Estimating the Counterfactual: How Many Uninsured Adults Would There Be Today Without the ACA?

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Abstract
Time lags in receiving data from long-standing, large federal surveys complicate real-time estimation of the coverage effects of full Affordable Care Act (ACA) implementation. Fast-turnaround household surveys fill some of the void in data on recent changes to insurance coverage, but they lack the historical data that allow analysts to account for trends that predate the ACA, economic fluctuations, and earlier public program expansions when predicting how many people would be uninsured without comprehensive health care reform. Using data from the Current Population Survey (CPS) from 2000 to 2012 and the Health Reform Monitoring Survey (HRMS) data for 2013 and 2015, this article develops an approach to estimate the number of people who would be uninsured in the absence of the ACA and isolates the change in coverage as of March 2015 that can be attributed to the ACA. We produce counterfactual forecasts of the number of uninsured absent the ACA for 9 age-income groups and compare these estimates with 2015 estimates based on HRMS relative coverage changes applied to CPS-based population estimates. As of March 2015, we find the ACA has reduced the number of uninsured adults by 18.1 million compared with the number who would have been uninsured at that time had the law not been implemented. That decline represents a 46% reduction in the number of nonelderly adults without insurance. The approach developed here can be applied to other federal data and timely surveys to provide a range of estimates of the overall effects of reform.

Keywords
ACA, uninsured, insurance coverage, forecast, estimates

Given the large public investment in expanding health insurance coverage under the Affordable Care Act (ACA), and the degree of controversy the law has engendered, it is important to accurately quantify the causal effects of the ACA on coverage, accounting for likely changes that would have resulted absent the policy change (eg, due to the recovery from the Great Recession). In this article, we develop an approach to (1) estimate the number of people who would be uninsured in the absence of the ACA and (2) isolate the change in coverage as of March 2015 that can be attributed to policy changes under the ACA. The ACA’s main coverage reforms included an expansion of Medicaid, income-related tax credits and cost-sharing reductions for nongroup insurance, an array of small group and nongroup private insurance regulatory reforms, and an individual mandate, the vast majority of which were implemented in January of 2014. Provisions that allowed young adults (aged 19-25) to remain on their parents’ health insurance policies were implemented in 2010. Many modest policy changes to private insurance regulation, not believed to have had significant effects on the number of insured nonelderly adults, also took effect for plan years starting on or after September 23, 2010. These included elimination of lifetime dollar benefit caps, the gradual increase of allowable annual dollar benefit limits, first-dollar coverage for certain preventive benefits, and others.¹

Although the original intent of the law was that eligibility for Medicaid would be expanded in every state, a Supreme Court decision made expanding optional and only 28 states had done so as of the end of summer 2014, significantly reducing the potential coverage effect of the law.² Three additional states have expanded Medicaid since then. In addition, 3 states (California, Connecticut, and Minnesota) and the District of Columbia opted to expand Medicaid before 2014 under the auspices of the ACA. Nonetheless, major increases in insurance coverage caused by the ACA should materialize most profoundly in 2014 and 2015. Indeed, a number of surveys have found increases in coverage for adults since 2015.³⁵ These data are important, but

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it is not enough to simply compare 2013 with 2014 or 2015 to assess the impact of the ACA, because that comparison implicitly assumes that there would have been no change in coverage between 2013 and 2014 or 2015 if the ACA had not been implemented. Rather, if we want to understand the effect of the ACA on coverage, we must assess what would have happened had there been no ACA and compare the new levels of coverage with that counterfactual. We develop our estimate of what would have happened in the absence of the ACA by modeling coverage from 2000 to 2012 and accounting for preexisting trends and determinants of insurance coverage. A similarly intentioned approach was taken by Sommers and colleagues, but they relied on a time trend from 2012 and 2013 data alone. Our approach relies on a pre-ACA time trend and uses a substantially longer period.

There has been a long-term decline in employer-sponsored insurance, mostly among low-wage workers. Medicaid enrollment has expanded over the past few decades, particularly because of increased eligibility for children. The Children’s Health Insurance Program (CHIP) has also expanded coverage. The net result has been reductions in the number of uninsured children, but increases in the number of uninsured adults. The Great Recession exacerbated these trends, resulting in a large drop in employer-sponsored insurance and an increase in the number of uninsured. We are now in an economic recovery, with unemployment dropping. Generally, declines in unemployment lead to increases in employer-sponsored insurance.

Given the recovery and absent other changes, Medicaid rolls would have fallen as more families’ incomes increased, although the magnitude of such changes would depend on changes in the distribution of income. The number of uninsured could thus have decreased for most groups but increased for some because of the steady erosion of employer-sponsored insurance that has taken place, particularly caused by declines in small firms’ coverage offers, which have continued quite steadily since at least 1999. In this article, we use the CPS because, unlike the NHIS, it provides state identifiers on its public use files. Newer, Internet-based household surveys, such as the Urban Institute’s Health Reform Monitoring Survey (HRMS) and another conducted by Gallup, provide fast-turnaround results using quarterly data from both before and after 2014, but those surveys do not have the long data histories needed to estimate long-term trends. The approach described below uses a combination of a CPS-time trend and recent data from the HRMS as an example of how the advantages of both types of data—large, long-standing federal surveys and fast-turnaround Internet-based surveys—can be brought to bear to inform us of the ACA’s effects on an ongoing basis.

