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Mind the Gap: Early Consequences From Medicaid Expansion Decisions

Abstract

The Affordable Care Act (ACA) originally intended for Medicaid to cover all individuals and families up to 133% of the Federal Poverty Line by expanding eligibility requirements. Following a Supreme Court ruling, several states opted to reject Medicaid expansion. These decisions resulted in a coverage gap consisting of individuals too poor to qualify for ACA insurance subsides but also ineligible for Medicaid. This paper attempts to assess the impact of the coverage gap by using the state an individual resides in as a predictor of health insurance coverage, computing the predicted probability of coverage, and then using this predicated probability as an instrument for actual coverage. Findings suggest that for impacted low-income individuals, lack of Medicaid expansion decreases the probability of having insurance by around 45% and that this lack of coverage has significant effects on several health and healthcare utilization measures.

I. Introduction

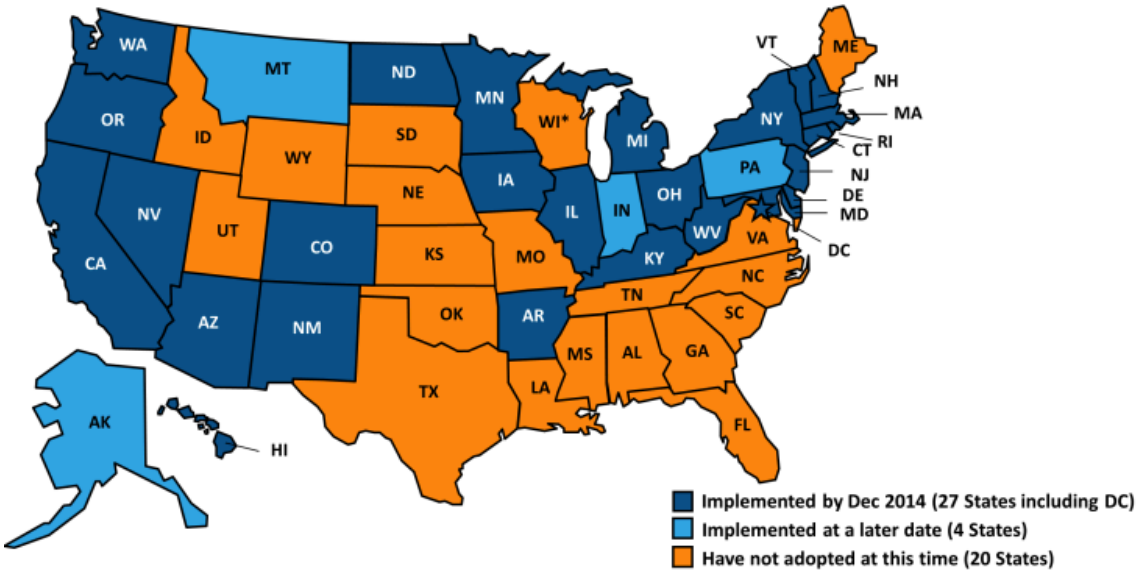
One of the main goals of the Affordable Care Act was to achieve universal health coverage in the United States. To achieve this, the ACA provided low-income individuals earning between 100 to 400 percent of the FPL with subsidized healthcare coverage. To cover the poorest Americans, the ACA mandated that Medicaid be expanded to encompass all individuals earning below 133 percent of the poverty line. The law allowed for a 5% income disregard, effectively making the eligibility threshold 138%. The federal government would pay for 100% of the expansion through 2016, with the subsidy falling to 90% by 2020.

A 2012 Supreme Court ruling declared that mandated Medicaid expansion was unconstitutional, allowing states to opt out of it. Opponents of expansion argued that it was unfair to force states to expand Medicaid and that the 10% funding responsibility would be too much for states' budgets. Consequently 24 states, primarily with Republican governors and/or legislatures, chose to reject Medicaid expansion. Because the ACA envisioned low-income individuals receiving coverage through Medicaid, individuals falling below the FPL are not eligible for subsidies. Thus in states not implementing Medicaid expansion some adults fall into a coverage gap of earning too much to qualify for Medicaid, but not enough to qualify for premium tax credits.

Prior to the ACA, the federal requirement was that all individuals below 67% of FPL be eligible for Medicaid, though some states had more generous eligibility thresholds that took into account family size and other characteristics. Since Medicaid already covers low-income children through laws in place pre-ACA and Medicare covers all individuals above age 65, the coverage gap will consist of individuals aged 18-64 with

incomes between 67 to 138% of the FPL. These individuals are concentrated in states with the largest uninsured populations and have few, if any, options for affordable health coverage.

