

Effects of the Affordable Care Act on Health Insurance Coverage of Americans at Risk of Cardiovascular Disease

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This analysis assesses the effects of the Affordable Care Act (ACA) insurance expansions on the health insurance coverage of non-elderly American adults (18-64 years old) who are at risk of, or who have experienced, cardiovascular disease (CVD). We examined changes in insurance coverage between 2013, the year before implementation of the health insurance marketplaces and most Medicaid expansions, and 2014, the year in which expansions were implemented. We focus on adults under age 65 because they were the primary targets of ACA expansions. Almost all older adults were already insured by Medicare and eligibility for children, who usually have low CVD risk, changed little.

We analyzed data from the 2013 and 2014 National Health Interview Survey (NHIS), conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention, a nationally representative household survey. In this phase of the research, we examined changes at the national level. It is likely that results vary across the nation, particularly because more than half the states have expanded Medicaid, while others have not.

Briefly, the analysis found (see Table 1):

- The number of uninsured adults 18-64 with a selected CVD risk factor (have had hypertension or high cholesterol in the past 12 months, currently being treated for diabetes, currently smoke, or are overweight or obese based on a body mass index of 25 or more) fell by more than 6 million from 2013 to 2014, from 31.0 million to 24.8 million. The percent of adults with a CVD risk factor who are uninsured fell from 21.4% in 2013 to 17.0% in 2014, a statistically significant reduction.

- The number with high blood pressure (HBP) in the past 12 months who are uninsured fell from 4.6 million (14.9% of those with HBP) to 3.7 million (11.6% of those with HBP) from 2013 to 2014.
- The number with high serum cholesterol in the past 12 months who are uninsured declined from 4.0 million to 2.4 million (from 12.5% to 8.2% of those with high serum cholesterol).
- The number currently being treated for diabetes (with pills or insulin) who are uninsured dropped from 1.9 million to 1.2 million (from 15.8% to 10.4% of those being treated for diabetes).
- The number at risk due to being overweight or obese (BMI of 25 or more) who are uninsured fell from 25.8 million to 20.7 million (from 20.8% to 16.5% of those overweight or obese).
- The number of current smokers who are uninsured fell from 11.5 million to 8.8 million (from 30.1% to 24.5% of smokers).
- *Note:* All the changes reported above are statistically significant, with 95% confidence or better. All NHIS results are based on self-reports by respondents, not direct clinical examination. All analyses were adjusted for survey weights and survey design.
- Both women and men who are at risk of CVD experienced significant reductions in the percent who are uninsured by 2014.
- The insurance improvements cut across race/ethnicity lines and helped those who are white, African-American and Hispanic. (Because of limited sample sizes, it was difficult to reliably measure changes for Asians and those with other races, although there appeared to be improvements among these groups, too).
- Table 2 summarizes the relative changes in uninsurance rates. As noted above, there were improvements across race/ethnicity groups, but the largest changes occurred among African-Americans. For example, the share of African Americans being treated for diabetes who are uninsured fell by more than half between 2013 and 2014. Reductions were somewhat smaller for Hispanic adults, which may reflect insurance barriers that continue to exist for many Hispanic immigrants.
- As shown in Table 2, the relative reductions in uninsurance were larger for those being treated for diabetes or with high cholesterol (34% each) than for those who were hypertensive, overweight or smoking (19-22%). It is plausible those with diabetes or high cholesterol were more motivated to obtain insurance when it became available under the ACA expansions. Under the ACA, current smokers may face a surcharge to their private health insurance premiums, which could make it harder for them to afford insurance. This issue may merit further research.

As a result of these changes, in 2014 significantly more American adults who are currently at risk of cardiovascular disease:

- Have insurance coverage for preventive services, such as blood pressure and cholesterol/lipid screenings, smoking cessation services, and behavioral counseling for obesity.
- Have insurance coverage to help afford ongoing ambulatory medical care related to CVD, such as evaluation and management of CVD risk conditions, including medications.
- Have insurance coverage for the high costs that are associated with acute, emergency, inpatient, and post-acute care for serious CVD incidents, such as heart attacks or strokes.

