How Much of a Factor Is the Affordable Care Act in the Declining Uninsured Rate?

Sherry Glied, Stephanie Ma, and Sarah Verbofsky

ABSTRACT

Issue: While the number of uninsured has decreased substantially since the Affordable Care Act (ACA) expanded coverage in 2014, questions remain about how much the economic recovery and other changes might have influenced this decline. Goal: Assess the direct impact of the ACA marketplaces and the Medicaid expansion on the uninsured rate among nonelderly adults. Methods: Analysis of insurance coverage rates before and after the ACA’s first open enrollment period (fall 2013 to spring 2014) using the National Health Interview Survey (NHIS) and the Behavioral Risk Factor Surveillance Survey (BRFSS). Key findings: Based on NHIS data, enrollment in ACA-related coverage options explains about 76 percent of the 4-percentage-point decline in the uninsured rate during the first open enrollment period. Marketplace enrollments reduced the adult uninsured rate by an estimated 1.7 percentage points to 2.3 percentage points. The effects were substantially more pronounced among adults eligible for income-related subsidies. Medicaid expansions in participating states further reduced the uninsured rate by an estimated 0.76 points to 1.0 points. Conclusion: The great majority of nonelderly adults who enrolled during the first open enrollment period would likely not have held health coverage without the ACA expansions.

BACKGROUND

Several studies have examined how the percentage of people without insurance decreased during the Affordable Care Act’s (ACA’s) first open enrollment period, which began in October 2013 and lasted through March 15 or April 15, 2014, depending on the state. Analyses uniformly show that the uninsured rate declined by roughly 4 percentage points to 6.1 percentage points during this first enrollment period, although pre- and postenrollment rates differ across studies (Exhibit 1).

This drop in uninsured of 4 points to 6.1 points roughly correlates with the 4 percent of the U.S. population that gained coverage through the ACA marketplaces or Medicaid during the first enrollment period.
About 8 million people (almost all adults), or 2.5 percent of the population, enrolled in ACA marketplace plans: 2.6 million of these consumers signed up through state-based exchanges and 5.4 million enrolled through HealthCare.gov on the federally facilitated marketplace.

An additional 4.8 million people, or 1.5 percent of the population, enrolled in Medicaid plans.

In combination, these figures suggest that the drop in the uninsured rate is from 100 percent to 150 percent as high as the enrollment increase. This suggests that other factors, in addition to enrollment in new ACA coverage options, may have contributed to the reduction in the number of uninsured.

The economy may have impacted the uninsured rate.

Accurately determining the impact of the ACA’s expansions on the uninsured population is a challenge for a number of reasons. For example, the decrease in the uninsured rate could be partly attributable to the economic recovery from the 2007–09 recession. The unemployment rate fell and the cost of health care moderated about the same time as the ACA marketplaces launched and Medicaid expanded. These improvements made it more likely that employers would offer coverage to their employees, that people would be employed, and that employees would take up coverage.

Enrollment may not account for one-to-one coverage.

Likewise, assessing the relationship between enrollment in new affordable coverage options and the change in the uninsured rate is not straightforward. Enrollment in new options might understate or overstate the overall impact of the law on coverage. One reason is the possibility of “crowd out”: some
consumers or employers may have dropped their private or employer-sponsored health insurance plans in favor of new options available under the ACA. In this case, the number of newly enrolled would overstate the number of newly insured.²

There was considerable concern about crowd-out of employer-sponsored insurance when the ACA passed. In 2012, the Congressional Budget Office and Joint Committee on Taxation predicted that employer-sponsored insurance coverage would decrease by 2 million people when the ACA was implemented in 2014.³ Most evidence suggests that this pattern has not occurred.⁴ For instance, according to the most recent Current Population Survey, the employer-sponsored insurance rate among nonelderly adults was identical (62%) in 2013 and 2014.⁵ However, this lack of change might mask the crowd-out of coverage that would otherwise have been made available because of the improving economy.

