HEALTH INSURANCE COVERAGE BEFORE AND AFTER THE AFFORDABLE CARE ACT

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ABSTRACT

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Inadequate research has examined the effect of the Affordable Care Act (ACA) on health insurance status in the United States after its full implementation as data were released only recently. This study analyzes changes in health insurance status and its determinants before the ACA, after its partial implementation in 2010-2013, and after its full implementation in 2014 and 2015. Data from the 2009-2015 National Health Interview Surveys are used to address the research problem and test the hypotheses for this study. The trend analysis shows that the national health insurance rate increased significantly from 82.2 percent in 2009 to 89.4 percent in 2015. The results of logistic regression analysis reveal that age, gender, race, marital status, nativity, U.S. citizenship status, education, and poverty level influenced health insurance status consistently before and after the Affordable Care Act. While the effects of several predictors were either identical or similar across years, holding other variables constant those aged 26 or younger, the foreign-born, Asians, and other races had greater odds of getting health insurance after the ACA than they did before the ACA; however, the likelihood of gaining health insurance for Hispanics and people living under poverty increased slightly during the partial implementation of the ACA but somewhat decreased after the full implementation of the ACA starting in 2014. The findings help assess the effectiveness of the ACA and have significant implications for the pending healthcare reform.

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CHAPTER I

INTRODUCTION

With Donald Trump's promises made during the presidential campaign to repeal the Affordable Care Act (ACA), officially called the Patient Protection Affordable Care Act (PPACA) and popularly known as Obamacare, the life of the ACA is in jeopardy. However, after his meeting with President Obama on November 10, 2016, President-elect Trump indicated that he may consider keeping parts of the ACA, specifically the provisions on the coverage of preexisting conditions and the allowance of parents to keep their children on their insurance plan until the age of 26. With these new developments, research on the effectiveness of the ACA, and especially the preexisting-condition and children-stay-with-parents-until-26 provisions, has become extremely important and critical, so that the new administration can make rational decisions regarding the ACA and the health insurance of the nation.

The impact of the ACA has been a subject of debates before and after the ACA was signed into law by President Obama on March 23, 2010. Both the proponents and opponents of the ACA hope to use this issue to attack or defend the ACA. Although some provisions went into effect immediately after the act's enactment, the ACA did not go into full effect until January 1, 2014. Reliable data are important for objectively assessing the effect of the ACA on the health insurance status of the U.S. population. Some statistics about health insurance rates after 2014 began to be released (see Cohen and Martinez 2015), but the data are descriptive in nature without controlling for other

variables. In particular, we do not know how the determinants of health insurance have changed after the implementation of the ACA.

THE RESEARCH PROBLEM

The purpose of this study is to examine changes in health insurance coverage rate and its determinants in the United States before the passage of the ACA and after its partial and full implementation. Health insurance for the purposes of this study will include employer-sponsored health insurance, Medicare, Medicaid, private insurance, military health insurance, state-sponsored health plan, or other government programs. Specifically, this study seeks to answer two research questions. First, how has the health insurance coverage rate changed after the partial and full implementation of the ACA? Second, how have the determinants of health insurance coverage changed after the partial and full implementation of the ACA?

SIGNIFICANCE OF THE STUDY

This study is significant because it provides one of the first comprehensive examinations of the determinants of health insurance coverage after the ACA. Existing research on health insurance after the ACA is descriptive in nature, but this research will fill a gap in the literature by examining the determinants of health insurance coverage after the ACA. This study is also unique as it compares health insurance rates and the determinants of health insurance before and after the partial and full implementation of the ACA. Additionally, by using the data from National Health Interview Surveys 2009-2015, this study will provide the latest longitudinal information on health insurance before and after the ACA.

The proposed study will have significant practical implications. Indeed, with a new administration in power, research such as this will be critically needed to make informed decisions on whether the ACA should be repealed, replaced, or modified and which parts of the ACA should be retained if President Trump intends to keep parts of the ACA.

ORGANIZATION OF THE THESIS

After this introductory chapter, Chapter II reviews the current literature on the status and determinants of health insurance after the partial and full implementation of the ACA and identifies the gaps in the literature. Chapter III proposes hypotheses that will be tested in this study. Chapter IV depicts data and samples, variables and their measurements, and methods of data analysis. Chapter V offers the results of the descriptive, bivariate, and logistic regression analyses. The final chapter summarizes the main findings, discusses their implications, and points to the limitations of this study and directions for future research.

CHAPTER II

LITERATURE REVIEW

There is a large body of relevant literature on health insurance and its determinants prior to the passage and especially full implementation of the ACA. In addition, there is some research on the effect of partial implementation of the ACA, particularly with regard to how it has impacted young adults aged 19-26 and racial and ethnic minorities. However, research on the impact of the ACA on the nation's health insurance is largely descriptive in nature with little information on the determinants of health insurance. Available studies concerning the impact of the ACA cover the period after the passage of the ACA and before its full implementation but very little on the period after its full implementation. An important reason is that the ACA did not go into full effect until January 1, 2014 and the data on the effect of the ACA became public only recently. This chapter provides a more detailed assessment of the literature.

EFFECT OF THE ACA ON HEALTH INSURANCE RATE

Research from Schoen et al. (2008) on health insurance rates prior to the passage of the ACA indicated that 72 percent of the population aged 19 to 64 had health insurance coverage in 2007 and this was actually a decline from their previous survey year of 2003. This indicates that health insurance coverage nationwide was actually declining prior to the passage of the ACA. In addition, Schoen et al. (2008) also explained in their study that 20 percent of the respondents who had insurance were actually underinsured and that

22 million insured adults were dealing with higher costs relative to their incomes. Their study also found that about 42 percent of adults under the age of 65 were either underinsured or not insured at all in 2007 (Schoen et al. 2008). Not only was insurance coverage for the nation declining, but it was becoming increasingly expensive simultaneously. French et al.'s (2016) review of the literature indicated that the ACA did significantly lower the number of uninsured Americans. Additionally, young adults were also among the groups who made some of the largest gains with insurance coverage (Blumberg and Holahan 2016; Works 2016). Blumberg and Holahan (2016) estimated around 20.4 million more non-elderly people gained coverage by 2016 as a result of the ACA, and that around 28.2 million remained uninsured currently. As far as age is concerned, after full implementation of the ACA, Blumberg and Holahan (2016) found that individuals under age 35 had nearly equal distribution between people who gained insurance and people who remained uninsured with both groups reporting out at 42.8 percent. Research by Chua and Sommers (2014) have shown that the out-of-pocket costs for young adults were significantly reduced as a result of the ACA expansion. Chen, Bustamante, and Tom (2015) found that the ACA targeted expansions for families with employer-sponsored insurance and that the families who did not have employer-sponsored were the ones with young adults who did not have insurance coverage of any type, this indicates that while the ACA did help some, it could not help everyone in any given situation, and this becomes especially important when considering the costs of premiums for a person who lives in a state that would not accept Medicaid expansions.

IMPACT OF AGE

Young adults were also among the groups who made some of the largest gains with insurance coverage (Blumberg and Holahan 2016; Works 2016). Several studies (Burgdorf 2014; Cantor et al. 2012; Collins, Garber, and Robertson 2011; Levine, McKnight, and Keep 2011) focused on the coverage of young adults or the so-called "new 19," which is the age group under the ACA that can receive insurance coverage provided by parents until the age of 26. Note that this provision of the ACA took effect immediately when the ACA was signed into law. Carlson et al. (2014) observed that uninsured young adults are typically non-white, have a lower income, and have a higher risk of being exposed to environmental risk factors that affect a person's health in a negative way. Several studies about the effect of the ACA on the health insurance of specific age groups that are eligible for the new 19 provision all showed a significant increase in health insurance coverage for individuals between the ages of 19-26 (Antwi, Moriya, and Simon 2013; Cantor et al. 2012; Sommers, Baicker, and Epstein 2012). O'Hara and Brault (2013) found that around 1 to 3 million young adults who were uninsured now have health insurance, indicating that the immediate partial impact of the ACA was significant at least for the young adult category, and that the reform did in fact work as it was intended to get these individuals covered on their parents' plans for longer. Stevens (2006:194) found that "multiple risk factors for poorer child health are very prevalent in the United States, with about 29% of young children 4-35 months of age (or about 3.1 million young children in the nation) have two or more risk factors." Additionally he found that children with these higher risk profiles will typically have poorer health and lack basic access to care when they are paradoxically the ones that need

it the most (Stevens 2006). Extending this line of thought, this can certainly explain the need to extend health insurance coverage to children until the age of 26 under the parents' insurance plans.

IMPACT OF POVERTY AND MEDICAID EXPANSION

Poverty is another factor that affects Medicaid and therefore the eligibility for health insurance coverage (Warner 2012). Medicaid "plays a particularly important role for Hispanic, Black, and American Indian/Alaska Native children, covering more than half of all children in these groups" (Artiga 2013:10). Additionally, since the more recent decision by the Supreme Court to leave Medicaid at the discretion of the states, this too must be taken into account, because some states refused to take the Medicaid expansions, thereby leaving the aforementioned minority groups with decreased opportunities to acquire health insurance coverage. According to the Kaiser Family Foundation (2017a), by 2017 31 states have expanded Medicaid. The ACA was designed to expand coverage to Americans through a number of ways. One of the biggest contributors was through the increasing Medicaid eligibility to individuals who are below 138 percent of the national poverty line (NPL; Hegenauer 2016:94).

Geographical region plays a role in determining who acquires health insurance coverage for a variety of different people under the ACA. Because the Medicaid expansions were not accepted by all states, some people that needed the expansions the most were not fortunate enough to reside in states that took the expansions. A great number of these people are those who are below the poverty line and belong to racial or ethnic minority groups. Blumberg and Holahan (2016) found that people in the Western

region of the country were more likely to have health insurance coverage gains, while those in the South were much less likely to do so, pointing again to importance of Medicaid expansions, and what it could mean if the funding to Medicaid was cut. The decision to allow the states to decide if they want to expand Medicaid coverage has created a "problem for some low income individuals and families, because they may make too much to be eligible for Medicaid but too little to be eligible for a federal subsidy, which includes those between 100 and 400 percent of the NPL" (Hegenaur 2016:95). According to Andrews (2014:131), "low income citizens in nonexpansion states are currently 'too poor' to qualify for any help." Additionally, the states that are opting not to expand Medicaid have the highest number of the uninsured and the highest poverty rates in the United States (Adepoju, Preston, and Gonzales 2015). The importance of Medicaid, Medicare, or private insurance cannot be overstated. Sommers, Baicker, and Epstien (2012) showed that the expansion of Medicaid could improve access to and quality of healthcare and increase the likelihood of an individual's survival. Research by Nguyen and Sommers (2016) found that low income individuals with either Medicaid or Medicare overall had better healthcare access and quality than people who were uninsured. Additionally, Nguyen and Sommers (2016) reported that individuals on Medicaid had more difficulty acquiring specialists, but did not have a great risk from out-of-pocket spending like those with private insurance. Blumberg and Holahan (2016) found that about 43.9 percent of the 20.4 million people who obtained insurance through the ACA did so by enrolling in Medicaid. In addition, 4.6 million low-income

individuals were unable to acquire coverage due to residing in states that opted not to take the Medicaid expansion (Blumberg and Holahan 2016).

There is growing literature on the impact of what may happen if the ACA was repealed or if funding to Medicaid was cut. For example, a study by Seiber and Berman (2017) found that a majority of individuals made up of primarily older low-income whites with a high school education or less in Ohio were on Medicaid and had no other alternatives to health care. Their findings also revealed that only a small portion of that group would qualify for employer-based health insurance coverage if the ACA were repealed, and that ultimately the majority of people who qualified for Medicaid through the ACA would have no viable alternatives if it were repealed (Seiber and Berman 2017).

IMPACT OF RACE AND ETHNICITY

Race and ethnicity, as well as employment and income are just some of the social and structural explanations for why certain groups of individuals have more difficulty with acquiring health insurance coverage than others (Bernstein et al. 2010; Gillum, Jarrett, and Obisesan 2009; Salim et al. 2010). Race, immigration status, marital status, and poverty status all interplay amongst each other to either enhance the chances of acquiring health insurance or severely hinder them. This is where the ACA comes in, as the first U.S. attempt at a universal healthcare system, and helps level the insurance field for those who are not able to readily access medical insurance. Studies about racial or ethnic variation in health insurance coverage reported that African Americans, Hispanics, and Native Americans experience some of the highest levels of poorer health, and when considering the Medicaid expansion issue this serves to further compound the problems

faced by these groups (e.g., Crimmins, Hayward, and Seeman 2004; Smith et al. 1998; Williams 2001; Williams and Collins 1995). Prus, Tfaily, and Lin (2010) indicated that non-white Americans had worse health and less access to care than whites. Hegenauer (2016) found that non-whites, including Hispanics, were all less likely to have health insurance coverage than whites. Black men especially have a difficult time acquiring health insurance coverage due to a number of problems related to socioeconomic status and race (Cheatham, Barksdale, and Rodgers 2008; Williams, Schulz, and Clark 2015).

Despite the partial and then full implementation of the ACA, some groups that the law was specifically designed to help still need further help. Specifically, research by the Institute of Medicine (2001) found that Blacks were twice as likely, and Hispanics three times as likely, as whites to be uninsured. This is concerning for Blacks because research by McNeal, Perkins, and Lyons (2006) indicated that lung, oral, and pancreatic cancers are high among African American males. Additionally, McNeal, Perkins, and Lyons (2006) found that men tend to take illness less seriously than women. Blumberg and Holahan (2016) found that non-Hispanic whites had the largest gains for coverage than other racial and ethnic groups and that Hispanics were the least likely to gain insurance coverage from the ACA. According to research by Chen, Bustamante and Tom (2015), Latinos were the least likely to have employer-based health insurance coverage due to income and immigration status and were also less likely to benefit from expansions provided by the ACA. McMorrow et al. (2015) showed that between 2013 and 2014 the uninsured rate for Blacks and Hispanics declined overall by 8 percent compared to 4 percent for White adults. According to Buchmueller et al. (2016), the rate of uninsured

adults increased in 2008 to 2010 and then declined slightly in 2010 to 2013, pointing to the possible success of the ACA in providing health insurance coverage.

Research has shown that a number of typically disadvantaged groups, such as nonwhites and people with low income, made some of the largest gains in insurance coverage because of the ACA (Works 2016). Furthermore, Buchmueller et al. (2016) reported that after the ACA the percentage of individuals without health insurance coverage dropped significantly for all racial groups but more for minority groups, with a 7.1 percent decrease for Hispanics, 5.1 percentage decrease for Blacks, and only 3 percent decrease for whites. They found that before the ACA, 60 percent of noncitizen Hispanics were uninsured, and 28 percent of U.S. citizen Hispanics were uninsured, but in 2013 and 2014 the uninsured rate saw a 7 percent decrease for noncitizen Hispanics and a 6.7 percent decrease for citizen Hispanics, indicating a relatively moderate impact of the ACA. However, depending on the risk factors presented by Stevens (2006) and other socioeconomic contributing elements, this may actually provide little assistance to these children and their families and may only really benefit those who already have coverage. As of the 2010 survey, "one-fourth of parents do not currently carry health insurance coverage for their children" (Chatterjee 2016: 46). Considering that the age 26 extension provision went into effect immediately, this would indicate that it only affected those who already had health coverage.

