

Spring 2015

# The Affordable Care Act and Health Behaviors of the Young

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# The Affordable Care Act and Health Behaviors of the Young

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Undergraduate Honors Thesis

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Spring 2015

## **Abstract**

The Affordable Care Act was passed in 2010, and immediately enacted a provision that allowed young adults to remain on their parents' insurance until age 26. In my thesis, I estimate the impact of this provision on access to insurance, and health behaviors of the young. Health behaviors include primary care visits, vaccinations, and emergency room visits. I use a difference-in-differences approach using young adults aged 23-25 as a treatment group and adults aged 27-29 as a comparison group. The expansion provision of the bill led to higher rates of insurance coverage for young adults. There were no statistically significant effects on preventative or primary health care measures in the full sample. Minorities and those without college degrees experienced the highest increases in insurance coverage.

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## Introduction

In 2010, the Affordable Care Act was passed in Congress, revamping the healthcare system in the U.S. Most of the provisions of the Affordable Care Act were set to begin in 2014, 4 years after its enactment<sup>1</sup>. One of the provisions enacted in 2011 allowed young adults to remain on their parent's insurance plans until age 26<sup>2</sup>. The provision was enacted to boost insurance rates among young adults in their twenties, a group with historically low insurance rates. This paper seeks to answer the question: What are the changes in health behaviors of the young as a result of the ACA? First, how has the ACA affected insurance rates<sup>3</sup> for young adults; and second how has the ACA affected the use of primary and preventative health services such as doctor's visits, vaccinations, and emergency room visits for this group.

The ACA has been a highly debated and legally contested piece of legislation since it's passing<sup>4</sup>. The costs of the legislation are projected at around \$1.2 trillion<sup>5</sup>. With such high costs many argued that it was unlikely for the benefits of the bill to outweigh the costs. Advocates for the legislation argued that it would be effective in ensuring access to care for young adults. Advocates also argued that the ACA would encourage the use of preventative and primary care measures. We can use data on use of insurance and health services; post ACA, to gauge the success of the act in meeting its goals.

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<sup>1</sup> Subtitles C-F of the Patient Protection and Affordable Care Act contain health insurance market reforms for all Americans, including the establishment of insurance exchanges.

<sup>2</sup> Sec. 2714 of the Patient Protection and Affordable Care Act, Public Law 111-148

<sup>3</sup> Rate refers to the rate of participation in health care insurance programs

<sup>4</sup> Dolgin & Dieterich report 5 court cases contesting the ACA, as well as challenges by the states and congress in their paper "The Social and Legal Debate About the Affordable Care Act."

<sup>5</sup> Cost estimates come from the Congressional Budget Office's cost projections for 2015-2025.

This information can better inform legislators and shape their decision-making moving forward with healthcare reform. It is also worth noting the effects that the legislation has had on the health practices of young adults.

Since the provision was enacted in 2010, there are three years of available data for young adults, which provides an opportunity for analysis. This opportunity is not available for analysis on other ACA provisions affecting the rest of the population, since most of the other major changes were not set to take place until 2014. There has been minimal analysis on health outcomes resulting from the Affordable Care Act, because the act is still in its early stages.

I plan to add to the literature by examining the use of primary care services specifically. Since increasing use of this type of care was a goal of the legislation this is where the focus of my analysis lies. Emergency room visits will be included as an outcome, because changes in E.R. use can be related to the use of primary and preventative care services<sup>6</sup>. I also add to the literature by including HPV vaccinations in my analysis. HPV vaccinations are recommended by physicians because of their effectiveness in preventing the onset of cervical cancer<sup>7</sup>. They are also targeted towards the young because HPV is a sexually transmitted disease, with higher rates in younger populations, who engage in more sexually risky behavior.

Part I of the paper will precede with a literature review. Part II will contain information on my data and methodology. This will be followed by a presentation of results in Part III; with discussion and suggestion for further work following in Part IV.

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<sup>6</sup> A relationship between E.R. visits and primary care has been suggested by Hernandez-Boussard et. al. as cited in my literature review.

<sup>7</sup> Information on HPV Vaccinations was provided by the Centers for Disease Control and Prevention.

## **Insurance and Health Behavior Literature Review**

The literature thus far on insurance and its effect on health behaviors overall is inconclusive. Buchmueller et. al. compile literature on health insurance and primary care visits and find that insurance increases care by 1-2 visits per year. They also find that these increased visits lead to an increase in the utilization of preventative medical care (Buchmueller et. al., 2005). This would suggest that primary care visits would increase for groups gaining insurance coverage as a result of the ACA.

Dave & Kaestner discuss the role of ex-ante moral hazard on health behavior in their 2009 paper. The theory of ex ante moral hazard reasons that after gaining insurance, individuals are more likely to act recklessly because costs of injury go down. The authors study the effect of gaining Medicare coverage on health behaviors and report that gaining coverage reduces prevention and increases risky health behavior among men (Dave & Kaestner, 2009). The authors originally propose that the effects of ex-ante moral hazard may be offset by increased access to medical knowledge through physician visits. If this were the case then the effects of ex-ante moral hazard would be small. The authors find a large increase in moral hazard for men suggesting that increased knowledge did not outweigh increases in risky behavior (Dave & Kaestner, 2009).

Courtemanche and Zapata tested the theory that increased access to insurance leads to lower reported health status. Increased access to health information through health professionals may cause individuals to be more skeptical about their health status. Individuals would then be less likely to consider themselves as being in good health. The authors find the opposite, with increased insurance leading to more individuals reporting excellent or very good health status after gaining insurance. They suggest these results



may be attributed to a warm glow effect experienced after acquiring insurance. In this scenario individuals may overstate their health status because having insurance provides them with a feeling of safety (Courtemanche & Zapata, 2013).

Differences in health behaviors across different gender, race, and education groups have also been examined in previous literature. Gender differences may occur because of differences in risk adversity. Jianakoplos and Bernasek study risk adversity, and find that women are more risk averse in their financial decisions than men. This suggests that women may exhibit higher rates of insurance coverage than men, and that women may have had higher rates of insurance pre-ACA than men (Jianakoplos & Bernasek, 1998). Bertakis et.al. find that women utilize health services more than men, and they spend more for health services (Bertakis et. al., 2000). Barbaresco et. al. suggest this in their study of the ACA on preventative health measures. They predict males may not use care unless cost is low, so males would experience larger uptakes if coverage becomes more affordable (Barbaresco et. al., 2015).

Differences in education may signal different levels of access to a parent's insurance plan. Barbaresco et. al. also suggest that those with college educations are more likely to have a parent with an insurance plan. If this is the case insurance gains resulting from the ACA would be observed for those with college educations. The authors also suggest that elasticity of medical care is the strongest for low-income individuals. If this is the case reductions in insurance costs would result in high uptakes by low-income individuals. This effect may be experienced by those without college educations and minorities (Barbaresco et. al., 2015). Minorities and those without college educations are

historically low-income groups<sup>8</sup>, which may lead them to experience high insurance uptakes, post-ACA.

These results are inconclusive on how we might expect the young population to react to insurance gains. The literature reviewed in the next section and my study both aim to provide more conclusive results on how young adults react with more affordable access to care.

### **Affordable Care Act Literature Review**

By extending health insurance to the young the ACA promised to increase insurance rates by making them more affordable for this group. Before the ACA, young people were often less likely to be insured for specific and identifiable reasons. The first being that most entry level jobs worked by those in their twenties do not offer health insurance; so not many adults in their twenties have access to health insurance through their employer. Without access through an employer, health insurance is often too costly for young people. Adults in their twenties often do not value insurance as much as adults in older age groups because they perceive themselves as being in good health. A 2006 study by Park et.al. concluded that 37.7% of males and 30.7% of female's aged 18-24 were uninsured. The same study also concluded that this lack of insurance resulted in young adults foregoing care with 35.1% of males and 12.8% of females reporting that they had no contact with a health professional (Park et.al., 2006).

Before the ACA required federal expansion, a number of states had adopted statutes that required insurance providers to expand coverage for young adults. A 2012 study by Cantor et. al. reports that 31 states had already expanded young adult coverage.

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<sup>8</sup> Information on historically low income and education groups was provided by the American Psychological Association

Despite having more access to insurance, however, Cantor et. al. report that states did not experience higher levels of insured young adults. This may be because state laws were less inclusive than federal law. Some expansions were restricted to young adults who were not married, and some did not apply to employer-funded plans (Cantor et. al., 2012).

Several papers have studied the ACA and increased insurance rates. They found that federal coverage expansions were more inclusive and led to higher rates of insurance for young adults. Cantor et. al. report a very rapid response of young adults to the policy with 716,000 young adults gaining coverage in 2010 alone (Cantor et.al., 2012).

Sommers and Kronick report an 8.3% increase in coverage by 2012, which equated to about 2.5 million young adults (Sommers & Kronick, 2012). Cantor et. al. suggest that these results are attributable to the wide knowledge of the ACA, relative to the state expansions. They also suggest that because of the “weak economy” at the time more young adults were lacking jobs and attendant plans through their employers: and were eager to gain coverage through their parents as a result (Cantor et. al., 2012).

Results from Cantor et. al. suggest that the combination of expanded state coverage as well as expanded federal coverage suggest higher rates of insurance take-up. They suggest “state reforms ‘primed the pump’ for rapid take-up under the federal rules” (Cantor et. al., 2012). As a result those that were denied under state laws will gain coverage in large numbers over time as awareness increases (Cantor et. al., 2012)

Antwi et. al. study insurance effects of the ACA, separating out by type of private insurance. They find that young adults swapped out their own private, or employer sponsored insurance (ESI) plans, for their parents employer sponsored plans: with a 3.1%

decrease in own ESI and a 9.6% increase in parent ESI. They find higher rates of young adults switching to parent plans if their parents already had family plan coverage. In this case the cost of joining the parent plan is low. If the parents did not have a family plan, and had non-family coverage the costs of adding dependents is high (Antwi et. al., 2012).

The secondhand effects of young adults becoming more insured have been studied in numerous papers. Marcus Dillender studied the labor market outcomes and found that higher insurance rates led to higher wages for young adults, because of the gains in human capital and increased labor market flexibility (Dillender, 2014).

Three papers that studied the effects of higher insurance rates on cancer outcomes, inpatient visits, and mental health treatment reported various health outcomes for the young. Aizer et.al. concluded that higher rates of insurance coverage led to better outcomes for individuals with cancer, meaning decreased death rates and decreased presentation of disease (Aizer et. al., 2014). Saloner and Cook found that the expanded coverage lead to more young adults seeking treatment for mental illnesses (Saloner & Cook, 2014). A second study by Antwi et. al. found an increase of 3.5% of inpatient visits, which are hospital visits that do not occur through the E.R. They also find a increase of 9% for hospital mental health care visits, most of which do occur through the E.R. These results suggest that young adults are utilizing their expanded access to medical care. Antwi et. al. also find uninsured hospitalizations amongst young adults have declined 2.9% as a result of the ACA (Antwi et. al., 2013).

Hernandez-Boussard et.al. found that the increased coverage decreased emergency room visits for the young (Hernandez-Boussard et. al., 2014). These improved health outcomes suggest my hypothesis of increased use of preventative care is plausible,

considering decreased use of hospital emergency rooms. High rates of emergency room visits are often associated with low insurance rates because it suggests that people are using the emergency room as their primary source of care, rather than seeing a doctor. Less emergency room visits may mean more trips to physicians, more knowledge about preventative care measures, and more use of preventative vaccines.

In the most recent study conducted by Barbaresco et. al., preventative care measures, self-reported health, and risky behaviors are examined using data from the BRFSS<sup>9</sup>. They find that the ACA did result in more young adults having a primary care doctor, but improved access did not lead to increased utilization of preventative care. They examined changes in three preventative health care measures including flu shots, pap tests, and checkups, none of which were statistically significant. They report varying results for impact on risky behaviors, the most interesting of which is a reported increase in risky drinking. They attribute this to the theory of ex ante moral hazard proposed by Dave & Kaestner. The authors also find an increase in self-reported “excellent” health, and a reduction in body mass index (Barbaresco et. al., 2015).

The literature thus far is suggesting increased rates of insurance among young adults as a result of the ACA. Improved health outcomes for the younger population have also been observed as a result of extended coverage indicating that increased access to healthcare is being utilized. The results found in the papers I have reviewed will be useful as I examine how extended coverage has affected health behaviors of the young. I will conduct a similar empirical analysis to those conducted in the reviewed papers, to test the

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<sup>9</sup> BRFSS stands for Behavior Risk Factor Surveillance Survey, conducted yearly by the CDC.

hypothesis that use of care has increased. The results will have important policy implications on the debates surrounding the ACA, and will draw useful conclusions for policy makers and the young adult population.

