Decomposing increases in health insurance coverage:
Population processes and policy processes

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Short abstract
The primary goal of the Affordable Care Act was to increase the share of United States residents who have health insurance coverage. Newly released data from the US Census show a substantial increase in the number of Americans covered by insurance. However, the population continues to undergo compositional change which also affects health care coverage. In this paper, we will decompose the direct versus indirect forces that led to the expansion of health care coverage between 2013 and 2014. The share of the US population without health insurance dropped from 14.93% in 2013 to 11.97% in 2014. Our preliminary results indicate that just 2% of this shift can be attributed to changes in the population age structure. The final paper will refine the methods presented here, and also explore changes attributable to the expansion of the economy.

Introduction
Prevention, the saying goes, is the best medicine. This idiom has been reified in the modern era by a global shift toward preventive medicine, a key component of which is affordable access to routine medical care. In the United States, health care system reform has focused on increasing such access. One of the primary goals of the Affordable Care Act of 2010 (ACA) was to increase the share of United States residents who have health insurance coverage at a minimum level (Kaiser Family Foundation, 2013). Increased coverage was targeted by a variety of strategies within the ACA, including: 1. a requirement that all US citizens and legal residents carry health insurance; 2. creation of health insurance marketplaces useful for the purchase of individual insurance plans; 3. Federal subsidies available to lower-income citizens to aid in the purchase of individual insurance plans; 4. an expansion in the population eligible for the low-income public insurance program known federally as Medicaid; and 5. new rules about what employers had to carry coverage for their employees. The first four of these provisions went into effect on January 1st, 2014.

Newly released data from the 2014 American Community Survey’s 1-year estimates (United States Census Bureau, 2015) show a substantial uptick in the number of American residents who were covered by some form of health insurance at the national and state levels. Nationwide, health insurance coverage went up from 85.5% to 88.3% of all US residents (Applied Population Laboratory, 2015). All but two states saw a statistically significant increase in coverage. The group most directly affected by the ACA in 2014 was working-aged adults, and this group saw a corresponding 20% increase in coverage at the national level. Looking at the state level, all 50 states and the District of Columbia showed a significant increase in health insurance in 2014 among working aged adults, compared to 2013 (Applied Population Laboratory, 2015).

Change in enrollment in specific types of insurance can illuminate some of the underlying processes at work in the overall increase. In 26 states, Medicaid enrollment increased significantly. Of these, 22 were states that adopted the Medicaid expansion and 4 were states that have thus far declined to adopt the expansion (Kaiser Family Foundation, 2015; United States Census Bureau, 2015). Health insurance rates among those living below or near the poverty line are also significantly up in 25 of the Medicaid expansion states, and 15 of the states that did not adopt the expansion, suggesting that the expansion did boost enrollment among the newly eligible.

However, not all of this good news can be attributed directly to the Affordable Care Act. The United States population continues to undergo compositional change which affects health care
coverage. By way of example, although the ACA did not change Medicare eligibility in any way, 40 states experienced a significant increase in Medicare enrollment between 2013 and 2014 (Applied Population Laboratory, 2015; United States Census Bureau, 2015). This effect is largely due to the baby boomer generation, who continue to age into the 65+ age group, when most Americans become eligible for Medicare for the first time (Medicare.gov, n.d.).

In this paper, we tease apart the demographic and policy process that led to the expansion of health care coverage among residents of the United States. We pose two research questions: 1. What proportion of the increase in health insurance coverage in 2013 – 2014 is due to the aging of the population into Medicare? 2. What proportion of the increase in coverage is due to the background expansion of the economy, leading to reduced unemployment and thus, higher rates of employer-based coverage?

Methods

We rely on national- and state-level data from the American Community Survey (ACS) 2013 and 2014 1-year estimates. Although ACS 1-year estimates are relatively imprecise, they are more sensitive to rapid shifts in the population. The changes in health insurance coverage produced by the implementation of the Affordable Care Act were dramatic and quick, so the ACS 1-year estimates are appropriate for this purpose.