IMPACT OF NATIVITY

Nativity is another variable that affects health insurance coverage greatly because immigrants or foreign-born people are less likely to be insured than U.S.-born

respondents (Valenzuela 2012). Fried et al. (2014) found that immigration status had a great impact on health insurance under the ACA, since immigrants potentially account for over 15 percent of uninsured non-elderly adults. Research has shown that the foreign-born, especially recent immigrants, are on average healthier than the U.S.-born (Antecol and Bedard 2006). These advantages diminish over time as they become more susceptible to illness than the native-born, and this susceptibility can be further exacerbated by poverty status (Antecol and Bedard 2006). Research from Valenzuela (2012) discovered low-income jobs, and employment with no health insurance benefits are just some of the difficulties that immigrants, and especially Mexican immigrants, face when coming to the United States. Despite their overall health advantage, immigrants still have a harder time obtaining insurance as Pandey and Kagotha (2010) found that two-thirds of immigrants who had strong labor force participation still remained uninsured. Overall, immigrants are generally less likely to be insured at any point than the native-born (Pandey and Kagotha 2010; Prentice, Pebley, and Sastry 2005). The larger issue facing immigrants is that if they cannot receive health insurance coverage to regularly see a doctor, the only other alternative is the emergency room (ER), which leads to increasing costs to the point where some hospitals have to close their ERs because the costs are too high (Valenzuela 2012). In addition, Mohanty et al. (2005) noted that while health care expenses were low for immigrant children, their expenses for ER visits were higher than those for U.S.-born children. These are some of the gaps that the ACA was created to specifically address.

GAPS IN THE LITERATURE

Thus far, the current literature has not adequately looked into the impact of the ACA after partial and full implementation. In particular, the available information is generally descriptive. There is little research on the determinants of health insurance after the partial and full implementation of the ACA, using multivariate techniques. No study has attempted a longitudinal analysis of changes in the status and determinants of health insurance before and after the ACA using the latest data from NHIS 2009-2015 across the seven-year span. While there is also growing literature on the effect of the new 19 provision, not much has been written about the effect of the preexisting condition provision. The current study is the first to systematically assess the status and determinants of health insurance coverage before and after the partial and full implementation of the ACA with the latest data from NHIS.

CHAPTER III

HYPOTHESES

I expect that the national average health insurance rate would be higher in 2014 and 2015 than in 2009 and that it will gradually increase between the years of 2010 to 2013 because of several reasons. First, the ACA mandated large employers to provide health insurance for their employees and to provide tax credits for small companies that offer health insurance for their workers. Second, the ACA mandated individuals to maintain minimum essential health insurance coverage with a tax penalty for violation. Third, health insurance exchanges (marketplaces) created by the ACA allowed low-to-middle income Americans (i.e., those who make less than 400 percent of the Federal poverty level) to obtain free or low-cost health insurance through comparison of rates and government subsidies. Fourth, insurance companies are prohibited from dropping clients because of their pre-existing conditions. Finally, young adults can stay on parents' insurance plans until the age of 26 instead of 19. All of these will help increase the health insurance rate of Americans.

With regard to the determinants of health insurance, I expect that such determinants as age, gender, race, ethnicity, marital status, nativity, citizenship status, education, family income, geographical region, poverty level, and preexisting conditions will remain significant before and after the implementation of the ACA because these factors have been documented as significant predictors of health insurance in the

literature. The relationships between these predictors and having health insurance should remain the same between 2009 and 2015. Specifically, the following relationships between the predictors and health insurance are expected:

H1. All else being equal, youngsters aged 26 or below are less likely to have health insurance than their older counterparts, aged 27-99, because people who are younger typically have fewer health problems or needs and have fewer resources than their older counterparts. Research from the Institute of Medicine (2001) shows that young adults are less likely to have health insurance coverage than other age groups.

H2. *Ceteris paribus*, men are more likely to have health insurance coverage than women because men's gender advantage increases their likelihood of full-time employment in positions that offer health insurance benefits. Men are typically the bread winners of their households and can often find they are in a position where their job naturally affords them insurance for working full time. Additionally, according to Simpson and Cohen (2017), men were more likely to be insured than women through their employer, with women being claimed as the dependent on the insurance policy.

H3. Racial minorities are less likely to have health insurance than whites because their disadvantaged status could limit their resources for obtaining health insurance coverage. This prediction runs counter to the predictive claim made by Clemans-Cope et al. (2012) in their microsimulation model. Many minorities do not have the economic resources or opportunities to afford themselves with health

insurance coverage and are one of the key demographics the ACA is trying to help to bring coverage.

H4. Hispanics are less likely to have health insurance coverage than non–Hispanics. Similar to racial minorities, many in the Hispanic community lack sufficient resources to acquire health insurance coverage and therefore have a lower rate of health insurance. This is consistently demonstrated in the literature (Hegenauer 2016; Institute of Medicine 2001; Schaefer 2015).

H5. Respondents who are currently married are more likely to have health insurance than those who are not currently married because of possible combined incomes and the need to provide health care coverage for the family. Additionally, one partner employed in a full time position can easily enroll their spouse and children. Kong (2010) found that married couples were more likely to have health insurance coverage than non-married respondents.

H6. The foreign-born are less likely to have health insurance than the U.S.-born, partly because of a lack of resources and partly because of norms of health insurance in the home countries. Additionally, language barriers may prevent some new immigrants from getting health insurance. Ample evidence in the literature demonstrates that the foreign-born are indeed less likely than native-born to have health insurance coverage (e.g., Fried et al. 2014; Pandey and Kagotha 2010; Prentice et al. 2005).

H7. Non-U.S. citizens are less likely to have health insurance than U.S. citizens because of their lower degree of assimilation to U.S. norms about health

insurance. Evidence from research by Fried et al. (2014) on the impact of the ACA among non-elderly adult immigrants supports such a claim. Again, the issue of not having adequate resources and possible language barriers must come into consideration here when considering what it takes to acquire health insurance coverage.

H8. People with more education are more likely to have health insurance than those with less education since education increases knowledge of the need for health insurance and resources. Also, having a higher level of education typically leads to increased odds of having higher paying jobs, which can usually offer better benefits like health insurance coverage. Hegenauer (2016) notes that individuals with lower education levels are less likely to have health insurance coverage.

H9. Respondents with a higher level of family income are more likely to have health insurance coverage than those with a lower level of family income because people with more disposable income will have more resources to secure health insurance coverage than those with lower income. Research from the Kaiser Family Foundation (2017b) found that families with a lower income level were more likely to be uninsured than those with a higher income level.

H10. Individuals living below the poverty line are less likely to have health insurance than those above the poverty line because poverty decreases resources to obtain health insurance. Research from Warner (2012) notes that poverty is an important determinant of health insurance coverage. Additionally, states that opted not to

take Medicaid expansion also have the highest number of uninsured and poverty rates in the country (Adepoju et al. 2015).

H11. People in the Northeast, Midwest, and West are more likely to have health insurance than those in the South. An important reason is that many states located within the South refused to accept the Medicaid expansions though many of their residents actually needed health insurance coverage the most. Research from Blumberg and Holhan (2016) has already shown that individuals residing in the West were the most likely to have health insurance coverage.

However, I hypothesize that people living under poverty, racial minority groups, Hispanics, and the foreign-born should be more likely to see increased odds of having health insurance after the full implementation of the ACA than before the ACA's full implementation since the ACA was designed to help out people in more disadvantaged positions. It is expected that individuals aged 26 or below should see an increased odd of having health insurance after March 23, 2010 when the ACA was first signed into the law because the new 19 provision immediately took effect and extended all parents' health insurance coverage to their children until the age of 26. The effects of other predictors on health insurance are anticipated to be similar before and after the implementation of the ACA.

CHAPTER IV

DATA AND METHODS

This chapter begins with a description of the data and samples utilized in this study. This is followed by the variables and their measurements. Finally, the chapter ends with a brief discussion of the statistical methods for data analysis.

DATA AND SAMPLES

The data for this study come from the National Heal Interview Survey (NHIS). Initiated in 1957, the NHIS has been collected by the National Center for Health Statistics annually since 1960. The NHIS is a nationally representative sample that provides a wealth of information on the health of the U.S. population including health, illness, health insurance, healthcare, and many other demographic and socioeconomic variables.

In order to answer the research questions, I selected seven sample years, including NHIS 2009, which was right before the enactment of the ACA, NHIS 2010-2013, which saw partial implementation of the ACA, NHIS 2014, which was immediately after the full implementation of the ACA, and finally, NHIS 2015, which was the latest data available after the full implementation of the ACA. The data for these seven sample years will allow us to compare health insurance rates and determinants of health insurance before the ACA, during the partial implementation of the ACA, and after the full implementation of the ACA. I restricted the analysis to adult respondents aged 18 or

older who provided a valid answer to the question on health insurance because such variables as marital status and income and, to a lesser extent, education are irrelevant to minors for bivariate and logistic regression analyses. After the restrictions, the sample sizes remained substantial with 64,047 cases in 2009, 65,332 cases in 2010, 74,337 cases in 2011, 79,339 cases in 2012, 77,066 cases in 2013, 82,986 cases in 2014, and 77,182 cases in 2015. The data were weighted so that the findings can be generalized to the population.

The NHIS provides the best data for addressing the research questions for several reasons. First, the NHIS is representative of the U.S. population when weighted and can be used to make inferences to the population. Second, the huge sample sizes permit trustworthy statistical estimates. Third, the NHIS specifically asked in all sample years in the same wording whether the individual had health insurance coverage in all sample years and thus allowed a direct comparison before and after the ACA.

VARIABLES AND MEASUREMENTS

The dependent variable asked respondents whether they had health insurance. This variable is dummy coded with 1 for "has insurance" and 0 for "does not have insurance."

The main independent variables are age, gender, race, Hispanic ethnicity, marital status, nativity, U.S. citizenship status, region, education, family income, and poverty status. To test the effect of the new-19 provision, age is recoded as a dummy variable coded 1 for age 26 or younger and coded 0 for ages 27-99 as the reference category. Gender is a dummy variable coded 1 for male and coded 0 for female. A set of dummy

variables for race are created with white as the reference category: one for black coded 1 for black and 0 otherwise, one for Asian coded 1 for Asian and 0 otherwise, and one for other race coded 1 for other race and 0 otherwise. Hispanic ethnicity is a dummy variable with 1 identifying Hispanic and with 0 indicating non-Hispanic. Marital status is a dummy variable with 1 indicating currently married and 0 not currently married. Nativity is a dummy variable coded 1 for foreign-born and 0 for born in the U.S. Citizenship status is a dichotomous variable coded 1 for not U.S. citizen and 0 for U.S. citizen. Education is measured at the ordinal level. Education was recoded twice. For the logistic regression analysis, education was coded as an ordinal variable with 18 categories with 0 indicating no schooling or kindergarten and 17 indicating the completion of a doctoral degree. For the bivariate analysis, education was collapsed into four categories with 1 indicating did not graduate high school, 2 indicating graduation from high school or equivalent, 3 indicating some college but no degree, and 4 indicating the acquisition of a college degree or more. Family income is measured at the ordinal level with 8 categories. Poverty level is a dichotomous variable dummy coded with 1 denoting below poverty line and 0 indicating above poverty line. Region is a nominal variable with four categories: Northeast, North Central/Midwest, South, and West. Northeast consists of the New England Division, which includes the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. It also includes the Middle Atlantic divisions with the following states: New York, New Jersey, and Pennsylvania. The North Central/Midwest consists of the East North Central Division, which includes Michigan, Ohio, Indiana, Illinois, and Wisconsin. Additionally,

the North Central/Midwest is also made up of the West North Central Division with Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska. The South region is made up of the South Atlantic, East South Central Division, and West South Central Division. The South Atlantic Division contains Delaware, Maryland, the District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida. East South Central is made up of Kentucky, Tennessee, Mississippi, and Alabama. The West South Central Division has Texas, Arkansas, Oklahoma, and Louisiana. Finally, the West region consists of the Pacific Division and Mountain Division. The Pacific Division contains Washington, Alaska, Oregon, California, and Hawaii, and the Mountain Division holds Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada. The variables were dummy coded for the bivariate and logistic regression. Northeast was dummy coded as 1 while all other regions will be coded as 0. North Central/Midwest was dummy coded as 1 with all other regions as 0. South was dummy coded as 1 with all other regions as 0. Finally, West was dummy coded as 1 with all other regions as 0. For the logistic regression portion of the study, the Southern region variable is used as the reference category.

In addition, to test the effects of preexisting conditions on health insurance, nine dummy variables that measure major existing health conditions are also included in the bivariate analysis with 1 indicating an existing health condition and 0 otherwise: asthma, cancer, coronary heart disease, diabetes, heart disease/condition, hypertension, weak/failing kidneys, migraines, and stroke. However, these dummy variables are not

included in the final regression analysis because including these variables leads to huge missing cases, which will bias the regression estimates.

METHODS OF DATA ANALYSIS

This study begins with a trend analysis of changes in the rate of health insurance from 2009 to 2015 and a descriptive analysis of descriptive information on the determinants of health insurance. It then proceeds to a bivariate analysis of the relationship between each of the predictor variables and health insurance by year. Logistic regression is the main method of analysis for this study because the dependent variable is dichotomous. Note that no longitudinal study of health insurance coverage after the ACA has employed this method in statistical analysis. The results of multiple logistic regression models are presented by year from 2009 to 2015.

CHAPTER V

RESULTS

This chapter presents the results of descriptive, bivariate, and logistic regression analyses and interprets the findings.

DESCRIPTIVE ANALYSIS

Table 1 show the means and standard deviations of the variables used in the analysis for 2009 to 2015. The mean of the dummy variable can be interpreted as a percentage after multiplying it by 100. Data from Table 1 indicate that in 2009, 82.2 percent of the U.S. population had health insurance coverage, but by 2015 the health insurance rate had increased by 7.2 percent to a total of 89.4 percent. As shown in Figure 1, the overall trend was a steady growth in health insurance rate year by year, except for the year 2010, which registered a slight decline in health insurance rate (81.3 percent). Especially, the increases in the rates in 2014 and 2015—the beginning of the full implementation of the ACA—were impressive. The evidence appeared to show the initial success of the ACA.