### **Data**

Cross-sectional data comes from the Integrated Health Interview Series (IHIS), which compiles data from the National Health Interview Survey (NHIS). The Centers for Disease Control (CDC) conduct the NHIS yearly to ascertain health status, health behaviors, and demographic characteristics of the non-institutionalized population. The cross-sectional data has clear advantages. It contains both pre and post-ACA time periods, which is essential for the difference-in-differences (diff-in-diff) analysis. It also contains measures of preventative and primary health such as doctor's visits, screenings and vaccinations; as well as information on insurance status, and type of coverage. These are important variables in my analysis as they assess changes in insurance coverage and changes in health behavior.

I use two pre-ACA years, 2008 and 2009, in my model. I use three post-ACA years, 2011-2013. The IHIS data only goes through 2013. 2010 is excluded from the sample because insurance providers were not required to extend insurance to young adults until 2011. The three post-ACA years are separated out by respective year to analyze effects across time.

I split observations of young adults into two groups based on age. A treatment group is formed with younger ages, and a comparison group formed with older ages. Treatment group selection has an important role in the analysis as the affected group, ages 19-25; vary depending on their age. Most importantly a number of young adults

aged 19-22 could be college students, and may have access to insurance as a result of their student status. Cantor et. al. exclude current students from their treatment sample of 19-25 year olds (Cantor et. al, 2012). The IHIS data does not contain information on current student status. To account for this I use a treatment group of ages 23-25 as suggested by Barbaresco et.al. They suggest using a narrower age range, specifically 23-25 year olds, because results are well defined for this group (Barbaresco et. al., 2015). Slusky also suggests the use of a narrower age range, after performing placebo tests on previous ACA diff-in-diff models. The models with broader age range failed placebo tests, suggesting a more narrow age range produces more robust results (Slusky, 2013). I use adults aged 27-29 as the comparison group, again following the model used by Barbaresco et. al (Barbaresco et. al., 2015). Adults aged 26 are removed from the sample as the IHIS data does not contain insurance status by month, or birth month of the participants. Without this information insurance status at age 26 cannot be ascertained, and may vary due to time of the year.

I use eleven health-outcome dependent variables, which are all binary. One dependent variable indicates insurance status. Two outcomes report good health status, and improved health status relative to the year before. Health variables are self-reported and are included to ascertain the health status of the population, and to observe any changes in health status. The rest of the outcomes measure use of primary and preventative care services. Four variables are included for doctor's visits, separating out by type of visit. These include general doctor, gynecologist, mental health, and therapist visits. Preventative care variables include flu shots, pap tests, and HPV

vaccinations. Emergency room visits are included, as changes in use of the emergency room may be related to the use of health services.

I also include a number of controls in the model. Binary variables are included for sex, education level, race, region, and employment status. Education is split into two binary variables one for those who have attended college, and one for those who have not.<sup>10</sup> Income is excluded from the model because of the small number of respondents. Results of all regressions including income as a control are included in the appendix for reference. Age and year fixed effects are also included in the model. The IHIS does not contain state variables, so state fixed effects are not included in the model.

Table 1 contains summary statistics on all 11-outcome variables for 2008 and 2009, separating out by treatment and comparison group. Sample sizes differ, as results from the IHIS are self-reported. Samples are also smaller for gynecologist visits and pap tests as these only contain results for the female sample. Means are similar across the two groups for 2008 and 2009 with the exception of insurance, HPV vaccinations, and pap tests. The younger sample is more likely to get HPV vaccinations, but less likely to have insurance and to get pap tests.

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<sup>10</sup> Degrees higher than undergraduate are not included as controls, some college is included in the college binary variable.



Table 1: Pre-ACA Statistics for Outcome Variables

Variable	Treatment			Comparison			Diff. in Means	T-Stat
	mean	sd	obs	mean	sd	obs		
Insurance Coverage	0.68	0.01	6,299	0.72	0.006	6,381	-0.04	-6.98***
Health Status	0.91	0.01	6,447	0.91	0.04	6,382	0.00	2.79***
Improved Health Status	0.78	0.01	691	0.78	0.006	735	0.00	0.95
Emergency Room Visits	0.32	0.01	2,678	0.31	0.007	2,429	0.01	2.42***
Doctor's Visits	0.59	0.01	2,430	0.60	0.007	2,681	-0.01	-1.71*
Gynecologist Visits	0.61	0.02	1,319	0.61	0.009	1,497	0.00	1.38
Mental Health Visits	0.10	0.11	2,432	0.11	0.004	2,683	-0.01	-1.42
Therapist Visits	0.07	0.009	2,431	0.08	0.004	2,682	-0.01	-1.41
Flu Shots	0.13	0.01	2,420	0.14	0.005	2,674	-0.01	-1.03
HPV Vaccinations	0.07	0.01	1,280	0.04	0.007	1,466	0.03	6.04***
Pap Tests	0.91	0.01	590	0.94	0.006	646	-0.05	-4.18***

Notes: The sample size for pap tests is reduced because data is only available for 2008; Sd= standard deviation obs= observations; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 2 contains the summary statistics for the demographic binary variables, again separated out by treatment and comparison. Sample sizes differ significantly for income, resulting in income being excluded from the model. Means differ for marital status, with the younger group being less likely to be married. Means also vary for income with the older group making more each year on average.

Table 2: Statistics for Demographic Variables

Variable	Treatment			Comparison			Diff. In Means	T-Stat
	mean	sd	obs	mean	sd	obs		
Black	0.15	0.36	51,190	0.14	0.35	51,113	0.01	3.81***
Hispanic	0.29	0.45	51,190	0.29	0.45	51,113	0.005	1.95*
Other Non-White	0.09	0.29	51,190	0.09	0.29	51,113	-0.004	-2.26***
Marital Status	0.29	0.45	50,792	0.50	0.49	50,753	-0.208	-69.84***
High School	0.27	0.44	51,190	0.25	0.43	51,113	0.02	7.21***
College	0.28	0.44	51,190	0.30	0.45	51,113	-0.02	-6.37***
Employment Status	0.90	0.28	41,057	0.93	0.25	42,144	-0.03	-12.24***
\$0-\$10,000	0.21	0.41	29,109	0.12	0.33	31,638	0.09	29.71***
\$10,000-\$25,000	0.43	0.49	29,109	0.31	0.46	31,638	0.12	30.80***
\$25,000-\$55,000	0.31	0.46	29,109	0.44	0.49	31,638	-0.18	-32.91***
\$55,000-\$75,000	0.02	0.14	29,109	0.07	0.26	31,638	-0.05	-30.06***
>\$75,000	0.008	0.08	29,109	0.03	0.19	31,638	-0.02	-25.90***
Female	0.51	0.49	51,190	0.52	0.49	51,113	0.02	3.51***
Northeast	0.15	0.36	51,190	0.15	0.35	51,113	0.003	1.34
West	0.28	0.45	51,190	0.28	0.45	51,113	-0.001	-0.37
Midwest	0.20	0.40	51,190	0.20	0.40	51,113	0.003	1.20
South	0.35	0.47	51,190	0.36	0.48	51,113	0.01	1.67*

Notes: se=standard deviation, obs= observation; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 3 reports the means in outcome variables for treatment and comparison groups, in the pre-ACA and post-ACA periods. The diff-in-diff means are also calculated. In the pre-period the treatment group had lower insurance, than the comparison group. The treatment group received more HPV vaccinations, but had lower average rates of primary care visits than the comparison group in the pre-period. The diff-in-diff means are significant and positive for insurance and HPV vaccinations, but not significant for any of the other primary care measures.

Table 3: Means for Outcome Variables

Variable	Pre-Period			Post-Period			Diff-in-Diff	T-Stat						
	Treatment	Comparison		Treatment	Comparison									
	mean	sd	obs	mean	sd	obs								
Insurance Coverage	0.68	0.01	6,299	0.72	0.006	6,381	0.74	0.04	50,420	0.81	0.02	50,527	0.09	4.98***
Good Health	0.91	0.01	6,447	0.91	0.04	6,382	0.89	0.03	51,062	0.89	0.01	51,014	-0.005	-0.04
Improved Health Status	0.78	0.01	691	0.78	0.006	735	0.81	0.03	5,487	0.82	0.01	5,838	-0.005	-0.35
Emergency Room Visits	0.32	0.01	2,678	0.31	0.007	2,429	0.30	0.04	20,950	0.29	0.01	22,342	0.005	0.28
Doctor's Visits	0.59	0.01	2,430	0.60	0.007	2,681	0.57	0.04	20,942	0.57	0.02	22,332	0.006	0.28
Gynecologist Visits	0.61	0.02	1,319	0.61	0.009	1,497	0.57	0.06	11,476	0.58	0.02	12,419	-0.02	-0.88
Mental Health Visits	0.10	0.11	2,433	0.11	0.004	2,683	0.13	0.03	20,952	0.13	0.01	22,361	0.006	0.46
Therapist Visits	0.07	0.009	2,431	0.08	0.004	2,682	0.06	0.02	20,959	0.07	0.02	22,355	0.004	0.37
Flu Shots	0.13	0.01	2,420	0.14	0.005	2,674	0.22	0.03	20,302	0.24	0.01	21,676	-0.01	-0.58
HPV Vaccinations	0.07	0.01	1,280	0.04	0.007	1,466	0.14	0.03	7,428	0.08	0.01	8,304	0.03	1.74*
Pap Tests	0.91	0.01	590	0.94	0.006	646	0.85	0.05	4,654	0.92	0.05	5,193	-0.04	-1.38

Notes: \* significant at 10%, \*\* significant at 5%,\*\*\* significant at 1%; se= standard deviation, obs= observations; pap tests only contain data for 2008 and 2013.

Trends in the outcome variables for the treatment and comparison groups for pre and post ACA years are presented graphically in Figure 1<sup>11</sup>. Treatment and comparison group similarity is important in my analysis, as my comparison group demonstrates how the treatment group would have behaved had it not been treated. Trends for the treatment and comparison group are similar before 2010 for the outcomes shown in Figure 1, reassuring my choice of comparison group. If the ACA changed the behavior of the treatment group, we would expect trends between the two groups to differ after 2010. Trends between the two groups remain similar in the post period for most variables included in Figure 1, with the exception of insurance and HPV vaccinations. These results are similar to those observed above from Table 3. I now turn to regression analysis

<sup>11</sup> I include graphs with well-defined means differing between the treatment and comparison groups. Graphs for outcome variables were omitted if means were too similar as the lines were situated on top of one another, resulting in graphs that were difficult to read.

to observe changes in the treatment group post-ACA, after having controlled for some important variables that could lead to selection in the age groups over time.

### Model

I use a diff-in-diff analysis to estimate the effect of the ACA on my 11 health related outcomes. The diff-in-diff will account for changes in the treatment group as a result of the provision, relative to the comparison group. The first difference controls for changes that are constant over time within the treatment group. The first difference is then the mean outcome of the treatment group in the after period subtracted by the mean outcome of the treatment group in the before period.

$$(\bar{Y}_A^T - \bar{Y}_B^T)$$

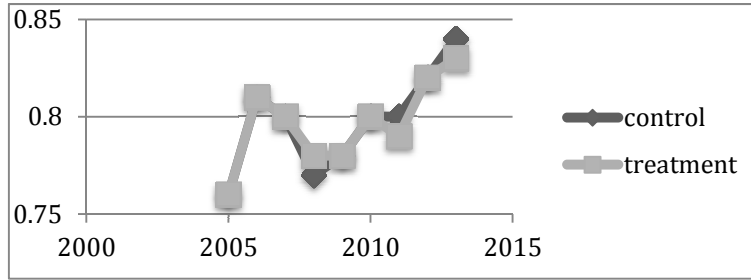
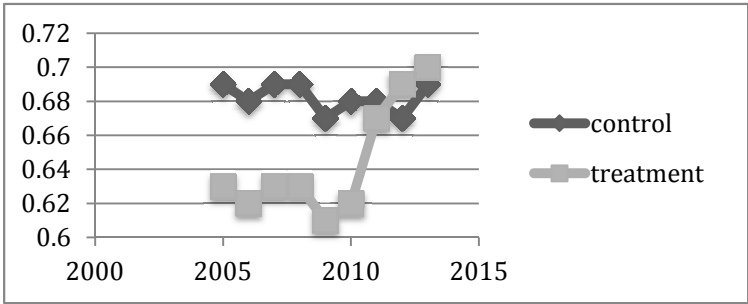
The second difference controls for changes in the dependent variables over time by using a comparison group not affected by the provision. This is the mean outcome for the comparison group in the post-period subtracted by the mean outcome for the control group in the pre-period.

$$(\bar{Y}_A^C - \bar{Y}_B^C)$$

Including both the first and second differences gives us the differences between the before and after periods, and the differences between those affected by the provision and those not affected. Subtracting between the first and second differences results in the difference in means between the treatment and comparison group, in the post period.