Another reason that new enrollment may not translate into new coverage is that some people who were previously insured in the individual market might simply transfer their coverage to the marketplaces. This kind of transfer was intended by the drafters of the ACA and, to the extent that it occurs, will not raise coverage rates. In 2013, about 30.5 percent of those who were eligible for marketplace coverage held individual coverage before the expansions.⁶ Of those who enrolled in coverage, about 60 percent reported they had previously been uninsured, according to various reports.⁷

Enrollment in new coverage options might also understate the effect of the law on coverage. Some people who chose to enroll in the marketplaces might have switched from less secure sources of coverage (for example, from a short-term employer-sponsored or individual plan) and might have retained coverage longer through the marketplaces. Others might have responded to the marketing and outreach surrounding the marketplace launch, as well as to the introduction of the individual mandate, by choosing to participate in existing employer coverage or to buy nongroup coverage outside the marketplaces.

**The original design of the ACA would have made analysis difficult.**

As originally designed, the ACA called for all 50 states to launch marketplaces and simultaneously expand Medicaid. This would have made it difficult to robustly assess the effects of coverage expansions on uninsured rates. In practice, however, two factors interfered with the legislation’s design, making it possible for us to disentangle these effects.

The first was the Supreme Court’s 2012 decision, in *National Federation of Independent Business v. Sebelius*, to make Medicaid expansion optional for states. Because not all states chose to expand, we are able to compare states that did and did not participate in the expansion.

The second factor was the uneven success of the ACA marketplace website rollouts during the first enrollment period. The federal website malfunctioned, and very few people were able to enroll in coverage through HealthCare.gov before early December 2013.⁸ After December 2013, the federal website worked well. Some of the state websites worked effectively right away, such as those in California, Connecticut, Kentucky, and Vermont. Others—such as the marketplaces in Oregon, Hawaii, Massachusetts, and Minnesota—did not function well during the entire enrollment period.⁹¹⁰ These technical glitches affected how many people were able to enroll in the state marketplaces and when they could enroll.

Because of the variation in the success of the rollout, we were able to compare states where many people enrolled in the marketplace early to those where few people did so, using the National Health Interview Survey (NHIS) and the Behavioral Risk Factor Surveillance Survey (BRFSS).
How This Study Was Conducted. We compared changes in the percentage of uninsured people in a state each month to enrollment in the marketplaces in the previous month, providing the first direct assessment of the effects of ACA reform on insurance coverage.

FINDINGS

Effect of Marketplace Enrollment
Using NHIS data, we found that the uninsured rate declined by 0.92 percent for every 1.0 percent of the nonelderly adult population who enrolled in the marketplaces during the first open enrollment period (Exhibit 2). Given the 2.5 percent of the population that enrolled in marketplace plans in 2014, we estimate that enrollment in the marketplaces decreased the national uninsured rate by 2.3 percentage points (2.5% × 0.92%).

The effects are slightly smaller, but still highly significant, in the BRFSS data: For each additional 1.0 percent of the nonelderly adult population enrolled in the marketplaces, 0.68 points gained coverage. The BRFSS estimate implies that enrollment in the marketplaces decreased the national uninsured rate by 1.7 points.


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<thead>
<tr>
<th></th>
<th>NHIS</th>
<th>BRFSS</th>
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<tr>
<td>Baseline uninsured rate (Fall 2013)</td>
<td>20.7%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Decline in uninsured rate per 1% of state population enrolled in marketplace plan</td>
<td>0.918%***</td>
<td>0.675%***</td>
</tr>
<tr>
<td>Implied decline in uninsured rate at marketplace average enrollment of 2.5%</td>
<td>2.3%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Decline in uninsured rate in states that expanded Medicaid</td>
<td>1.7%***</td>
<td>2.3%***</td>
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Statistical significance *** p<0.01.
Notes: Includes nonelderly adults ages 18–64. Standard errors are robust and are clustered on state and month. Logistic regression models control for year, state, month, as well as patient demographics such as age group, income group, sex, race, educational attainment, employment status, and marital status. N = 275,986 for the nonelderly adult NHIS sample and N = 1,119,064 for the nonelderly adult BRFSS sample.

