

Did Healthcare Reform Accomplish Its Goals in Illinois?

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With the potential for major changes in health insurance policy at both the national and state levels on the horizon, it is timely to consider how effectively the Affordable Care Act operated in Illinois. A logistic regression analysis of implementation of healthcare reform in Illinois between 2011 and 2016 indicates that ACA resulted in increased likelihood of being insured among low income residents, people without children, unemployed persons, African Americans, and people living in unmarried households. The biggest driver of these increases was likely expanded Medicaid eligibility that enables low income people, largely regardless of whether they had children, to access health care.

Introduction

The American health insurance system has, for many years performed well in providing health insurance coverage for a large portion of the American population. Since the creation of Medicare, most persons over 65 have had health insurance coverage, most persons and their families who have middle to high-paying jobs, and most low-income children. However, until the implementation of the Affordable Care Act, in the 2010s, several types of persons were uninsured or had a difficult time getting insurance.

Persons without jobs, who did not have spouses with coverage, or who had jobs that did not offer insurance benefits, largely went uninsured. Costs of privately purchased health insurance was prohibitive and Medicaid coverage did not extend to single persons without children. Because of the high correlation between race and employment, African Americans were disproportionately without healthcare benefits. Men, and black men in particular, were more likely to be uninsured because they were less likely to be the guardians of children and were, therefore, ineligible for Medicaid. Because of the challenges of finding insurance if your employer did not provide it, and because more educated people are more likely to be employed, less-educated Americans were more likely to be uninsured.

The Affordable Care Act took a major step toward addressing these problems. In states such as Illinois, that adopted the federally-offered Medicaid expansion, eligibility for Medicaid was decoupled from employment, and largely from having children, and became a means-tested benefit open to most low-income persons. While containing prices has been a problem, the creation of state and federal health insurance portals for privately purchased insurance, the exchanges, combined with premium subsidies for lower income people and no penalties for pre-existing conditions, made privately purchased policies more affordable than they ever had before. The requirement that a tax payer either have insurance or pay a small income tax penalty provided additional incentive for a non-insured person to choose either a Medicaid or exchange-purchased policy.

With the new system fully implemented, we can now ask how well it was working in Illinois in the first years of its implementation. Did ACA improve the likelihood that low income persons, the unemployed, persons in non-benefit jobs, African Americans or Hispanics, singles or other demographic groups would have health insurance? We know that ACA resulted in more people becoming insured, but did particular population characteristics drive those increases? Finally, which major vehicles for insurance coverage, Medicaid, privately purchased policies, or employer or union coverage drive the increase for adult persons?

Methodology

To address this question, this study compares changes in the likelihood that particular demographic groups have health insurance from 2011, before implementation of ACA in Illinois, to 2016, following ACA implementation. To fully understand the influences of the policy change, we need to isolate the effects on different population characteristics. For instance, if we consider a childless person in a low-wage job who became insured, was it because they were childless, because they were low-income, or because they were employed? Was there change of insurance status driven by policy impact on one, or a combination of their conditions? To solve that problem, a logistic regression is employed that provides the estimated change in likelihood that a person is insured based on different individual characteristics, accounting for the effects of their other characteristics. This tells us the extent to which the effect of policy changes on each type of population characteristic likely affected the entire adult Illinois population.

Finally, we want to understand as best we can which of the policies, Medicaid, exchanges, or employment-related insurance drove increases in coverage, and whether those effects were different for different populations. To do this, the population characteristics most subject to changes in likelihood of insurance between 2011 and 2016 are identified, and the change in percentage of that population insured in each of the three ways is calculated, thereby telling us which policy options had the most effect on population categories that were most affected by ACA.

The year 2011 was selected because, while ACA had been signed into law, neither the Medicaid expansion (January, 2014) nor the exchanges (October, 2013) had been implemented. By 2016 both of these policies, as well as other ACA policies such as small business tax credits for group insurance and the individual mandate to purchase insurance, had been fully implemented for at least two years. While enrollments were still increasing in Illinois, by 2016 the policy was fully operating. 2016 also was the last available year of Census PUMS data.

The analysis is conducted on Illinois cases in the U.S. Census's Public Use Micro Sample for the years 2011 and 2016, obtained from the IPUMS system. This provides a random sample of Illinois households comprising approximately 78,000 persons per year for those years with variables addressing most of the major policy issues of interest such as household composition, income, employment, education, age, race, ethnicity, gender and citizenship. This is the only data set available at the state level that allows analysis of the impact of various social characteristics on whether or not a person has health insurance.