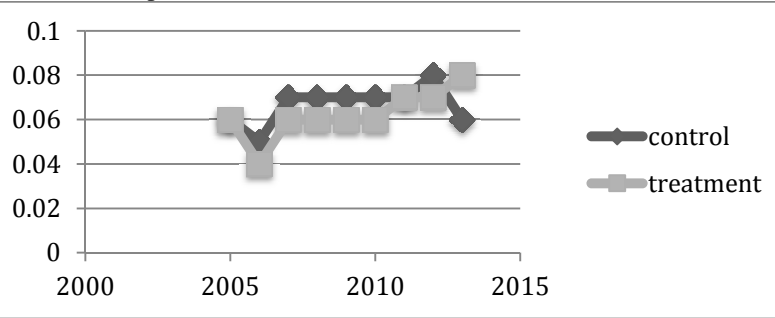
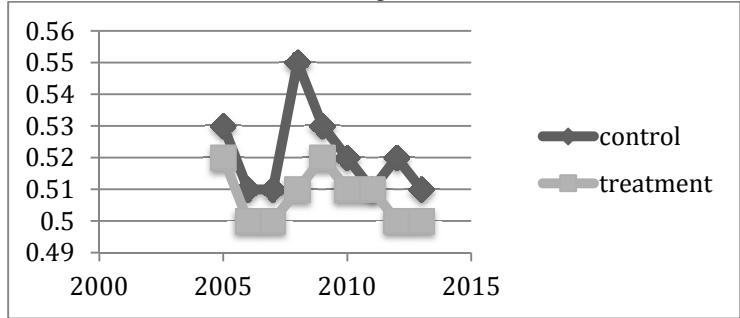
$$(\bar{Y}_A^T - \bar{Y}_B^T) - (\bar{Y}_A^C - \bar{Y}_B^C)$$

Figure 1



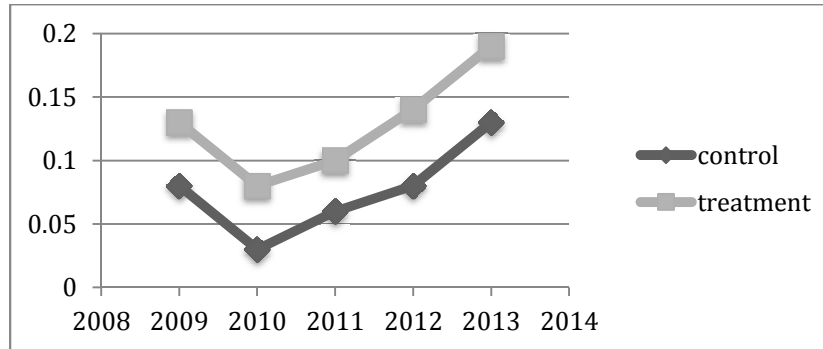
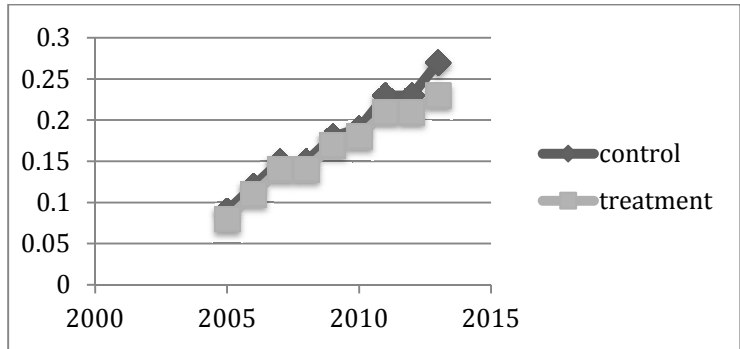
Insurance Coverage

Improved Health Status



Doctor's Visits

Mental Health Visits



Flu Shots

HPV Vaccinations

A main assumption of the analysis is that the two groups would have observed similar trends if the policy had not been implemented. This assumption is adopted to account for the concern that differences between the treatment and comparison group in the post period may not be attributable to the policy, but to underlying differences occurring between the two groups. If the two groups observed similar trends before the policy, then any changes in trends after the policy are likely a result of policy changes (Gertler et. al., 2011). It is impossible to test the parallel trends assumption, however if the treatment and comparison groups had similar trends before, then the comparison group is hopefully a good indicator for how the treatment group would have behaved had it not been treated. The parallel trends assumption cannot be tested because there is no way to measure how the treatment group would have behaved had they not been treated. The validity of this assumption can be tested graphically, demonstrated by graphs in Figure 1.

The parallel trends assumption can also be tested through regression analysis. To test the parallel trends assumption I run a diff-and-diff regression for all of my outcome variables using only pre-ACA years. I use 2006 and 2007 as my pre years, and 2008 and 2009 as my post years. I use the same treatment group and comparison groups that I use in my ACA model. The regression used to test the parallel lines assumption is:

$$y_{igtr} = \beta_0 + \beta_1(treat_g * trend_t) + \beta_2 X'_{igtr} + \alpha_g + \gamma_t + \varepsilon_{igtr}$$

Where  $y_{igtr}$  represents outcome “y” for individual “i” at time “t” in region “r.”

$\beta_1$  measures the mean difference between the treatment and comparison group in the trend period. Treat would only be a 1 for those in the treatment group, and trend would only be a 1 for trend years 2008 or 2009. If the parallel trends assumption is valid we would not

expect the coefficient on  $\beta_1$  to be statistically significant. If the coefficient on  $\beta_1$  is significant this would suggest differing trends in 2008 and 2009. If the coefficient on  $\beta_1$  is not significant it would suggest similar trends in 2008 and 2009, which would give validity to the parallel trends assumption.  $X'_{igtr}$  is a vector of demographic and regional variables.  $\alpha_g$  represents age fixed effects and  $\gamma_t$  represents year fixed effects.  $\epsilon_{igtr}$  is the error term. Table 4 presents the results from the trend regression.<sup>12</sup> None of the coefficients on the outcome variables are statistically significant. These results add validity to the parallel trends assumption because trends were similar for outcome variables in the years leading up to the ACA.

I use the following regression model to estimate the diff-in-diff treatment effect for my post-ACA years:

$$y_{igtr} = \beta_0 + \beta_1(\text{treat}_g * 2011_t) + \beta_2(\text{treat}_g * 2012_t) + \beta_3(\text{treat}_g * 2013_t) + \beta_4 X'_{igtr} + \alpha_g + \gamma_t + \epsilon_{igtr}$$

where  $y_{igtr}$  represents a health outcome for individual “i” of age “g” at time “t” in region “r”. Treat is binary variable representing the treatment group, with a 1 representing those aged 23-25 and 0 for ages 27-29. The three-year binary variables represent three post-ACA years, with the variable being a 1 only for the labeled year.  $X_{igtr}$  is a vector of demographic and regional variables that controls for changes in health behaviors attributable to demographic and regional differences.  $\alpha_g$  represents age-fixed effects, and  $\gamma_t$  represents year fixed effects. Age-fixed effects are included to control for underlying differences between the two groups.

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<sup>12</sup> Results for HPV vaccinations are not included because data on HPV vaccinations only goes back to 2008. Results for pap tests are also not included because there is only available data for 2008 and 2013.

Table 4: Trend Regression Results

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots	
Treat*Trend	-0.01 (0.03)	-0.00 (0.03)	-0.01 (0.02)	0.004 (0.02)	0.005 (0.03)	-0.006 (0.03)	-0.03 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.05 (0.04)	0.08 (0.04)	0.003 (0.05)	-0.009 (0.02)	0.01 (0.02)	-0.005 (0.01)	-0.01 (0.02)	0.04 (0.02)	0.02 (0.03)
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	-0.00 (0.02)	0.006 (0.02)	-0.01 (0.01)	-0.01 (0.01)	-0.007 (0.02)	-0.005 (0.02)	-0.01 (0.02)	-0.04* (0.02)	-0.01 (0.02)	0.01 (0.03)	0.06* (0.03)	0.07* (0.04)	0.01 (0.01)	0.02 (0.01)	0.002 (0.01)	0.003 (0.01)	0.04*** (0.01)	0.06*** (0.02)
2008	0.06** (0.03)	0.06** (0.03)	-0.002 (0.01)	-0.02 (0.01)	-0.03 (0.02)	-0.03 (0.02)	0.04 (0.03)	0.05 (0.03)	0.02 (0.03)	0.07** (0.03)	0.01 (0.04)	0.06 (0.05)	0.04** (0.02)	0.03 (0.02)	0.01 (0.01)	0.02 (0.01)	0.04* (0.02)	0.06** (0.02)
2009	-0.01 (0.03)	0.01 (0.03)	0.005 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.02 (0.02)	-0.003 (0.03)	-0.005 (0.03)	0.02 (0.03)	0.06* (0.03)	0.01 (0.04)	0.08* (0.04)	0.01 (0.02)	0.01 (0.02)	0.001 (0.01)	0.01 (0.01)	0.08*** (0.02)	0.11*** (0.02)
R-Squared	0.01	0.13	0.002	0.02	0.001	0.009	0.004	0.05	0.002	0.05	0.008	0.04	0.005	0.05	0.001	0.009	0.01	0.03
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	2,713	2,164	2,720	2,167	2,720	2,167	2,695	2,146	2,698	2,148	1,561	1,148	2,702	2,151	2,701	2,150	2,684	2,138

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 10%; pap tests and HPV vaccinations are excluded because they don't contain data for years before 2008.



Year fixed effects are included for a similar reason, to control for underlying differences occurring between the pre and post-ACA periods. I was not able to include state fixed effects in my model because the IHIS data does not contain information on state. Binary variables for post-period and for the treatment group are not included because of collinearity with the fixed effects terms.  $\varepsilon_{igtr}$  is the error term. The diff-in-diff estimators are the coefficients  $\beta_1, \beta_2, \beta_3$ . The interaction on these coefficients would only be 1 for an individual in the treatment group, in the post period.

### **Results**

Table 4 presents results from my baseline model. I report regression results with and without controls. At the bottom of the table I also report, the pre-treatment mean in order to determine the percent change in the outcome variables. The results suggest a large impact of the ACA on insurance rates for the treatment group. Insurance rates for 23-25 year olds increased by between 10-13 percentage points. It appears that the largest gains for this group occurred in the first two years of insurance availability, suggesting young adults experienced rapid uptake. This uptake represents a 14-19% increase in insurance for the treatment group.

Year fixed effects show statistically significant declines in the mean insurance rate for the sample population as a whole. Declining insurance rates for the whole population sample may result in increases in insurance for the treatment group being slightly overstated, but adding year fixed-effects controls for this possibility.

Table 5: ACA Regression Results

	Insurance Coverage	Good Health	Improved Health Status	E.R. Visits	Doctor's Visits	Gyn. Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations	Pap Tests		
Treat*2011	0.05 *** (0.01)	0.12 *** (0.04)	0.008 0.01 (0.02) (0.02)	-0.02 0.01 (0.03) (0.03)	0.07* 0.04 (0.03) (0.04)	0.07* 0.06 (0.04) (0.04)	0.01 0.08 (0.05) (0.06)	0.03 0.008 (0.02) (0.03)	-0.006 0.003 (0.01) (0.02)	-0.01 -0.04 (0.03) (0.03)	0.04 0.02 (0.02) (0.03)	- -	
Treat*2012	0.12 *** (0.01)	0.13 *** (0.03)	0.02 0.01 (0.02) (0.02)	-0.01 0.01 (0.03) (0.03)	0.03 0.02 (0.03) (0.04)	0.01 -0.001 (0.04) (0.04)	-0.01 -0.009 (0.05) (0.06)	-0.001 -0.001 (0.02) (0.03)	-0.008 0.00 (0.01) (0.02)	-0.009 0.009 (0.03) (0.03)	0.01 0.008 (0.02) (0.03)	- -	
Treat*2013	0.08 ** (0.01)	0.10 *** (0.04)	-0.01 -0.01 (0.02) (0.02)	-0.03 -0.02 (0.03) (0.03)	0.04 0.04 (0.03) (0.04)	0.05 0.05 (0.04) (0.04)	-0.08 -0.03 (0.05) (0.06)	0.02 0.01 (0.02) (0.02)	-0.01 0.01 (0.01) (0.02)	0.01 0.05 (0.03) (0.04)	0.01 0.02 (0.03) (0.03)	-0.01 -0.02 (0.02) (0.02)	
2008	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
2009	-0.07 *** (0.02)	-0.04* (0.02)	0.008 0.01 (0.01) (0.01)	0.01 0.01 (0.02) (0.02)	-0.04** (0.02)	-0.05** (0.02)	-0.007 -0.01 (0.02) (0.02)	-0.01 0.03 (0.03) (0.03)	-0.03* -0.02 (0.01) (0.01)	-0.008 -0.01 (0.01) (0.01)	0.03 0.05*** (.02) (0.02)	- 0.07*** (0.02)	- -
2011	0.10 *** (0.02)	-0.07 *** (0.03)	-0.01 -0.02 (0.01) (0.01)	0.02 0.04 (0.02) (0.02)	-0.02 -0.05* (0.02) (0.03)	-0.06** -0.06* (0.03) (0.03)	-0.01 -0.02 (0.04) (0.04)	0.00 -0.02 (0.02) (0.02)	-0.006 0.00 (0.01) (0.01)	0.07 0.09*** (0.02) (0.03)	-0.01 0.13*** (0.01) (0.02)	- -	
2012	-0.11 *** (0.02)	-0.07** (0.03)	-0.01 -0.001 (0.01) (0.01)	0.04* 0.05** (0.02) (0.02)	-0.01 -0.03 (0.02) (0.03)	-0.04 -0.04 (0.03) (0.03)	-0.07* -0.06 (0.04) (0.04)	0.01 -0.01 (0.02) (0.02)	-0.008 -0.01 (0.01) (0.01)	0.06 0.05* (0.02) (0.02)	0.00 0.14*** (0.01) (0.02)	- -	
2013	-0.03 (0.02)	-0.05* (0.02)	-0.004 -0.008 (0.01) (0.01)	0.06** 0.07*** (0.02) (0.02)	-0.03 -0.04 (0.02) (0.03)	-0.02 -0.06 (0.03) (0.03)	-0.01 -0.03 (0.04) (0.04)	0.002 -0.03 (0.02) (0.02)	-0.01 -0.02 (0.01) (0.01)	0.06 0.05* (0.02) (0.02)	0.05*** 0.19*** (0.02) (0.02)	- 0.007 (0.01)	
R-squared	0.01 0.13	0.001 0.02	0.003 0.01	0.004 0.06	0.004 0.05	0.008 0.02	0.002 0.04	0.0008 0.01	0.0004 0.03	0.02 0.09	0.02 0.09	0.02 0.09	
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	
Observations	4,224 3,404	4,339 3,416	4,240 3,417	4,197 3,379	4,196 3,379	2,321 1,734	4,205 3,385	4,204 3,384	4,179 3,365	3,473 2,765	3,144 2,422		
Pre- Treat Mean	0.68	0.91	0.78	0.32	0.59	0.61	.10	.07	0.13	0.07	.91		