Effect of the Medicaid Expansion
Our analyses also controlled for the effect of state participation in the Medicaid expansion. Overall, the NHIS data show that choosing to expand Medicaid lowered the national uninsured rate for nonelderly adults by 1.7 points. The BRFSS data show a larger reduction of 2.3 points.

In 2014, 44.4 percent of the U.S. population lived in a state that had expanded Medicaid. (Some states began their Medicaid expansions prior to January 2014.) Our estimates imply that these Medicaid expansions reduced the national adult uninsured rate by an additional 0.76 points (NHIS) and 1.0 points (BRFSS).
State-by-State Variations
As shown in Exhibit 3, the effects of the marketplaces and Medicaid expansions on the uninsured rate varied greatly across states. Our estimates suggest that decreases in state uninsured rates resulting directly from the ACA varied from 1.4 points to 7.3 points across the country.

States that expanded their Medicaid eligibility or experienced high rates of enrollment in the marketplaces generally had larger reductions in their uninsured rate. Two exceptions to this are Florida and North Carolina. While these states opted not to expand Medicaid, they experienced substantial decreases in their respective uninsured rates because of very robust marketplace enrollment.

Correlation to Income-Related Subsidies
To assess the validity of our estimates, we repeated our analyses on subsets of the sample who would be most likely to benefit from the marketplace subsidies and the Medicaid expansions (Exhibit 4). We looked at the effects of marketplace enrollment on those with incomes between 125 percent and 400 percent of the federal poverty level (FPL) in the NHIS, and those with family incomes between $15,000 and $75,000 in the BRFSS. Then we looked at the effect of the Medicaid expansion on those with incomes below 125 percent of FPL in the NHIS and family incomes below $35,000 in the BRFSS.

As expected, the effect of enrollment in the marketplaces and of participation in the Medicaid expansion was much stronger for these income-eligible populations. In the NHIS, an additional 1 percent of the population enrolled in the marketplaces was associated with a 1.43-point
reduction in the share of the income-eligible population who were uninsured. In the BRFSS, it was associated with a 0.84-point reduction. The effects of expanding Medicaid reduced the share of the uninsured income-eligible population by 2.9 points in the NHIS and by 4.6 points in the BRFSS.

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<tr>
<td><strong>Marketplace-eligible population</strong></td>
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<tr>
<td>NHIS</td>
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<tr>
<td><strong>Baseline uninsured rate (Fall 2013)</strong></td>
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<tr>
<td><strong>Decline in uninsured rate per 1% of state population enrolled in marketplace</strong></td>
</tr>
<tr>
<td><strong>Implied decline in uninsured rate at marketplace average enrollment of 2.5%</strong></td>
</tr>
<tr>
<td><strong>Decline in uninsured rate in states that expanded Medicaid</strong></td>
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</table>

Statistical significance: *** p<0.01; * p<0.10.
Notes: Includes nonelderly adults ages 18–64. Standard errors are robust and are clustered on state and month. Marketplace eligible (BRFSS: household income $15,000–$75,000, NHIS: family income 125%–400% FPL); Medicaid eligible (BRFSS: household income <$35,000, NHIS: family income <125% FPL). Logistic regression models control for year, state, month, as well as for patient demographics such as age group, FPL, sex, race, educational attainment, employment status, and marital status. N = 109,919 for the nonelderly adult marketplace income-eligible NHIS sample and N = 678,674 for the nonelderly adult marketplace income-eligible BRFSS sample. N = 57,117 for the nonelderly adult Medicaid income-eligible NHIS sample and N = 401,474 for the nonelderly adult Medicaid income-eligible BRFSS sample.

**DISCUSSION**

The Affordable Care Act established health insurance marketplaces and expanded Medicaid programs in many states. These coverage expansions would be expected to reduce the uninsured rate. However, the ACA’s first open enrollment (Fall 2013 to Spring 2014) occurred during a period of economic growth and declining unemployment, which also would be expected to reduce the uninsured rate.