Logistic regression measures the likelihood, or odds ratio, that the value of a particular variable influenced a binary choice, in this case whether a person had health care or did not, relative to everyone who does not share that population characteristic. For instance the regression compares males to females, persons in households with no income to persons in all other income levels, persons in households with income \$1 to \$20,000 with all other household income levels, and so on. Because the adult population was the biggest target of ACA, the study focuses on persons aged 18 to 65 and the variables selected are those most relevant to that population. The choice to use household, rather than individual, data for income is arguable either way. The two are highly correlated across the population. For this subject area, household income seemed the more relevant measure given that many spouses depend on their other spouse's income for their insurance coverage, and because the ACA expanded required insurance coverage to children aged 24, a large minority of whom live in the same household

with their parents. Thus to treat the unemployed, but insured, spouse of a high earner independently, would be statistically misleading.

Findings

The summary table below presents the percentage of Illinois adults insured by the various population categories analyzed in the logistic regression further below. The most obvious observation is that the percent insured increased from 2011 to 2016 for almost every demographic category. The biggest increases were for persons in the lowest-income households, persons not employed or for whom no one in their household was employed, for African-Americans and Hispanics. The smallest changes were among populations that the pre-ACA American health insurance system most favored: higher income, employed, people with children, older people, married people, and the more educated.

Percent Insured by Population Characteristic and Year

	2011	2016	Increase
No Household Income	57.1%	80.5%	23.4%
Household Income \$1 to \$20,000	63.8%	83.6%	19.8%
Household Income \$20,000 to \$40,000	67.1%	81.5%	14.4%
Household Income \$40,000 to \$80,000	80.7%	88.9%	8.2%
Male	78.0%	88.8%	10.8%
Female	83.9%	92.2%	8.3%
Own Children in Household	85.0%	91.1%	6.1%
No Own Children in Household	78.0%	90.1%	12.1%
Citizen	84.6%	93.3%	8.7%
Non-Citizen	72.1%	64.0%	7.9%
Employed	84.9%	91.8%	6.9%
Not Employed	72.1%	86.9%	14.8%
Someone in Household Employed	82.4%	90.9%	8.5%
No One in Household Employed	70.4%	86.6%	16.2%
Age 18 to 30	75.3%	88.8%	13.5%
Age 50-65	86.1%	93.6%	6.5%
Any Disability	82.9%	92.9%	10.0%
African American	72.3%	89.6%	17.3%
Hispanic	60.4%	76.5%	16.1%
Married Couple in Household	86.6%	92.7%	6.1%
No Married Couple in Household	73.4%	87.6%	14.2%
Some College or More	88.5%	94.7%	6.2%
No College	71.6%	84.7%	13.1%

The logistic regression, which helps us understand the independent effects of population characteristics on having insurance, provided a clear map to how policy changes between 2011 and 2016 likely affected insurance. The table below provides the “odds ratio” for each of 2011 and 2016 for each population characteristic, and a brief interpretation of what the change from 2011 to 2016 likely meant. The odds ratio is interpreted as the estimated percentage change in the dependent variable, whether an individual was insured, because they had a particular population characteristic. For instance, in 2011, the odds ratio for a person living in a household with no income was .202, meaning that such a person

was only 20.2% as likely to have insurance as someone not in that category. Likewise, the 2011 odds ratio of 1.83 for having your own children in the household means that such a person is 183% more likely to be insured than someone not in that category, i.e. almost twice as likely (which would be 200%).

The analysis shows that for persons in each of the lowest income categories, they became increasingly more likely to be insured as their odds ratios climb off the floor, and start to become closer to “1.0”, which would be equal likelihood as everyone else.

Policy changes did not appear to have much effect on gender disparities. Males remained only 66% as likely to be insured as females across Illinois. The presence of children in the household continued to advantage adults, making them 30% more likely to be insured 2016, but declining from the 80% more likely in 2011, as the decoupling of Medicaid from children began.

One of the biggest achievements of ACA appears to have been moving toward decoupling insurance from employment. From 2011 to 2016 the odds of an employed person being insured relative to a non-employed person fell from 90.4% more likely to “only” 57.6% more likely, still a large difference, but a large movement in a more inclusive direction.

African Americans appear to have benefited significantly from ACA, but the estimates suggest being Hispanics did not exert an independent statistical effect. The African American effect moved from being 55.6% less likely than others to have health insurance in 2011 to “only” 76.2% less likely in 2016. However, Hispanics remained around 47% less likely to have insurance across the period. However, it must be underlined that Hispanics as a whole saw their insurance rise. What the analysis shows is that this occurred not because they were “Hispanic”; rather because many Hispanics were low income or because insurance was now available to single people. Non-citizenship was also an independent factor lowering the likelihood of being insured relative to being a citizen. This is likely because many immigrants resident in the U.S. less than five years would have been ineligible to take advantage of the Medicaid expansion in Illinois, and because some immigrants recorded in the Census were undocumented persons less likely to, or unable to, enroll in insurance.

Finally, being unmarried carried less risk in 2016 than in 2011, with marriage falling from a 64% advantage to a 46.5% advantage.