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; Data for pap tests only contains one pre year (2009) and one post year (2013); Control variables include all demographic variables from Table 2, with the exception of income

Year fixed effects are also significant and positive for HPV vaccinations starting in 2009, showing increases in HPV vaccinations for the sample population as a whole. The HPV vaccination is only required once, so if young adults received the vaccination in 2009, they would not need to vaccination again in the following years. This may be why young adults did not experience significant increases in the use of HPV vaccinations in the post-ACA period.

The coefficients on doctor's visits in 2011 and 2013 were not statistically significant, but represented large increases in doctor's visits for young adults. The treatment group increased their doctor's visits by 6 percentage points in 2011 and 5 percentage points in 2013, representing increases in doctor's visits of 10% in 2011 and 8% in 2013. Despite this increase, most of the coefficients for preventative care were not statistically significant. It may be that doctors are not giving preventative care for some reason; maybe flu shots and HPV vaccinations are not covered under plans, or have large co-pays. These care measures may need to be free for the treatment group to use them, as the treatment group is relatively healthy and low-income.

The treatment group did not experience a statistically significant increase in pap tests in any of the post periods, which is not surprising as pap test mean for the treatment group was high in the pre-ACA period, so there was little room for improvement. The treatment group also experienced no statistically significant changes in health status post-ACA. This is not surprising as the mean on health status for the treatment group was also high in the pre-ACA period.

## Heterogeneity Results

I run stratifications by gender, education level, and race. Barbaresco et. al. suggest this approach as different groups may not only have different gains in coverage; but they may also respond differently to gains in coverage (Barbaresco et. al., 2015).

I include two gender stratifications, excluding outcomes for pap tests and gynecologist visits because males do not require either. I only include two education stratifications for those with college, and those with high school diplomas or GED certificates but no-college. Race stratifications are included for Blacks and Hispanics. Results from the heterogeneity regressions are presented in Tables 6-12. I keep the same treatment and comparison groups, as well as the same pre and post-ACA periods.

Statistically significant increases in insurance coverage for both the male and female treatment groups are observed in the post-ACA period. Both groups experienced insurance gains over all three post-ACA years, with not much variation between the two groups. Most of the results for primary care use were not statistically significant for both groups. Males did exhibit a 14-percentage point increase in doctor's visits and a 11-percentage point increase in flu shots in 2013. Males may be utilizing their expanded coverage more than women, but it took them a few years after gaining coverage to do so.

Individuals without college degrees experienced increases in insurance coverage over all three post-ACA years, while those with college degrees only experienced increased coverage in 2012. Those without college degrees experienced a larger uptake in coverage, giving evidence to Barbaresco et. al.'s theory of higher gains for lower incomes. Those without college degrees increased doctor's visits in 2013 by 20 percentage points, but decreased gynecologist visits by 29 percentage points.

Table 6: Results from Female Heterogeneity Test

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Mental Health Visits		Therapist Visits		Flu Shots		HPV Vaccinations	
Treat*2011	0.12*** (0.05)	0.11** (0.05)	0.01 (0.03)	0.006 (0.03)	-0.04 (0.04)	0.01 (0.05)	0.05 (0.05)	0.01 (0.06)	0.07 (0.05)	0.05 (0.06)	0.02 (0.04)	-0.01 (0.04)	0.07** (0.02)	0.07** (0.03)	-0.03 (0.04)	-0.08 (0.05)	0.08*** (0.03)	0.06 (0.04)
Treat*2012	0.21*** (0.04)	0.18*** (0.05)	0.03 (0.03)	0.01 (0.03)	-0.008 (0.04)	0.04 (0.04)	-0.01 (0.05)	-0.03 (0.06)	-0.003 (0.05)	-0.001 (0.06)	-0.05 (0.03)	-0.02 (0.04)	0.01 (0.02)	0.01 (0.03)	0.008 (0.04)	0.03 (0.05)	0.05 (0.03)	0.05 (0.04)
Treat*2013	0.05 (0.04)	0.09* (0.05)	-0.007 (0.03)	0.009 (0.03)	-0.02 (0.04)	0.001 (0.05)	0.01 (0.05)	0.02 (0.06)	-0.02 (0.05)	-0.02 (0.06)	-0.01 (0.04)	-0.004 (0.04)	0.02 (0.02)	0.02 (0.03)	-0.009 (0.05)	0.04 (0.06)	0.04 (0.04)	0.05 (0.05)
2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	-0.09*** (0.03)	-0.07** (0.03)	0.01 (0.02)	0.03 (0.02)	0.02 (0.02)	0.03 (0.03)	-0.03 (0.03)	-0.02 (0.03)	0.008 (0.03)	0.005 (0.03)	-0.05** (0.02)	-0.04 (0.02)	0.00 (0.01)	-0.004 (0.02)	0.02 (0.02)	0.05 (0.03)	0.05*** (0.01)	0.07*** (0.02)
2011	-0.04 (0.03)	-0.09*** (0.04)	-0.001 (0.02)	0.008 (0.03)	0.06* (0.03)	0.07* (0.04)	0.003 (0.04)	0.02 (0.04)	-0.05 (0.04)	-0.03 (0.04)	0.01 (0.02)	-0.02 (0.03)	-0.04*** (0.01)	-0.04* (0.02)	0.08** (0.03)	0.12*** (0.04)	0.02 (0.02)	0.10*** (0.02)
2012	-0.06 (0.03)	-0.10*** (0.04)	-0.00 (0.02)	0.02 (0.02)	0.06* (0.03)	0.07* (0.03)	-0.01 (0.03)	-0.009 (0.04)	-0.04 (0.04)	-0.04 (0.04)	0.04 (0.03)	-0.02 (0.03)	-0.02 (0.02)	-0.03 (0.02)	0.07** (0.03)	0.06 (0.04)	0.05** (0.02)	0.11*** (0.02)
2013	0.06* (0.03)	-0.06* (0.03)	0.009 (0.02)	0.01 (0.02)	0.08*** (0.03)	0.09*** (0.03)	-0.04 (0.03)	-0.05 (0.04)	0.007 (0.04)	0.003 (0.04)	0.02 (0.03)	-0.05 (0.03)	-0.01 (0.02)	-0.02 (0.02)	0.08** (0.03)	0.09** (0.04)	0.12*** (0.02)	0.18*** (0.03)
R-Squared	0.02	0.10	0.002	0.03	0.007	0.02	0.008	0.06	0.007	0.03	0.005	0.06	0.004	0.01	0.006	0.02	0.05	0.07
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	2,339	1,750	2,343	1,753	2,344	1,754	2,323	1,736	2,324	1,737	2,327	1,738	2,327	1,738	2,312	1,726	2,255	1,690
Pre-Treat Mean	0.71		0.94		0.81		0.25		0.57		0.09		0.05		0.26		0.25	

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; Gynecologist visits and pap tests are omitted

Table 7: Results from Male Heterogeneity Test

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations
Treat*2011	0.13**0.16*** (0.05) (0.05)	0.000 0.01 (0.03) (0.03)	0.003 0.02 (0.04) (0.05)	0.08 0.07 (0.05) (0.05)	0.06 0.07 (0.06) (0.06)	0.04 0.03 (0.03) (0.03)	-0.07** -0.06* (0.03) (0.03)	0.001 -0.01 (0.05) (0.05)	- -0.001 (0.03)
Treat*2012	0.12** 0.10* (0.05) (0.05)	-0.03 0.007 (0.02) (0.03)	-0.01 -0.004 (0.04) (0.04)	0.08 0.08 (0.05) (0.05)	0.02 0.007 (0.06) (0.06)	0.06 0.03 (0.03) (0.03)	-0.01 -0.008 (0.03) (0.03)	-0.03 0.01 (0.04) (0.05)	-0.009 -0.01 (0.02) (0.03)
Treat*2013	0.11**0.13*** (0.05) (0.05)	-0.02 -0.03 (0.02) (0.03)	-0.05 -0.06 (0.04) (0.04)	0.08 0.07 (0.05) (0.05)	0.15*** 0.14** (0.06) (0.06)	0.05 0.03 (0.03) (0.03)	0.002 0.02 (0.03) (0.03)	0.04 0.11** (0.05) (0.05)	0.01 - (0.02)
2008	- -	- -	- -	- -	- -	- -	- -	- -	- -
2009	-0.05 -0.008 (0.03) (0.03)	-0.002 -0.01 (0.01) (0.01)	0.00 -0.01 (0.03) (0.03)	-0.07** -0.09*** (0.03) (0.03)	-0.02 -0.04 (0.04) (0.04)	-0.00 0.005 (0.02) (0.02)	-0.02 -0.02 (0.02) (0.02)	0.06** 0.03 (0.03) (0.03)	- -
2011	-0.04 -0.04 (0.04) (0.04)	-0.02 -0.05** (0.02) (0.02)	0.005 -0.002 (0.03) (0.03)	-0.12***-0.13*** (0.04) (0.04)	-0.09* -0.10* (0.04) (0.05)	-0.01 -0.01 (0.02) (0.02)	0.04 0.03 (0.02) (0.03)	0.07* 0.06 (0.03) (0.04)	- -0.05*** (0.01)
2012	-0.04 -0.03 (0.04) (0.04)	-0.03 -0.03* (0.02) (0.02)	0.04 0.02 (0.03) (0.03)	-0.08** -0.09** (0.04) (0.04)	-0.04 -0.02 (0.04) (0.05)	-0.01 -0.009 (0.02) (0.02)	0.005 0.003 (0.02) (0.02)	0.06* 0.01 (0.03) (0.04)	0.003 -0.03** (0.009)(0.01)
2013	-0.02 -0.05 (0.04) (0.04)	-0.02 -0.03* (0.02) (0.02)	0.05 0.05 (0.03) (0.03)	-0.09** -0.10*** (0.04) (0.04)	-0.07 -0.08* (0.04) (0.05)	-0.02 -0.02 (0.02) (0.02)	-0.008 -0.03 (0.02) (0.02)	0.04 -0.01 (0.03) (0.04)	0.03*** - (0.01)
R-Squared	0.008 0.17	0.006 0.03	0.005 0.03	0.008 0.05	0.02 0.04	0.007 0.02	0.006 0.03	0.008 0.02	0.02 0.04
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	1,885 1,654	1,896 1,663	1,896 1,663	1,874 1,643	1,872 1,642	1,878 1,647	1,877 1,347	1,867 1,342	1,218 884
Pre-Treat Mean	0.64	0.94	0.81	0.25	0.57	0.09	0.05	0.26	0.25

Notes: \* significant at 10%, \*\* significant at 5%; \*\*\* significant at 1%; Gynecologist visits and pap tests are omitted