How many of the 12.8 million Americans who gained insurance coverage during the first open enrollment period would not have acquired insurance without the ACA? We found that the ACA-associated coverage expansions were strongly associated with declines in the uninsured rate. Enrollment in new coverage options explains about 76 percent of the 4-percentage-point decline in the national uninsured rate during the 2013–2014 open enrollment period, according to NHIS data.

In both NHIS and BRFSS data sets, we found that the marketplaces and the Medicaid expansion had similar effects on the uninsured rate in states that chose to expand Medicaid. Of course, in states that did not expand Medicaid, almost all the coverage expansion occurred through marketplace enrollment.

Our results point to the importance of maintaining and expanding subsidized coverage and Medicaid options to further reduce the number of uninsured Americans. While the new ACA options did replace some individual coverage, they generated little crowd-out of employer coverage. Indeed,
our regression-adjusted analysis, which controls for other factors that occurred contemporaneously, indicates that even more people gained coverage through the ACA than prior survey research has suggested.

Surveys that asked people signing up for new coverage options whether they had previously been uninsured found that about 40 percent of the new enrollees had previously been insured.\(^{11}\) Our results suggest that only about 8 percent (NHIS) or 32 percent (BRFSS) of new enrollees in marketplace coverage would have been insured in its absence. That difference is likely a consequence of the dynamics of the health insurance market. In addition to covering those who had previously been uninsured, the ACA provided coverage to people who would have become uninsured had the expansions not come into effect, such as young adults aging out of their parents’ health plan, people who lost their jobs, or people who became self-employed.
HOW THIS STUDY WAS CONDUCTED

We used two data sets—the National Health Interview Survey (NHIS) (restricted use data) and the Behavioral Risk Factor Surveillance Survey (BRFSS)—to directly estimate the effect of enrollment in the ACA marketplaces or Medicaid during the first enrollment period (Fall 2013–Spring 2014) on the probability of holding insurance coverage.

Our preferred data set is the NHIS because it measures key variables more reliably and has a higher response rate than the BRFSS. The NHIS is a national survey administered in person that is designed specifically to track trends in health and coverage over time. The household response rate for the NHIS ranged from 73.8 percent to 82.0 percent for the 2010–2014 survey years. In 2014, the NHIS sample design included 87,000 individuals. The NHIS includes questions both on whether a person is covered by health insurance and on the type of coverage held.

The NHIS data also include a set of questions about family income that allow interviewers to compute the ratio of family income to the poverty threshold. Under the ACA, this ratio determines eligibility for subsidies. We used this family income information to construct income-eligibility statuses for Medicaid and the marketplace (see Appendix Table 1). The BRFSS is a state-based telephone survey conducted by the Centers for Disease Control and Prevention that collects health-related data across all states. The national telephone response rate for BRFSS ranged from 48.7 percent to 54.6 percent for survey years 2011–2014.12 The large 2014 BRFSS sample includes over 450,000 people.13

The BRFSS was not designed to track health insurance and does not include information on the type of coverage held by an individual. It asks only whether the respondent is covered by health insurance at the time of interview (see Appendix Table 2). There is considerably more month-to-month volatility in the national average uninsured rates measured in the BRFSS compared to the NHIS.

In 2011, the BRFSS began surveying users via cell phones in addition to landlines, and shifted from a poststratification statistical weighting method to an iterative proportional fitting method. As a result, data from the 2011 survey year and onward are not comparable to data prior to the 2011 survey year. We omit 2010 data from our BRFSS models.

The BRFSS survey does not report exact income and asks respondents for household income ranges only. We, therefore, could not construct Medicaid and marketplace eligibility status by FPL in BRFSS and used income category cutoffs instead (unadjusted for household size).

