Does Medicaid Crowd Out Other Public Health Spending? Projecting ACA’s Health & Economic Effects

Glen P. Mays, University of Kentucky

Available at: https://works.bepress.com/glen_mays/161/
Does Medicaid Crowd Out Other Public Health Spending? Projecting ACA’s Health & Economic Effects

Glen Mays, PhD, MPH
University of Kentucky
glen.mays@uky.edu

AcademyHealth Annual Research Meeting | San Diego, CA | 8 June 2014
Acknowledgements

- Funded by the **Robert Wood Johnson Foundation** through the National Coordinating Center for Public Health Services & Systems Research

- Supported by the **NIH National Center for Advancing Translational Science** through the Kentucky Center for Clinical and Translational Science

- Data provided by the **University of Kentucky Center for Poverty Research**, supported by USDHHS/ASPE

- Additional data provided by the **National Association of County and City Health Officials**, National Profile of Local Health Departments
Health spending and preventable disease burden

>75% of national health spending is attributable to conditions that are largely preventable

- Cardiovascular disease
- Diabetes
- Lung diseases
- Cancer
- Injuries
- Vaccine-preventable diseases and sexually transmitted infections

<5% of U.S. health spending is allocated to public health and prevention

CDC 2008 and CMS 2011
Public health activities

How to optimally deploy a diverse collection of responsibilities, resources, actors & expectations?

- Epidemiologic **surveillance & investigation**
- Community health **assessment & planning**
- Communicable disease control
- Chronic disease and injury prevention
- Health education and communication
- Environmental health **monitoring and assessment**
- Enforcement of health **laws and regulations**
- Inspection and licensing
- **Inform, advise, and assist** school-based, worksite-based, and community-based health programming

...and roles in **assuring access** to medical care

Governmental financing for public health

Governmental Expenditures for Public Health Activity, USDHHS National Health Expenditure Accounts

- State and local
- Federal

U.S. Centers for Medicare and Medicaid Services, Office of the Chief Actuary
Trends in public health spending

Governmental Expenditures for Public Health Activity, USDHHS National Health Expenditure Accounts

- Percent of NHE
- Percent of GDP (x10)
- Per capita ($100s nominal)
- Per capita ($100s constant)

U.S. Centers for Medicare and Medicaid Services, Office of the Chief Actuary
Public Health in the ACA

- $19 billion in new federal public health spending over 10 years (cut by $6B in 2012)
- Public Health and Prevention Trust Fund
- Incentives for hospitals, health insurers, employers to invest in public health and prevention
- Research on optimal public health delivery
ACA’s Medicaid expansion could have unintended consequences for public health

- States face higher Medicaid spending
  - previously-eligible/newly-enrolled beneficiaries
  - Enhanced benefits
  - Reduction in 100% FMAP for newly eligible after 2016

- Federal matching policies encourage states to channel health expenditures to Medicaid

- New Medicaid expenditures may crowd out state and local public health spending
Prior Research: Mortality reductions attributable to local public health spending, 1993-2008

Hierarchical regression estimates with instrumental variables to correct for selection and unmeasured confounding

Mays et al. 2011
Prior Research: Medical cost offsets attributable to local public health spending 1993-2008

Offset elasticity = -0.088

Research questions of interest

- Do states respond to increases in Medicaid spending by changing (reducing) spending on other public health activities?
- What are the likely health and economic effects of Medicaid-induced changes in public health spending?
Research Design & Data

- Longitudinal cohort of the 51 states and their local governments during 1993-2011
- Census Bureau’s Annual Survey of Government Finances and Census of Governments
- CMS Medicaid program expenditure data
- UK Poverty Research Center file on state economic and transfer program measures
Analytic Approach

- **Spending Share Equation models** (Craig and Howard 2013)

\[
\text{(Medicaid$/\text{Total$})_{it} = \beta X_{it} + \delta Z_{it} + \mu_{i} + \varphi_{t} + \epsilon_{ijt}}
\]

\[
\text{(Other$/\text{Total$})_{it} = \alpha (\text{Medicaid$/\text{Total$})_{it} + \beta X_{it} + \lambda Z_{it} + \mu_{i} + \varphi_{t} + \epsilon_{ijt}}
\]

\[
\text{(PublicHealth$/\text{Total$})_{it} = \alpha (\text{Medicaid$/\text{Total$})_{it} + \pi (\text{Other$/\text{Total$})_{it} + \beta X_{it} + \mu_{i} + \varphi_{t} + \epsilon_{ijt}}
\]

- Separate **state-level** (n=833) and **local-level** (n=9231) models

- State and year **fixed-effects**

- **Instrumental variables** (Z) to control for endogeneity of Medicaid spending
Analytic Approach