Table 8: No-College Heterogeneity Results

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots		HPV Vaccinations		Pap Tests	
Treat*2011	0.18**	0.19**	0.02	0.01	-0.02	-0.02	0.04	0.03	0.08	0.05	0.05	0.05	0.06	0.05	-0.05	-0.10**	-0.16***	-0.17**	0.06	0.06	-	-
	(0.08)	(0.09)	(0.06)	(0.06)	(0.07)	(0.07)	(0.08)	(0.09)	(0.08)	(0.09)	(0.12)	(0.14)	(0.05)	(0.05)	(0.04)	(0.04)	(0.07)	(0.07)	(0.04)	(0.05)		
Treat*2012	0.24***	0.18**	-0.003	-0.04	-0.08	-0.07	0.008	0.01	0.06	0.10	-0.16	-0.19	-0.003	0.002	0.02	0.002	0.007	0.03	0.03	0.04	-	-
	(0.08)	(0.09)	(0.05)	(0.05)	(0.07)	(0.07)	(0.08)	(0.09)	(0.08)	(0.10)	(0.11)	(0.14)	(0.05)	(0.06)	(0.03)	(0.03)	(0.07)	(0.08)	(0.05)	(0.06)		
Treat*2013	0.15*	0.19**	-0.06	-0.08	-0.05	-0.07	0.04	0.11	0.21***	0.20**	-0.21*	-0.29**	0.07	0.07	0.02	0.009	0.01	0.009	0.07	0.02	-0.02	-0.005
	(0.08)	(0.09)	(0.06)	(0.06)	(0.07)	(0.07)	(0.08)	(0.09)	(0.08)	(0.10)	(0.12)	(0.14)	(0.05)	(0.05)	(0.04)	(0.04)	(0.07)	(0.07)	(0.05)	(0.06)	(0.04)	(0.05)
Year 2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 2009	-0.09*	-0.05	0.01	0.02	-0.001	0.01	-0.09*	-0.11*	0.01	0.003	-0.02	0.04	-0.03	-0.02	0.01	-0.02	0.05	0.08*	-0.08	-0.03	-	-
	(0.05)	(0.06)	(0.03)	(0.03)	(0.04)	(0.05)	(0.05)	(0.06)	(0.05)	(0.07)	(0.07)	(0.09)	(0.03)	(0.03)	(0.02)	(0.02)	(0.04)	(0.04)	(0.03)	(0.04)		
Year 2011	-0.13**	-0.07	-0.06	-0.05	0.004	0.07	-0.08	-0.05	-0.05	-0.04	-0.08	-0.03	-0.05	-0.03	0.06	0.07*	0.19***	0.20***	-0.01	-0.01	-	-
	(0.06)	(0.07)	(0.04)	(0.05)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.08)	(0.09)	(0.11)	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)	(0.07)	(0.03)	(0.03)		
Year 2012	-0.19***	-0.09	0.00	0.03	0.09*	0.10*	-0.14**	-0.12	-0.04	-0.10	-0.09	-0.04	0.01	0.001	-0.005	-0.03	0.14***	0.10*	0.03	0.008	-	-
	(0.06)	(0.07)	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	(0.07)	(0.06)	(0.08)	(0.09)	(0.12)	(0.04)	(0.05)	(0.02)	(0.02)	(0.05)	(0.05)	(0.04)	(0.04)		
Year 2013	-0.13**	-0.15**	-0.004	-0.007	0.07	0.12**	-0.09	-0.15**	-0.12*	-0.16*	0.07	0.17	-0.07*	-0.09**	0.004	-0.01	0.07	0.08	0.02	0.04	-0.03	-0.007
	(0.06)	(0.07)	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	(0.07)	(0.07)	(0.08)	(0.09)	(0.11)	(0.04)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.04)	(0.02)	(0.03)
R-Squared	0.02	0.07	0.009	0.04	0.009	0.05	0.02	0.07	0.02	0.03	0.05	0.09	0.02	0.05	0.02	0.04	0.02	0.04	0.02	0.05	0.02	0.06
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	956	755	960	759	961	760	951	751	953	753	486	345	954	754	954	754	949	750	775	602	673	486
Pre-Treat Mean	0.59		0.92		0.80		0.27		0.46		0.50		0.07		0.03		0.18		0.08		0.83	

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; No college represents those with high school diplomas or GED certificates but not college educations

Table 9: College Heterogeneity Results

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Gyn. Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations	Pap Tests
Treat*2011	0.02 0.01 (0.05) (0.05)	-0.02 -0.01 (0.02) (0.03)	-0.08 -0.06 (0.05) (0.06)	0.08 0.05 (0.06) (0.06)	0.16*** 0.18*** (0.07) (0.07)	-0.01 0.06 (0.09) (0.10)	-0.004 0.03 (0.05) (0.05)	0.08** 0.08* (0.03)(0.04)	0.00 0.003 (0.06) (0.07)	0.08 0.07 (0.05) (0.06)	- -
Treat*2012	0.11** 0.13*** (0.05) (0.08)	0.01 -0.001 (0.03) (0.03)	0.02 0.01 (0.05) (0.05)	0.04 0.02 (0.06) (0.06)	0.06 0.03 (0.07) (0.07)	0.002 0.005 (0.09) (0.10)	0.003 0.02 (0.04) (0.05)	0.03 0.03 (0.04)(0.04)	-0.07 -0.008 (0.06) (0.06)	0.03 0.04 (0.05) (0.06)	- -
Treat*2013	0.01 0.04 (0.05) (0.05)	0.01 -0.001 (0.03) (0.03)	-0.008 -0.01 (0.05) (0.05)	0.02 0.03 (0.06) (0.06)	0.06 0.10 (0.07) (0.07)	-0.03 0.01 (0.09) (0.11)	-0.02 -0.002 (0.05) (0.05)	0.03 0.05 (0.03)(0.04)	0.04 0.13* (0.06) (0.07)	0.05 0.07 (0.06) (0.06)	-0.03 -0.02 (0.03) (0.03)
Year 2008	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Year 2009	-0.03 -0.01 (0.03) (0.03)	0.01 0.01 (0.01) (0.02)	-0.009 0.002 (0.03) (0.04)	-0.01 -0.03 (0.04) (0.04)	0.004 -0.02 (0.04) (0.04)	0.05 0.06 (0.06) (0.06)	-0.004 -0.007 (0.03) (0.03)	0.004 0.01 (0.02) (0.02)	0.04 0.04 (0.04) (0.04)	0.11***0.12*** (0.03) (0.04)	- -
Year 2011	-0.04 -0.03 (0.04) (0.04)	0.01 0.003 (0.02) (0.02)	0.08 0.08 (0.04) (0.04)	-0.06 -0.06 (0.04) (0.05)	-0.08 -0.11* (0.05) (0.05)	0.02 -0.01 (0.07) (0.07)	-0.008 -0.03 (0.03) (0.04)	-0.03 -0.01 (0.03) (0.03)	0.09* 0.07 (0.04) (0.05)	0.04 0.05* (0.02) (0.03)	- -
Year 2012	-0.05 -0.06 (0.04) (0.04)	-0.02 -0.004 (0.02) (0.02)	0.05 0.07 (0.04) (0.04)	-0.01 -0.02 (0.05) (0.05)	-0.07 -0.08 (0.05) (0.05)	-0.02 -0.008 (0.07) (0.08)	-0.03 -0.05 (0.03) (0.04)	0.01 0.03 (0.03) (0.03)	0.10** 0.05 (0.05) (0.05)	0.07*** 0.07** (0.03) (0.03)	- -
Year 2013	-0.005 -0.02 (0.04) (0.04)	-0.02 -0.01 (0.02) (0.02)	0.06 0.07* (0.04) (0.04)	-0.04 -0.04 (0.05) (0.05)	-0.01 -0.05 (0.05) (0.05)	-0.05 -0.07 (0.07) (0.08)	0.004 -0.01 (0.03) (0.04)	-0.02 -0.01 (0.03) (0.03)	0.06 0.03 (0.04) (0.05)	0.13*** 0.11*** (0.03) (0.03)	0.01 0.03* (0.01) (0.01)
R-Squared	0.02 0.09	0.02 0.03	0.02 0.02	0.007 0.04	0.008 0.04	0.02 0.05	0.008 0.04	0.009 0.02	0.009 0.02	0.05 0.06	0.03 0.11
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	1,418 1,220	1,423 1,222	1,423 1,222	1,410 1,211	1,409 1,210	799 666	1,413 1,212	1,412 1,211	1,400 1,203	1,179 1,012	1,121 954
Pre-Treat Mean	0.85	0.96	0.85	0.15	0.56	0.53	0.10	0.04	0.25	0.21	0.83

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%



Table 10: Black Heterogeneity Results

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots		HPV Vaccinations		Pap Tests	
Treat*2011	0.16 (0.09)	0.17 (0.11)	0.03 (0.07)	0.01 (0.08)	-0.12 (0.08)	-0.12 (0.10)	-0.15 (0.10)	-0.11 (0.12)	0.11 (0.10)	0.16 (0.11)	0.004 (0.12)	0.05 (0.14)	0.06 (0.07)	0.01 (0.07)	0.02 (0.06)	-0.009 (0.07)	-0.05 (0.08)	-0.13 (0.09)	0.09 (0.06)	0.06 (0.06)	-	-
Treat*2012	0.26*** (0.09)	0.22*** (0.10)	-0.04 (0.06)	-0.02 (0.07)	-0.09 (0.08)	-0.11 (0.08)	-0.05 (0.09)	-0.10 (0.11)	0.08 (0.10)	0.07 (0.11)	-0.09 (0.12)	-0.14 (0.14)	-0.001 (0.06)	-0.01 (0.06)	0.07 (0.06)	0.01 (0.06)	-0.03 (0.08)	-0.07 (0.09)	-0.007 (0.06)	-0.10* (0.06)	-	-
Treat*2013	0.08 (0.09)	0.09 (0.10)	-0.08 (0.06)	-0.03 (0.07)	-0.10 (0.07)	-0.15* (0.08)	-0.03 (0.10)	-0.02 (0.11)	0.004 (0.10)	0.03 (0.11)	0.09 (0.13)	0.11 (0.15)	0.06 (0.05)	0.03 (0.05)	0.01 (0.05)	0.01 (0.05)	0.01 (0.09)	0.02 (0.10)	0.003 (0.07)	-0.03 (0.07)	-0.004 (0.04)	-0.04 (0.04)
2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	-0.15*** (0.05)	-0.12** (0.06)	0.05 (0.04)	0.04 (0.04)	0.05 (0.04)	0.03 (0.05)	-0.10* (0.06)	-0.09 (0.06)	-0.03 (0.05)	-0.02 (0.06)	-0.04 (0.07)	0.03 (0.08)	-0.007 (0.03)	0.01 (0.03)	-0.04 (0.03)	-0.04 (0.03)	0.03 (0.05)	0.07 (0.05)	0.05 (0.03)	0.03 (0.03)	-	-
2011	-0.17*** (0.07)	-0.20*** (0.07)	-0.02 (0.06)	0.01 (0.06)	0.02 (0.06)	0.05 (0.07)	0.07 (0.08)	0.05 (0.09)	-0.15** (0.07)	-0.16* (0.09)	0.02 (0.09)	0.03 (0.11)	0.01 (0.05)	0.07 (0.05)	-0.03 (0.05)	-0.007 (0.05)	0.06 (0.06)	0.08 (0.07)	0.004 (0.03)	0.02 (0.02)	-	-
2012	-0.19*** (0.06)	-0.15** (0.07)	0.05 (0.05)	0.06 (0.05)	0.06 (0.05)	0.09 (0.06)	-0.13* (0.07)	-0.05 (0.08)	-0.17** (0.07)	-0.16* (0.08)	-0.05 (0.09)	-0.005 (0.10)	0.03 (0.05)	0.03 (0.04)	-0.05 (0.04)	-0.02 (0.04)	0.06 (0.06)	0.07 (0.07)	0.07* (0.04)	0.09*** (0.03)	-	-
2013	-0.08 (0.06)	-0.10 (0.07)	0.07 (0.05)	0.02 (0.05)	0.09* (0.05)	0.12* (0.06)	-0.05 (0.07)	-0.06 (0.08)	-0.03 (0.07)	-0.06 (0.08)	-0.05 (0.09)	-0.06 (0.11)	-0.05 (0.04)	-0.02 (0.03)	-0.04 (0.04)	-0.05 (0.04)	0.10 (0.06)	0.07 (0.07)	0.12*** (0.04)	0.15*** (0.05)	-0.01 (0.02)	-0.004 (0.02)
R-Squared	0.03	0.07	0.02	0.02	0.02	0.03	0.03	0.05	0.02	0.05	0.02	0.04	0.02	0.06	0.006	0.02	0.009	0.03	0.03	0.06	0.02	0.05
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	708	570	712	574	712	574	708	570	708	570	437	344	708	570	708	570	702	565	598	479	586	469
Pre-Treat Mean	0.66		0.91		0.76		0.30		0.49		0.55		0.06		0.05		0.21		0.14		0.87	

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 11: Hispanic Heterogeneity Results