For our purposes, a critical feature of both of these data sets is that they each include information on an individual’s state of residence and on the month in which he or she was interviewed. We matched each interview to the enrollment rate in the marketplace or Medicaid expansion in the interviewee’s state at the end of the month prior to the interview. For example, if John was interviewed in February 2014 in California, we matched John to the marketplace enrollment rate and Medicaid expansion status of California at the end of January 2014. We obtained marketplace enrollment rates from Charles Gaba’s Blog, which uses state enrollment figures using reports from the Centers for Medicare and Medicaid Services and the U.S. Department of Health and Human Services.

Logistic regressions were used to estimate changes in the probability that an individual held health insurance coverage as the share of the population enrolled in the marketplace in his or her state increased and as states expanded/did not expand Medicaid. We reported odds ratios and marginal effects for the following populations:

- The nonelderly adult population ages 18–64.
- Medicaid-eligible (BRFSS: household income <$35,000; NHIS: family income <125% FPL).
- Marketplace-eligible (BRFSS: household income $15,000–$75,000; NHIS: family income 125%–400% FPL).

We also controlled for calendar month of interview, state, and year of interview, and for individual age, gender, race, education, employment status, income group, and marital status. We clustered the standard errors at the state by month level.
### Appendix Table 1. Medicaid and Marketplace Income Eligibility Definitions

<table>
<thead>
<tr>
<th>Data set</th>
<th>Variable</th>
<th>Values</th>
</tr>
</thead>
</table>
| NHIS     | RAT_CAT2 | Medicaid: Family income <125% FPL  
Marketplace: Family income 125%–400% FPL |
| BRFSS    | INCOME2  | Medicaid: Household income <$35,000/year  
Marketplace: Household income $15,000–$75,000/year |


### Appendix Table 2. Insurance Coverage Survey Interview Question

<table>
<thead>
<tr>
<th>Data set</th>
<th>Variable</th>
<th>Interview question</th>
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<tbody>
<tr>
<td>NHIS</td>
<td>NOTCOV</td>
<td>Are you covered by any kind of health insurance or some other kind of health care plan? (Yes/No)</td>
</tr>
<tr>
<td>BRFSS</td>
<td>HLTHPLNI</td>
<td>Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service? (Yes/No)</td>
</tr>
</tbody>
</table>

Notes


2. L. Ku, “Crowd-Out” Is Not the Same as Voluntarily Dropping Private Health Insurance for Public Program Coverage (Center on Budget and Policy Priorities, Sept. 2007).


7. S. R. Collins, M. Z. Gunja, M. M. Doty, and S. Beutel, *Americans’ Experiences with ACA Marketplace and Medicaid Coverage: Access to Care and Satisfaction—Findings from the Commonwealth Fund Affordable Care Act Tracking Survey, February–April 2016* (The Commonwealth Fund, May 2016); and L. Hamel, M. Norton, L. Levitt et al., *Survey of Non-Group Health Insurance Enrollees* (Henry J. Kaiser Family Foundation, June 2014). After the first open enrollment period, the Commonwealth Fund Affordable Care Act Tracking Survey reported that 63 percent of adults who obtained coverage through the marketplaces or Medicaid had been uninsured prior to gaining their new coverage. Fifty-nine percent of those who enrolled in private coverage and 66 percent of those who enrolled in Medicaid were uninsured previously. The Kaiser Family Foundation estimated that 57 percent of sign-ups on the federal exchange were previously uninsured, with most having been uninsured for two or more years.


9. At the end of the first open enrollment period, less than 1 percent of the populations of Massachusetts, Hawaii, and Minnesota, where state marketplaces had not worked well, were enrolled in marketplace coverage. See B. Pieper, “Five State Exchanges Are Making Major Website Changes for 2015,” *Managed Healthcare Executive*, published online Sept. 29, 2014.

10. Over the same period, more than 3.4 percent of the populations of California and Vermont (which had successful state marketplaces) and of North Carolina, Idaho, and Florida (which had relied on the ultimately successful federal marketplace) had enrolled in coverage. See C. Vestal and M. Ollove, “Why Some State-Run Health Exchanges Worked,” *USA Today*, published online Dec. 10, 2013.


ABOUT THE AUTHORS

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