Table 1. Means and Standard Deviations of Variables Used in the Analysis, U.S. Adults, 2009 - 2015

	2009		2010		2011		2012		2013		2014		2015	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Has Insurance	0.822	0.38	0.813	0.39	0.823	0.38	0.827	0.38	0.83	0.38	0.866	0.34	0.894	0.31
Male	0.48	0.50	0.48	0.50	0.48	0.50	0.48	0.50	0.48	0.50	0.48	0.50	0.48	0.50
Age	46.12	17.69	46.24	17.76	46.38	17.85	46.66	17.88	46.79	17.94	47.01	18.00	47.15	18.05
Race														
White	0.81	0.39	0.81	0.39	0.81	0.40	0.80	0.40	0.80	0.40	0.80	0.40	.792.	0.41
Black	0.12	0.33	0.12	0.33	0.12	0.33	0.12	0.32	0.12	0.33	0.12	0.33	0.12	0.33
Asian	0.05	0.21	0.05	0.22	0.05	0.22	0.05	0.23	0.06	0.23	0.06	0.23	0.06	0.24
Other	0.02	0.13	0.01	0.12	0.02	0.13	0.02	0.13	0.02	0.13	0.02	0.13	0.02	0.14
Hispanic Ethnicity	0.14	0.34	0.14	0.35	0.14	0.35	0.15	0.36	0.15	0.36	0.15	0.36	0.16	0.36
Currently Married	0.56	0.50	0.55	0.50	0.55	0.50	0.55	0.50	0.54	0.50	0.54	0.50	0.55	0.50
Foreign-born - U.S.	0.17	0.37	0.17	0.38	0.17	0.38	0.18	0.38	0.18	0.38	0.18	0.39	0.19	0.39
U.S. Citizen	0.92	0.28	0.92	0.28	0.92	0.27	0.92	0.28	0.92	0.28	0.92	0.28	0.92	0.28
Region														
Northeast	0.18	0.38	0.18	0.38	0.18	0.38	0.18	0.39	0.18	0.38	0.18	0.38	0.18	0.38
Midwest	0.23	0.42	0.23	0.42	0.23	0.42	0.22	0.42	0.22	0.42	0.22	0.49	0.22	0.41
South	0.36	0.48	0.36	0.48	0.36	0.48	0.37	0.48	0.37	0.48	0.37	0.48	0.37	0.48
West	0.23	0.42	0.23	0.42	0.23	0.42	0.23	0.42	0.23	0.42	0.23	0.42	0.23	0.42
Education	12.29	2.43	12.87	2.44	12.91	2.45	12.95	2.40	12.98	2.42	13.01	2.42	13.08	2.40
Family Income														
$0-$49,999	0.47	0.50	0.48	0.50	0.48	0.50	0.47	0.50	0.46	0.50	0.45	0.50	0.42	0.49
$50,000-$99,999	0.31	0.46	0.30	0.46	0.30	0.46	0.31	0.46	0.31	0.46	0.29	0.46	0.30	0.46
$100,000 and over	0.22	0.42	0.21	0.41	0.22	0.41	0.23	0.42	0.24	0.43	0.26	0.43	0.28	0.45
Below Poverty Line	0.12	0.33	0.13	0.34	0.14	0.35	0.14	0.35	0.14	0.34	0.13	0.34	0.12	0.32
Asthma	0.60	0.49	0.66	0.47	0.66	0.47	0.65	0.48	0.61	0.49	0.60	0.49	0.62	0.49
Cancer	0.09	0.29	0.10	0.29	0.09	0.29	0.10	0.30	0.10	0.29	0.10	0.30	0.10	0.30

Coronary Heart Disease	0.05	0.22	0.05	0.22	0.05	0.23	0.05	0.22	0.05	0.23	0.05	0.22	0.05	0.22
Diabetes	0.09	0.29	0.10	0.30	0.09	0.29	0.10	0.30	0.10	0.30	0.10	0.30	0.10	0.30
Heart Disease/Condition	0.09	0.28	0.08	0.28	0.08	0.28	0.08	0.27	0.08	0.27	0.09	0.28	0.09	0.28
Hypertension	0.31	0.46	0.33	0.47	0.32	0.47	0.33	0.47	0.32	0.47	0.34	0.47	0.34	0.47
Weak/failing Kidneys	0.02	0.14	0.02	0.14	0.02	0.14	0.02	0.14	0.02	0.14	0.02	0.15	0.02	0.15
Migraines	0.16	0.37	0.16	0.37	0.16	0.37	0.14	0.35	0.15	0.36	0.14	0.35	0.15	0.35
Stroke	0.03	0.17	0.03	0.17	0.03	0.17	0.03	0.17	0.03	0.18	0.03	0.17	0.03	0.18
N	64,047		65,332		74,337		79,339		77,066		82,986		77,182	

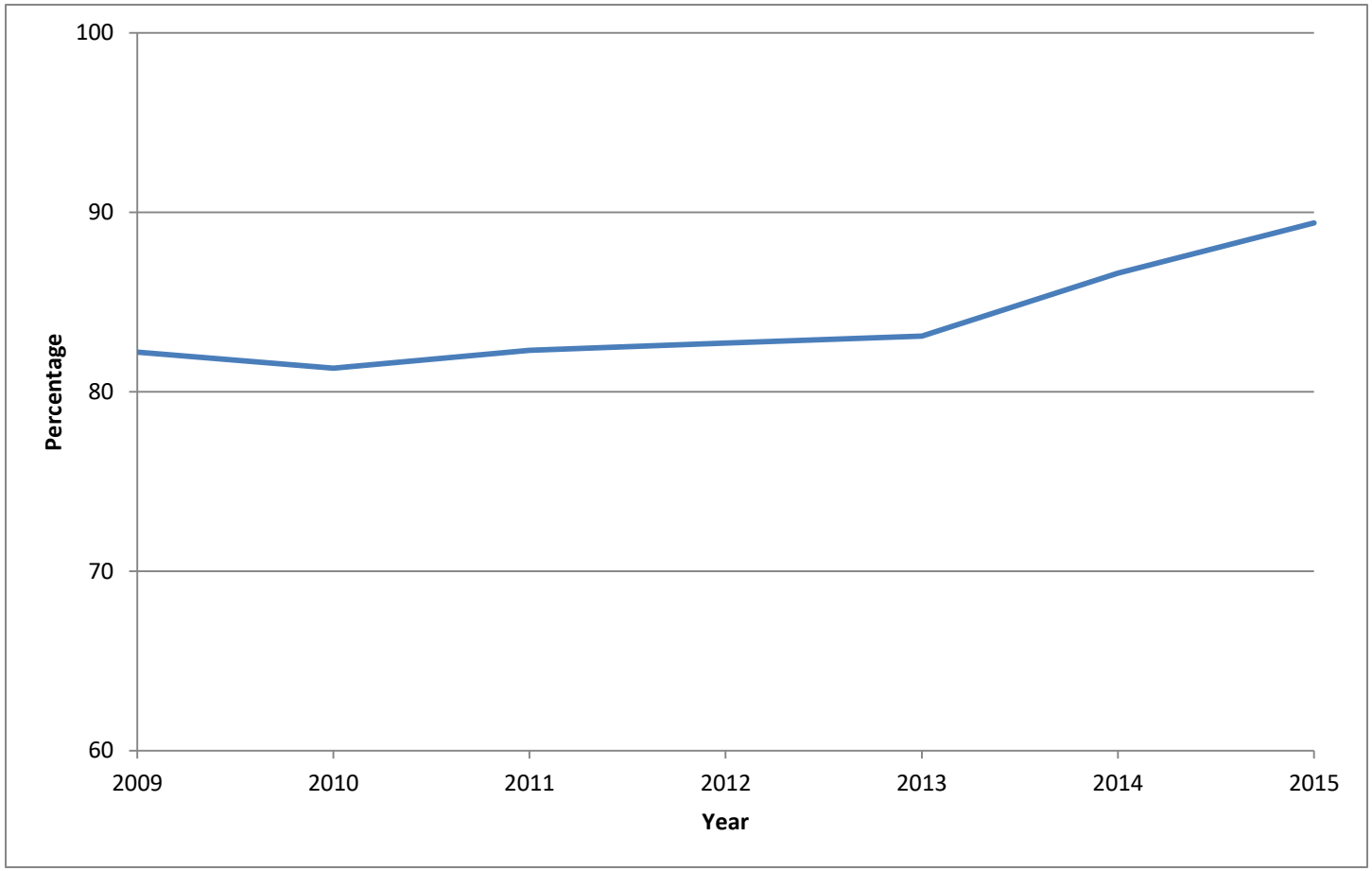


Figure 1. Changes in Health Insurance Rate, 2009-2015

Overall, the descriptive statistics for the independent variables from the years 2009 to 2015 were similar with some differences. The gender composition was consistent across all years, with 48 percent male respondents and 52 percent female respondents. The average age of the respondents increased over the 7-year span from about 46 in 2009-2011 to about 47 in 2012-2015. Across all years, education level steadily increased but remained around an average of 13 years. Whites constituted around 80 percent of the respondents with steady slight declines over time to 79 percent in 2015. Meanwhile, the proportions of Black respondents were stable across all years at roughly 12 percent. Asians experienced small but steady increases from 4.7 percent in 2009 to 6 percent in 2015, and other races stood at less than 2 percent. Hispanic respondents experienced small but steady increases from 13.7 percent in 2009 to 15.5 percent in 2015. The percentages of married respondents were mostly stable at around 55 percent across all years with some fluctuations. The percentage of the foreign-born showed a steady increase across all years, from 16.6 percent in 2009 to 18.5 percent by 2015. The composition of U.S. citizenship was very consistent with approximately 92 percent of respondents being a U.S. citizen and about 8 percent non-citizens in all years. Finally, regional composition was largely consistent across all years with only the slightest of percentage shifts between 2009 and 2015. In 2009, 18 percent of respondents resided in the Northeast, 23 percent in the North Central/Midwest, 36 percent in the South, and 23 percent in the West. In 2015, the percentage of respondents in the North and West regions remained the same, while the North Central/Midwest decreased from

23 percent to 22 percent. The South experienced a 1 percent increase from 36 percent to 37 percent.

Average education from 2009 to 2015 was over 12 years, with the average time span breaching 13 by 2014. The respondents whose family incomes were less than $50,000 a year made up the highest proportions of the samples, from 47 percent in 2009 to about 42 percent in 2015. Those making $50,000 to $99,999 a year were quite stable at around 30 percent across the years. Those making $100,000 or more a year varied, from 21.3 percent in 2010 to 23.6 percent in 2013 and then saw noticeable increases to 26 percent in 2014 and 28.2 percent in 2015. The percentages of the respondents living below the poverty line followed a parabolic pattern from 12.1 percent in 2009 to 13.8 percent in 2011-2012 and then to 11.7 percent in 2015.

Across all years, people diagnosed with asthma consisted of 60 to 66 percent from 2009 to 2011 and then by 2015 the number of respondents with asthma dropped to 62 percent. The number of respondents with cancer remained at 9 percent up until 2012 at which point it increased to 10 percent and remained the same to 2015. Respondents with coronary heart disease were at 5 percent across all years. People with diabetes went from 9 percent in 2009 and 2011 to 10 percent for all remaining years. Individuals with a heart disease or condition remained stable at 8 or 9 percent across all years. Minor fluctuations can be observed with respondents who had hypertension starting at 31 percent in 2009 and gradually increase to 34 percent by 2015 with fluctuations. Respondents with weak or failing kidneys were consistent with 2 percent across all years. Respondents with migraines in 2009 made up 16 percent, but decreased slightly to 15 percent by 2015.

Finally, respondents who suffered from a stroke remained consistent at 3 percent across all years.

BIVARIATE ANALYSIS

Results of the bivariate relationships between the predictors and health insurance coverage can be found in Table 2. The chi square tests for all cross-tabulated analyses are highly significant at the .0001 level across all years. The bivariate analyses reveal increases in the rate of health insurance coverage across all determinants from 2009 to 2015, with some minor fluctuations in some years, although certain categories among determinants were still more or less likely than other categories to have health insurance coverage. This indicates that the ACA has a net positive effect across many determinants of health insurance coverage.

Table 2. Percentage Distributions of Health Insurance Coverage by Predictors, U.S. Adults, 2009 – 2015

Variable	2009		2010		2011		2012		2013		2014		2015	
	%	% base	%	% base	%	% base	%	% base	%	% base	%	% base	%	% base
Gender														
Female	84.7	33,736	84.1	34,410	84.5	39,186	84.9	41,941	85.0	40,672	88.4	43,686	91.1	40,586
Male	79.5	30,311	78.3	30,922	79.9	35,151	80.4	37,398	81.0	36,394	84.7	39,300	87.6	36,596
Age														
27-99+	84.7	53,589	83.9	54,533	84.1	62,258	84.3	66,833	84.8	65,203	87.8	70,504	90.4	65,879
18-26	69.5	10,458	68.4	10,799	73.2	12,079	74.2	12,506	74.2	11,863	80.5	12,482	84.2	11,303
Race														
White	83.1	48,370	82.5	48,650	83.2	55,849	83.5	59,746	84.0	58,179	87.1	63,613	89.8	58,845
Black	78.0	9,473	76.0	10,039	77.8	10,827	79.0	11,300	78.2	10,978	84.3	10,957	87.3	10,165
Asian	82.7	4,481	81.7	5,021	82.6	5,516	82.7	5,718	85.0	5,432	88.5	5,688	92.2	5,395
Other	69.9	1,723	66.9	1,622	72.6	2,145	74.6	2,575	74.2	2,477	79.0	2,728	83.1	2,777
Hispanic Ethnicity														
No	85.7	49,958	84.8	50,680	85.7	58,723	86.3	63,654	86.8	61,581	89.8	66,939	92.2	61,974
Yes	60.0	14,089	60.1	14,652	61.2	15,614	61.9	15,685	62.1	15,485	68.7	16,047	74.4	15,208
Currently Married														
No	76.0	20,801	74.8	29,400	76.4	33,754	77.1	36,227	77.9	35,416	82.4	37,711	86.1	34,917
Yes	87.2	29,897	86.6	35,705	87.2	40,318	87.4	42,864	87.5	41,414	90.2	45,020	92.2	42,047
Foreign-born														
No	85.4	48,941	84.5	49,112	85.4	57,155	85.9	62,045	86.3	60,221	89.5	65,427	91.8	60,750
Yes	66.1	14,920	66.3	16,043	67.3	16,982	67.7	17,091	68.5	16,653	73.9	17,361	79.0	16,298
U.S. Citizen														
No	49.3	7,775	48.3	8,281	51.4	8,546	50.0	8,530	51.0	8,197	57.6	8,521	64.0	7,736
Yes	85.2	55,976	84.4	56,755	85.1	65,432	85.7	70,499	86.1	68,578	89.4	74,155	91.8	69,232

