Disentangling the Effects of Health Reform in Massachusetts: How Important Are the Special Provisions for Young Adults?

December 28, 2009

Sharon K. Long*
The Urban Institute
2100 M Street, NW
Washington, DC 20037
202-261-5656 (phone)
202-223-1149 (fax)
Slong@urban.org

Alshadye Yemane
The Urban Institute
2100 M Street, NW
Washington, DC 20037
202-261-5858 (phone)
202-223-1149 (fax)
AYemane@urban.org

Karen Stockley
The Urban Institute
2100 M Street, NW
Washington, DC 20037
202-261-5667 (phone)
202-223-1149 (fax)
KStockley@urban.org

Session: Massachusetts Health Reform Experiment: Early Experiences
Chair: Jonathan Gruber, Massachusetts Institute of Technology
Discussants: Jonathan Gruber, Massachusetts Institute of Technology; Joseph Newhouse, Harvard University; Thomas Buchmueller, University of Michigan

* Corresponding author
Disentangling the Effects of Health Reform in Massachusetts: How Important Are the Special Provisions for Young Adults?

Sharon K. Long
Alshadye Yemane
Karen Stockley*

Massachusetts enacted a comprehensive health care reform bill in 2006 that has moved the state to near universal health insurance coverage. On average, uninsurance in Massachusetts in 2008 was at 4.1%, well below the national average of 15.1% and below the uninsurance rate of 6.7% in the next lowest state--Hawaii (Joanna Turner, Michel Boudreaux and Victoria Lynch 2009). The Massachusetts law included expanded eligibility for public coverage, subsidized insurance coverage, an insurance purchase exchange, market reforms, expanded coverage options for young adults, requirements for employers, and, most controversial, an individual mandate that requires all adults who have access to affordable coverage to obtain health insurance (John E. McDonough et al. 2008). Although estimates to-date have focused on the overall effect of the Massachusetts health reform package (e.g., Sharon K. Long, Karen Stockley and Alshadye Yemane 2009), there is substantial policy interest in determining the effects of the different components of the reform effort. In this paper, we focus on disentangling the effects of the special provisions implemented in Massachusetts to expand coverage to young adults.

* Long: Urban Institute, 2100 M Street, NW, Washington, DC 20037 (Slong@urban.org);
Yemane: Urban Institute, 2100 M Street, NW, Washington, DC 20037 (AYemane@urban.org);
Stockley: Urban Institute, 2100 M Street, NW, Washington, DC 20037 (KStockley@urban.org).

We thank Allison Cook for constructing the data file. This work was supported by the State Health Access Reform Evaluation, a national program of the Robert Wood Johnson Foundation based at the State Health Access Data Assistance Center at the University of Minnesota.
Compared to older adults, young adults are much less likely to be insured, reflecting their access to fewer coverage options and, when coverage options are available, lower probability of taking up coverage. Many young adults are healthy, have little expected need for health services, and have lower incomes, making them more likely to choose to forego insurance coverage, particularly when premiums are high relative to income (Jennifer L. Nicholson et al. 2009). In an effort to make insurance more affordable for young adults, Massachusetts’ 2006 legislation included two special provisions targeted at young adults. First, eligibility for dependent coverage for private insurance was extended from age 19 up to age 26 (or two years after the loss of IRS dependent status, whichever is earlier), allowing young adults to be covered under their parent’s health plan for a longer time period.¹ Second, new “Young Adult Plan” (YAP) options were created for adults aged 19-26 who do not have access to employer-sponsored coverage. The YAPs are offered through Commonwealth Choice, the new health insurance exchange operated by the Commonwealth Health Insurance Connector Authority—a quasi-governmental agency created as part of the state’s reform effort. The YAPs offer a narrower benefit package and higher cost-sharing than the other Commonwealth Choice plans and, thus, are less expensive. Roughly one-third of enrollment in Commonwealth Choice is young adults between the ages of 19 and 26, with most of those (84%) enrolled in YAPs (Jon Kingsdale 2008). Young adults can also purchase Commonwealth Choice plans (although not YAPs) outside of the Connector.