The additional insurance coverage increases access to both basic and specialized medical care services and offers financial protection against catastrophic medical care bills for those who experience serious medical problems. Health insurance is particularly important for those at risk. Chronic CVD risk conditions such as hypertension, high cholesterol, and diabetes typically require ongoing medical management and medications, such as antihypertensives, statins, or anti-diabetes drugs. Counseling and therapies, like tobacco cessation medications, can help people lose weight or quit smoking to lower their risks and improve their health.

Having public or private health insurance coverage also assures physicians and clinicians that their patients can afford appropriate prevention and treatment services.

Two sets of supplementary analyses were run:

- Insurance coverage also improved for those who ever experienced a cardiovascular condition, which was defined as ever having a stroke, ever having heart disease (reported having a heart attack, angina, coronary heart disease or other heart disease) or ever had hypertension. The percentage of adults who ever had any of these CVD conditions who are uninsured fell from 8.2 million (16.2% of those with any of the three CVD conditions) in 2013 to 6.9 million (12.9%) in 2014 (Table 3). The implications of these analyses are less clear because these events may have occurred years before the date of the survey, when their insurance coverage differed from their current status. In addition, the sample sizes are quite small (particularly those who ever had a stroke), making it hard to detect statistically significant changes.
- The overall rate of uninsurance among non-senior adults (regardless of whether they had a CVD risk condition) fell substantially from 20.2% in 2013 to 16.3% in 2014 (Table 4). In contrast, there were no major changes in the overall prevalence of CVD risk factors or conditions, without regard to insurance status, from 2013 to 2014. This permits us to determine that the changes described in this paper are due to changes in insurance coverage triggered by the ACA, as opposed to changes in the overall prevalence of risk conditions. There were modest reductions in the overall percent of adults with high cholesterol and percent who smoke, but they are very small compared to the changes in insurance rates..

Table 1. Changes in the Percent of Adults 18-64 with Current Cardiovascular Risk Factors Who Are Uninsured from 2013 to 2014

	Hypertension in the Past 12 Months		High Cholesterol in the Past 12 Months		Currently Treated for Diabetes ¹		Overweight or Obese (BMI >=25)		Current Smoker		Currently Have Hypertension, High Cholesterol, Diabetes, Smoke, or are Overweight	
	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Estimated Number of Persons with Each Risk Factor Who Are Uninsured	4,603,258	3,682,333	4,012,733	2,417,347	1,861,978	1,185,979	25,770,545	20,678,853	11,466,148	8,815,276	31,006,583	24,826,552
Overall Percent of Adults with Each Risk Factor Who Are Uninsured	14.9%	11.6% *	12.5%	8.2% *	15.8%	10.4% *	20.8%	16.5% *	30.1%	24.5% *	21.4%	17.0% *
# in Sample with Condition	753	622	622	398	259	193	3,848	3,264	1,700	1,397	4,634	3,923
Gender												
Male	13.9%	11.1% *	12.0%	7.0% *	16.9%	8.5% *	21.3%	17.2% *	32.6%	27.7% *	22.3%	18.1% *
Female	16.0%	12.2% *	13.1%	9.6% *	14.5%	12.4% *	20.3%	15.6% *	26.9%	20.8% *	20.5%	15.8% *
Race and Ethnicity												
Hispanic	30.1%	24.5%	27.7%	20.8% *	30.9%	20.0% *	42.3%	34.7% *	43.6%	37.2%	41.6%	34.2% *
Non-Hispanic White	11.3%	9.0% *	8.8%	5.9% *	11.0%	6.9% *	14.3%	11.0% *	27.4%	22.1% *	15.7%	12.2% *
Non-Hispanic Black	17.5%	10.6% *	16.8%	7.3% *	18.4%	9.3% *	23.4%	16.4% *	32.4%	26.2% *	24.5%	17.6% *
Non-Hispanic Asian	16.6%	**	11.4%	**	**	**	14.3%	13.9%	32.1%	28.2%	15.5%	13.9%
Non-Hispanic Other Races	**	**	**	**	**	**	21.7%	28.1%	38.9%	29.2%	22.7%	27.0%
Obesity												
BMI >= 30	14.3%	11.5% *	12.2%	9.1% *	14.1%	9.1% *	20.6%	16.2% *	26.7%	22.9%	20.6%	16.2% *
BMI >= 25	14.8%	11.5% *	12.7%	8.3% *	15.3%	9.6% *	20.8%	16.5% *	28.9%	23.4% *	20.8%	16.5% *
Age												
18-24	25.4%	**	**	**	**	**	29.1%	19.2% *	35.4%	28.6%	29.9%	20.2% *
25-34	19.0%	16.9%	14.6%	15.6%	**	**	26.7%	23.8% *	35.3%	33.2%	27.6%	24.7% *
35-49	18.5%	14.3% *	13.9%	9.4% *	19.6%	13.9%	21.1%	17.2% *	30.8%	22.7% *	21.5%	17.6% *
50-64	12.5%	9.9% *	11.6%	6.7% *	13.3%	8.6% *	14.6%	10.9% *	23.1%	17.9% *	15.2%	11.3% *

