaid in CA (pooled 1990-2000 CPS data)</td>
<td>21.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>CY 2000 Full Benefit Enrollees in U.S. (suitable CPS matches)</td>
<td>16.9%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

- Upward bias is modest in experiment studies; primarily point-in-time concept of coverage
- Upward bias in CPS matching studies more significant; on par with Trim simulation model

Summary of results

- Results point to role of measurement error
  - Respondents are reasonably good at reporting, especially at a point-in-time, if they do or do not have coverage, and somewhat less accurate reporters of specific types of coverage
  - Errors are greatest in the CPS
- Results point to likely candidates for imputation of Medicaid status
  - Poverty, age, relationship to reference person, length and recency of enrollment
- Misreports of a lack of coverage for Medicaid enrollees leads to modest upward bias in point-in-time uninsurance estimates
Conclusions and implications

• Medicaid undercount is primarily an issue of measurement error
• Consistency across studies suggest ways to reduce measurement error
  – Attend to scope of questionnaire/survey context—health survey
  – Question placement—early versus late in survey
  – Reference period for health insurance questions—current insurance versus prior year (CPS)
  – Perhaps consider inclusion of questions about program characteristics or program participation to improve Medicaid reporting
• Consistency across studies suggest potential imputation strategies for improving Medicaid estimates

Conclusions and implications

• Results from various undercount studies should reduce uncertainty about using survey estimates of coverage to inform policy
• There are a number of potential explanations why respondents may fail to report enrollment in Medicaid
  – Poor proxy reporting; inaccurate reporting for others in household
    • Direction of bias less clear
  – Stigma
    • May report another type of coverage as being uninsured bears some stigma
  – Confusion about which program they are enrolled in
    • Likely to report some form of coverage
  – Confusion, unaware of enrollment status
    • Particularly problematic if then act uninsured and health suffers
Other issues to consider

- Unit non-response and implications for bias to health insurance coverage estimates
  - State surveys are RDD -- Falling response rates and rise of cell phone only households raise additional concerns about these estimates
- Need to learn more about bias introduced by inability to link all MSIS and CPS cases
- Not enough is known about potential for “overcounts” in administrative records
- Acknowledge that Medicaid undercount is but one form of measurement error. Likely that some who are uninsured report insurance.
  - For example, the SNACC team found that some respondents report Medicaid for people for whom there is no link to MSIS
    - True for almost 3 million weighted cases for whom no other insurance is reported
    - This in contrast to 6 million weighted cases who are in MSIS but no coverage is reported.

Forthcoming research

- SNACC project has completed similar matching projects using National Health Interview Survey (NHIS) and Medical Expenditure Panel Survey (MEPS HC)
  - Reports are in final stages of review
- Census in conducting similar research with the American Community Survey
- A model for imputing Medicaid and uninsurance in the CPS is under development
Suggestions for future research

• To date, most validation experiments have focused on accuracy of Medicaid reporting
  – Need better understanding of reporting accuracy in the private and SCHIP market, as well as what those lacking insurance report in surveys (e.g., local safety net, sliding fee programs)
• Important to learn if those who are insured but unaware forgo needed health care services – acting uninsured

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