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Gyn. Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations	Pap Tests
Treat*2011	0.24*** 0.23*** (0.08) (0.08)	0.01 0.006 (0.04) (0.05)	-0.03 0.01 (0.05) (0.06)	0.13* 0.07 (0.07) (0.08)	0.15* 0.09 (0.08) (0.09)	0.08 0.22 (0.11) (0.14)	0.05 0.04 (0.04) (0.04)	0.07** 0.07 (0.03) (0.04)	-0.03 -0.05 (0.06) (0.08)	0.08* 0.10* (0.04) (0.05)	- -
Treat*2012	0.18*** 0.14 (0.08) (0.09)	0.02 0.02 (0.04) (0.04)	-0.02 0.04 (0.06) (0.06)	0.04 0.06 (0.07) (0.08)	0.01 -0.01 (0.08) (0.09)	-0.08 -0.03 (0.11) (0.14)	-0.03 -0.05 (0.04) (0.04)	0.009 -0.01 (0.03) (0.04)	-0.005 0.01 (0.06) (0.07)	0.04 0.05 (0.04) (0.05)	- -
Treat*2013	0.24*** 0.25*** (0.08) (0.09)	-0.02 -0.005 (0.04) (0.05)	0.008 0.03 (0.06) (0.06)	0.05 0.06 (0.07) (0.08)	0.17***0.20** (0.08) (0.09)	-0.23** -0.12 (0.11) (0.13)	0.05 0.01 (0.04) (0.05)	0.04 -0.06* (0.03) (0.03)	0.05 0.08 (0.06) (0.07)	0.03 0.05 (0.05) (0.06)	-0.01 0.01 (0.04) (0.05)
2008	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2009	0.01 0.03 (0.05) (0.05)	-0.03 -0.02 (0.02) (0.02)	-0.02 -0.04 (0.04) (0.04)	-0.004 0.007 (0.04) (0.05)	0.009 -0.008 (0.05) (0.06)	0.07 0.14 (0.07) (0.09)	-0.03 -0.002 (0.03) (0.03)	-0.007 -0.01 (0.02) (0.03)	0.03 0.07* (0.04) (0.04)	0.01 0.04 (0.02) (0.04)	- -
2011	-0.06 -0.01 (0.06) (0.07)	-0.07** -0.08** (0.03) (0.04)	0.06 0.06 (0.04) (0.05)	-0.04 0.007 (0.06) (0.06)	-0.08 -0.03 (0.06) (0.07)	-0.06 -0.06 (0.08) (0.11)	-0.05 -0.02 (0.03) (0.03)	-0.05* -0.06 (0.03) (0.03)	0.11** 0.15*** (0.05) (0.06)	-0.02 -0.02 (0.02) (0.03)	- -
2012	-0.08 -0.02 (0.06) (0.06)	-0.06** -0.06* (0.03) (0.03)	0.05 0.02 (0.04) (0.05)	-0.05 -0.05 (0.05) (0.06)	-0.04 0.007 (0.06) (0.07)	0.06 0.07 (0.08) (0.10)	-0.01 0.003 (0.04) (0.03)	-0.02 -0.03 (0.03) (0.03)	0.04 0.05 (0.04) (0.05)	0.01 0.007 (0.03) (0.04)	- -
2013	-0.07 -0.10 (0.06) (0.07)	-0.03 -0.04 (0.03) (0.03)	0.06 0.03 (0.04) (0.05)	-0.05 -0.04 (0.06) (0.06)	-0.05 -0.07 (0.06) (0.07)	0.15* 0.18 (0.09) (0.11)	-0.05 -0.01 (0.03) (0.04)	-0.03 -0.06* (0.03) (0.03)	0.007 0.03 (0.05) (0.05)	0.07* 0.06 (0.04) (0.05)	-0.02 -0.01 (0.02) (0.03)
R-Squared	0.02 0.10	0.009 0.04	0.02 0.04	0.02 0.05	0.01 0.03	0.02 0.04	0.009 0.05	0.007 0.03	0.01 0.04	0.02 0.06	0.02 0.05
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	1,086 841	1,090 844	1,090 844	1,073 828	1,073 828	607 405	1,075 830	1,075 830	1,069 826	880 659	719 509
Pre-Treat Mean	0.51	0.93	0.87	0.18	0.42	0.48	0.06	0.00	0.20	0.09	0.83

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

The point estimates for the increase in doctor's visits and decrease in gynecologist visits are very similar. General doctors often offer some of the same services as gynecologists, so it may be that those without college degrees are substituting doctor's visits for gynecologist visits. Other significant results for those without college were random, and inconclusive. Those with college degrees experienced increases in doctor's visits and therapist visits in 2011, but these effects disappeared in the following years. They also experienced a 13-percentage point increase in flu shots in 2013.

Insurance gains are experienced for Blacks and Hispanics. Blacks experienced significant gains in 2012, with a 22-percentage point increase. The point estimates on insurance for blacks for 2011 and 2013 are also worth noting as they represent 17-percentage point increase in 2011, and a 9-percentage points increase in 2013. These percentage point increases represent uptakes of 13%-33% for Blacks depending on the year. Hispanics experienced significant increases in 2011 and 2013, with an increase in coverage of 23 percentage points in 2011 and 25 percentage points in 2013. Their increase in 2012 is not significant, but shows an increase in coverage of 14 percentage points. These increases represent uptakes between 27% and 49% for Hispanics.

For Blacks the rest of the outcomes were not statistically significant. The high point estimates on health status, emergency room visits, doctor's visits, and flu shots are worth noting however because of the small sample sizes. Estimates show a decrease in emergency room visits of 11 percentage points in 2011, and a 16 percentage point increase in doctor's visits in the same year. There was also a decrease in flu shots of 13 percentage points in 2011. Health status for blacks decreased in all three post-ACA years which is an interesting result considering their strong increase in doctor's visits in 2011.

For Hispanics most outcomes were not statistically significant with the exception of doctor's visits in 2013, and HPV vaccinations in 2011. Doctor's visits increased by 20 percentage points, suggesting a late take-up of primary care visits similar to the one observed in the male stratification. Hispanics also increased HPV vaccinations in 2011 by 10 percentage points. The 22-percentage point increase in gynecologist visits for Hispanics in 2011 is also worth noting because of the small sample size.

### **Discussion**

The Affordable Care Act, passed in 2010, extended insurance coverage to young adults by allowing them to remain on their parent's insurance until age 26. This paper studies the effect of this policy on insurance rates, and health care behaviors of young adults. I use a diff-in-diff approach to observe how a treatment group of 23-25 year olds behaved in the years following the provision, relative to a comparison group of 27-29 year olds.

I find that insurance rates did increase for young adults aged 23-25 following the provision. Results for the primary and preventative care outcome variables were for the most part not statistically significant and inconclusive, although the treatment group did experience a strong increase in doctor's visits. While young adults experienced higher rates of coverage and doctor's visits, it does not appear that they are increasing use of preventative care services as a result. It is surprising that preventative care use has not increased; this may be because young adults still have to pay for preventative care services and can't.

Heterogeneity tests reveal high gains in insurance for minorities and those without college educations, suggesting higher insurance gains for low-income individuals. Low-

income individuals have a higher price elasticity for insurance, and may have experienced more uptake as a result. This is inconsistent with the findings from Barabaresco et. al. (2015) who find higher gains for men and college graduates.

My paper adds to the literature by studying the use of four different primary care physicians and studying HPV vaccinations. I did not find significant results for the use of primary care visits, but the point estimates on doctor's visits did show strong increases. Results for HPV vaccinations were in most cases not statistically significant. Year fixed effects did show increases in HPV vaccinations in 2009. If young adults already had the vaccination in pre-ACA years, they would not need the vaccination again in post-ACA years. This may be why I observed no statistically significant change in HPV vaccinations for the treatment group in the post-ACA period.

There are a number of pitfalls in my analysis. Due to data limitations I was not able to include state fixed effects. A number of states extended insurance for young adults before the ACA was enacted, so young adults in these states may have experienced insurance gains in previous years. I was also not able to include information on current student status. I eliminated adults younger than age 23 to control for this, but some adults older than age 23 may still be in college. Many insurance plans allow current students to remain on their parent's plan so student status plays an important role in insurance coverage. Excluding young adults aged 19-22 may also have had an effect on my results, as this group was also affected by the provision.

The available data on the effect of the ACA on young adults provides an opportunity for analysis not yet available for other age groups. This analysis can be expanded in a number of ways. Effects on different groups of young adults should be

sorted out, as results thus far across papers are inconclusive. Further research should also be devoted to the use of preventative care measures by young adults. A goal of the legislation was to encourage use of primary and preventative care services, so understanding the decision making process of young adults regarding such care is important.

## Appendix

Table 12: ACA Regression Results with Income

	Insurance Coverage	Good Health	Improved Health Status	E.R. Visits	Doctor's Visits	Gyn. Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations	Pap Tests
Treat*2011	0.05 *** 0.10 (0.01) (0.04)	0.008 0.01 (0.02) (0.02)	-0.02 0.005 (0.03) (0.03)	0.07* 0.05 (0.03) (0.04)	0.07* 0.09** (0.04) (0.05)	0.01 0.04 (0.05) (0.06)	0.03 0.008 (0.02) (0.03)	-0.006 0.01 (0.01) (0.02)	-0.01 -0.04 (0.03) (0.04)	0.04 0.03 (0.02) (0.03)	- -
Treat*2012	0.07*** 0.14 (0.01) (0.04)	0.02 0.02 (0.02) (0.02)	-0.01 0.02 (0.03) (0.03)	0.03 0.01 (0.03) (0.04)	0.01 0.02 (0.04) (0.05)	-0.01 0.02 (0.05) (0.07)	-0.001 0.01 (0.02) (0.03)	-0.008 0.03 (0.01) (0.02)	-0.009 0.02 (0.03) (0.04)	0.01 0.02 (0.02) (0.03)	- -
Treat*2013	0.07 ** 0.07 (0.01) (0.04)	-0.01 -0.02 (0.02) (0.02)	-0.03 -0.04 (0.03) (0.03)	0.04 0.06 (0.03) (0.04)	0.05 0.09* (0.04) (0.05)	-0.08 -0.05 (0.05) (0.07)	0.02 0.01 (0.02) (0.03)	-0.01 0.04 (0.01) (0.02)	0.01 0.10** (0.03) (0.04)	0.01 0.03 (0.03) (0.03)	-0.01 -0.03 (0.02) (0.02)
2008	- 0.05 (0.02)	- -	-0.01 - (0.01)	0.04** 0.05 (0.02) (0.02)	- -	0.01 0.01 (0.03) (0.04)	0.03* 0.02 (0.01) (0.02)	- 0.01 (0.01)	- -	-0.05*** - (0.01)	0.01 - (0.01)
2009	-0.07 *** - (0.02)	0.008 -0.002 (0.01) (0.01)	- 0.01 (0.02)	- -	-0.007 -0.03 (0.02) (0.03)	- -	- -	-0.008 - (0.01)	0.03 0.05** (.02) (0.02)	- 0.07*** (0.02)	- -
2011	0.10***0.009 (0.02) (0.03)	-0.01 -0.01 (0.01) (0.02)	0.02 0.05* (0.02) (0.03)	-0.02 0.001 (0.02) (0.03)	-0.06** -0.07** (0.03) (0.03)	-0.01 -0.01 (0.04) (0.05)	0.00 -0.005 (0.02) (0.02)	-0.006 0.006 (0.01) (0.02)	0.07 0.10*** (0.02) (0.03)	-0.01 0.15*** (0.01) (0.02)	- -
2012	-0.11*** 0.02 (0.02) (0.03)	-0.01 - 0.006 (0.01) (0.02)	0.04* 0.06** (0.02) (0.03)	-0.01 (0.02) (0.02) (0.03)	-0.04 -0.04 (0.03) (0.03)	-0.07* -0.09* (0.04) (0.05)	0.01 0.001 (0.02) (0.02)	-0.008 -0.01 (0.01) (0.01)	0.06 0.05* (0.02) (0.03)	0.00 0.15*** (0.01) (0.02)	- -
2013	-0.03 0.003 (0.02) (0.03)	-0.004 0.000 (0.01) (0.01)	0.06**0.09*** (0.02) (0.03)	-0.03 -0.02 (0.02) (0.03)	-0.02 -0.06 (0.03) (0.03)	-0.01 -0.03 (0.04) (0.05)	0.002 -0.008 (0.02) (0.02)	-0.01 -0.01 (0.01) (0.01)	0.06 0.04 (0.02)(0.03)	0.05***0.21*** (0.02) (0.02)	- 0.01 (0.01)
R-squared	0.01 0.17	0.001 0.03	0.003 0.02	0.004 0.06	0.004 0.05	0.008 0.03	0.002 0.04	0.0008 0.01	0.0004 0.04	0.02 0.12	0.02 0.09
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	4,224 2,730	4,339 2,732	4,240 2,733	4,197 2,711	4,196 2,712	2,321 1,364	4,205 2,714	4,204 2,713	4,179 2,698	3,473 2,218	3,144 1,1919
Pre- Treat Mean	0.68	0.91	0.78	0.32	0.59	0.61	.10	.07	0.13	0.07	.91