Figure 1: Medicaid Expansion Decisions as of December 2014



Source: Kaiser Family Foundation

Dickman et al. (2014) found that due to states not expanding Medicaid, 7.74 million Americans will remain uninsured, and that this would lead to "between 7,076 and 16,945 more deaths" than if the states had agreed to expand Medicaid. Glied and Ma (2013) claim that in the case in which if all states that had not expanded Medicaid did expand, up to 21.3 million uninsured Americans could gain insurance by 2022.

State Medicaid expansion decisions provide an interesting opportunity to study the effect that healthcare coverage has on health and healthcare utilization. These decisions can be used to study healthcare coverage in the context of a randomized experimental design. There are many studies comparing the outcomes of insured and uninsured populations but estimating the impact of health coverage from these

comparisons is difficult since individuals with and without insurance coverage differ in many ways that are likely to be related with the outcomes of interest. In contrast, Medicaid expansion decisions provide a relatively homogenous study sample since low-income individuals in expansion states should be similar to low-income individuals in non-expansion states. The only difference is that individuals in non-expansion states are much less likely to have health insurance post 2014 compared to their counterparts in other states. Assuming that assignment to state by Medicaid expansion decision is as good as random, this paper estimates the causal effect of insurance free of endogeneity concerns.

This paper studies the effects of Medicaid expansion decisions after about one year of health insurance coverage. This paper identifies the control group as low-income individuals residing in a state that did expand Medicaid and the treatment group as low-income individuals residing in a state that did not expand Medicaid. A first stage logistic regression computes the predicted probability of coverage based on assignment to either the treatment or control group. This predicted probability is then used as an instrument for actual coverage in order to determine the casual effect coverage has on various measures for health and healthcare utilization. Data from The Behavioral Risk Factor Surveillance System for years 2010-2014 is used to conduct the analysis.

The results indicate that for low-income individuals impacted by Medicaid expansion decisions, residing in a state that did not expand Medicaid reduces the probability of having coverage by around 45%. This reduction in coverage has a significant effect on some, but not all measures of health and healthcare utilization. Health insurance improves the general health status of an individual by .345 points,

lowers the number of days mentally unwell in a month by 1.35, and reduces the probability of feeling limited by health problems by about 9%. Additionally, healthcare coverage improves the likelihood of having at least one personal doctor by 46.7%, having a flu shot in the last year by 17.7%, and having had a HIV test by 11.6%. Finally, healthcare coverage improved level of satisfaction with care by .23 points, reduced the probability of being unable to see a doctor due to cost by 18%, and reduced the probability of being unable to obtain medication by 9%.

The rest of the paper is organized as follows. The next section discusses related literature and where this paper fits in. Section 3 describes the data used and measures studied. Section 4 presents the empirical framework of this paper. Section 5 discusses the main results. Section 6 concludes.

2. Literature Review

Many studies analyze the effect that coverage has on healthcare utilization. It is generally assumed that demand for health care is downward sloping. Since coverage effectively reduces the price of healthcare, coverage should increase healthcare consumption and therefore health. Analysis of past coverage expansions gives ample evidence that insurance has causal effects on several health and healthcare utilization measures. Currie and Gruber (1995) examine the effect of Medicaid expansions from 1984 to 1992 for low-income children and find that increased Medicaid eligibility led to increases in the utilization of medical care and reductions in child mortality. To conduct their analysis, Currie and Gruber use a simulated health insurance probability instrument similar to the one proposed in this present paper. Card et al. (2008) uses an age-based threshold that compares individuals just below age 65 to individuals just above age 65,

finding that Medicare eligibility at age 65 is associated with an increase in overall insurance coverage, an increase in the use of medical care services, and small gains in health outcomes. Anderson et al. (2012) compares individuals just before and just after their 23rd birthdays, with age 23 being the cutoff that private insurers used to age out individuals from their parent's insurance before ACA reform, showing that a loss of insurance from no longer being eligible leads to a decrease in the number of emergency room visits. Finkelstein et al. (2011) investigates an experiment that randomly selected low-income individuals for Medicaid eligibility in Oregon. Using a randomized control design that categorized lottery winners as the treatment group and losers as the control group, the paper found that winners had higher rates of healthcare utilization and better self reported physical and mental health. Kolstad and Kowalski (2010) use a difference in difference design to find that universal healthcare reform in Massachusetts, which the ACA law was based on, led to a significant drop in the number of uninsured individuals. This increase in insurance changed utilization patterns by reducing the length of stay and number of emergency room visits.