Region														
Northeast	88.2	10,646	87.5	10,541	87.8	11,909	88.2	13,426	88.7	12,766	91.0	13,801	93.3	12,964
North Central/Midwest	85.2	13,183	85.2	13,293	86.0	15,292	86.2	15,589	86.8	14,910	89.5	16,703	91.8	15,193
South	78.8	23,519	77.6	23,863	78.9	26,765	79.4	28,384	79.8	28,085	83.1	28,710	85.9	26,630
West	79.8	16,699	78.5	17,635	79.7	20,371	80.1	21,940	80.5	21,305	86.2	23,772	89.8	22,395
Education														
No High School	67.0	11,258	66.0	11,498	68.6	12,568	67.7	12,880	68.1	12,223	73.7	12,566	76.9	11,238
High School/GED	78.7	17,772	77.5	17,991	77.7	20,130	78.5	21,631	79.3	20,793	82.6	22,397	86.3	20,355
Some College	82.7	12,284	81.2	12,280	82.5	14,125	83.3	15,386	83.0	14,654	87.1	15,690	90.3	14,653
College Degree	91.1	21,590	90.7	22,512	91.0	26,311	91.1	28,379	91.0	28,383	93.7	31,243	95.0	30,007
Family Income														
$0-$49k	71.8	28,338	70.4	30,084	71.7	34,340	71.7	35,869	72.2	34,211	77.3	33,540	82.4	29,341
$50k-$99k	87.4	17,468	87.3	17,306	88.2	19,819	88.1	21,616	88.1	20,926	91.0	20,884	91.3	19,883
$100k+	94.8	11,784	95.3	11,446	95.7	13,222	95.9	14,536	95.9	14,684	96.8	16,715	97.4	16,519
Poverty Status														
At / Above Poverty Line	85.2	48,004	84.4	48,077	85.4	55,020	86.0	58,815	86.2	57,535	89.0	64,672	91.0	61,613
Below Poverty Line	62.3	7,896	62.2	8,886	64.3	10,355	63.9	11,133	65.0	10,501	70.7	11,189	77.3	9,387
Asthma														
No	80.8	1,400	83.9	1,105	81.9	1,355	83.6	1,481	85.8	1,589	89.2	1,848	89.2	1,579
Yes	85.8	2,155	86.4	2,211	85.9	2,702	86.8	2,850	88.2	2,526	90.0	2,850	93.0	2,726
Cancer														
No	82.5	25,347	82.1	24,727	82.8	30,009	83.0	31,280	83.5	31,318	86.8	33,087	89.7	30,205
Yes	93.9	2,302	94.4	2,331	94.6	2,864	94.6	3,113	94.7	3,088	96.0	3,446	97.7	3,285
Coronary Heart Disease														
No	82.9	26,258	82.7	25,690	83.2	31,082	83.6	32,550	84.0	32,554	87.2	34,702	90.1	31,733
Yes	94.9	1,370	94.2	1,328	95.9	1,768	94.3	1,811	93.4	1,832	95.8	1,793	97.4	1,733

Diabetes														
No	82.8	24,945	82.5	24,294	83.2	29,640	83.4	30,864	83.8	30,831	87.0	32,712	89.9	29,865
Yes	90.7	2,701	90.8	2,768	90.8	3,239	91.4	3,524	90.9	3,585	93.5	3,825	95.4	3,634
Heart Disease/Condition														
No	82.8	25,421	82.6	24,984	83.1	30,258	83.5	31,811	83.8	31,725	87.1	33,415	90.0	30,631
Yes	91.4	2,221	91.1	2,093	92.5	2,618	91.3	2,576	93.3	2,683	93.9	3,110	95.7	2,859
Hypertension														
No	80.3	18,982	80.2	18,200	81.0	22,210	81.3	23,115	81.7	23,193	85.1	24,132	88.3	21,772
Yes	90.7	8,655	89.7	8,833	90.0	10,651	90.0	11,266	90.5	11,209	92.7	12,379	94.8	11,709
Weak/failing Kidneys														
No	83.5	27,038	83.1	26,509	83.7	32,148	84.0	33,709	84.4	33,627	87.6	35,708	90.4	32,649
Yes	88.7	606	90.0	545	90.8	734	92.3	682	90.3	785	92.2	812	95.5	840
Migraines														
No	84.2	23,319	84.1	22,620	84.8	27,421	84.8	29,557	85.3	29,053	88.3	31,120	90.8	28,478
Yes	80.1	4,325	78.9	4,443	79.0	5,459	80.3	4,838	80.4	5,356	84.1	5,410	88.9	5,021
Stroke														
No	83.2	26,805	83.0	26,206	83.6	31,826	83.8	33,278	84.2	33,332	87.4	35,349	90.3	32,335
Yes	93.6	836	92.5	842	93.6	1,047	93.4	1,111	93.4	34,409	95.7	1,177	96.0	1,150

Source: The National Health Interview Surveys, 2009-2015.

The χ^2 tests for all variables are statistically significant at the .0001 level, and all N's are unweighted .

As shown in Table 2 and Figure 2, both men and women had witnessed significant increases in health insurance rate after the ACA took full effect in 2014 and 2015. For women, the health insurance rate increased from 84.7 percent in 2009 to 88.4 percent in 2014 and 91.1 percent in 2015, and for men the rate rose from 79.5 percent in 2009 to 84.7 percent in 2014 and 87.6 percent in 2015. However, contrary to my hypothesis (H2), women were more likely than men to have health insurance coverage across all years. Overall, women were slightly above the national average insurance rate while men were slightly below the national average rate.

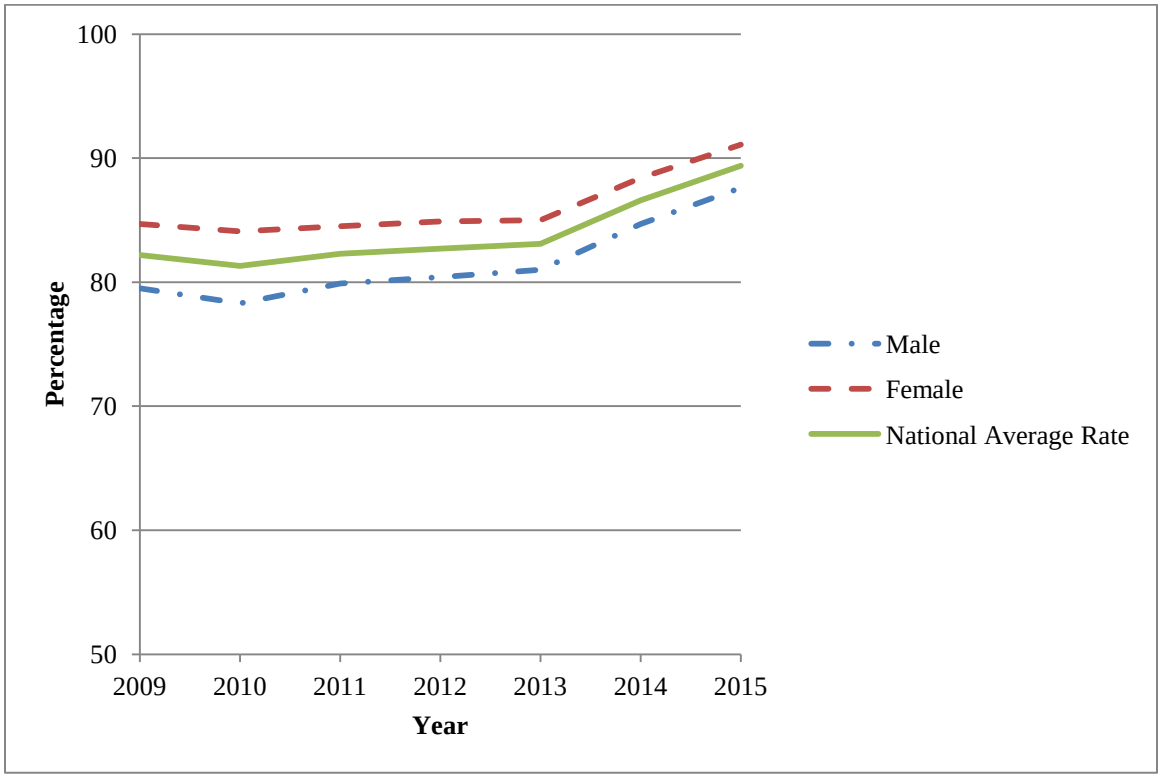


Figure 2. Health Insurance Rates by Gender, 2009-2015

The effect of age on health insurance provides some insight into the effectiveness of the new 19 provision of the ACA. As seen in Figure 3 individuals between the ages of 27 to 99 or older were higher than the national average rate and 18-26 age group for health insurance coverage. However, the 26 and under age group experienced a notable increase from 69.5 percent in 2009 to 84.2 percent in 2015, indicating that the new 19 provision had a noticeable effect on this specific age group. This finding does support my hypothesis (H1) that those under 26 are less likely to have health insurance than their older counterparts and it supports the current literature by demonstrating that they made significant gains during the partial and full implementation of the ACA, highlighting the success of the new 19 provision.

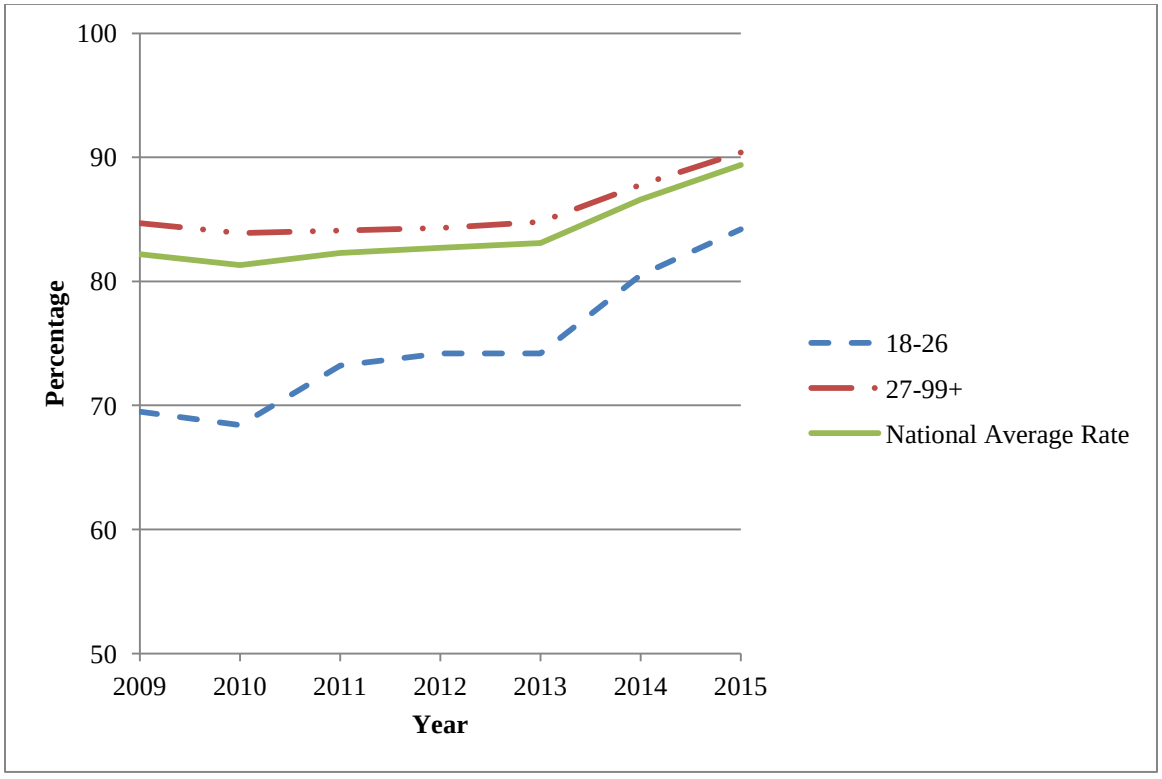


Figure 3. Health Insurance Rates by Age, 2009-2015

From 2009 to 2015, all racial groups experienced significant increases in health insurance rates, but minority groups appeared to gain more than whites as evidenced by 9.3 percent increase for blacks, 9.5 percent increase for Asians, and 13.2 percent increase for other races compared to 6.7 percent increase for whites (see Figure 4). Interestingly, Asians surpassed whites since 2013 in health insurance rate, but blacks and other races remained less likely than whites to have health insurance coverage. My hypothesis (H3) was partially supported because minority races excluding Asians remained less likely than whites to have coverage, but Asians surpassed whites by around 2012. Both Asian and white racial groups remained above the national average rate.

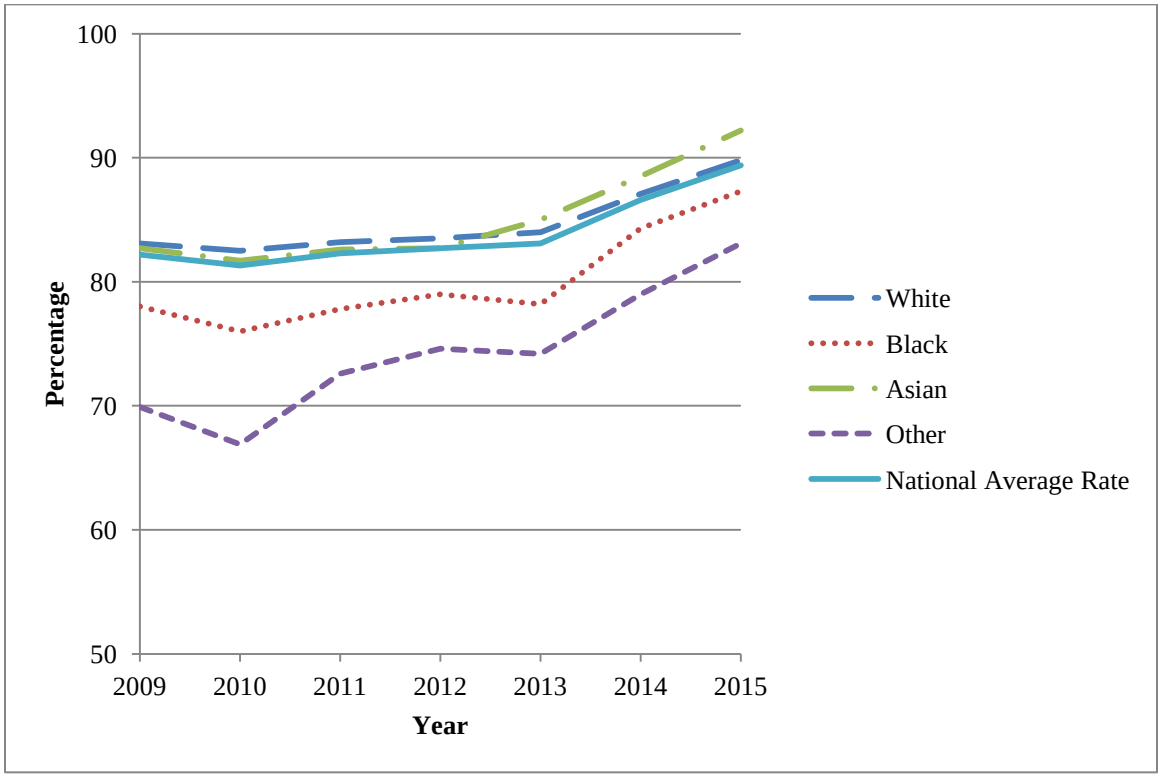


Figure 4. Health Insurance Rates by Race, 2009-2015

As shown in Figure 5, Hispanics experienced a 14.4 percent increase in health insurance rate from 60 percent in 2009 to 74.4 percent in 2015. The Hispanic gains in the insurance rate were most noticeable after 2013 (i.e., 68.7 percent in 2014 and 74.4 percent in 2015) because in 2014 the ACA went into full effect and the healthcare marketplace was fully operational. Confirming my hypothesis (H4), Hispanics with health insurance coverage was still less than non-Hispanics who started at 85.7 percent in 2009 and increased to 92.2 percent in 2015. Non-Hispanic ethnic groups remained above the national average rate across all years.