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 13: Trend Regression Results with Income

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots	
Treat*Trend	-0.01 (0.03)	0.005 (0.04)	-0.01 (0.02)	-0.002 (0.02)	0.005 (0.03)	-0.01 (0.03)	-0.03 (0.03)	-0.05 (0.04)	-0.04 (0.03)	-0.08* (0.04)	0.08 (0.04)	0.02 (0.06)	-0.009 (0.02)	0.01 (0.03)	-0.005 (0.01)	-0.04** (0.02)	0.04 (0.02)	0.004 (0.03)
2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2007	-0.00 (0.02)	0.01 (0.03)	-0.01 (0.01)	-0.01 (0.01)	-0.007 (0.02)	-0.02 (0.02)	-0.01 (0.02)	-0.02 (0.03)	-0.01 (0.02)	-0.04 (0.04)	0.06* (0.03)	0.05 (0.04)	0.01 (0.01)	0.03* (0.02)	0.002 (0.01)	0.007 (0.01)	0.04*** (0.01)	0.06*** (0.02)
2008	0.06** (0.03)	0.06* (0.03)	-0.002 (0.01)	-0.01 (0.02)	-0.03 (0.02)	-0.04 (0.03)	0.04 (0.03)	0.05 (0.03)	0.02 (0.03)	-0.008 (0.04)	0.01 (0.04)	0.07 (0.05)	0.04** (0.02)	0.04 (0.02)	0.01 (0.01)	0.03* (0.03)	0.04* (0.02)	0.04 (0.03)
2009	-0.01 (0.03)	0.01 (0.03)	0.005 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.03 (0.03)	-0.003 (0.03)	0.004 (0.03)	0.02 (0.03)	-0.003 (0.04)	0.01 (0.04)	0.05 (0.05)	0.01 (0.02)	0.01 (0.02)	0.001 (0.01)	0.02 (0.02)	0.08*** (0.02)	0.09*** (0.03)
R-Squared	0.01	0.17	0.002	0.03	0.001	0.01	0.004	0.05	0.002	0.05	0.008	0.04	0.005	0.06	0.001	0.01	0.01	0.03
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	2,713	1,703	2,720	1,703	2,720	1,703	2,695	1,690	2,698	1,691	1,561	910	2,702	1,694	2,701	1,693	2,684	1,686

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; HPV vaccinations and pap tests only contain data from 2008 and on.



Table 14: Female Heterogeneity Results with Income

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Mental Health Visits	Therapist Visits	Surgeries	Flu Shots	HPV Vaccinations
Treat*2011	0.12***0.12** (0.05) (0.05)	0.01 0.01 (0.03) (0.03)	-0.04 0.02 (0.04) (0.05)	0.05 -0.001 (0.05) (0.06)	0.07 0.08 (0.05) (0.06)	0.02 -0.01 (0.04) (0.05)	0.07** 0.08*** (0.02) (0.03)	-0.00 -0.01 (0.04) (0.05)	-0.03 -0.07 (0.04) (0.06)	0.08*** 0.07 (0.03) (0.05)
Treat*2012	0.21***0.22*** (0.04) (0.05)	0.03 0.04 (0.03) (0.03)	-0.008 0.07 (0.04) (0.05)	-0.01 -0.03 (0.05) (0.06)	-0.003 0.05 (0.05) (0.07)	-0.05 0.01 (0.03) (0.05)	0.01 0.05 (0.02) (0.03)	0.01 0.07 (0.04) (0.05)	0.008 0.04 (0.04) (0.06)	0.05 0.07 (0.03) (0.05)
Treat*2013	0.05 0.10* (0.04) (0.05)	-0.007 0.01 (0.03) (0.03)	-0.02 0.002 (0.04) (0.05)	0.01 0.02 (0.05) (0.06)	-0.02 0.01 (0.05) (0.07)	-0.01 0.01 (0.04) (0.05)	0.02 0.04 (0.02) (0.03)	0.001 0.008 (0.04) (0.02)	-0.009 0.09 (0.05) (0.06)	0.04 0.08 (0.04) (0.05)
2008	0.09*** - (0.03)	- -	- -0.03 (0.03)	0.03 - (0.03)	-0.008 - (0.03)	0.05** 0.03 (0.02) (0.03)	-0.00 0.004 (0.01) (0.02)	0.04* 0.04 (0.02) (0.03)	- -0.06* (0.03)	-0.05*** - (0.01)
2009	- -0.07** (0.03)	0.01 0.01 (0.02) (0.02)	0.02 - (0.02)	- -0.01 (0.04)	- 0.000 (0.04)	- -	- -	- -	0.02 - (0.02)	- 0.07*** (0.02)
2011	-0.04 -0.08* (0.03) (0.04)	-0.001 0.01 (0.02) (0.03)	0.06* 0.07* (0.03) (0.04)	0.003 0.01 (0.04) (0.05)	-0.05 -0.05 (0.04) (0.05)	0.01 0.002 (0.02) (0.03)	-0.04***-0.04* (0.01) (0.02)	0.03 0.01 (0.03) (0.04)	0.08** 0.06 (0.03) (0.04)	0.02 0.13*** (0.02) (0.03)
2012	-0.06 -0.11*** (0.03) (0.04)	-0.00 0.01 (0.02) (0.03)	0.06* 0.05 (0.03) (0.04)	-0.01 -0.005 (0.03) (0.05)	-0.04 -0.08 (0.04) (0.05)	0.04 -0.004 (0.03) (0.03)	-0.02 -0.04* (0.02) (0.02)	0.02 -0.01 (0.03) (0.03)	0.07** 0.008 (0.03) (0.04)	0.05** 0.10*** (0.02) (0.03)
2013	0.06* -0.05 (0.03) (0.04)	0.009 0.02 (0.02) (0.03)	0.08***0.08** (0.03) (0.04)	-0.04 -0.05 (0.03) (0.05)	0.007 -0.02 (0.04) (0.05)	0.02 -0.02 (0.03) (0.03)	-0.01 -0.01 (0.02) (0.02)	0.02 0.04 (0.03) (0.04)	0.08** 0.02 (0.03) (0.04)	0.12*** 0.19*** (0.02) (0.03)
R-Squared	0.01 0.14	0.002 0.04	0.007 0.04	0.008 0.06	0.007 0.03	0.005 0.07	0.004 0.01	0.005 0.02	0.006 0.06	0.05 0.11
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	2,339 1,375	2,343 1,376	2,344 1,377	2,323 1,366	2,324 1,366	2,327 1,367	2,327 1,367	2,321 1,364	2,312 1,357	2,255 1,334

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; pap tests and gynecologist visits are excluded

Table 15: Male Heterogeneity Results with Income

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Mental Health Visits	Therapist Visits	Surgeries	Flu Shots	HPV Vaccinations
Treat*2011	0.13** 0.11* (0.05) (0.06)	0.000 0.02 (0.03) (0.03)	0.003 -0.008 (0.04) (0.05)	0.08 0.11* (0.05) (0.06)	0.06 0.10 (0.06) (0.07)	0.04 0.02 (0.03) (0.04)	-0.07** -0.06* (0.03) (0.03)	-0.008 -0.01 (0.03) (0.04)	0.001 -0.01 (0.05) (0.05)	- -0.001 (0.03)
Treat*2012	0.12** 0.08 (0.05) (0.06)	-0.03 0.01 (0.02) (0.03)	-0.01 -0.01 (0.04) (0.05)	0.08 0.06 (0.05) (0.06)	0.02 -0.007 (0.06) (0.07)	0.06 0.01 (0.03) (0.04)	-0.01 -0.008 (0.03) (0.03)	0.01 -0.005 (0.03) (0.04)	-0.03 0.01 (0.04) (0.05)	-0.009 -0.01 (0.02) (0.03)
Treat*2013	0.11** 0.06 (0.05) (0.06)	-0.02 -0.06* (0.02) (0.03)	-0.05 -0.09* (0.04) (0.05)	0.08 0.10* (0.05) (0.06)	0.15*** 0.14** (0.06) (0.07)	0.05 0.01 (0.03) (0.04)	0.002 0.02 (0.03) (0.03)	-0.03 -0.06 (0.03) (0.04)	0.04 0.11** (0.05) (0.05)	0.01 - (0.02)
2008	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2009	-0.05 -0.03 (0.03) (0.04)	-0.002 -0.02 (0.01) (0.01)	0.00 -0.003 (0.03) (0.03)	-0.07** -0.08** (0.03) (0.04)	-0.02 -0.07 (0.04) (0.04)	-0.00 -0.007 (0.02) (0.02)	-0.02 -0.02 (0.02) (0.02)	-0.02 -0.03 (0.02) (0.02)	0.06** 0.03 (0.03) (0.03)	- -
2011	-0.04 -0.04 (0.04) (0.04)	-0.02 -0.06*** (0.02) (0.02)	0.005 -0.00 (0.03) (0.04)	-0.12*** -0.11*** (0.04) (0.04)	-0.09* -0.10* (0.04) (0.05)	-0.01 -0.02 (0.02) (0.02)	0.04 0.03 (0.02) (0.03)	0.009 0.006 (0.02) (0.03)	0.07* 0.06 (0.03) (0.04)	- -0.05*** (0.01)
2012	-0.04 -0.05 (0.04) (0.04)	-0.03 -0.04* (0.02) (0.02)	0.04 0.03 (0.03) (0.04)	-0.08** -0.05 (0.04) (0.04)	-0.04 -0.02 (0.04) (0.05)	-0.01 -0.00 (0.02) (0.03)	0.005 0.003 (0.02) (0.02)	0.01 0.000 (0.02) (0.03)	0.06* 0.01 (0.03) (0.04)	0.003 -0.03** (0.009)(0.01)
2013	-0.02 -0.04 (0.04) (0.04)	-0.02 -0.03* (0.02) (0.02)	0.05 0.07* (0.03) (0.03)	-0.09** -0.10** (0.04) (0.04)	-0.07 -0.09 (0.04) (0.05)	-0.02 -0.008 (0.02) (0.03)	-0.008 -0.03 (0.02) (0.02)	0.02 0.02 (0.02) (0.03)	0.04 -0.01 (0.03) (0.04)	0.03*** - (0.01)
R-Squared	0.008 0.22	0.006 0.04	0.005 0.03	0.008 0.05	0.01 0.05	0.007 0.03	0.006 0.03	0.006 0.02	0.008 0.02	0.01 0.04
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	1,885 1,355	1,896 1,357	1,896 1,357	1,874 1,346	1,872 1,347	1,878 1,348	1,877 1,347	1,874 1,346	1,867 1,342	1,218 884

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; pap tests and gynecologist visits are exclude