Disentangling the effects of the special provisions for young adults from the other elements of the Massachusetts reform effort is complicated since individuals in the state are affected by multiple components of reform. In this study, we use the Current Population Survey

¹ Full-time students could be covered under their parent’s coverage up to age 25 prior to health reform. Students were required to have health insurance in Massachusetts prior to health reform.
(CPS) and difference-in-differences-in-differences methods (Jeffrey M. Wooldridge 2007) in an attempt to isolate the effects of the young adult provisions from other components of the Massachusetts initiative in the state’s move to near universal coverage.

I. Study Design, Data and Methods

A. Study Design. We take advantage of the “natural experiment” that occurred in Massachusetts to compare health insurance coverage before and after the state implemented its health reform initiative, using difference-in-difference-in-differences (DDD) methods to disentangle the special provisions for young adults from other elements of health reform and to account for underlying trends in insurance coverage not related to health reform. The estimation exploits variation over time (comparing pre-and post-reform time periods), across population groups (comparing young adults and slightly older adults who are not affected by the special provisions for young adults), and across states (comparing Massachusetts to a comparison state that did not implement health reform). Specifically, to control for the other aspects of health reform in Massachusetts (beyond the young adult provisions), we compare changes over time in insurance coverage for young adults aged 19-26 to changes over time for slightly older adults aged 27-33—the first difference-in-differences (DD) estimate in the DDD framework. The slightly older adults would be affected by all of the provisions of health reform except the special options available to young adults.

To control for underlying trends in insurance coverage not related to health reform, we compare the DD estimate in Massachusetts to the analogous DD estimate for younger and older adults in a comparison state—the second DD in the DDD framework. Thus, our estimate of the impact of the young adult provisions on insurance coverage is the difference in the change in insurance status for young adults and older adults in Massachusetts minus the difference in the
change in insurance status for young adults and older adults in the comparison state. To place
the estimate of the marginal effect of the special provisions for young adults on insurance
coverage in context, we also estimate a DD model that focuses on the overall effect of health
reform on young adults in Massachusetts. That estimate is the difference in the change in
insurance status for young adults in Massachusetts and in the comparison state.

B. Data. We rely on data for 2005 to 2008 from the 2006 to 2009 CPS. The CPS, a
nationally representative household survey of the U.S. civilian, non-institutionalized population,
collects monthly information on labor market characteristics. In addition to those data, the CPS
includes an Annual Social and Economic Supplement (ASEC), conducted mostly in March,
which collects detailed information on income and health insurance coverage. With an annual
sample size of about 50,000 households, the CPS ASEC provides relatively large samples for
many states, including Massachusetts. However, given our focus on relatively small subgroups
of the population, the sample sizes for this analysis are relatively small. We have data for 827
young adults ages 19-26 and 817 older adults ages 27-33 in Massachusetts for the study period.

Defining health insurance status. CPS respondents are asked in March to report on their
health insurance over the prior calendar year. In the CPS, individuals are classified as uninsured
only if they report having no coverage at any point over the prior calendar year. However, the
uninsurance rate in the CPS aligns more closely to point-in-time estimates than full-year
estimates (Carmen DeNavas-Walt, Bernadette D. Proctor and Jessica Smith 2007).

In our analysis file, we exclude individuals from households that did not respond to
questions pertaining to insurance coverage in the CPS but had insurance status imputed by the
Census Bureau since that imputation process tends to overstate the number of uninsured residents
in states with a low unemployment rate relative to the national average, such as Massachusetts
Defining the pre- and post-reform periods. Since the CPS asks about health insurance coverage over the prior calendar year, we are limited in our ability to align the pre- and post-reform periods with the exact timing of reform implementation. We define the pre- and post-reform periods based on the year, rather than the month, that Massachusetts implemented reform. Thus, although some of the initial reform efforts went into effect in October 2006, our post-reform period using the CPS begins in 2007. We compare health insurance coverage in the post-reform period of 2007-2008 to coverage in the 2005-2006 pre-reform period. Thus, we report on the average effect of health reform over the 2007-2008 period. Because of small sample sizes we are not able to examine differences in the impacts of health reform on insurance coverage in 2007 and 2008. Other work examining the impacts of health reform on all non-elderly adults found significant gains in coverage in both 2007 and 2008, with the gains as of 2008 significantly larger than those as of 2007 (Sharon K. Long and Karen Stockley 2009).