Methodological Approach

Forecasting the Number of Uninsured If There Were No ACA

Our analysis estimates changes in the number of uninsured nonelderly adults from 2013 to 2015 that would have occurred in the absence of the ACA. We examine nonelderly adults because it is for this population that we have data on coverage changes over this period from sources of timely private quarterly data such as the HRMS and Gallup. We design the analysis to account for the effects of long-standing trends in uninsurance rates, cyclical effects caused by economic conditions, and changes in Medicaid eligibility. As the primary data source, we use survey years 2001 to 2013 of the Annual Social and Economic Supplement of the CPS, which measures individual-level insurance status and income data from 2000 to 2012. Although there is some controversy as to whether the survey participants’ responses to the CPS coverage questions align with the reference period, we interpret the data collected to be consistent with the type of coverage the respondent typically had during the course of the preceding year. We choose the 2000 to 2012 time frame for estimating a series of regression models because it is long enough to reflect long-term trends and roughly balances years of good and bad economic conditions; it also demonstrates cyclical variability in coverage rates consistent with changing economic conditions. The period includes 2 economic cycles, including the dot-com bust and recovery, the Great Recession, and some years of incomplete recovery. We do not use data from the 2014 survey because of changes in the measurement of uninsurance that would introduce a discontinuity in the time series.

We conduct analyses separately for 9 population segments defined by 3 income categories relative to the federal poverty level (FPL; 0%-138% of FPL [low income], 139%-400% of FPL [middle income], and >400% of FPL [high income]) and 3 age categories (ages 19-25, 26-44, and 45-64). Levels and historic trends in uninsurance rates differ substantially by income and (to a lesser extent) age, separate from any effects of the ACA. We also expect different
coverage effects for the 3 income groups because Medicaid expansions are targeted to the low-income group, and financial assistance (premium tax credits and cost-sharing reductions) to purchase individual coverage through the marketplaces are targeted to those in the middle-income group. Those in the higher income group receive no financial assistance to purchase marketplace coverage under the ACA but are the most likely to face a penalty if they do not obtain coverage under the ACA's individual mandate. Within each income group, the coverage effects of the ACA may differ by age group for several reasons, including access to coverage through a parent’s employer for young adults, increasing demand for health insurance with age, and age differences in access to coverage through an employer.

For each of the income-age groups, we estimate linear regression models of the uninsurance rate at the state-year level. The CPS data are collapsed to the state-year level, by income-age group, with sample weights applied. We then augment CPS data by merging in unemployment rates at the state-year level specific to each of the 3 age groups in the analysis (which we compute from CPS basic monthly files for years 2000-2015) and Urban Institute estimates of Medicaid eligibility rates (detailed below) by state, year, and income-age group.

Each regression model specifies the expected uninsurance rate in a state and year to be a function of a linear year trend (common to all states), state fixed effects, the unemployment rate, and the percentage of adults who qualify for Medicaid through provisions covering parents (which for brevity, we refer to as the “Medicaid eligibility rate”). For the higher income group, the Medicaid eligibility rate is excluded because no adults with incomes above 400% of FPL are estimated to be Medicaid eligible.

When the models are fit to the data, the year trend captures the secular trend in the uninsurance rate over the sample period that is not correlated with the other included factors (which may arise from trends in health care costs, premiums, cost sharing, or other factors). The state fixed effects control for factors related to differences in uninsurance rates across states that are constant over time (such as premium-level differences, employment patterns, fixed attributes of Medicaid programs, and uncontrolled demographic differences). Also, by including the state fixed effects, the coefficients on the unemployment and Medicaid eligibility variables are estimated only using within-state variation. The unemployment rate captures the extent to which the uninsurance rate rises and falls over economic cycles, and the Medicaid eligibility rate controls for Medicaid expansions over the period. By including the Medicaid eligibility rate variable, we prevent the year trend variable from picking up the effects of Medicaid expansions in eligibility for parents (and expansions for nonparents to the extent they are correlated with the parent expansions).

Medicaid eligibility rates were computed as the (weighted) percentage of adults in each age group, income group, state, and year who were eligible for Medicaid through the provisions for parents. Individuals in the CPS were deemed eligible if they were a parent and if the income of their health insurance unit was below the Medicaid/CHIP eligibility threshold that applied to parents in their state and year. Medicaid/CHIP eligibility thresholds for parents by state and year were collected from Kaiser Family Foundation reports. Because of the complexity of the Medicaid provisions for adult nonparents that exist in some states (such as work requirements and enrollment caps), it was not possible to capture eligibility for nonparents in this measure. To better understand the effect of this limitation on our results, we estimated versions of the regression models below that excluded data from 5 states that had already made ACA-like Medicaid expansions to childless adults before the ACA. The states were Delaware, Massachusetts, New York, and Vermont as well as the District of Columbia. Each of these states already provided Medicaid or Medicaid-like coverage to nonparents with incomes up to at least 100% of the FPL before the ACA. Other states had also made more limited Medicaid expansions to childless adults. The year trend effects were more strongly positive when these states were excluded, suggesting that there would have been larger growth in the adult uninsurance rate from 2000 to 2012 nationally if these states had not expanded Medicaid to nonparents. The implication for our main analysis is that the forecasted increases in adult uninsurance rates absent the ACA would likely be larger (as would effects of the ACA in reducing coverage) if we controlled for Medicaid eligibility for nonparents. In this sense, our estimates of the ACA’s effects are conservative.