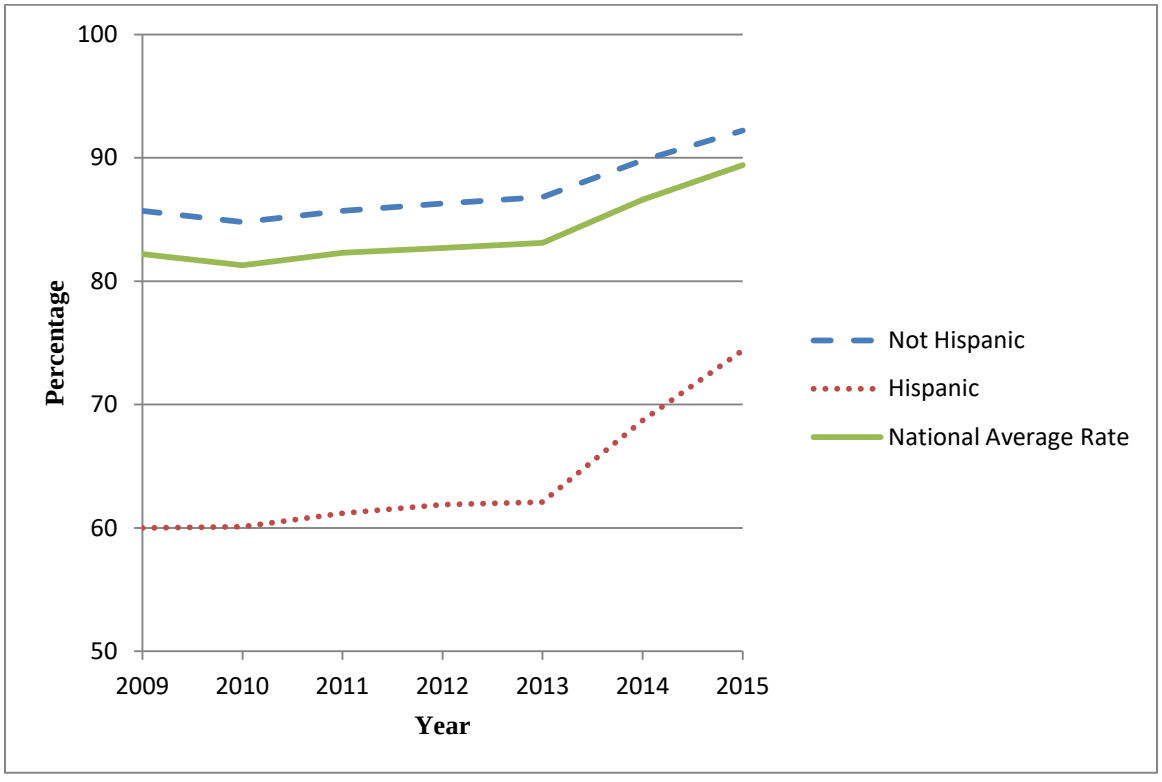


Figure 5. Health Insurance Rates by Ethnicity, 2009-2015

For those who were currently married, the insurance rate went up from 87.2 percent in 2009 to 90.2 percent in 2014 and then 92.2 percent in 2015 (Figure 6). Those not currently married displayed the same pattern of increasing rates, especially after 2013. As hypothesized (H5), respondents who were married had a higher rate of health insurance than those who were not married in all years. As shown in Figure 6, the rates for currently married people were above the national average, while the rates for non-married people were below the national average rate.

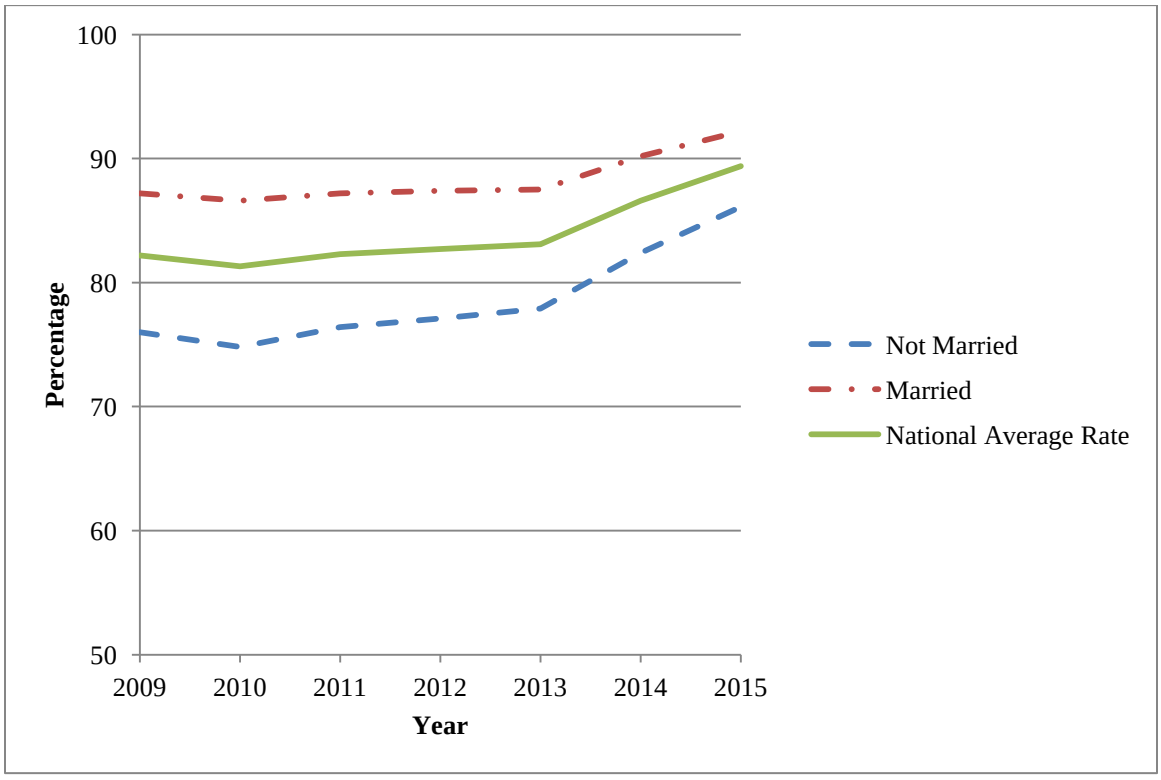


Figure 6. Health Insurance Rates by Marital Status, 2009-2015

The native-born remained above the national average rate for health insurance coverage across all years. Expectedly (H6), the foreign-born were less likely than the native-born to have health insurance coverage across all years with the native-born rate

increasing from 85.4 percent in 2009 to 91.8 percent by 2015. Notice in Figure 7 the significant gap between the foreign-born (way below the national average) and the native-born (slightly above the national average) in health insurance coverage. However, the gap between the foreign-born and the native-born narrowed significantly in 2014 and 2015 when the ACA was in full effect with the health insurance marketplace up and running.

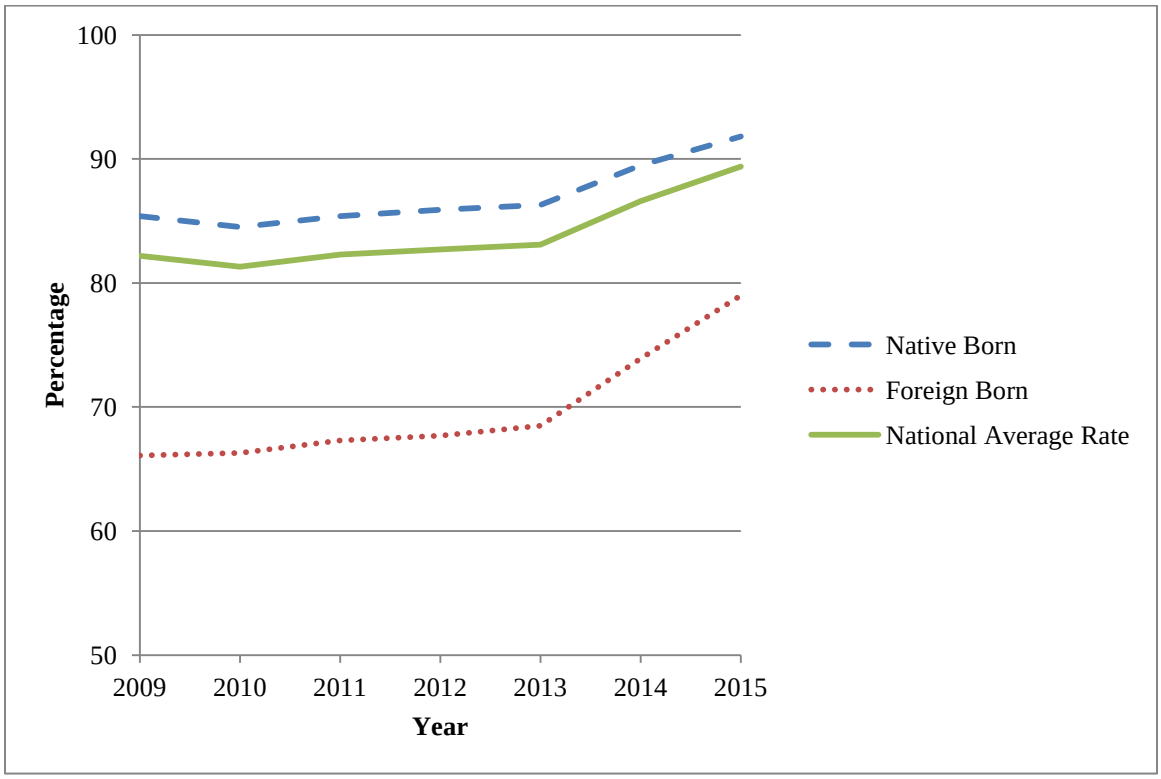


Figure 7. Health Insurance Rates by Nativity, 2009-2015

As hypothesized (H7), U.S. citizens were also more likely to have health insurance coverage than non-citizens in all years (Figure 8). Similar to Figure 7, the gaps between non U.S. citizens (below the national average) and U.S. citizens (slightly above

the national average) in health insurance rates were big from 2009 to 2013 but decreased significantly in 2014 and 2015.

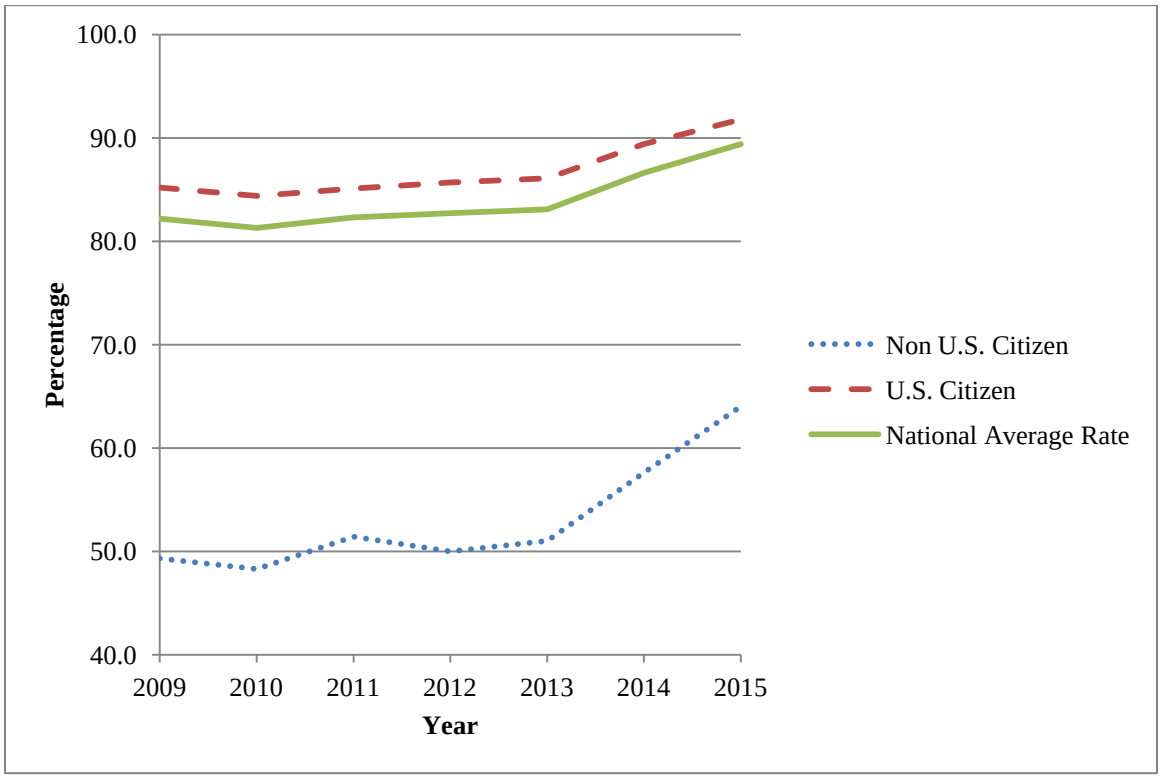


Figure 8. Health Insurance Rates by U.S. Citizenship, 2009-2015

The region variable provided some interesting results as far as which regions were more likely to have health insurance coverage. Table 2 and Figure 9 show that all regions saw increases in health insurance rates, especially after 2013 and in confirmation of my hypothesis (H11) the South, despite having the largest number of respondents, did in fact come in behind all other regions in health insurance rate. From 2009 to 2013 the South and West were relatively close in rates; however, after 2013 the West notably pulled away from the South and approached the national average. The fact that the ACA went into full effect with the insurance marketplace debut in 2014 explains why all

regions experienced increases in rates since 2014. However, the explanation for why the other regions, especially the West, pulled away from the South in insurance rates can be attributed to the fact that a number of states in the South refused the Medicaid expansions while the majority of states in all other regions did accept the expansions. The South did experience growth despite rejecting the expansions, but not at the same rate as other regions like the West.