Logistic Regression Change in Likelihood of Insurance for Demographic Categories

	2011 Exp(B)	2016 Exp(B)	Interpretation
No Household Income	.202	.381	Low income more insured
Household Income 1\$ to \$20,000	.257	.383	Low income more insured
Household Income \$20,000-\$40,000	.279	.363	Low income more insured
Household Income \$40,001 to \$80,000	.499	.565	Middle income more insured
Male	.687	.665	Males remain less insured
Children in Household	1.83	1.341	No children less a barrier
Citizen	3.616	5.095	Non-citizen more a barrier
Employed	1.904	1.576	Non-Employment less a barrier
Someone in Household Employed	.837	.963	Non-Employment less a barrier

Age 18-30	1.056	1.105	No effect
Age 50-65	1.526	1.575	Older adults still more insured
Disability	1.736	1.816	More disabled insured
African American	.556	.762	More African Americans insured
Hispanic	.476	.469	Hispanics remain less insured
Married Couple in Household	1.640	1.465	Not married less a barrier
More than High School	1.942	1.982	Education remains an advantage

Dependent Variable – Individual Has Any Insurance

All coefficients significant at .000 except 2011 Age 18-30 at significant .045

2011: Cox & Snell R Square .249; Nagelkerke R Square .253

2016: Cox & Snell R Square .108; Nagelkerke R Square .233

The table below isolates the social categories identified above whose members were most positively affected by changes between 2011 and 2016 and calculates which areas of insurance policy appeared to contribute most to the change.

The clear finding of this analysis is that Medicaid expansion was the most likely driver of the increases in health insurance. The percentage of persons with no household income on Medicaid increased from 27.4% in 2011 to 43.1% in 2016. For persons in households with income from \$20,000 to \$40,000 increased from only 32.9% of persons to 51.4% with Medicaid. For every population characteristic that became more insured over the period, the percentage of persons on Medicaid increased substantially.

Directly purchased policies, most often probably through exchanges, was the second more important policy innovation across the system, increasing by about 3% to 4% for every population category. For most population categories, the percentage receiving Employer or Union insurance changed little, although it increased significantly among households reporting no income, which could be a product of retirement plans, among African Americans, and among unmarried households.

Percent of Persons Using Employer, Purchased, or Medicaid Insurance by Population Characteristic and Year

	2011	2016	Increase
No Household Income			
Employer or Union	15.4%	21.2%	5.8%
Direct Purchase	12.2%	15.8%	3.6%
Medicaid	27.4%	43.1%	15.7%
Household Income \$1 to \$20,000			
Employer or Union	20.6%	20.0%	(0.6%)
Direct Purchase	8.6%	12.3%	3.7%
Medicaid	32.9%	51.4%	18.5%
Household Income \$20,000 to \$40,000			
Employer or Union	41.6%	39.3%	(2.3%)
Direct Purchase	7.7%	12.3%	4.6%
Medicaid	18.0%	30.6%	12.6%
Household Income \$40,000 to \$80,000			
Employer or Union	66.2%	64.9%	(1.3%)

Direct Purchase	8.4%	11.7%	3.3%
Medicaid	7.8%	14.0%	6.2%
No Children in Household			
Employer or Union	60.0%	62.3%	2.3%
Direct Purchase	10.3%	13.2%	2.9%
Medicaid	8.1%	15.7%	7.6%
Not Employed			
Employer or Union	38.4%	38.1%	(0.3%)
Direct Purchase	10.0%	13.5%	3.5%
Medicaid	22.7%	34.3%	11.6%
African American			
Employer or Union	43.6%	48.3%	4.7%
Direct Purchase	5.7%	7.7%	2.0%
Medicaid	23.7%	35.2%	12.5%
Unmarried Household			
Employer or Union	48.5%	52.2%	3.7%
Direct Purchase	8.7%	11.7%	3.0%
Medicaid	16.2%	24.4%	8.2%

Conclusion

The analysis clearly shows that from 2011 to 2016 persons in low income Illinois households, persons who did not have children, persons who were not married, and African Americans were significantly more likely to be insured in 2016 than before.

The ACA sought to decouple insurance from whether a person had children, was employed, or had a high income and every indication in this analysis suggests that it succeeded. The cost of insurance has emerged as a problem in some parts of the country under ACA, but at least in 2016 in Illinois, this was not a sufficient obstacle to prevent it from raising the number of insured, and succeeding with most of the populations it was aimed at helping.

The analysis also clearly shows that the greatest benefit was obtained from the Medicaid expansion, creating the largest increases for the populations for whom an independent ACA benefit was shown. Direct purchases, most likely from exchanges, also increased for each of these groups, suggesting that the exchanges were working effectively in 2016, although they did not have as much impact on each of these groups as did the Medicaid expansion.

On balance, the ACA appears to have been operating successfully and reaching the populations it was designed to reach.