We take a series of additional steps in the analysis so that early effects of the ACA are not inadvertently built into the counterfactual estimates of uninsurance rates. First, we remove the effects of the early ACA Medicaid expansions in 4 states from our predicted uninsurance rates in each group by excluding the state-years with early expansions from the estimation sample of the regressions. If these state-years were included, the year trends in the model could pick up coverage effects that are due to the ACA. Specifically, we exclude data from Connecticut and the District of Columbia from 2010 to 2012 and data from California and Minnesota from 2011 to 2012 from the estimation sample of the uninsurance rate regression models. Two other states, New Jersey and Washington, also made early Medicaid expansions under the ACA but these were transfers of enrollees from preexisting state programs to Medicaid. Because they did not involve new enrollment, we did not exclude them from the estimation sample. Although these early expansions may not have been fully phased in until 2014 (eg, participation and income eligibility varied by county in California, and income eligibility was not up to the full 2014 levels in Connecticut and Minnesota), we exclude the entire state-year with early expansion from the estimation sample so the models do not pick up effects that could be attributable to the ACA. Some other states had already expanded coverage to childless adults.
adults using waiver authority that predated the ACA. We consider trends in uninsurance rates related to these pre-ACA expansions as part of the counterfactual, and accordingly we do not exclude states with pre-ACA expansions for childless adults from our estimation sample. As a second related step, when computing predicted uninsurance rates using the estimated regression models, we hold the Medicaid eligibility variable fixed at its value in the year just before the early expansion for all subsequent years; that hold prevents changes in the Medicaid eligibility variable attributable to the ACA from affecting the predicted uninsurance rates.

Finally, we restrict the data used to estimate the regression models for young adults to data years 2000 to 2010. The ACA expanded coverage for young adults starting in late 2010, leading to noticeably lower uninsurance rates for this group in 2011 and 2012 according to the CPS and other data sources. If we did not exclude 2010 through 2012 from the young adult models, the effects of the ACA's dependent coverage expansions that were implemented in the second half of 2010 would instead be attributed to the pre-ACA trend.12

Even though we expect very little effect of dependent coverage expansion in 2010 given that it started late in the year, we exclude 2010 to avoid picking up any ACA effect in the counterfactual models for young adults. For the remaining age groups, we estimate the regression models using all years from 2000 to 2012.

Table 1 reports estimated coefficients for each regression model. For the low-income group, higher unemployment is significantly associated with higher rates of uninsurance and is the largest driver of coverage changes for all 3 age groups. The year trend is statistically insignificant for all three age groups. For young adults, higher rates of Medicaid eligibility are significantly associated with lower rates of uninsurance. For the middle-income group, the year trend is the largest driver of changes in uninsurance. In each of the age groups, the uninsurance rate is increasing about 0.4 percentage points each year on average, controlling for the other factors. Higher unemployment is associated with higher uninsurance rates for the oldest group. The effect of the unemployment rate is statistically insignificant for the other 2 age groups. For adults in the high-income group, we find statistically significant year trends for the middle and older age groups, with the uninsurance rate increasing by 0.10 and 0.13 percentage points on average each year, respectively, controlling for other factors. Unemployment rate effects are small and only statistically significant (at the 10% level) for the middle age group.

In Figures 1 to 3, we examine overall model performance at the national level by age group and income group. We compute predicted values from the regression models for each year and collapse the data to the national level by year to examine overall performance. For the 2 older groups across each income group, the model predictions fit the actual data very well, clearly capturing both the overall trend and cyclical effects related to changes in the unemployment rate during the Great Recession for the low-income group.

### Table 1. Uninsurance Rate Regression Model Coefficients by Income Group and Age.

| Income Group (%) | Ages 19-25 | Ages 26-44 | Ages 45-64 |
|------------------|------------|------------|------------|
| Year trend       | -0.0001    | 0.0012     | 0.0012     |
| Unemployment rate| 0.3135***  | 0.5971***  | 0.9567***  |
| Medicaid eligibility rate | -0.1319*** | 0.0004     | 0.0486     |
| $R^2$            | .664       | .795       | .734       |
| n                | 510        | 653        | 653        |
| Income 139%-400% |            |            |            |
| Year trend       | 0.0042**** | 0.0044***  | 0.0041***  |
| Unemployment rate| -0.0444    | 0.1310     | 0.2156**   |
| Medicaid eligibility rate | 0.1202     | 0.0265     | 0.0040     |
| $R^2$            | .644       | .802       | .790       |
| n                | 510        | 653        | 653        |
| Income > 400%    |            |            |            |
| Year trend       | 0.0003     | 0.0010***  | 0.0013***  |
| Unemployment rate| 0.1274     | 0.1051*    | 0.0417     |
| Medicaid eligibility rate |          |            |            |
| $R^2$            | .293       | .530       | .553       |
| n                | 510        | 653        | 653        |

Source. Authors’ analysis of Current Population Survey data and Urban Institute estimates of Medicaid eligibility rates.

Note. Regression models are estimated using state-year-level data, weighted by population, separately by age and income group. Models for young adults are estimated using data from 2000 to 2010, and data from 2000 to 2012 are used for other age groups. Each regression also includes a constant term and state fixed effects (not shown). Robust standard errors adjust for clustering by state. FPL = federal poverty level.