Defining the comparison groups. For this analysis we focus on New York, another large northeastern state, as the comparison state. New York, which expanded public coverage and implemented a program to reduce the cost of private coverage in the early 2000s, made few changes in its coverage initiatives over the study period. The change in insurance coverage over

---

2 There were two changes in New York over the study period: In January 2008, a premium assistance option was made available under the Family Health Plus program; enrollment started quite slowly. In May 2007, a high-deductible health plan was offered under the Healthy New York program; by October 2008 enrollment was only about 6,000 individuals.
the study period in New York provides the estimate for the counterfactual of what would have happened in Massachusetts in the absence of health reform.

C. Methods. We attempt to isolate the effects of the young adult provisions under Massachusetts’ health reform initiative on insurance coverage using a DDD framework and multivariate regression methods to control for other factors that could affect insurance status. The regression models include race/ethnicity, sex, citizenship, educational attainment, marital status, family size, health and disability status, employment, family income and residence in an metropolitan area. We estimate linear probability models, using the method developed by Michael Davern et al. (2007a) to obtain correct variance estimates.3

Limitations of our methods. Although we use a strong quasi-experimental design and control for individual and family characteristics in the regression analysis, it is always possible that unmeasured differences between the treatment and comparison groups that affect insurance status confound the estimates. In this case, that would include unmeasured differences between young adults 19-26 and older adults 27-33, and between adults in Massachusetts and New York. Small sample sizes prevent our estimating models with narrower age bands (e.g., comparing 25-26 year-olds to 27-28 year-olds), which would let us better align the two age groups on unmeasured characteristics (e.g., attitudes). As noted above, small sample sizes also prevent our estimating models that allow for differences in impacts across the 2007-2008 follow-up period.

II. Findings

Change in insurance coverage for young adults over time. More than 1 in 5 young adults aged 19-26 were uninsured prior to health reform in Massachusetts (Table 1). Between the

3 Estimating logit models, which assume a proportionate relationship between treatment and comparison groups, yields similar, but somewhat smaller, impact estimates.
pre-reform (2005-2006) and post-reform (2007-2008) periods, the uninsurance rate for young adults in Massachusetts fell from 21.1% to 8.2%, a drop of more than 60%. This finding is consistent with other work that found significant gains in coverage for younger adults under health reform in Massachusetts (Sharon K. Long 2008).

Table 1: Change in uninsurance among young adults aged 19-26 and older adults aged 27-33 in Massachusetts as compared to New York, 2005 to 2008 (Unadjusted estimates)

<table>
<thead>
<tr>
<th></th>
<th>Young adults 19-26</th>
<th>Older adults 27-33</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Massachusetts</strong></td>
<td>N=827</td>
<td>N=817</td>
</tr>
<tr>
<td>Pre-reform (2005-2006)</td>
<td>21.1%</td>
<td>14.9%</td>
</tr>
<tr>
<td>Post-reform (2007-2008)</td>
<td>8.2%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Post-Pre Difference</td>
<td>-12.9 ***</td>
<td>-6.7**</td>
</tr>
<tr>
<td>Percent change from</td>
<td>61.1%</td>
<td>45.6%</td>
</tr>
<tr>
<td>Massachusetts pre-reform level</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New York</strong></td>
<td>N=2,689</td>
<td>N=2,523</td>
</tr>
<tr>
<td>Pre-reform (2005-2006)</td>
<td>27.4%</td>
<td>22.6%</td>
</tr>
<tr>
<td>Post-reform (2007-2008)</td>
<td>27.9%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Post-Pre Difference</td>
<td>0.5</td>
<td>-1.7</td>
</tr>
<tr>
<td>Massachusetts – New York Difference-in-Differences Estimate</td>
<td>-13.4 ***</td>
<td>-5.0</td>
</tr>
<tr>
<td>Percent change from Massachusetts pre-reform level</td>
<td>63.5%</td>
<td>33.6%</td>
</tr>
</tbody>
</table>


* Significantly different from zero at the .10 level, two-tail test.

** Significantly different from zero at the .05 level, two-tail test.

*** Significantly different from zero at the .01 level, two-tail test.
In contrast to the decline in uninsurance for young adults in Massachusetts over this period, there were no significant changes in the uninsurance rate for young adults in New York. Uninsurance for young adults was higher in New York than Massachusetts in the pre-reform period (27.4% versus 21.1%), and continued at that higher level over the study period. With the change in coverage in New York providing the counterfactual for what would have happened to young adults in Massachusetts in the absence of reform, the simple DD estimate of the overall effect of health reform on uninsurance for young adults of 13.4% is quite similar to the simple pre-post reduction of 12.9%.