Source: National Health Interview Survey, 2013-2014, as analyzed by George Washington Univ.

Notes: ¹ Being treated for diabetes was based on whether the individual is currently taking insulin or pills for diabetes.

*Comparisons between 2013 and 2014 are statistically significant at p< .05

**Data suppressed due to sample size less than 30

**Table 2. Relative Change in the Percent of Adults 18-64 Who Are Uninsured, by Cardiovascular Risk Factors from 2013 to 2014
(See Table 1 for Absolute Percentages)**

	Relative Change in Percent with Each Condition Who Are Uninsured					
	Hypertension in the Past 12 Months	High Cholesterol in the Past 12 Months	Currently Treated for Diabetes ¹	Overweight or Obese (BMI >=25)	Current Smoker	Currently Have Hypertension, High Cholesterol, Diabetes, Smoke, or Overweight
Overall	-22.0%	-34.4%	-34.2%	-20.9%	-18.5%	-20.6%
Gender						
Male	-20.4%	-41.8%	-49.9%	-19.3%	-15.1%	-18.6%
Female	-23.6%	-26.9%	-15.0%	-22.8%	-22.8%	-23.0%
Race and Ethnicity						
Hispanic	-18.7%	-24.9%	-35.4%	-18.0%	-14.8%	-17.9%
Non-Hispanic White	-20.9%	-33.0%	-37.3%	-23.0%	-19.6%	-22.3%
Non-Hispanic Black	-39.7%	-56.4%	-49.7%	-29.7%	-19.0%	-27.8%
Non-Hispanic Asian	NA	NA	NA	-2.3%	-12.0%	-10.2%
Non-Hispanic Other Races	NA	NA	NA	29.7%	-24.9%	18.9%
Obesity						
BMI >= 30	-19.7%	-25.0%	-35.5%	-21.4%	-14.4%	-21.4%
BMI >= 25	-22.3%	-35.0%	-37.4%	-20.9%	-19.1%	-20.9%
Age						
18-24	NA	NA	NA	-33.9%	-19.1%	-32.4%
25-34	-10.8%	6.9%	NA	-10.8%	-5.9%	-10.6%
35-49	-22.8%	-32.1%	-29.3%	-18.3%	-26.4%	-18.3%
50-64	-20.6%	-42.8%	-35.1%	-25.8%	-22.6%	-25.4%

Source: National Health Interview Survey, 2013-2014 as analyzed by George Washington Univ.

Notes: ¹Individuals were determined to currently have diabetes based on whether the individual is currently taking insulin or pills for diabetes.