*P < .10. **P < .05. ***P < .01.
For young adults, the predicted values appear to fit the actual trend less well, but the model is performing as intended for 2 reasons. First, actual uninsurance rates are substantially below predicted uninsured rates for 2011 and 2012 (and to a lesser degree 2010) for each income group. The decline of the uninsurance rate from 2010 may be attributed to the ACA’s dependent coverage provision. The predicted trend is intended not to capture the ACA’s effects, and it is shown to continue the preexisting trend. Second, uninsurance rates for young adults exhibit more year-to-year volatility than the other age groups because they are based on smaller samples. Thus, the models effectively capture the overall trend in uninsurance for young adults before implementation of the ACA’s dependent coverage expansions that were targeted at young adults.

Using the estimated regression models, we generate out-of-sample forecasts of uninsurance rates by income-age group to 2015. Out-of-sample regression predictions are computed using actual state unemployment data in each year (by age group) as was used in the sample. We hold Medicaid eligibility rates fixed at their 2012 values so that forecasted uninsurance rates from 2013 to 2015 do not reflect changes in Medicaid eligibility caused by the ACA. In the case of the 3 early expansion states and the District of Columbia, eligibility rates are held fixed at their preexpansion level such that their ACA-related eligibility expansions (in 2010 for Connecticut and District of Columbia and 2011 for California and Minnesota) are not incorporated into the baseline predictions. This means that our forecasts assume that absent the ACA, there would have been no additional Medicaid eligibility expansions.

Finally, we make a small adjustment to the predicted values to eliminate the gap between actual and predicted values in the last year of the estimation sample. This adjustment...
Figure 4. Uninsurance rate by year (0%-138% FPL): actual and forecast assuming no ACA.  
Source. Authors’ analysis based on Current Population Survey and Urban Institute Medicaid eligibility data.  
Note. Forecast period starts after 2009 for young adults and after 2012 for other groups. FPL = federal poverty level; ACA = Affordable Care Act.

Figure 5. Uninsurance rate by year (139%-400% FPL): actual and forecast assuming no ACA.  
Source. Authors’ analysis based on Current Population Survey and Urban Institute Medicaid eligibility data.  
Note. Forecast period starts after 2009 for young adults and after 2012 for other groups. FPL = federal poverty level; ACA = Affordable Care Act.

Figure 6. Uninsurance rate by year (>400% FPL): actual and forecast assuming no ACA.  
Source. Authors’ analysis based on Current Population Survey and Urban Institute Medicaid eligibility data.  
Note. Forecast period starts after 2009 for young adults and after 2012 for other groups. FPL = federal poverty level; ACA = Affordable Care Act.

does not alter the forecasted percentage-point changes in the uninsurance rates. Specifically, for young adults we add the forecast error for that year (the difference between the actual and predicted uninsurance rates for 2010) to the predicted value for 2010 and each subsequent year up to 2015. Similarly, for the 2 older age groups, we add forecast error in 2012 to the predicted values in 2012 and each following year.

Actual and forecasted uninsurance rates that assume there is no ACA are shown in Figures 4 to 6. For low-income adults, forecasted uninsurance rates are relatively flat to 2015, or falling slightly for all 3 age groups (Figure 4). Despite the overall rising trend in uninsurance from 2000 to 2012, the uninsurance rate would have been expected to fall slightly because of the falling unemployment rate. For the middle-income group, uninsurance rates are forecast to rise within each age group, continuing the overall trend since 2000 (Figure 5). For adults in the higher income group, forecasted trends assuming no ACA show a slight decline for young adults, a flat trend for the middle age group, and a continuation of the preexisting upward trend for the older age group (Figure 6).

We use the forecasted uninsurance rates from 2013 and 2015 to estimate the number of uninsured adults that would be measured by the CPS in those 2 years if there were no ACA (and if there were no changes in how the CPS measures the number of uninsured). We estimate the number of uninsured in each year by multiplying the forecasted number of people by the forecasted uninsurance rate in each income-age group in each year. We forecast the number of people in each income-age group using regression methods similar to those we use to compute forecasted uninsurance rates. We estimate generalized linear regression models with a log link (Poisson regression) of the number of people in each group.
at the state-year level using a linear time trend and the unemployment rate (we would not expect the Medicaid eligibility rate to have an effect on population size and exclude it from the population models). The models also include state fixed effects. The linear time trend captures the average annual growth rate for the group, and the unemployment rate captures cyclical effects on the number of people in each income group. We make a small adjustment to the predicted values to eliminate the gap between actual and predicted values (forecast error) in the last year of the estimation sample (2012). The same adjustment is also applied to the 2013 and 2014 forecasts. For example, the predicted number of adults aged 45 to 64 with income above 400% of the FPL in 2012 was 38.1 million, compared with an estimated 39.9 million in the CPS (a difference of 1.8 million). To make the adjustment, we added 1.8 million people to the predicted number in 2012, 2013, and 2014. For all other demographic groups, the adjustment amounts were smaller. We also make adjustments to ensure that overall growth rates by age group (aggregating over income groups) matches US Census forecasts.

The forecasted number of people in each population group, as well as the estimated uninsurance rate and number of uninsured if there were no ACA, are reported for 2013 and 2015 in Table 2. Population size forecasts show variability in rates of growth by population segment. Within each age category, there is the least amount of growth or negative growth for the low-income category because of falling unemployment rates over this period. As discussed, we predict rising rates of uninsurance for adults in the middle-income group (without the ACA); we predict declining or nearly flat rates of uninsurance in the low-income group. For the high-income group, the direction of change is mixed: Young adults are predicted to experience falling rates of uninsurance because of falling unemployment rates. Overall, we find that the number of uninsured adults would increase 1.2% from 2013 to 2015 without the ACA, with uninsured young adults and the oldest adults in the middle- and high-income groups experiencing the highest rates of growth.