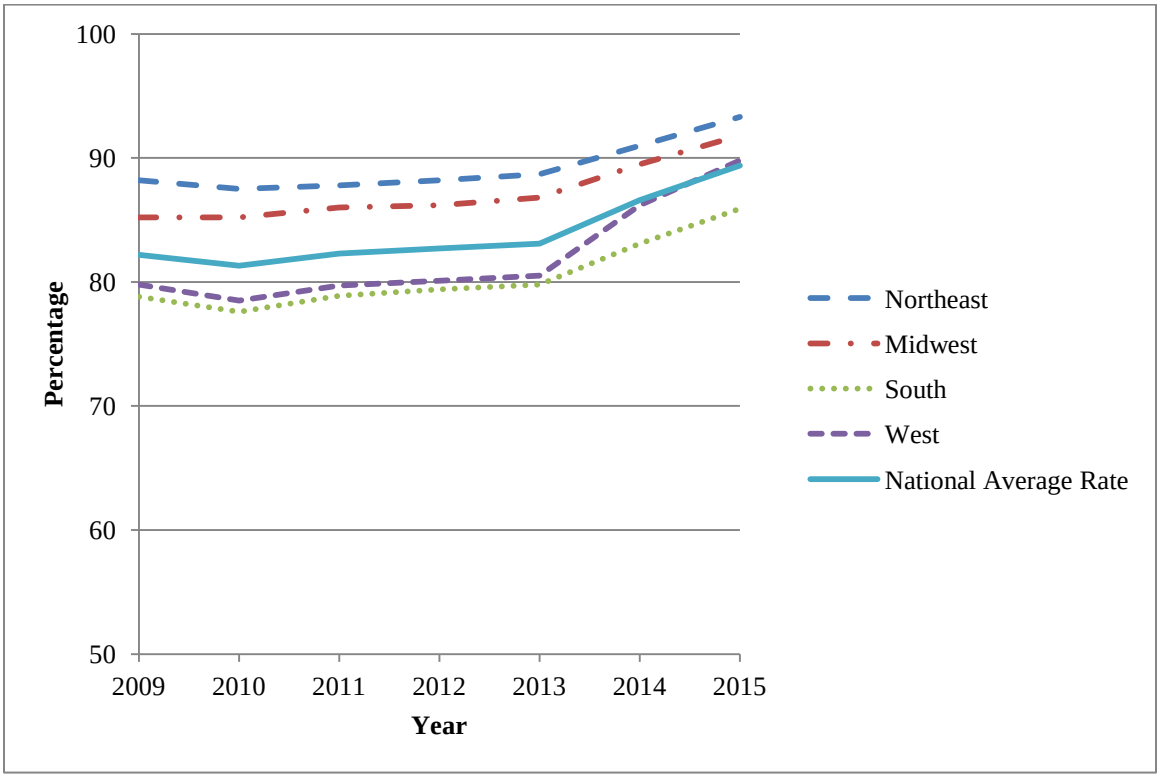


Figure 9. Health Insurance Rates by Geographical Region, 2009-2015

As expected (H8), those with a higher level of education were more likely than those with less education to have health insurance coverage across all the years. As seen in Figure 10, all educational categories registered significant increases in health insurance rates after the full implementation the ACA in 2014 and 2015. Those with some college

education remained almost exactly at the national average while those with a college degree were well above it. Individuals who either did or did not finish high school or its equivalency were below the national average in health insurance rates.

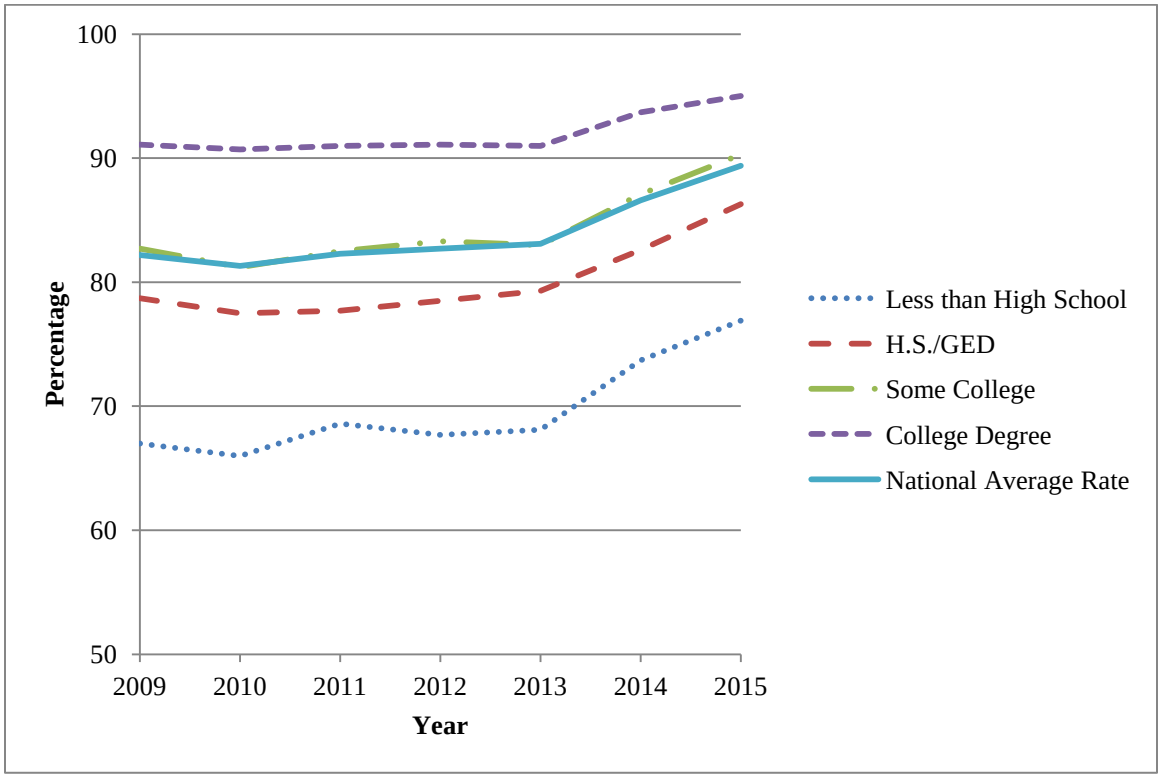


Figure 10. Health Insurance Rates by Education, 2009-2015

As hypothesized (H9), a higher level of family income was associated with a higher health insurance rate in all years (Figure 11). Those with a family income of more than $100,000 per year experienced a slight increase from 94.8 percent in 2009 to 97.4 percent in 2015. Those with a family income of below $50,000 experienced a more notable gain from 71.8 percent in 2009 to 82.4 percent in 2015. Those in the middle family income category ($50,000-$99,999) made gains between the high income group

and the low income group, and remained above the national average rate. The low-income group was the only category with insurance rates below the national average.

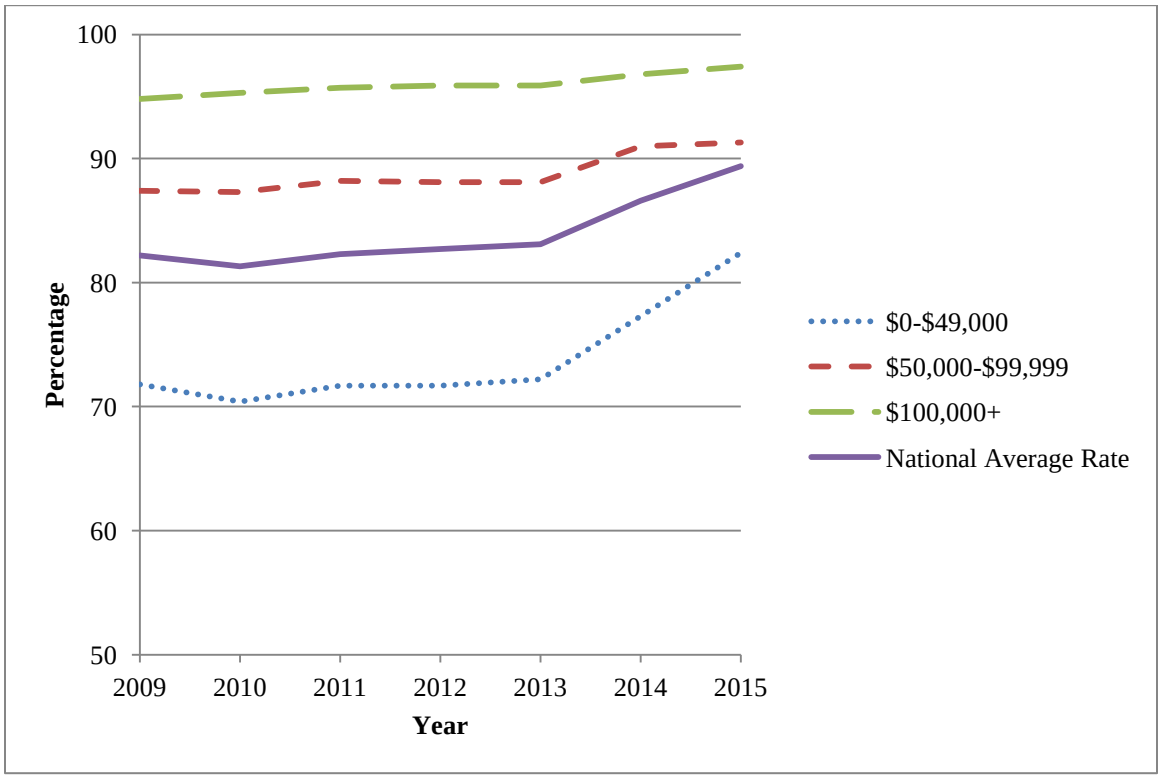


Figure 11. Health Insurance Rates by Family Income Level, 2009-2015

Not surprisingly (H10), people living in poverty had a much lower rate of health insurance than those at or above the poverty line in all years. People at or above the poverty line experienced an increase from 85.2 percent in 2009 to 91 percent by 2015, and individuals below the poverty line made greater gains in health insurance rate from 62.3 percent in 2009 to 77.3 percent in 2015. As seen in Figure 12, there were sizeable gaps between respondents below the poverty line and the national average in health insurance rate. Nevertheless, both categories made notable gains from 2014 to 2015.

Respondents at or above the poverty line remained slightly above the national average rate.

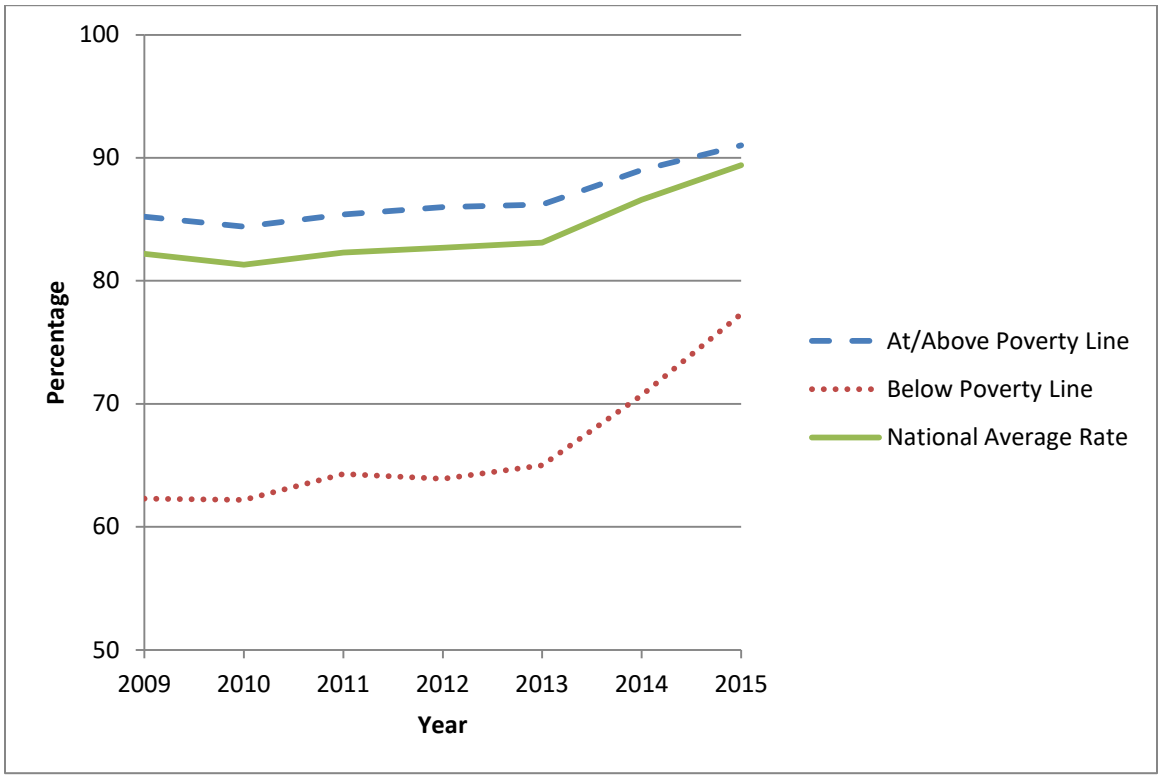


Figure 12. Health Insurance Rates by Poverty, 2009-2015

Whether patients had a preexisting health condition certainly had a significant effect on their chances of obtaining health insurance before and after the ACA because of the changes in the coverage for preexisting conditions required by the ACA. Table 2 and Figure 13a-i show the health insurance rates by each of the nine health conditions. Clearly, health insurance rates had risen from 2009 to 2015, especially after 2013, across all preexisting conditions. The changes in the rate for each of the preexisting conditions are further explained below.