**Change in insurance coverage for older adults over time.** Older adults aged 27-33 in Massachusetts started out with lower levels of uninsurance prior to health reform than did younger adults in the state, at 14.9% as compared to 21.1%. As was the case with younger adults, the older adults reported significant gains in coverage under health reform in Massachusetts, with uninsurance for that group down 6.7 percentage points over the study period. However, with uninsurance down slightly among older adults in New York, the simple DD estimate of the drop in uninsurance for older adults in Massachusetts, although relatively large in magnitude (5.0 percentage points), is not statistically significant.

**Marginal effect of the young adult provisions under health reform.** Table 2 reports the DD estimate of the overall impact of health reform and the DDD estimates of the marginal effect of the special provisions for young adults on uninsurance among young adults based on the regression models, which, as noted above, control for demographic and socioeconomic characteristics and residence in a metropolitan area. As shown, we estimate that uninsurance was reduced by 12.1 percentage points for young adults as a result of the full package of changes under health reform in Massachusetts. Based on this analysis we would attribute much of that
reduction to the special provisions targeting young adults, which we estimate led to a reduction in uninsurance among young adults of 7.4 percentage points.

Unfortunately, small sample sizes make these estimates relatively imprecise. We cannot reject the null hypothesis that the estimate of the overall impact of health reform and the estimate of the impact of health reform due to the young adult provisions are equivalent (p=.138).

Table 2: Regression-adjusted estimates of the overall impact of health reform and the impact of the young adult provisions on uninsurance among young adults aged 19-26, 2005 to 2008

<table>
<thead>
<tr>
<th></th>
<th>Difference-in-differences (DD) estimates of the overall impact of health reform</th>
<th>Difference-in-differences-in-differences (DDD) estimates of the impacts of the young adult provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in percent uninsured</td>
<td>-12.1***</td>
<td>-7.4*</td>
</tr>
</tbody>
</table>


*   Significantly different from zero at the .10 level, two-tail test.

**  Significantly different from zero at the .05 level, two-tail test.

*** Significantly different from zero at the .01 level, two-tail test.

III. Discussion

Massachusetts’ effort to achieve near universal coverage includes provisions that affect the entire population, such as the individual mandate, as well as those targeted to particular subgroups, such as the Commonwealth Care program for lower-income adults and Commonwealth Choice for higher-income adults. In an effort to expand coverage among young adults, who are more likely to be uninsured than other individuals, Massachusetts implemented two changes targeted at that population: an extension of dependent coverage up to age 26 and the creation of special YAP options under Commonwealth Choice.
We find evidence that the special provisions targeting young adults played an important role in the expansion in coverage for that group. While small sample sizes make our estimates imprecise and limit out ability to explore the impact of the choice of comparison groups on the findings, it appears that a substantial share of the gain in coverage for young adults under health reform in Massachusetts was due to those special provisions. Although not definitive, these results suggest that targeted initiatives that reduce the costs of coverage for young adults are an effective strategy for expanding insurance coverage among a difficult-to-cover population.

Not addressed here are the implications of the narrower benefit package and higher cost-sharing of the YAP options on access to and affordability of care for young adults. In assessing the overall success of the special provisions for young adults, it will be important to determine whether the gains in coverage for these individuals translated into better access to health care and financial protection from high health care costs. Unfortunately, small sample sizes for states in national surveys that have data on access to and affordability of care (such as the National Health Interview Survey and the Medical Expenditure Panel Survey) make such analyses impossible with current data sources. With national reform imminent, it is critical to expand sample sizes in national surveys to allow the tracking of the implications of health reform over time and across key population groups. Given the importance of states in national health reform efforts, it would also be wise to add a few questions on access to and affordability of care to the American Community Survey to take advantage of the exceptionally large sample sizes available in that survey.
References


Monheit, Alan, Joel Cantor, Derek DeLia, Dina Belloff, Margaret Koller and Dorothy Gaboda. 2009. “State Policies Expanding Dependent Coverage to Young Adults in Private Health Insurance Plans,” Presentation at the AcademyHealth State Health Research and Policy Interest Group Meeting, Chicago, Illinois.