Using information from both the HRMS and the CPS allows us to place the 2015 findings from the HRMS tracking survey in the context of projected trends in coverage, interpreting those findings in a way consistent with the CPS’s broadly familiar measures of the levels of insurance coverage. In this analysis, we rely upon the HRMS because its microdata allow us to assess changes for adults in different policy-relevant income and age groups. However, the same approach could be used with any of the available tracking surveys.

Although they do not provide as definitive estimates of coverage levels as large government household surveys with higher response rates, tracking surveys such as the HRMS and the Gallup survey provide more timely indicators of relative changes in health insurance coverage across recent periods. Surveys such as HRMS and Gallup do not provide the long-time trend that the CPS provides, so they cannot pick up the effects of economic cycles and can only develop counterfactuals based on a few years. Thus, using a timely tracking survey in conjunction with long-term trends provided from a federal survey such as the CPS provides an effective combination for assessing the ACA’s coverage effects.

The specific steps taken to compute the ACA coverage effect are delineated below. Hat marks (^) in the formulas below indicate predicted values, as distinguished from values directly estimated from available data.

**Step 1.** As described in the previous section, we first estimate regressions of the share of uninsured nonelderly adults by age and income group to obtain parameter estimates for how unemployment rate, Medicaid eligibility rate, and time have historically affected the number of uninsured.

**Step 2.** Using the parameters estimated in step 1, we predict the number of nonelderly adults by age and income group who would have been uninsured in 2013 and 2015 had the ACA not been implemented. This step was described in detail in the previous section and results are shown in Table 2. The number of uninsured adults is represented in the formulas as

\[
\text{NumUnins}_{CPS,2015,\text{No ACA}}
\]

**Step 3.** We compute the relative change in the uninsurance rates observed in the HRMS data between the third quarter of 2013 (before the implementation of the health insurance marketplaces and their associated financial assistance and the Medicaid expansion) and the first quarter of 2015 (after the first full year of nongroup marketplace enrollment and the second open enrollment period, 15 months of the Medicaid expansion and full nongroup and small group insurance market reforms). These relative changes are computed across the income and age groups outlined earlier in this report. This step provides an HRMS estimate of changes in insurance coverage among nonelderly adults between 2013 and 2015 for each age and income group.
Table 2. Forecasted Population Sizes and Estimated Uninsurance Rates and Number of Uninsured Without the ACA in 2013 and 2015.

| Population size (forecasted) | 2013       | 2015       | % change |
|-----------------------------|------------|------------|----------|
| Income 0%-138% of the FPL   |            |            |          |
| Ages 19-25                  | 14 720 000 | 14 380 000 | −2.3     |
| Ages 26-44                  | 20 100 000 | 20 140 000 | 0.2      |
| Ages 45-64                  | 15 400 000 | 15 310 000 | −0.6     |
| Income 139%-400% of the FPL |            |            |          |
| Ages 19-25                  | 10 750 000 | 10 940 000 | 1.8      |
| Ages 26-44                  | 31 790 000 | 32 160 000 | 1.2      |
| Ages 45-64                  | 28 470 000 | 28 890 000 | 1.5      |
| Income >400% of the FPL     |            |            |          |
| Ages 19-25                  | 4 770 000  | 4 920 000  | 3.1      |
| Ages 26-44                  | 2 570 000  | 2 650 000  | 3.1      |
| Ages 45-64                  | 3 820 000  | 3 865 000  | 1.2      |
| All                         | 189 570 000| 191 080 000| 0.8      |

| Uninsurance rate if no ACA (estimated) | 2013       | 2015       | % change |
|-----------------------------------------|------------|------------|----------|
| Income 0%-138% of the FPL               |            |            |          |
| Ages 19-25                              | 40.0%      | 39.3%      | −1.8     |
| Ages 26-44                              | 45.0%      | 44.5%      | −1.2     |
| Ages 45-64                              | 33.5%      | 32.5%      | −3.2     |
| Income 139%-400% of the FPL             |            |            |          |
| Ages 19-25                              | 26.5%      | 27.4%      | 3.5      |
| Ages 26-44                              | 21.7%      | 22.4%      | 3.3      |
| Ages 45-64                              | 18.3%      | 18.8%      | 2.9      |
| Income >400% of the FPL                 |            |            |          |
| Ages 19-25                              | 8.3%       | 8.1%       | −2.7     |
| Ages 26-44                              | 6.3%       | 6.4%       | 1.1      |
| Ages 45-64                              | 5.3%       | 5.5%       | 3.8      |
| All                                     | 20.6%      | 20.5%      | −0.5     |

| No. of uninsured if no ACA (estimated)  | 2013       | 2015       | % change |
|-----------------------------------------|------------|------------|----------|
| Income 0%-138% of the FPL               |            |            |          |
| Ages 19-25                              | 5 800 000  | 5 560 000  | −4.1     |
| Ages 26-44                              | 9 050 000  | 8 990 000  | −0.7     |
| Ages 45-64                              | 5 160 000  | 5 020 000  | −2.7     |
| Income 139%-400% of the FPL             |            |            |          |
| Ages 19-25                              | 2 730 000  | 2 890 000  | 5.9      |
| Ages 26-44                              | 6 890 000  | 7 210 000  | 4.6      |
| Ages 45-64                              | 5 200 000  | 5 450 000  | 4.8      |
| Income >400% of the FPL                 |            |            |          |
| Ages 19-25                              | 370 000    | 380 000    | 2.7      |
| Ages 26-44                              | 1 610 000  | 1 650 000  | 2.5      |
| Ages 45-64                              | 2 040 000  | 2 140 000  | 4.9      |
| All                                     | 38 850 000 | 39 300 000 | 1.2      |

Source. Authors’ analysis of Current Population Survey data and Urban Institute estimates of Medicaid eligibility rates.