Demand & Supply Factors ($X_{it}$)
- Population size
- Income per capita
- Poverty rate
- Uninsured rate
- Smoking & obesity prevalence
- Tax burden
- Political party of Governor
- Political split of legislature

Instrumental Variables ($Z_{it}$)
- FMAP, FMAP$^2$
- Share of population TANF
- Share of population SSI
- Share of population SNAP
- Share of population FSB
- Federal intergovernmental transfers/capita

Federally directed policies
(exogenous to state/local decisions)
Results: Medicaid and Public Health Shares of State Spending

- Medicaid Spending Share
- FMAP > 60
- FMAP <= 60

Public Health Spending Share

FMAP > 60
FMAP <= 60

Diagram showing the relationship between Medicaid and Public Health spending shares for states with different FMAP values.
### Results: Determinants of Medicaid Spending

#### Effects of IVs on Medicaid Spending Share

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Coeff.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMAP</td>
<td>0.890</td>
<td>0.436 **</td>
</tr>
<tr>
<td>FMAP^2</td>
<td>-0.008</td>
<td>0.004 *</td>
</tr>
<tr>
<td>TANF recipients</td>
<td>-0.251</td>
<td>0.139 *</td>
</tr>
<tr>
<td>SSI recipients</td>
<td>2.873</td>
<td>0.641 ***</td>
</tr>
<tr>
<td>SNAP recipients</td>
<td>0.118</td>
<td>0.132</td>
</tr>
<tr>
<td>School Breakfast recipients</td>
<td>2.715</td>
<td>0.319 ***</td>
</tr>
<tr>
<td>Federal transfers/capita</td>
<td>-0.023</td>
<td>0.009 **</td>
</tr>
</tbody>
</table>

Partial F (17,767) = 17.45***  
Excludability J test = 1.73

***p<0.01     **p<0.05      *p<0.10
## Results: Estimated Crowd Out Effects

### Effects of Medicaid Spending Share on State Public Health Spending Share

<table>
<thead>
<tr>
<th>Model</th>
<th>Coeff.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced form (FMAP)</td>
<td>-0.006</td>
<td>0.002***</td>
</tr>
<tr>
<td>Fixed-effects</td>
<td>-0.112</td>
<td>0.012***</td>
</tr>
<tr>
<td>IV fixed effects</td>
<td>-0.082</td>
<td>0.031***</td>
</tr>
</tbody>
</table>

23.1% decline for the median state in 2011

***p<0.01
### Results: Estimated Crowd Out Effects

**Effects of Medicaid Spending Share on Local Public Health Spending Share**

<table>
<thead>
<tr>
<th>Model</th>
<th>Coeff.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced form (FMAP)</td>
<td>-0.004</td>
<td>0.001**</td>
</tr>
<tr>
<td>Fixed-effects</td>
<td>-0.089</td>
<td>0.019***</td>
</tr>
<tr>
<td>IV fixed effects</td>
<td>-0.077</td>
<td>0.038***</td>
</tr>
</tbody>
</table>

34.8% decline for the median local govt in 2011

***p<0.01   **p<0.05
Projected Health Effects of Crowd Out

At median levels of crowd-out:

- 12.3% increase in infant mortality rate
- 5.5% increase in cardiovascular mortality rate
- 2.7% increase in diabetes mortality rate
- 1.9% increase in cancer mortality rate

Reduce or fully offset the direct mortality gains from increases in health insurance coverage (e.g. Sommers et al 2014)

Using 10-year mortality effect estimates from Mays and Smith, *Health Affairs* 2011
Conclusions

- Substantial crowd-out in public health spending results from Medicaid spending growth
- The magnitude of crowd-out is sufficient to produce sizeable health effects over time
- Crowd-out may be larger for lower-resource states and communities
Implications for Policy & Practice

- Roles for federal spending, e.g. Prevention & Public Health Fund
- Maintenance of effort requirements/incentives
- Nongovernmental contributions to public health
- Alignment between primary care & public health
Limitations and Next Steps

- Aggregate and imprecise spending measures
- Public health and Medicaid services as complements vs. substitutes
- Lagged effects
- ACA experience may differ from past Medicaid expansions
- Accounting for mortality effects of Medicaid and public health simultaneously
For More Information

Glen P. Mays, Ph.D., M.P.H.
glen.mays@uky.edu

Supported by The Robert Wood Johnson Foundation

Email: publichealthPBRN@uky.edu
Web: www.publichealthsystems.org
Journal: www.FrontiersinPHSSR.org
Archive: works.bepress.com/glen_mays
Blog: publichealtheconomics.org