The aforementioned papers on healthcare coverage eligibility and health outcomes are similar in spirit and design to this present paper. Using methods and empirical designs similar to the above papers, this present paper hopes to build upon their findings. In particular, while Currie and Gruber study low-income children as a sub-population, Anderson et al. study young adults, and Card et al. study the elderly, this present paper provides findings for adults of all ages and thus provides some differing outcomes. In a similar vein, findings from the Oregon Medicaid Experiment and the Massachusetts health reform are limited in scope to their respective states. In contrast,

this present paper studies insurance at the nationwide level in order to produce nationally representative results.

Furthermore, there is less published literature on the impact of the Affordable Care Act. This present paper hopes to join the small, but fast growing field focused on analyzing the ACA. Many studies (Sommers et al. (2012); Cantor et al. (2012); Antwi et al. (2014)) analyze the impact of the ACA mandate that young adults be allowed to stay on their parents insurance until age 26. These studies find a decrease in the number of uninsured young adults but mixed results related to changes in utilization patterns. Kowalski (2014) studies the private individual market where individuals purchase subsidized healthcare coverage. Findings indicate that well functioning state exchanges have a positive welfare impact. While the young adult mandate and the private health insurance market have been studied, there is less literature on the effect of partial ACA Medicaid expansion and the resulting coverage gap.

3. Data

This paper uses data from the 2010-2014 Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a health-related telephone survey that collects state data about U.S. residents related to health behaviors, health conditions, and use of healthcare along with demographic characteristics. The BRFSS collects data in all 50 states and conducts more than 400,000 adult interviews each year.

Since low-income children are covered through the Child Health Insurance Program (CHIP) and adults 65 and above are automatically covered by Medicare, this paper removes them from the study sample. Instead, this paper focuses on the subsection

of the population aged 18-64 with incomes between 67-138% of the poverty line that lay in the coverage gap created by partial Medicaid expansion.

The BRFSS does not provide a specific income, instead grouping individuals by income range. An individual's FPL is calculated through the following steps:

1. Obtain income by taking the mid-point of the income range from the survey. For example: a range of $10,000 - $15,000 results in an income of $12,500.

2. Determine the household size of the family by adding the number of children and the number of adults.

3. Obtain the poverty level guideline for each year for the number of people in the household. For 2014, the guidelines were as follows:

2014 HHS Poverty Guidelines

(48 Contiguous States and D.C.)

Persons in Family	100% FPL	138% FPL	200% FPL	275% FPL
1	$11,670	$16,105	$23,340	$32,093
2	$15,730	$21,707	$31,460	$43,258
3	$19,790	$27,310	$39,580	$54,423
4	$23,850	$32,913	$47,700	$65,588
5	$27,910	$38,516	$55,820	$76,753
6	$31,970	$44,119	$63,940	$87,918
7	$36,030	$49,721	$72,060	$99,083
8	$40,090	$55,324	$80,180	$110,248

SOURCE: *Federal Register*, Vol. 79, No. 14, January 22, 2014, pp. 3593-3594

4. Determine poverty level for the household by dividing imputed income by the income level standard based on poverty guidelines. For example, a household of three earning $12,500 would have a FPL of 12500/19790 = 63% in the year 2014.

Once the FPL is calculated, the data is cleaned to focus on individuals aged 18-64 with incomes between 67-138% of the FPL. This results in a sample size of 97,951

individuals from the years 2010-2014. The population is then categorized by whether individuals live in a Medicaid expansion state or a Medicaid non-expansion state. For the sample, 48359 individuals reside in expansion states, while 49592 individuals reside in non-expansion states, giving an almost equal split. Table 1 gives summary statistics for key demographic factors by expansion vs. non-expansion state.