Note. Model-based estimates are shown (see the text for details). Estimated uninsurance rates and number of uninsured are designed to predict what would have occurred without the ACA. ACA = Affordable Care Act; FPL = federal poverty level.

\[
\text{RelChngUninsRate}_{HRMS, 2013 to 2015} = \frac{(\text{UninsRate}_{HRMS, 2015} - \text{UninsRate}_{HRMS, 2013})}{\text{UninsRate}_{HRMS, 2013}}.
\]

Step 4. We multiply the number of individuals in each income and age group that we predict would have been uninsured in 2013 based on our CPS model by the relative change in the uninsured rate observed between 2013 and 2015 in the HRMS and by the relative change in the population size between 2013 and 2015, again by income and age group. This step provides an estimate, consistent with the CPS framework but relying on relative changes we observe in the HRMS, of the number of people uninsured in 2015 under implementation of the ACA.
Step 5. We compare the post-ACA estimates of the number of uninsured computed in step 4 with the predicted number of uninsured in the absence of ACA implementation from step 2. The difference between the 2 constitutes our estimated coverage effect of the ACA’s main coverage provisions.

But our estimate, which focuses on coverage changes occurring between 2013 and 2015, does not account for increased coverage for young adults that resulted from the 2010 extension of family coverage to nondependent young adults on their parents’ private insurance policies (both employer and nongroup). The effect of the young adult expansion is accounted for separately in step 6:

$$\text{ACA_Unins_Effect}_{\text{CPS,2015},\text{Without Young Adult Expansion}} = \frac{\text{NumUnins}_{\text{CPS,2015},\text{ACA}} - \text{NumUnins}_{\text{CPS,2015},\text{No ACA}}}{\frac{\text{PopCount}_{\text{CPS,2015}}}{\text{PopCount}_{\text{CPS,2013}}}}$$

Step 6. Any measured change and adjustment based on differences in uninsurance rates between 2013 and 2015 does not take into account that uninsurance rates in 2013 were lower than they would have been without the ACA because of the expansion of private family coverage to young adults aged 19 to 25 on their parents’ policies, a policy change implemented in 2010. We assume that the effect of the young adult expansion was fully realized by 2012, a year in which the CPS measured insurance coverage consistent with its preceding years. Therefore, to estimate the coverage effect of the young adult provisions, we compared the number of uninsured young adults in the 2012 CPS with the number we predicted would be uninsured in 2012 using our CPS-based predictive model. As noted, the predictive model only uses CPS data prior to 2010 for young adults because the expansion was implemented late that year:

$$\text{ACA_Unins_Effect}_{\text{CPS,2015},\text{Young Adult Expansion Only}} = \frac{\text{NumUnins}_{19 to 25,\text{CPS,2012,ACA}} - \text{NumUnins}_{19 to 25,\text{CPS,2012,No ACA}}}{\text{PopCount}_{\text{CPS,2015}}}$$

Accordingly, our full estimate of the ACA’s effect on the number of uninsured nonelderly adults is computed as the sum of the results of steps 5 and 6:

$$\text{ACA_Unins_Effect}_{\text{CPS,2015,Adult Total}} = \text{ACA_Unins_Effect}_{\text{CPS,2015,without Young Adult Expansion}} + \text{ACA_Unins_Effect}_{\text{CPS,2015,Young Adult Expansion Only}}$$

Findings: The ACA Coverage Effect for Nonelderly Adults as of December 2015

As noted, our approach implies that the relative changes in insurance coverage observed in the HRMS quarterly surveys are accurate and also assumes that the levels of coverage observed in the larger government surveys (here the CPS) are likely to be more accurate than the levels observed in the HRMS. We therefore translate these recently observed relative changes into the familiar historic levels of CPS coverage. This approach also allows us to compare 2015 predicted levels of uninsurance based on the CPS’s long-term trend with more current information from the HRMS, creating a consistent counterfactual: observed levels of uninsurance under the ACA compared with predicted levels of uninsurance had the ACA not been implemented.

Table 3 provides the uninsurance rates by income and category from the HRMS data in the third quarter of 2013 (before the implementation of the ACA’s central coverage reforms) and the first quarter of 2015 (after those reforms had been implemented and the first full year of coverage and the second open enrollment period under the reformed nongroup insurance market had been completed). The share of each uninsured age and income subgroup in the first quarter of 2015 was substantially smaller than each share in 2013, with an overall relative decline of 44%. For example, in 2013, 39.5% of low-income young adults aged 19 to 25 were uninsured; 21.6% were uninsured in 2015, with a relative decline in the share uninsured of 45.3%. For context, the HRMS measured a 33.1% decline in the number of uninsured nonelderly adults between the first quarter of 2014 and the first quarter of 2015. The relative decline as measured by the NHIS across that same period was 29.3%.