Figure 13a. Health Insurance Rate by Asthma

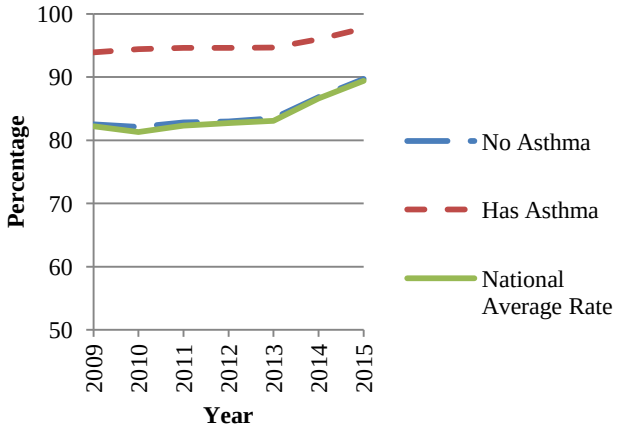


Figure 13b. Health Insurance Rate by Cancer

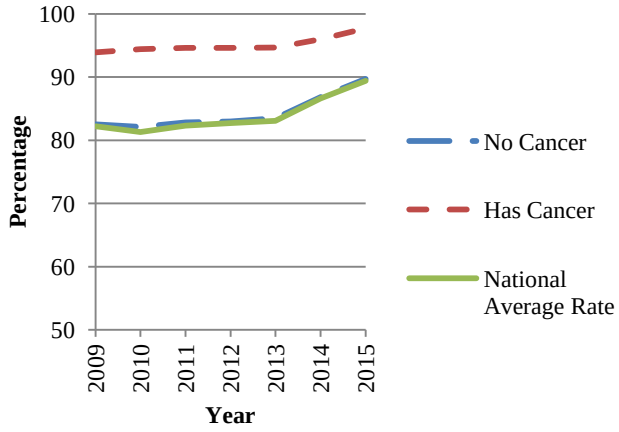


Figure 13c. Health Insurance Rate by Coronary Heart Disease

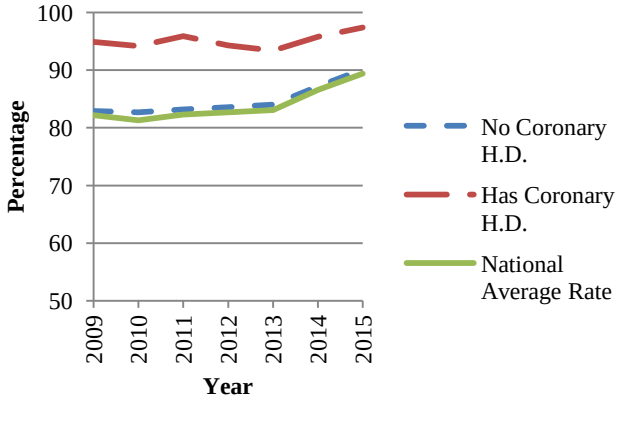


Figure 13d. Health Insurance Rate by Diabetes

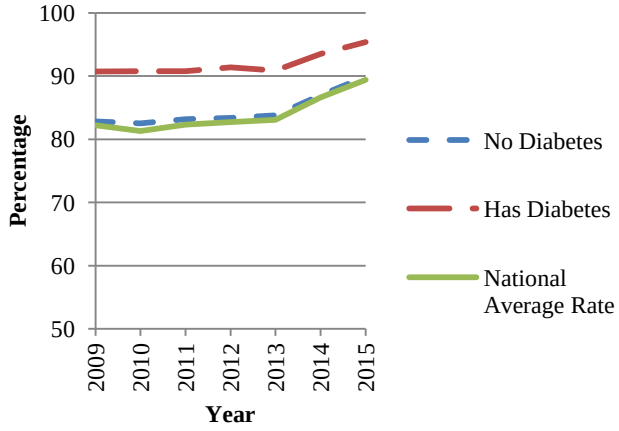


Figure 13e. Health Insurance Rate by Heart Disease/Condition

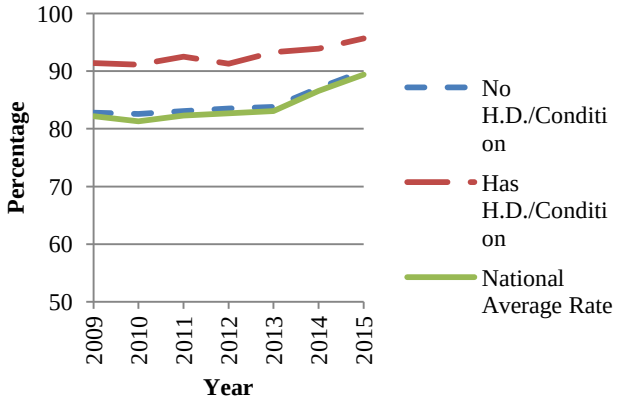


Figure 13f. Health Insurance Rate by Hypertension

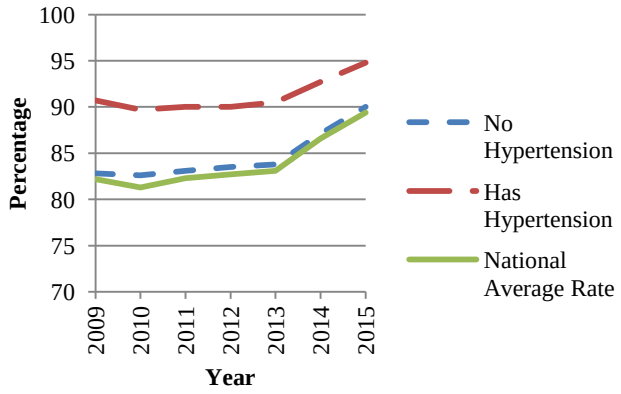


Figure 13g. Health Insurance Rate by Weak/Failing Kidneys

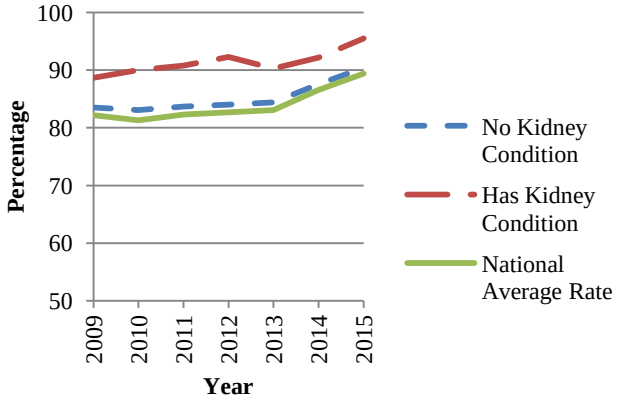
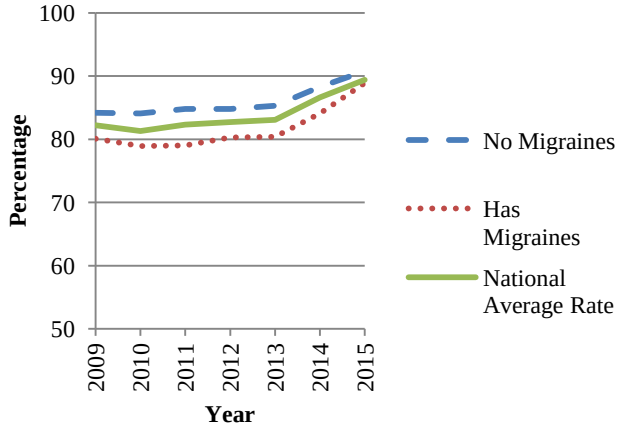


Figure 13h. Health Insurance Rate by Migraine



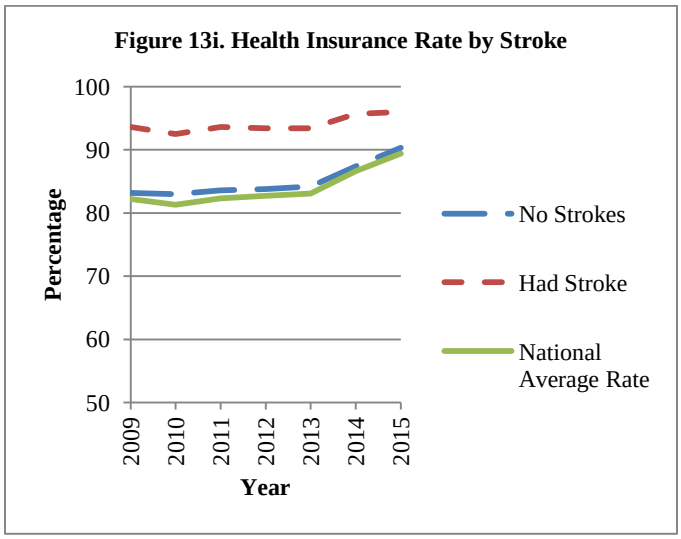


Figure 13a-i. Health Insurance Rates by Health Condition Variables, 2009-2015

Expectedly, because of the preexisting condition provision of the ACA, people with asthma had a higher rate of health insurance coverage than people without asthma. Both groups experienced an increase in health insurance rate from 2009 to 2015. Respondents who had been diagnosed with asthma and had health insurance coverage increased from 85.8 percent in 2009 to 93 percent in 2015, and the insurance coverage rate for people who were not diagnosed with asthma increased from 80.8 percent in 2009 to 89.2 percent in 2015. As seen in Figure 13a, the health insurance rates for people without asthma resembled the national average while the rates for those with asthma were above the national average.

Similarly, as anticipated, individuals with cancer had a higher rate of health insurance than those who did not have cancer. Both groups experienced increases in the rate across the seven-year span. The rate for people with cancer increased from 93.9 percent in 2009 to 97.7 in 2015, and the rate for people without cancer rose from 82.5

percent in 2009 to 89.7 percent in 2015. Figure 13b shows that similar to asthma, the rates for people who did not have cancer paralleled with the national average, while the rates for those with cancer were higher than the national average.

In support of my hypothesis, people with coronary heart disease had a higher rate of health insurance than those who did not have such a condition across all years. In 2009, 94.9 percent of the respondents with a coronary heart disease had health insurance, and the rate increased to 97.4 percent in 2015. As shown in Figure 13c, the rates for those without a coronary heart disease resembled the national average, while the rates for those with such a condition were above the national average.

As hypothesized, people who had diabetes had a higher rate of health insurance coverage than people who did not have diabetes. The rate for people who had diabetes increased from 82.8 percent in 2009 to 89.9 percent in 2015. As shown in Figure 13d, the rates for people without diabetes were similar to the national average, while the rates for people with diabetes were above the national average.

Consistent with my hypothesis, respondents with heart disease or a heart condition had a higher health insurance rate than those who did not have one. The health insurance rate increased from 91.4 percent in 2009 to 95.7 percent in 2015. Figure 13e shows a similar pattern of insurance rates above the national average for those with a heart condition, and the pattern paralleled to the national average for those without such a condition.

Individuals with hypertension had a higher health insurance rate than those without hypertension. The rate for those with hypertension increased from 90.7 in 2009

to 94.8 percent in 2015. As displayed in Figure 13f, the rates for people without hypertension paralleled to the national average, but the rates for people with hypertension were above the national average.

Individuals with weak or failing kidneys had a higher health insurance rate than those without such a condition. The rate increased from 88.7 percent in 2009 to 95.5 percent in 2015. As shown in Figure 13g, the rates for people who had weak/failing kidneys were above the national average, and the rates for people without such condition were only slightly above the national average.

Contrary to my hypothesis, people with migraines had a lower health insurance rate than those without such a condition. The rate for those who did not have migraines increased from 80.1 percent in 2009 to 88.9 percent in 2015. As seen in Figure 13h, the rates for people with regular migraines fell below the national average, while the rates for individuals without a migraine diagnosis were slightly above the national average. One possible explanation as to why the health insurance rate for people with migraines was lower than the national average was that perhaps migraines were not treated as seriously as some of the other conditions listed here, and as such did not warrant an increased need for insurance coverage. However, it should be noted that the rates for respondents with migraines quickly approached the national average.

Finally, people with stroke had a higher health insurance rate than those without stroke, and experienced an increase in rate from 93.6 percent in 2009 to 96 percent in 2015. Once again in Figure 13i the rates for people having stroke were above the

national average, while the rates for people without stroke were roughly at the national average.

The foregoing findings show that a large majority of patients with preexisting health conditions had health insurance before and after the ACA. More people gained health insurance after the ACA went into full effect in 2014, especially for those with asthma, kidney problems, and migraines, but the gains for patients with other preexisting conditions were modest within 5 percent. The preexisting-condition provision of the ACA did provide some help to those with such conditions, but more time is needed to assess its full effect.

LOGISTIC REGRESSION ANALYSIS

Although bivariate analyses presented above are informative, they cannot fully establish causal relationships between the predictors and health insurance because other conditions that may influence the dependent variable are not controlled. To determine the independent effect of each predictor, multivariate logistic regression is needed. To that end and to assess how the determinants of health insurance had changed before and after the ACA, I tested a logistic regression model for each of the seven years. Results of the logistic regression models predicting health insurance coverage from 2009 to 2015 are presented in Table 3. Note that variables related to health conditions are not included in the models, because the huge missing cases of these variables will lead to substantial losses of the sample sizes and to biased results. All predictors across all years are highly significant at the .001 level or beyond, meaning that all predictors have a significant effect on health insurance. The results of many predictors are consistent with the stated

hypotheses with the exception of a few. A major goal of this study is to determine the changes in the determinants of health insurance coverage after partial and full implementation of the ACA.

Table 3. Odds Ratios of Logistic Regression Models Predicting Health Insurance Coverage, U.S. Adults, NHIS 2009–2015

Predictor	2009	2010	2011	2012	2013	2014	2015
Male	0.656***	0.637***	0.681***	0.660***	0.699***	0.669***	0.651***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.001)
Age 26 or below	0.561***	0.573***	0.723***	0.774***	0.704***	0.755***	0.731***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Race (ref.=White)							
Black	0.857***	0.802***	0.842***	0.905***	0.777***	0.949***	0.840***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Asian	1.033***	1.099**	1.121***	1.102***	1.166***	1.289***	1.414***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Other	0.704***	0.773**	0.743***	0.903***	0.879***	0.980***	0.847***
	(.001)	(.002)	(.001)	(.001)	(.001)	(.002)	(.002)
Ethnicity							
Hispanic	0.533***	0.562***	0.539***	0.546***	0.502***	0.524***	0.510***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Currently Married	1.582***	1.592***	1.583***	1.538***	1.467***	1.545***	1.538***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Foreign Born	0.890***	0.967***	0.844***	0.988***	0.944***	0.976***	0.996***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Not U.S. Citizen	0.320***	0.293***	0.362***	0.288***	0.305***	.261***	0.245***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)

Region (ref.=South)							
Northeast	1.965***	1.871***	1.848***	1.873***	1.887***	1.973***	2.081***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Midwest	1.310***	1.385***	1.437***	1.407***	1.364***	1.496***	1.472***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
West	1.210***	1.190***	1.221***	1.180***	1.165***	1.545***	1.729***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Education	1.056***	1.057***	1.055***	1.058***	1.047***	1.064***	1.076***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Family Income	1.418***	1.475***	1.510***	1.500***	1.488***	1.392***	1.281***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
In Poverty	0.858***	0.918***	0.959***	0.879***	0.890***	0.824***	0.850***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Constant	0.423***	0.375***	0.441***	0.356***	0.465***	0.496***	0.651***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.002)	(.002)
N	64,047	65,332	74,337	79,339	77,066	82,986	77,182

*p≤.05 **p≤.01 ***p≤.001

Standard errors are in parentheses.

From 2009 to 2015, men were consistently less likely than women to have health insurance coverage. For example, in 2015, men were 34.9 percent less likely (.651 – 1 = -.349) than women to have health insurance. The results across all years do not support my hypothesis (H2) that men are more likely than women to have health insurance coverage. This could be because women have many more health care concerns such as infant care, cancer screenings, and reproductive health, many of which can be covered through health insurance coverage. Additionally, men tend to take illness less seriously (McNeal et al. 2006) than women and may take health insurance less seriously than women as well.

In confirmation of my hypothesis (H1), individuals 26 and younger were less likely to have health insurance coverage than those aged 27 or older. One plausible explanation for this unexpected result is that younger people have few resources to acquire health insurance than their older counterparts. However, young people aged 26 or under did see an increasing likelihood of having health insurance coverage since 2010 and especially since 2011. In 2009, they were 43.9 percent less likely (.561 – 1 = -.439) to have health insurance than those 27 or older. By 2012, they were only 25.6 percent less likely (.774 – 1 = -.256) to do so. Their odds decreased slightly in 2015, being 26.9 percent less likely (.731 – 1 = -.269) than individuals 27 or older to have health insurance coverage. These findings indicate that the new 19 provision had a significant effect on the health insurance of the young people aged 26 or under.

The data provide mixed evidence to support my hypothesis (H3) that racial minorities are less likely than whites to have health insurance coverage because blacks

and other races were indeed less likely than whites to have health insurance across all years, but Asians were more likely than whites to have health insurance across all years. The likelihood for blacks to have health insurance compared to whites fluctuated from 2009 to 2015. In 2009, blacks were 14.3 percent less likely (.857 – 1 = -.143) than whites to have health insurance; however, their likelihood of having insurance increased in 2012 and 2014 but decreased again in 2015 to 16 percent less likely (.840 – 1 = -.16) than whites to have health insurance coverage. The increase in odds in 2014 may be a result of the health insurance marketplace going fully active to the general public. A possible explanation for the decrease in 2015 is that many insurance providers began withdrawing from the health insurance exchange, which resulted in limited options and increasing costs for the ACA. Other races saw increased odds of having health insurance since 2010 with fluctuations. Asians were more likely than whites to have health insurance coverage with increasing odds from 3.3 percent more likely (1.033 – 1 = .033) in 2009 to 28.9 percent more likely in 2014 and 41.4 percent more likely in 2015 to have health insurance coverage than whites. The sizeable increases in 2014 and 2015 could also be attributed to the health insurance marketplace that went live in 2014.