Table 1: Demographic Characteristics of Study Population

	Expansion States	Non Expansion States		Expansion States	Non Expansion States
Age (Years)	45.9	46.4	Income ($)	20870.11	20731.62
Sex			*Household Size*		
% Female	.638	.644	# of Persons	3.22	3.18
Race			*Education*		
% White	.569	.638	% Less than High School	.156	.161
% Black	.107	.185	% High School or GED	.380	.403
% Asian	.029	.008	% Some College	.300	.300
% Hispanic	.217	.095	% College Graduate	.164	.136
Marital Status			*Employment Status*		
% Married	.426	.433	% Employed	.531	.534

As shown by the table, expansion and non-expansion states are demographically quite similar for low-income individuals. There are small differences with individuals in non-expansion having slightly less income, smaller household sizes, less years of education, and higher likelihood to be Black or White.

The BFRSS also tracks a wide variety of health related measures. There are survey questions related to insurance coverage and whether or not an individual has a personal doctor. General health is measured by asking individuals to rate their health on a 1-5 scale, with 1 being excellent health and 5 being extremely poor health. Individuals are also asked the number of days they felt mentally unwell, physically unwell, and/or in otherwise poor health in the past month. Additionally, individuals are asked whether or not they felt their daily life was limited by health problems. Quality of care is measured

by asking individuals to rate their level of satisfaction with health care on a 1 to 3 scale. Utilization is measured through asking individuals whether or not they've received a flu vaccine, pneumonia shot, or HIV test in the past year along with asking for the number of hospital/doctor visits in the past year. Finally, individuals are asked whether or not they were unable to get medical treatment or drugs because of cost. Table 2 gives summary health characteristics of the studied population by expansion vs. non-expansion state.

Table 2: Health Characteristics of Study Population

	Expansion States	Non Expansion States		Expansion States	Non Expansion States
% Insured	.747	.666	% Personal Doctor	.775	.752
Health			*Utilization*		
General Health	2.99	3.03	% Flu	.355	.330
Mental Health	6.45	6.51	% Pneumonia	.284	.292
Physical Health	6.97	7.29	% HIV Test	.448	.431
Poor Health	5.10	5.33	Doctor Visits	6.26	5.58
% Limited Life	.365	.385			
			Costs		
			% Medical Cost	.174	.188
Quality of Care			% Drug Costs	.286	.334
Level of Satisfaction	1.53	1.55			

Individuals in non-expansion states are around 8% less likely on average to have health insurance compared to individuals in expansion states. However, other health characteristics seem to vary by only a little bit based on expansion status. Health and utilization seems to be slightly skewed in favor of expansion states, with the probability of having a personal doctor about 2% higher in expansion states. Additionally, more people seem to be limited by medical and drug costs in non-expansion states.

Limitations to the BRFSS include problems related to sources of errors in the survey estimates. Individuals may lie or inaccurately provide information. Some questions (such as general health) depend greatly on the subjectivity of the interviewee. Furthermore, the population taking the survey may not be a representative sample. This

reflects both non-sampling and sampling errors. The use of probability weights will help to reduce these biases somewhat but cannot replicate a perfectly representative sample.

4. Empirical Framework

Health care coverage can be seen as a way of decreasing the price of healthcare. If the demand for healthcare is downward sloping, having coverage should lead to higher rates of healthcare consumption, which should translate into better health outcomes. Testing this hypothesis has been difficult in practice due to the fact that traditionally there are major differences between insured and uninsured populations and any differences in health and healthcare utilization may be caused by those differences instead of anything related to insurance. Partial Medicaid expansion present an interesting opportunity to test hypotheses related to insurance coverage since there is a relatively homogenous study population sample. A key assumption is that low-income individuals in non-expansion states and expansion states should on average be similar, the only difference being that individuals in non-expansion states are much less likely to have health insurance coverage following Medicaid expansion compared to their counterparts in other states. This paper tests this hypothesis by first running a difference in difference logit regression to gauge the impact that Medicaid expansion decisions have on insurance coverage likelihoods. The following equation estimates the effect of Medicaid expansion decisions:

$$INSURANCE_i = \alpha_0 + \alpha_1 NOX_i + \alpha_2 POST14_i + \alpha_3 NOXPOST14_i + \alpha_4 X_i + \varsigma_t + \eta_i + \varepsilon_i \qquad (1)$$

Here *i* denotes an individual and *INSURANCE* is an indicator variable for whether or not individual *i* has health insurance. *NOX* indicates whether or not an individual

resides in a non-expansion state, *POST14* indicates that the observation is in the year 2014 when Medicaid expansion took effect, and *NOXPOST14* is the interacted term of *NOX* and *POST14*. For controls the regression equation includes: X as a vector of individual demographic characteristics from Table 1, ς_t as a set of yearly indicators, and η_i as a set of state indicators. These variables are included to control for the effect differences between individuals, states and years may have on health insurance coverage. The coefficient on *NOXPOST14* (α_3) is the main coefficient of interest, and gives the average difference in (adjusted) means between the treatment group (non-expansion states) and the control group (expansion states). If Medicaid expansion was successful in increasing the number of people enrolled, the coefficient α_3 should be negative. This reflects the fact that individuals in non-expansions states would have a harder time finding coverage compared to their counterparts in expansions states post expansion.