Table 4 shows the number of predicted uninsured absent the ACA in each income and age category (consistent with Table 2), the number of estimated uninsured in 2015 given relative changes observed in the HRMS (consistent with steps 4 and 5 described earlier), and the estimated effect of the early young adult private coverage expansions (consistent with step 6). Without the ACA, we predict that there would have been 39.3 million uninsured nonelderly adults. About half of the adults uninsured without reform are low income and another 40% are middle income. Approximately 22% of uninsured adults without reform would be aged 19 to 25, 45% aged 26 to 44, and 33% aged 45 to 64.

As a consequence of the main coverage expansions taking place, we estimate that the number of uninsured adults was reduced by 16.9 million, to 22.5 million uninsured adults. We
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estimate that the young adult expansions implemented in 2010 reduced the number of uninsured by an additional 1.2 million adults, which is well within the range of estimates (from around 900,000 to 2 million) produced by others using different data and methods.12,16

The “decrease in uninsured” column shows the full estimated ACA coverage effect in 2015, which accounts for the main coverage expansions that were implemented beginning in 2014 and the early expansion for young adults, indicating that the ACA reduced the number of uninsured adults by an estimated 18.1 million people by March 2015, a reduction of approximately 46%.

The largest relative decreases in uninsured adults caused by the ACA accrue to those in the middle-income group. The uninsurance rate in this group fell 51%. The uninsurance rate fell 45% in the low-income group and 34% in the high-income group. By age category, the largest relative decreases in the uninsured occur for the 19- to 25-year-olds and the 45- to 64-year-olds: Each fell more than 50%. The 26- to 44-year-olds saw a 37% reduction.

Limitations

As with all analyses comparing what actually happened with estimates of what would have happened in the absence of a policy change, this approach has limitations. First, the HRMS estimates of the change in the uninsurance rate, like other surveys, are subject to sampling error.17 For our estimate of a reduction of 18.1 million in the number of uninsured people, a 95% confidence interval based on HRMS sampling variability alone yields a range from 15.4 to 20.8 million. Second, the counterfactual estimates of uninsurance are subject to several sources of error, such as sampling errors in the underlying source of uninsurance estimates and errors in the forecasting model, which are harder to quantify. The forecasting model to some degree extrapolated from past trends that may not apply to the 2013 to 2015 period, and uncertainty around the counterfactual forecast grows if we forecast out to subsequent years. Because consistent state-level time series of Medicaid eligibility for childless adults are lacking, we could not control for this element of Medicaid policy in the model (this limitation would lead to more conservative estimates that underestimate the effects of the ACA). Also, the model did not explicitly account for health care cost or premium trends or pre-ACA trends in cost sharing. These effects are captured implicitly in the linear trends, and the effect of health care costs on coverage could differ from 2013 to 2015 relative to the past. Health care cost growth was at relatively low levels in recent years, which could lead us to overestimate the counterfactual uninsurance rates, while the sluggish labor

Table 3. Uninsurance Rate from HRMS Among Adults Aged 18 to 64 in Quarter 3 2013 and Quarter 1 2015, by Income and Age.

| Income at or below 138% of FPL       | Quarter 3 2013 | Quarter 1 2015 | % change in the uninsurance rate |
|-------------------------------------|---------------|---------------|---------------------------------|
| Ages 19-25                          | 39.5%         | 21.6%         | −45.3***                        |
| Unweighted subpopulation size       | 262           | 264           |                                 |
| Ages 26-44                          | 42.3%         | 28.4%         | −32.9***                        |
| Unweighted subpopulation size       | 654           | 691           |                                 |
| Ages 45-64                          | 35.0%         | 17.4%         | −50.4***                        |
| Unweighted subpopulation size       | 749           | 870           |                                 |
| Income above 138% of FPL and below 400% of FPL |                  |               |                                 |
| Ages 19-25                          | 14.3%         | 10.4%         | −27.4                           |
| Unweighted subpopulation size       | 305           | 343           |                                 |
| Ages 26-44                          | 18.0%         | 9.8%          | −45.2***                        |
| Unweighted subpopulation size       | 1222          | 1211          |                                 |
| Ages 45-64                          | 14.3%         | 5.7%          | −60.2***                        |
| Unweighted subpopulation size       | 1738          | 1591          |                                 |
| Income at or above 400% of FPL      |                |               |                                 |
| Ages 19-25                          | 6.7%          | 1.7%          | −73.9**                         |
| Unweighted subpopulation size       | 163           | 151           |                                 |
| Ages 26-44                          | 3.1%          | 2.5%          | −18.3                           |
| Unweighted subpopulation size       | 907           | 927           |                                 |
| Ages 45-64                          | 2.0%          | 1.3%          | −34.4                           |
| Unweighted subpopulation size       | 1847          | 1933          |                                 |
| Total                               | 17.8%         | 10.0%         | −43.7***                        |
| Unweighted subpopulation size       | 7911          | 8039          |                                 |

Source. Health Reform Monitoring Survey, quarter 3 2013 and quarter 1 2015.

Note. HRMS = Health Reform Monitoring Survey; FPL = federal poverty level.

*, **, and *** estimates differ significantly at the .10, .05, and .01 levels, using 2-tailed tests.
market recovery from the Great Recession could lead us underestimate counterfactual uninsurance rates. Finally, the population forecasts by income and age are subject to forecasting errors.

Discussion

Time lags in receiving data from long-standing, large federal surveys complicate real-time estimation of the coverage effects of full ACA implementation. Fast-turnaround household surveys have stepped in to fill some of the void in data on recent changes to insurance coverage, but they lack the historical data that allow analysts to account for trends that predate the ACA, economic fluctuations, and public program expansions when predicting how many people would be uninsured without comprehensive health care reform. This approach allows us to take advantage of long-term trends and timely data on coverage changes to estimate the number of uninsured at a point in time and compare that estimate with expectations had the ACA not been in place. The approach can also be applied to other federal data and other timely surveys. Doing so would provide a range of estimates of the overall effects of reform.