Table 3. Changes in Percent of Adults 18-64 Who Ever Had a Stroke, Heart Disease, or Hypertension Who are Uninsured from 2013 to 2014

	Ever Had a Stroke		Ever Had Heart Disease ¹		Ever had Hypertension ²		Ever had a Stroke, Heart Disease ¹ , or Hypertension ²	
	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured	% Uninsured
	2013	2014	2013	2014	2013	2014	2013	2014
Estimated Number of Persons with Condition Who Are Uninsured	390,866	272,281	2,061,075	1,813,120	5,765,243	4,806,189	8,217,184	6,891,825
Overall Percent of Adults with Condition Who Are Uninsured	13.8%	9.0% *	15.9%	13.4%	16.4%	13.0% *	16.2%	12.9% *
# in Sample with Condition	68	56	308	282	927	775	1,303	1,114
Gender								
Male	17.4%	**	15.2%	14.4%	15.8%	12.5% *	15.7%	12.8% *
Female	10.1%	**	16.7%	12.4% *	17.1%	13.5% *	16.6%	13.0% *
Race and Ethnicity								
Hispanic	**	**	29.7%	35.1%	33.0%	24.3% *	31.6%	25.8% *
Non-Hispanic White	14.7%	**	13.2%	10.0%	12.3%	10.5%	12.7%	10.2% *
Non-Hispanic Black	**	**	20.5%	11.0% *	20.3%	13.1% *	19.6%	12.6% *
Non-Hispanic Asian	**	**	**	**	14.7%	**	15.4%	11.6%
Non-Hispanic Other Races	**	**	**	**	**	**	**	30.5%
Obesity								
BMI >= 30	**	**	15.8%	12.4%	15.6%	12.8% *	15.6%	12.2% *
BMI >= 25	13.8%	9.0%	15.6%	13.8%	16.1%	12.4% *	15.9%	12.5% *
Age								
18-24	**	**	**	**	22.1%	15.3%	24.3%	15.6% *
25-34	**	**	28.4%	29.7%	21.4%	19.6%	23.4%	22.6%
35-49	**	**	16.9%	13.4%	19.4%	14.9% *	18.8%	14.6% *
50-64	10.7%	**	11.7%	9.3%	13.5%	10.4% *	12.8%	9.8% *

Source: National Health Interview Survey, 2013-2014, as analyzed by George Washington Univ.

Notes: ¹Heart Disease includes individuals who indicated that they ever had a heart attack, angina, coronary heart disease or any other heart disease. Does not include stroke.

²Does not include stroke or heart disease.

*Comparisons between 2013 and 2014 are statistically significant at p< .05

**Data suppressed due to sample size less than 30

Table 4. Number and Percent of Total Adults 18-64 Who Were Uninsured or Had Cardiovascular Risk Conditions, 2013-2014

Condition	2013		2014	
	Number of Persons	Percent of Total with Condition	Number of Persons	Percent of Total with Condition
Total Uninsured (including those with and without risk conditions)	38,958,845	20.2%	31,616,232	16.3%
Those with Risk Conditions (including both insured and uninsured)				
Hypertension in the Past 12 Months	30,961,497	17.3%	31,782,098	17.8%
High Cholesterol in the Past 12 Months	32,098,552	16.7%	29,551,386	15.3%
Currently Treated for Diabetes¹	11,787,921	6.1%	11,443,938	5.9%
Overweight or Obese (BMI >=25)	124,277,541	64.1%	126,007,393	64.7%
Current Smoker	38,318,611	19.8%	36,167,626	18.7%
Currently Have Hypertension, High Cholesterol, Diabetes, Smoke or are Overweight	145,332,888	76.0%	146,648,912	76.6%
Ever Had a Stroke	2,837,780	1.5%	3,060,621	1.6%
Ever Had Heart Disease²	12,982,308	6.8%	13,540,277	7.1%
Ever Had Hypertension³	35,173,815	19.8%	37,028,451	20.8%
Ever Had Stroke, Heart Disease², or Hypertension³	50,993,903	26.3%	53,629,349	27.6%

Source: National Health Interview Survey, 2013-2014, as analyzed by George Washington Univ.

Notes: ¹Being treated for diabetes was based on whether the person is currently taking insulin or pills for diabetes. ²Heart Disease includes individuals who indicated that they ever had a heart attack, angina, coronary heart disease or any other heart disease. Does not include stroke.

³Does not include stroke and heart disease.