To estimate the effect that coverage has on health and healthcare utilization, this paper uses the equation:

$$Y_i = \beta_0 + \beta_1 NOX_i + B_2 POST14_i + B_3 INSURANCE_i + \beta_4 X_i + \varsigma_t + \eta_i + \varepsilon_i \quad (2)$$

where Y_i is a vector of health and healthcare utilization outcomes for individual i. The coefficient of interest, B_3 measures the effect insurance has on health and healthcare utilization. Past literature suggests that this coefficient should be positive for both health and healthcare utilization measures. To estimate (2) this paper uses the predicated probability of having insurance from equation (1) as an instrument for actual coverage. The first stage equation has the following form:

$$INSURANCE_i = \pi_0 + \pi_1 NOX_i + \pi_2 POST14_i + \pi_3 PINSURE_i + \pi_4 X_i + \varsigma_t + \eta_i + \varepsilon_i \quad (3)$$

Here, *PINSURE* is the predicated probability one has insurance, as determined by equation (1). The reduced form is modeled as follows:

$$Y_i = \delta_0 + \delta_1 NOX_i + \delta_2 POST14_i + \delta_3 PINSURE_i + \delta_4 X_i + \varsigma_t + \eta_i + \varepsilon_i \quad (4)$$

Thus, the coefficient of interest B_3 can be estimated using two stage least squares (2SLS) and is given by the ratio of the reduced form (equation 4) and first stage (equation 3) coefficients (δ_3/π_3). The 2SLS estimate can be interpreted as the local average treatment effect. It estimates the causal impact of insurance among the subset of individuals who would obtain insurance on living in an expansion state and would not obtain insurance without living in an expansion state (i.e. the compliers).

The use of *PINSURE* as an instrument for *INSURANCE* helps to reduce the potential endogeneity concerns between *INSURANCE* and the outcome variables. In particular there are reverse causality concerns in that individuals with bad health and high levels of healthcare utilization may seek health coverage. Situations like these may lead to an inaccurate estimate of the causal effects of insurance. Once individual, state and year effects are controlled for, whether or not an individual is in a non-expansion state or expansion state post expansion should have no effect on health and healthcare outcomes outside of effects on changing the likelihood of having insurance. Thus *PINSURE* gives a "clean" instrument to use to estimate the casual effects of insurance.

5. Results

5.1: Probability of Having Health Insurance by Medicaid Expansion Decision

Table 3 presents the difference in difference logit regression results from equation (1).

Table 3: First Stage Logit Regressions
Probability of Health Insurance by State Medicaid Expansion Decision

	(1) No Controls	(2) Demographic Controls	(3) Demographic with State and Year Controls
Non Expansion Post 2014	-.170 (-.334, -.001)**	-.171 (-.350, -.009)*	-.195 (-.380, -.009)**
Non Expansion	-.398 (-.464, -.331)***	-.583 (-.655, -.511)***	-2.38 (-2.67, -2.09)***
Post 2014	.6539 (.520, .788)***	.631 (.490, .773)***	.644 (.490, .797)***
R-Squared	.015	.102	.121
Observations	97621	97310	97310

95 Percent CI in Parentheses. All Regressions done with Probability Weights.
*** Significant at .01, ** Significant at .05, * Significant at .10

Column (1) is a simple difference in difference with no control variables added. Column (2) is a difference in difference regression along with a set of demographic characteristics included as control variables. Column (3) is a difference in difference regression with a set of demographic characteristics along with yearly and state indicator variables intended to control for time and macroeconomic shock effects.

The initial simple results from column (1) appear to support the hypothesis that lack of Medicaid expansion decreases coverage probability, as the coefficient for Non Expansion and Post 2014 is negative at -.170 and statistically significant at the 5% level. While this initial result is large, statistically significant and promising, the regression run

suffers substantially from omitted variable bias. To counter this, we add a set of demographic variables as controls. These variables include age, sex, race household size, education, marital status, employment status, and income. Including these control variables appears to have no major effect as shown in column (2). Including an additional set of year and state indicator variables in column (3) to control for time induced economic shocks results in a difference in difference estimate of -.195 logit points. This translates to a 45.1% decrease in the probability of having coverage for low-income individuals in non-expansion states post Medicaid expansion.