Using the CPS and the HRMS in this fashion, we estimate that as of March 2015, the ACA reduced the number of uninsured adults by 18.1 million compared with the number who would have been uninsured at that time had the law not been implemented. That decline represents a 46% reduction in the number of nonelderly adults without insurance, compared with the HRMS’s observed reduction of approximately 44% (Table 3). It is also helpful to place this estimated reduction in the number of uninsured in context with Congressional Budget Office (CBO) predictions of the ACA’s coverage effects to assess the current reduction relative to expectations. The CBO’s model is based on different data still; the core of their microsimulation model is the Survey of Income and Program Participation. Thus, their estimated levels of the number of uninsured are different from those produced by the CPS. But putting expected changes into relative terms can help us compare them with estimates of actual changes in coverage using the data in this analysis.

According to the most recent predictions using the CBO model, the number of uninsured adults and children was expected to fall by 17 million people in 2015 because of the ACA, or 33% of the estimated total uninsured absent the ACA (52 million). However, the CBO baseline of 52 million uninsured people includes both nonelderly adults and children; our analysis includes only adults. Our rough approximation of an expected percentage reduction in nonelderly uninsured adults consistent with the CBO baseline is about 47%, very close to the relative reduction computed in our analysis. The 2009 (pre-ACA) nonelderly uninsured were 70% adults and 30% children. Assuming that split applies to the 2015 CBO baseline, 36.4 million of the 52 million uninsured predicted in the absence of the ACA are adults. The increase in coverage under the ACA appears, thus far, to be wholly attributable to adults, with children’s coverage remaining unchanged. Attributing the CBO’s prediction of a 17 million person reduction to the number of uninsured adults, a rough calculation of their predicted relative change in uninsurance among adults would be about

| Income at or below 138% of FPL | Predicted number of uninsured in 2015 absent the ACA (output from CPS predictive model) | Estimated number of uninsured in 2015 under ACA in CPS framework given 2013-2015 relative decline in uninsured among nonelderly adults in HRMS | Extra effect of the young adult expansion implemented in 2010 | Decrease in uninsured |
|---------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------|---------------------|
| Ages 19-25                      | 5 560 000                                                                               | 3 097 913                                                                    | 887 448                                         | 3 349 535           |
| Ages 26-44                      | 8 990 000                                                                               | 6 087 296                                                                    | NA                                              | 2 902 704           |
| Ages 45-64                      | 5 020 000                                                                               | 2 544 988                                                                    | NA                                              | 2 475 012           |
| Income above 138% of the FPL and below 400% of FPL |                                |                                                                               |                                                |                    |
| Ages 19-25                      | 2 890 000                                                                               | 2 016 395                                                                    | 307 694                                         | 1 181 299           |
| Ages 26-44                      | 7 210 000                                                                               | 3 816 421                                                                    | NA                                              | 3 393 579           |
| Ages 45-64                      | 5 450 000                                                                               | 2 102 026                                                                    | NA                                              | 3 347 974           |
| Income at or above 400% of FPL  |                                |                                                                               |                                                |                    |
| Ages 19-25                      | 380 000                                                                                 | 99 625                                                                       | 44 868                                           | 325 243             |
| Ages 26-44                      | 1 650 000                                                                               | 1 331 770                                                                    | NA                                              | 318 230             |
| Ages 45-64                      | 2 140 000                                                                               | 1 353 299                                                                    | NA                                              | 786 701             |
| Total                           | 39 300 000                                                                              | 22 449 732                                                                   | 1 240 010                                       | 18 080 278          |

Source. Authors’ analysis of CPS and HRMS data.

Note. ACA = Affordable Care Act; CPS = Current Population Survey; HRMS = Health Reform Monitoring Survey; FPL = federal poverty level; NA = not applicable.
47% (17 million/36.4 million). The estimates generated in our analysis indicate that the number of uninsured adults fell 46% as of March 2015 (18.1 million out of 39.3 million anticipated without reform). Consequently, our analysis indicates that the second-year effects of the ACA on insurance coverage are in line with those predicted by the CBO; the level of the change is different because of the differences in the data sets used, but the relative change is consistent with the CBO’s prediction.

The third year of full ACA implementation, 2016, brings some significant uncertainty related to potential coverage effects. First, at least one additional state, Indiana, has chosen to expand Medicaid under the law, and others might follow. As the HRMS has shown, Medicaid expansion decisions have substantially affected how much the ACA can increase insurance in a given state. Second, investment in outreach and enrollment activities appears to be waning to some degree, and this could affect enrollment and reenrollment in Medicaid and marketplace coverage. Because falling unemployment rates over the 2013 to 2015 period counteracted an overall trend of rising uninsurance rates, the forecasted uninsurance rate absent the ACA shows little change over the 2-year period. Consequently, the practical importance of modeling and accounting for the counterfactual trend turns out to be modest over this period. Over longer periods and periods of economic instability, accounting for the counterfactual becomes more important. When we use our model to forecast the number of uninsured out to 2020, we estimate there would be 42.7 million uninsured adults under a base scenario with 5.1% unemployment, but 46.5 million uninsured adults under 9.6% unemployment, such as was experienced in the aftermath of the Great Recession.

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