As hypothesized (H4), Hispanics were less likely than non-Hispanics to have health insurance coverage in all the seven years. In 2009 they were 46.7 percent less likely (.533 – 1 = -.467) than non-Hispanics to have health insurance coverage. Their odds of having health insurance slightly increased from 2010 to 2012 and decreased since 2013. The full implementation of the ACA did not help them much. In 2015, Hispanics

were 49 percent less likely (.51 – 1 = -.490) than non-Hispanics to have health insurance coverage.

Coinciding with my hypothesis (H5), respondents who were currently married were more likely than those who were not currently married to have health insurance coverage from 2009 to 2015. However, the odds of having health insurance for the currently married slightly decreased from 1.582 times as likely as the odds for people who were not married in 2009 to 1.538 times in 2015 with fluctuations over time.

The results for the foreign-born are interesting. As expected, the foreign-born were less likely than the native-born to have health insurance coverage in all the seven years. However, the effect of the ACA on the health insurance of the foreign-born appeared to be significant. In 2009, the foreign-born were 11 percent less likely (.890 -1 = -.110) than the native-born to have health insurance coverage. However, by 2015 the foreign-born had been only 0.4 percent less likely (.996 – 1 = -.004) than the native-born to have health insurance coverage, or they almost had had the same chance as the native-born to have insurance. The similar trend can be observed between 2010 and 2014, except for 2011.

As hypothesized (H7), non-U.S. citizens were less likely to have health insurance coverage than U.S. citizen across all years. The effect of the ACA on the health insurance of non-citizens seemed to be trivial or even negative. Before the ACA in 2009, non-citizens were 68 percent less likely (.320 – 1 = -.680) to have health insurance coverage than U.S. citizens. But in 2015, they were 75.5 (.245 – 1 = -.755) percent less

likely than U.S. citizens to have health insurance. Only in 2011, non-citizens had slightly greater odds of having health insurance than they were in 2009.

As hypothesized (H11), all other regions were more likely than the South to have health insurance coverage. All regions experienced increases in their likelihood to have health insurance coverage over the seven-year span, and some regions like the West experienced notable increases. The West had a large increase from 21 percent in 2009 up to 72.9 percent more likely than the South by 2015. Most notably in 2015 the Northeast grew to being 1.081 times more likely than the South to have health insurance coverage. The North Central/Midwest grew from being 31 percent more likely than the South to have coverage in 2009 to 47.2 percent more likely by 2015.

As hypothesized (H8), as education increased so did the odds of having health insurance coverage from 2009 to 2015 with some fluctuations over time. From 2009 to 2013, for each level increase in education, the odds of having health insurance coverage increased by around 5 percent. After the ACA took full effect, the odds increased to 6.4 percent in 2014 and 7.6 percent in 2015.

As anticipated (H9), family income showed a positive relationship with the odds of having health insurance coverage for all seven years. The effect of family income on the likelihood of having health insurance coverage increased in 2010 and 2011 but steadily decreased after 2011. The reason for this declining effect of family income on health insurance coverage is unclear.

Consistent with my hypothesis (H10), those living below the poverty line were less likely to have health insurance coverage than those at or above the poverty line

across the years of 2009 to 2015. However, the effect of poverty on health insurance was mixed with gains and losses over time. In 2009, people below the poverty line were 14.2 percent less likely (.858 – 1 = -.142) than people at or above the poverty line to have health insurance coverage. This figure decreased in 2010 to 8.2 percent (.918 – 1 = -.082) less likely and again in 2011 to 4.1 percent less likely (.958 – 1 = -.041) than people at or above the poverty line to have health insurance coverage. By 2014 this figure had increased again to 17.6 (.824 – 1 = -.176) percent less likely and in 2015 to 15 percent less likely (.850 – 1 = -.15) than people at or above the poverty line to have health insurance coverage.

CHAPTER VI

CONCLUSION

With the ACA's fate currently in question under the Trump administration it is important to objectively assess the strengths and weaknesses of the current U.S. health insurance coverage policy. This chapter summarizes the findings that answer my two research questions, discusses the implications of these findings for research and the ACA, and points to the direction for future research.

SUMMARY OF THE FINDINGS

For the first research question, it can be observed from the descriptive analysis that the national average for health insurance coverage did in fact increase from 82.2 percent in 2009 to 89.4 percent by 2015, which was a 7.2 percent increase. As seen in Table 1 and Figure 1, the national average rate began to decrease slightly from 2009 to 2010. The U.S. was finally coming out of a recession and a major piece of legislation over healthcare for the entirety of the U.S. was just passed with specific elements taking effect in certain years. Conditions taking effect immediately included the new 19 provision. The years 2011-2013 witnessed gradual increases in health insurance rates as a result of the partial implementation of the ACA. After the ACA went into full effect with the healthcare marketplace going live in the entire country in 2014, a notable uptick in the national average rate was evident and continued into 2015.

The results of the bivariate analyses indicate that the health insurance rates for all categories of age, gender, race, Hispanic ethnicity, marital status, nativity, U.S. citizenship status, region, education, family income, poverty status, and preexisting health conditions registered noticeable increases in 2014 and 2015 after the ACA took full effects. In particular, the new 19 category (i.e., those under 27) saw a 14.7 percent increase in health insurance rate from 2009 to 2015. Blacks, Asians, and especially other races made gains of 9.3 percent, 9.5 percent, and 13.2 percent in health insurance rate, respectively. Hispanics made gains of 14.4 percent across seven years. The foreign-born experienced a noticeable increase of 12.9 percent in health insurance rate from 2009 to 2015. Non-U.S. Citizens increased health insurance rate by 17.7 percent in the same period. People living below the poverty line increased health insurance rate by 15 percent during the seven-year period. People with all preexisting health conditions saw increases in health insurance rates. These outcomes evince that the full implementation of the ACA along with the launch of the healthcare marketplace had a positive effect on health insurance coverage.

For the second research question, the results of the logistic regression analysis are congruous with my expectation that age, gender, race, ethnicity, marital status, nativity, citizenship status, education, family income, geographical region, and poverty level should be significant predictors of health insurance before and after the implementation of the ACA because the logistic regression coefficients and odds ratios of these predictors were indeed highly significant at the 0.001 level or beyond in 2009 and after. The relationships between the predictors and the likelihood of having health insurance are

largely consistent with my hypotheses for all the seven years, except for gender and race. For example, young people under the age of 27 were less likely than those aged 27 or above to have health insurance coverage. Hispanics were less likely to have health insurance coverage than non-Hispanics. Currently married people were more likely to have health insurance coverage than those not currently married. The foreign-born were less likely than the native-born to have health insurance coverage. Non-U.S. citizens were less likely to have health insurance coverage than U.S. citizens. Residents in the Northeast, Midwest, and West were more likely to have health insurance coverage than those in the South. More educated people were more likely to have health insurance coverage than those less educated. People with a higher level of family income were more likely to have health insurance coverage than those with a lower level of family income. People living under poverty were less likely to have health insurance coverage than those not living under poverty. The effect of race partly aligns with my hypothesis. Blacks and other racial groups were less likely than whites to have health insurance coverage, but Asians were more likely than whites to have health insurance coverage. The only variable that contradicts my hypothesis (H2) is gender as men were actually less likely to have health insurance coverage than women probably because women have more health care needs and take health care more seriously than men.

I hypothesized (H1) that youngsters aged 26 or below should have a greater likelihood of having health insurance after the passage of the ACA than before the ACA since the new 19 provision went into effect immediately. My hypothesis was confirmed by the results of logistic regression analysis because the youngsters in the new 19 group

indeed witnessed significantly greater odds of gaining health insurance after the partial implementation and especially full implementation of the ACA than they did before the ACA.

I also hypothesized (H6) that the foreign-born, racial minority groups, Hispanics, and people living under poverty should see increased odds of having health insurance after the full implementation of the ACA than before its full implementation because the ACA was designed to help out more disadvantaged groups. However, this hypothesis is only partly borne out. The foreign-born were generally much more likely to obtain health insurance after the ACA than they were before the ACA. In fact, in 2015 they were almost paralleled with the native-born in the odds of having health insurance. Asians and other races had greater chances of gaining health insurance after the ACA than they did before the ACA, but the odds for blacks to gain health insurance coverage went up and down from 2009 to 2015. For Hispanics, the odds of getting health insurance increased slightly from 2010 to 2012 compared to 2009 but decreased after that; the full implementation the ACA starting in 2014 did not help them. Similarly, for people living under poverty, the likelihood of gaining health insurance rose modestly from 2010 to 2013 compared to 2009 but slightly declined in 2014 and 2015.

IMPLICATIONS OF THE FINDINGS

The ACA overall had a positive effect on the national health insurance rate and across many groups. The 7.2 percent increase in national average health insurance rate translates into roughly 22.5 million more people who acquired health insurance coverage from 2009 to 2015. The gradual increases in health insurance rates from 2011 to 2013

and significant increases in the insurance rates since 2014 show that the ACA did effectively increase the health insurance rate of the nation. However, roughly 10.6 percent of the country still remains uninsured, and Hispanics, blacks, non-citizens, and the impoverished would be recommended targets for further increasing the insurance rates.

For gender my hypothesis (H2) was not supported as men ended up being less likely than women to have health insurance coverage. Men's results in the logistic regression analysis remained largely consistent across all years with minor fluctuations. Despite research from Simpson and Cohen (2017) showing that men are more often provided insurance through their employer than women with women claimed as a dependent, based on the findings here women are more likely to have health insurance coverage. As seen in the bivariate analysis, men lagged only slightly behind the national average, but were consistently making gains in that analysis. Improvements should be considered to better address this discrepancy between genders in health insurance coverage.

The results of this study suggest that the new 19 provision significantly increased the health insurance of individuals aged 26 or younger. It was evident from the bivariate analysis that the percentage of individuals aged 18 to 26 saw an overall increase from 69.5 percent in 2009 to 84.2 percent by 2015, an increase of 14.7 percent across a seven-year span. The findings of the logistic regression reveal significant increases in the odds of gaining health insurance after the ACA. These results indicate the effectiveness of the

new 19 provision. Hence, any plan to refine or replace the ACA should consider the retention of this provision.

The findings that the health insurance rates for people with variety types of preexisting conditions increased significantly after the full implementation of the ACA in 2014 and 2015 suggest that the preexisting condition provision helped many people with health conditions to gain health insurance and should be retained in the any healthcare reform. Any attempt to repeal and replace this provision could potentially be detrimental to the people with these types of conditions across the country, and more so if Medicaid and Medicare were cut completely.

The finding that the South of the country was less likely to have health insurance coverage than all other regions suggests that the Medicaid expansion was pivotal in providing health insurance coverage to many people residing in those regions. According to the Kaiser Family Foundation (2017a), in the Northeast, all nine states adopted the Medicaid expansion; in the Midwest, only five of the twelve states or 41 percent adopted the expansion; in the South, only six out of seventeen or 35 percent of the states accepted the expansion; in the West, ten out of thirteen or 77 percent of states accepted the expansion. What is most remarkable from the bivariate analysis results is that up until 2013 the West and the South were relatively similar in percentage of people who had health insurance coverage; by 2014 and 2015, however, the West had surpassed not only the South but also the national average rate slightly and the Midwest. The evidence suggests a possible important role of Medicaid expansion in the increase in the health insurance rate. The implication is that for the South to catch up to the rest of the country,

the Medicaid expansion should be considered in addition to other options in order to increase access to health insurance coverage, especially for disadvantaged communities.

The finding that the foreign-born almost reached parity with the native-born in the likelihood of having health insurance coverage by 2015 suggests that the ACA is working well for the foreign-born. However, the ACA might be in need of some slight adjustments since, according to the bivariate analysis, the foreign-born were still well behind the national average rate for health insurance coverage.

Many findings in this study are consistent with what is found in the existing literature. For example, individuals with a higher level of education, a higher level of family income, being above the poverty line, and being married are more likely to have health insurance coverage than their respective counterparts (Chatterjee 2016; Hegenauer 2016; Kong 2010). This is obviously a good thing, but the more disadvantaged groups by and large still remain below the national average for health insurance coverage overall.

Findings for Blacks, other races, Hispanics, non-U.S. citizens, and people below the poverty line show signs of needed improvement and amendments to the ACA. After the initial gains, all five groups experienced a decreased likelihood to have health insurance coverage at certain points (Blacks in 2015, other races in 2015, Hispanics after 2010, non-U.S. citizens after 2011, and people in poverty after 2011). These results indicate issues within the ACA that must be addressed in order to better serve these disadvantaged groups. What will significantly hurt their chances further is if the ACA is completely repealed without a suitable replacement, and if Medicare experiences any cuts.

The ACA was an attempt to address these issues in order to facilitate the needs of these disadvantaged groups that need health insurance coverage. However, as observed in this study more work is needed to better address this area in particular. Key among these would be addressing the Medicaid expansion issue, because as previous literature has already shown this is needed for many minority groups to even qualify for coverage under the ACA. This also means that cutting funding to Medicaid, which the current administration is considering at the moment, would affect many more people than it is trying to help due to the costs it would incur. Considering the fact that many of the states in the South that opted not to take the Medicaid expansions in the first place have some of the highest impoverished populations in the country (Adepoju et al. 2015), this would only serve to decrease any gains these states made, while also affecting states in all other regions that actually took the expansions and experienced better results because of it.

What this means is that all future considerations for healthcare in the United States must be done in such a way to further help these disadvantaged groups, rather than to make it harder for these groups to acquire the coverage needed or to take away their coverage. The ACA was a first step and in most cases succeeded, but still further improvements are needed to better address the needs of minority and impoverished groups. Finally, if Congress attempts to repeal the ACA without any type of replacement and keep these proposed cuts on Medicaid, then such a plan would undoubtedly be a net loss in comparison to what the ACA has accomplished over the course of seven years. It must be pointed out that health insurance coverage is not simply a medical issue but more

importantly is a political issue. Ideological differences surrounding the issue of healthcare coverage in the United States must be taken into account.

LIMITATIONS AND FUTURE RESEARCH

Despite the advantages of NHIS, some limitations of the data should be acknowledged. The main limitation of the samples is that some important predictors are not available or not ideal. For example, preexisting condition is an important predictor that makes a big difference before and after the full implementation of the ACA because after January 1, 2014, insurance companies can no longer exclude clients based on their preexisting conditions, but the NHIS does not contain a summary measurement of it. Because of the significant loss of cases in the models when using preexisting conditions, these determinants are not included in the final logistic regression models. Employment status is not included because a suitable employment variable contains too many missing cases and other employment variables are not ideal measures of employment status. Legal status of the foreign-born is also important but unavailable in the NHIS. Despite these drawbacks, the NHIS is the best data available to answer our research questions.

Future research should include employment status, both full-time and part-time, to determine how likely each group is to have health insurance coverage. Preexisting conditions need further research because this was a significant provision in the ACA. Gender difference in health insurance coverage needs further confirmation. Racial and ethnic groups will need continuous study to track their rates of change as the ACA continues on into further years, or if it is hopefully replaced with an improved version that helps these groups further. Finally, further analysis of the ACA should be conducted

as new NHIS data after 2015 becomes available. This will allow for the most up to date policy analysis and provide knowledge to our lawmakers on what will work best for the country.

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