This 45.1% decrease in probability seems large, but this paper focuses on individuals in the 67-138% FPL range. Individuals in this range have very few if any options for affordable health care coverage. It is reasonable to believe that in expansion states, Medicaid expansion presented a major opportunity for low-income individuals to gain coverage and thus many jumped at the chance, while individuals in non-expansion states continued to be unable to find affordable coverage. It is also reasonable to believe that low-income individuals in expansion states are on average relatively similar to low-income individuals in non-expansion states. Thus, the difference in coverage status between these two groups post Medicaid expansion can be used to estimate the causal effects insurance has on health and healthcare utilization.

5.2: The Effect of Insurance on Health

The predicated probability of having health insurance is computed using the regression run in Column (3). This predicated probability takes into account differences in coverage likelihoods post Medicaid expansion and is used as an instrument for actual

coverage to obtain 2SLS estimates of equation (2): the effect that insurance has on health and healthcare utilization. Table 4 presents the results for a set of health outcomes.

Table 4: Health Impacts

			Health Insurance		
Dependent Variables	(1)	(2)	(3)	(4)	(5)
General Health Status	-.345 (-.614, -.056)**				
# of Days Physical Health Not Good		-1.99 (-1.06, 1.52)			
# of Days Mental Health Not Good			-1.35 (-2.51, -.194)**		
# of Days in Poor Health				-1.40 (-4.04, 1.24)	
% Limited Due to Health Problems					-.090 (-.185, .006)*
R-Squared	.236	.241	.111	.261	.353
Number of Observations	96924	95355	95565	96026	94141

95 Percent CI in Parentheses. All Regression done with Probability Weights.
*** Significant at .01, ** Significant at .05, * Significant at .10

Five regressions are run for 5 measures of health and are reported in each column. The results suggest that health insurance has significant effects for general health, the number of days an individual feels mentally unhealthy in the past month, and the likelihood one feels limited by health problems. Column (1) reports the results for general health status and suggests that having insurance improves health by .345 points. Column (3) reports the results for mental health and suggest that having health insurance improves mental health by 1.35 days. The results implying improvements for self reported health and mental health are consistent with findings from other studies of health insurance, specifically the Oregon Medicaid Experiment. Improvements in general health status and mental health status may come from individuals finally receiving treatment for longstanding conditions such as depression or anxiety, which they were unable to afford

pre-coverage. These treatments may have an immediate and noticeable effect on improving health. Insurance may also act as a sort of placebo effect; individuals feel more secure knowing that they have access to care if they were to get sick.

Interestingly insurance doesn't seem to have any effect on the number of days physically unhealthy or in otherwise poor health, but does decrease the likelihood of being limited by health problems by 9%. This may be for a number of reasons. Individuals may report that they fell physically unwell or in otherwise poor health due to minor ailments such as a cold or soreness from physically activity. In these cases having insurance or not makes no difference as individuals are unlikely to seek out medical care for such small inconveniences. But for individuals with major health problems that cause limitations in their day-to-day life, gaining access to care would have a major effect on improving health, resulting in a decrease in the likelihood of feeling limited.

5.3: The Effect of Insurance on Healthcare Utilization

Table 5 presents the results for a set of utilization measures.

Table 5: Utilization

			Health Insurance		
Dependent Variables	(1)	(2)	(3)	(4)	(5)
% With Personal Doctor	.467 (.367, .568)***				
Flu Shot in Last Year		.177 (-.009, .244)*			
Pneumonia Shot			.061 (-.068, .190)		
HIV Test				.116 (-.025, .258)*	
# of Hospital Visits in Past Year					.122 (-4.24, 4.48)
R-Squared	.201	.067	.079	.081	.091
Number of Observations	97010	91918	83603	88871	28788

95 Percent CI in Parentheses. All Regression done with Probability Weights.
*** Significant at .01, ** Significant at .05, * Significant at .10

The results imply that having health insurance increases the probability of an individual having at least one personal doctor. Insurance also has significant effects on flu shot and HIV test utilization. There do not seem to be significant effects for pneumonia shots or for the total number of hospital visits.