Our analytic approach is to decompose the population processes that lead to some fraction of the change in the overall rate of health insurance and of specific types of health insurance: employer-based, marketplace-based, Medicare, and Medicaid insurance. For the preliminary results presented here, we employ classic decomposition-standardization methods to estimate the hypothetical difference in insurance rates under the counterfactual condition that nothing changed between 2013 and 2014 aside from predictable changes in the age structure. We estimate the expected age-specific uninsured rate based on 2013 age-specific insurance rates as applied to 2014 age-specific populations. Then, we simply compare the measured 2014 uninsured population to the expected uninsured.

In our final paper, we will look at disentangling the effects of both population aging and workforce participation change from direct effects of the ACA. Because the ACA is primarily a Federal law, and parts of the ACA are implemented at the state level (sometimes with substantial variation), the final paper will present analyses for the United States as a whole as well as for individual states and the District of Columbia. We exclude Puerto Rico and other territories, which have substantially different public insurance plans and eligibility criteria. The final paper will also deal with confidence intervals in the ACS estimates to the extent that is possible to do so from a methodological standpoint.

Preliminary Results

Results based on the preliminary approach of comparing the real 2014 estimates to the hypothetical scenario assuming no change in age-specific insurance rates from 2013 to 2014 are shown in Table 1. In every age group, the share of the population without health insurance dropped between 2013 and 2013, and most of these changes were statistically significant (Figure 1). Overall, the share of the population without health insurance dropped from 14.93% in 2013 to 11.97% in 2014. We estimate that, given no change from 2013 age-specific insurance rates, the share of uninsured US residents would still have dropped by 0.05% based on changes in the age structure—primarily, a larger share of people in the 65+ categories. This represents just 2% of the total change in uninsured rates between years. The remaining 98% of the shift can be attributed to other factors.
To put this another way, an estimated 9 million *more* US residents had health insurance in 2014 than we might have expected if nothing had changed but the passage of one year.

**Preliminary Discussion**
Conservative pundits and news outlets across the political spectrum continue to debate the question of whether or not Obamacare "is working." The recent data from the US census showed an unprecedented increase in Americans with health insurance. Our preliminary results show that only a small fraction of the shift in insurance status is due to background compositional change in the age structure of the US population.
Figure 1. Percentage point change in insurance rate by age group

### Change in Insurance Rate by Age Group

![Bar chart showing percentage point change in insurance rate by age group.](image)

Total Change: 2.96

<table>
<thead>
<tr>
<th>Age group</th>
<th>Population</th>
<th>Population without health insurance (Age-specific rate of uninsured)</th>
<th>Population with insurance in excess of expected under counterfactual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 6</td>
<td>23,940,923</td>
<td>1,371,451 (5.73%) 201,889</td>
<td></td>
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<tr>
<td>6-17</td>
<td>49,505,139</td>
<td>5,201,168 (10.51%) 4,205,680 1,008,015 1</td>
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<td>18-24</td>
<td>30,819,119</td>
<td>7,266,023 (23.58%) 5,807,610 1,445,877 1</td>
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<td>25-34</td>
<td>41,507,848</td>
<td>10,993,120 (26.48%) 9,082,870 2,095,193 2</td>
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<td>35-44</td>
<td>39,848,369</td>
<td>8,462,474 (21.24%) 6,963,576 1,527,367 1</td>
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<td>45-54</td>
<td>43,152,272</td>
<td>7,513,568 (17.41%) 5,971,103 1,487,213 1</td>
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<td>55-64</td>
<td>39,030,803</td>
<td>5,265,497 (13.49%) 4,024,927 1,337,287 1</td>
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<td>65-74</td>
<td>24,934,291</td>
<td>321,733 (1.29%) 301,662 35,411 3</td>
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<td>75+</td>
<td>7,581,638</td>
<td>46,422 (0.61%) 46,455 997 9</td>
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<td>Total Population</td>
<td>311,158,104</td>
<td>46,441,456 (14.93%) 37,566,286 9,139,249</td>
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References