Gaining coverage allows an individual to choose a primary care doctor so it makes sense that the probability of having at least one personal doctor would be higher for individuals with coverage. As shown by column (1), this paper estimates the increase in likelihood to be 46.7% significant at the 0.1% level. Increases in flu shots and STD testing are also reasonable effects of insurance due to the fact that these procedures are covered. The price of these types of procedures is greatly reduced (as much to 0 in some cases) on insurance. Past studies suggest that the demand for healthcare is downward sloping, so a decrease in price should indicate an increase in consumption. This paper estimates that insurance increases the likelihood of having flu shot in the past year by 17.7% and increases the likelihood of having an HIV test by 11.6%. No effect is found for pneumonia shots but this is likely because pneumonia shots are generally recommended for elderly people above the age 65 and for young children. The population studied in this paper is aged 18-64, and it is unlikely that individuals in this age range would get pneumonia shots with or without insurance.

Interestingly, this paper finds no significant effect on the total number of hospital visits in a year. This at first seems to contradict previous studies. However an important thing to note is that the BRFSS does not distinguish between the types of hospital visits. Urgent care, check-ups, surgeries, and other visits are all lumped together. So these results do not immediately contradict previous studies that suggest insurance coverage

decreases the number of emergency room visits. Instead it may provide further evidence that insurance changes utilization patterns, shifting ER visits into preventative care visits. The increase in preventative care visits also provides an avenue for the increase in flu shots and STD tests which are more likely to be recommended in a check up rather than an emergency room visit.

5.4: The Effect of Insurance on Quality of Care and Costs

Table 6 presents the results of a set of quality of care and cost measures.

Table 6: Cost and Quality of Care

		Health Insurance	
Dependent Variables	(1)	(2)	(3)
% Could not get Medication due to Cost	-.090 (-.244, .064)**		
% Could not see Doctor due to Cost		-.180 (-.299, -.061)**	
Satisfaction with Health Care			-.230 (-.472, .012)*
R-Squared	.048	.107	.036
Number of Observations	29704	97025	28451

95 Percent CI in Parentheses. All Regressions done with Probability Weights.
*** Significant at .01, ** Significant at .05, * Significant at .10

Insurance is effectively a reduction in health care costs. As expected the results indicate that gaining insurance reduces the likelihood of not being able to obtain medication and not being able to see a doctor due to cost. It is estimated that this reduction is 9% for medication and 18% for seeing the doctor. Insurance also seems to improve quality of care. Individuals were asked to rate their level of satisfaction with their health care on 1-3 scale with 1 being good and 3 being poor. Having insurance increase level of satisfaction by .23 points. This may be due to the difference in the type

of care insured and uninsured individuals receive. Uninsured individuals have few avenues to seek out medical care. The type of care found in free health clinics may not be of the highest quality. Emergency room visits tend to be unpleasant in general and may feature long wait times for non-urgent care. So it can be expected that insured individuals that have access to more care options have a higher level of satisfaction.

6. Conclusion

Medicaid expansion has been one of the most fiercely contested aspects of the ACA. This study estimates that state decisions to reject Medicaid expansions led to a 45.1% decrease in the probability of having health insurance for impacted low-income individuals. This estimate is large, but not out of the realm of possibility due to the fact that the population studied (low-income individuals between 67-138% of the FPL) is heavily underinsured and has few options for affordable care. A lack of Medicaid expansion would severely reduce the likelihood that individuals in this income range find insurance.

This paper also estimates that lack of insurance has significant implications for several health and healthcare utilization measures that corroborate past studies of insurance. The results indicate that having insurance improves general health, mental health, and reduces the likelihood of feeling limited by health problems. Insurance also increases utilization of flu shots and HIV testing and greatly increases the likelihood of having a personal doctor. Finally, insurance is estimated to reduce the likelihood of being unable to obtain medical care or drugs due to cost and may also improve quality of medical care. Individuals in the coverage gap created by Medicaid non-expansion may be missing out on these health and healthcare utilization benefits.

It is important to note that these are only early stage estimates. This paper only studies the effect of Medicaid expansion after about one year. Future studies could incorporate the states that initially chose to reject Medicaid expansions but subsequently opted in as well as study the effect of long term coverage. Follow up studies could yield vastly different results. Having insurance for only one year may not be enough time to detect a change in behavior or any major health impact. Thus the full extent of long term insurance versus short term insurance gain is an interesting topic of future work

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