Table 16: No College Heterogeneity Results with Income

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Surgeries		Flu Shots		HPV Vaccinations		Pap Tests	
Treat*2011	0.18**	0.16*	0.02	0.02	-0.02	-0.01	0.04	0.06	0.08	0.13	0.05	-0.01	0.06	0.11*	-0.05	-0.06	-0.01	-0.02	-0.16***	-0.18**	0.06	0.06	-	-
	(0.08)	(0.10)	(0.06)	(0.06)	(0.07)	(0.08)	(0.08)	(0.10)	(0.08)	(0.10)	(0.12)	(0.17)	(0.05)	(0.06)	(0.04)	(0.05)	(0.05)	(0.06)	(0.07)	(0.09)	(0.04)	(0.06)		
Treat*2012	0.24***	0.22**	-0.003	0.002	-0.08	-0.02	0.008	-0.03	0.06	0.13	-0.16	-0.25	-0.003	0.09	0.02	0.06*	-0.002	0.06	0.007	-0.007	0.03	0.004	-	-
	(0.08)	(0.11)	(0.05)	(0.06)	(0.07)	(0.08)	(0.08)	(0.11)	(0.08)	(0.11)	(0.11)	(0.18)	(0.05)	(0.07)	(0.03)	(0.03)	(0.06)	(0.08)	(0.07)	(0.09)	(0.05)	(0.05)		
Treat*2013	0.15*	0.18*	-0.06	-0.09	-0.05	-0.05	0.04	0.13	0.21***	0.21**	-0.21*	-0.46***	0.07	0.07	0.02	0.03	-0.01	0.009	0.01	0.03	0.07	-0.01	-0.02	0.02
	(0.08)	(0.10)	(0.06)	(0.06)	(0.07)	(0.08)	(0.08)	(0.10)	(0.08)	(0.11)	(0.12)	(0.16)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)	(0.07)	(0.07)	(0.08)	(0.05)	(0.06)	(0.04)	(0.06)
Year 2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 2009	-0.09*	-0.004	0.01	0.01	-0.001	0.006	-0.09*	-0.09	0.01	0.003	-0.02	0.04	-0.03	-0.009	0.01	-0.01	-0.03	-0.006	0.05	0.08	-0.008	-0.01	-	-
	(0.05)	(0.06)	(0.03)	(0.04)	(0.04)	(0.06)	(0.05)	(0.07)	(0.05)	(0.07)	(0.07)	(0.10)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)		
Year 2011	-0.13**	-0.03	-0.06	-0.04	0.004	0.06	-0.08	-0.04	-0.05	-0.04	-0.08	0.06	-0.05	-0.06	0.06	0.05	0.00	0.008	0.19***	0.22***	-0.01	0.10***	-	-
	(0.06)	(0.07)	(0.04)	(0.05)	(0.06)	(0.07)	(0.06)	(0.08)	(0.06)	(0.08)	(0.09)	(0.13)	(0.04)	(0.05)	(0.03)	(0.05)	(0.04)	(0.06)	(0.05)	(0.07)	(0.03)	(0.04)		
Year 2012	-0.19***	-0.09	0.00	0.03	0.09*	0.10	-0.14**	-0.06	-0.04	-0.10	-0.09	-0.10	0.01	0.00	-0.005	-0.05*	0.01	0.01	0.14***	0.11*	0.03	0.11***	-	-
	(0.06)	(0.08)	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	(0.08)	(0.06)	(0.08)	(0.09)	(0.14)	(0.04)	(0.05)	(0.02)	(0.03)	(0.04)	(0.05)	(0.05)	(0.07)	(0.04)	(0.04)		
Year 2013	-0.13**	-0.08	-0.004	0.03	0.07	0.10	-0.09	-0.15*	-0.12*	-0.16*	0.07	0.27**	-0.07*	-0.08*	0.004	-0.005	-0.002	0.03	0.07	0.08	0.02	0.15***	-0.03	0.01
	(0.06)	(0.07)	(0.04)	(0.04)	(0.05)	(0.07)	(0.06)	(0.08)	(0.07)	(0.08)	(0.09)	(0.12)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.06)	(0.05)	(0.06)	(0.04)	(0.04)	(0.02)	(0.03)
R-Squared	0.01	0.15	0.009	0.04	0.009	0.05	0.01	0.08	0.01	0.10	0.05	0.14	0.01	0.08	0.01	0.06	0.01	0.07	0.02	0.06	0.01	0.10	0.02	0.09
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	956	569	960	570	961	571	951	566	953	568	486	247	954	568	954	568	952	567	949	565	775	458	673	363

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 17: College Heterogeneity Results with Income

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots		HPV Vaccinations		Pap Tests	
Treat*2011	0.02 (0.05)	0.01 (0.05)	-0.02 (0.02)	-0.01 (0.03)	-0.08 (0.05)	-0.11* (0.06)	0.08 (0.06)	0.05 (0.07)	0.16*** (0.07)	0.22*** (0.08)	-0.01 (0.09)	0.04 (0.10)	-0.004 (0.05)	0.01 (0.05)	0.08** (0.03)	0.07* (0.04)	0.00 (0.06)	0.02 (0.07)	0.08 (0.05)	0.12* (0.06)	-	-
Treat*2012	0.11** (0.05)	0.12** (0.05)	0.01 (0.03)	0.01 (0.03)	0.02 (0.05)	-0.01 (0.06)	0.04 (0.06)	0.007 (0.07)	0.06 (0.07)	0.06 (0.08)	0.002 (0.09)	0.01 (0.10)	0.003 (0.04)	0.04 (0.05)	0.03 (0.04)	0.07 (0.04)	-0.07 (0.06)	0.03 (0.07)	0.03 (0.05)	0.07 (0.06)	-	-
Treat*2013	0.01 (0.05)	0.03 (0.05)	0.01 (0.03)	0.00 (0.03)	-0.008 (0.05)	-0.03 (0.06)	0.02 (0.06)	0.02 (0.07)	0.06 (0.07)	0.16** (0.08)	-0.03 (0.09)	0.01 (0.12)	-0.02 (0.05)	0.003 (0.06)	0.03 (0.03)	0.09*** (0.04)	0.04 (0.06)	0.21*** (0.07)	0.05 (0.06)	0.14* (0.07)	-0.03 (0.03)	-0.06* (0.04)
Year 2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 2009	-0.03 (0.03)	-0.02 (0.03)	0.01 (0.01)	0.002 (0.02)	-0.009 (0.03)	0.009 (0.04)	-0.01 (0.04)	-0.05 (0.04)	0.004 (0.04)	-0.03 (0.05)	0.05 (0.06)	0.07 (0.07)	-0.004 (0.03)	0.01 (0.03)	0.004 (0.02)	0.02 (0.02)	0.04 (0.04)	0.04 (0.04)	0.11*** (0.03)	0.11*** (0.04)	-	-
Year 2011	-0.04 (0.04)	-0.01 (0.04)	0.01 (0.02)	0.01 (0.02)	0.08 (0.04)	0.12*** (0.04)	-0.06 (0.04)	-0.08 (0.05)	-0.08 (0.05)	-0.13** (0.06)	0.02 (0.07)	0.003 (0.08)	-0.008 (0.03)	-0.03 (0.04)	-0.03 (0.03)	-0.009 (0.03)	0.09* (0.04)	0.07 (0.05)	0.04 (0.02)	0.03 (0.03)	-	-
Year 2012	-0.05 (0.04)	-0.05 (0.04)	-0.02 (0.02)	-0.009 (0.02)	0.05 (0.04)	0.08* (0.05)	-0.01 (0.05)	-0.03 (0.05)	-0.07 (0.05)	-0.07 (0.056)	-0.02 (0.07)	-0.003 (0.08)	-0.03 (0.03)	-0.05 (0.04)	0.01 (0.03)	0.02 (0.03)	0.10** (0.05)	0.03 (0.05)	0.07*** (0.03)	0.06* (0.03)	-	-
Year 2013	-0.005 (0.04)	-0.02 (0.04)	-0.02 (0.02)	-0.01 (0.02)	0.06 (0.04)	0.10** (0.04)	-0.04 (0.05)	-0.07 (0.05)	-0.01 (0.05)	-0.07 (0.05)	-0.05 (0.07)	-0.07 (0.09)	0.004 (0.03)	0.004 (0.04)	-0.02 (0.03)	-0.04 (0.03)	0.06 (0.04)	-0.00 (0.05)	0.13*** (0.03)	0.11*** (0.04)	0.01 (0.01)	0.02 (0.02)
R-Squared	0.01	0.13	0.01	0.04	0.01	0.03	0.007	0.06	0.008	0.04	0.01	0.07	0.008	0.05	0.009	0.03	0.009	0.05	0.05	0.08	0.03	0.10
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	1,418	1,042	1,423	1,042	1,423	1,042	1,410	1,035	1,409	1,035	799	558	1,413	1,036	1,412	1,035	1,400	1,028	1,179	863	1,121	793

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 18: Black Heterogeneity Results with Income

	Insurance Coverage		Good Health		Improved Health Status		Emergency Room Visits		Doctor's Visits		Gyn. Visits		Mental Health Visits		Therapist Visits		Flu Shots		HPV Vaccinations		Pap Tests	
Treat*2011	0.16 (0.09)	0.16 (0.12)	0.03 (0.07)	0.07 (0.09)	-0.12 (0.08)	-0.03 (0.12)	-0.15 (0.10)	-0.11 (0.14)	0.11 (0.10)	0.20 (0.13)	0.004 (0.12)	-0.03 (0.15)	0.06 (0.07)	0.02 (0.07)	0.02 (0.06)	0.04 (0.08)	-0.05 (0.08)	-0.04 (0.11)	0.09 (0.06)	0.18** (0.08)	-	-
Treat*2012	0.26*** (0.09)	0.25** (0.11)	-0.04 (0.06)	0.04 (0.08)	-0.09 (0.08)	-0.08 (0.10)	-0.05 (0.09)	-0.11 (0.13)	0.08 (0.10)	0.08 (0.12)	-0.09 (0.12)	-0.26 (0.16)	-0.001 (0.06)	-0.01 (0.07)	0.07 (0.06)	0.04 (0.07)	-0.03 (0.08)	-0.03 (0.10)	-0.007 (0.06)	-0.05* (0.05)	-	-
Treat*2013	0.08 (0.09)	0.10 (0.11)	-0.08 (0.06)	-0.03 (0.08)	-0.10 (0.07)	-0.12 (0.10)	-0.03 (0.10)	-0.03 (0.12)	0.004 (0.10)	0.13 (0.13)	0.09 (0.13)	0.04 (0.17)	0.06 (0.05)	0.02 (0.05)	0.01 (0.05)	0.02 (0.05)	0.01 (0.09)	0.11 (0.11)	0.003 (0.07)	-0.03 (0.08)	-0.004 (0.04)	-0.00 (0.06)
2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2009	-0.15*** (0.05)	-0.09 (0.06)	0.05 (0.04)	-0.008 (0.04)	0.05 (0.04)	0.005 (0.06)	-0.10* (0.06)	-0.11 (0.07)	-0.03 (0.05)	-0.06 (0.07)	-0.04 (0.07)	0.002 (0.08)	-0.007 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.06 (0.04)	0.03 (0.05)	0.10 (0.06)	0.05 (0.03)	0.01 (0.03)	-	-
2011	-0.17*** (0.07)	-0.17** (0.08)	-0.02 (0.06)	-0.03 (0.07)	0.02 (0.06)	0.02 (0.08)	0.07 (0.08)	0.03 (0.10)	-0.15** (0.07)	-0.26*** (0.09)	0.02 (0.09)	0.19 (0.12)	0.01 (0.05)	0.01 (0.05)	-0.03 (0.05)	-0.02 (0.06)	0.06 (0.06)	0.10 (0.08)	0.004 (0.03)	-0.005 (0.02)	-	-
2012	-0.19*** (0.06)	-0.17** (0.07)	0.05 (0.05)	-0.01 (0.06)	0.06 (0.05)	0.06 (0.07)	-0.13* (0.07)	-0.04 (0.09)	-0.17** (0.07)	-0.19** (0.09)	-0.05 (0.09)	0.002 (0.12)	0.03 (0.05)	0.05 (0.05)	-0.05 (0.04)	-0.03 (0.05)	0.06 (0.06)	0.12 (0.08)	0.07* (0.04)	0.04 (0.03)	-	-
2013	-0.08 (0.06)	-0.12 (0.07)	0.07 (0.05)	0.01 (0.06)	0.09* (0.05)	0.11* (0.06)	-0.05 (0.07)	-0.10 (0.09)	-0.03 (0.07)	-0.12 (0.09)	-0.05 (0.09)	-0.06 (0.12)	-0.05 (0.04)	-0.03 (0.04)	-0.04 (0.04)	-0.04 (0.05)	0.10 (0.06)	0.10 (0.08)	0.12*** (0.04)	0.14*** (0.06)	-0.01 (0.02)	-0.003 (0.02)
R-Squared	0.03	0.15	0.01	0.03	0.01	0.05	0.03	0.07	0.02	0.10	0.01	0.10	0.01	0.08	0.006	0.03	0.009	0.08	0.03	0.11	0.02	0.06
Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	708	434	712	435	712	435	708	434	708	434	437	263	708	434	708	434	702	429	598	368	586	347

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 19: Hispanic Heterogeneity Results with Income

	Insurance Coverage	Good Health	Improved Health Status	Emergency Room Visits	Doctor's Visits	Gyn. Visits	Mental Health Visits	Therapist Visits	Flu Shots	HPV Vaccinations	Pap Tests
Treat*2011	0.24*** 0.18* (0.08) (0.09)	0.01 0.01 (0.04) (0.05)	-0.03 0.01 (0.05) (0.07)	0.13* 0.09 (0.07) (0.10)	0.15* 0.12 (0.08) (0.11)	0.08 0.31* (0.11) (0.16)	0.05 0.04 (0.04) (0.05)	0.07** 0.03 (0.03) (0.04)	-0.03 -0.11 (0.06) (0.08)	0.08* 0.09 (0.04) (0.07)	- -
Treat*2012	0.18*** 0.09 (0.08) (0.10)	0.02 0.03 (0.04) (0.05)	-0.02 0.10 (0.06) (0.07)	0.04 0.08 (0.07) (0.09)	0.01 -0.01 (0.08) (0.11)	-0.08 0.07 (0.11) (0.17)	-0.03 -0.04 (0.04) (0.05)	0.009 -0.001 (0.03) (0.04)	-0.005 0.03 (0.06) (0.08)	0.04 0.03 (0.04) (0.06)	- -
Treat*2013	0.24*** 0.14 (0.08) (0.10)	-0.02 -0.01 (0.04) (0.05)	0.008 0.01 (0.06) (0.07)	0.05 0.13 (0.07) (0.09)	0.17***0.15 (0.08) (0.11)	-0.23** -0.07 (0.11) (0.16)	0.05 0.02 (0.04) (0.06)	0.04 0.03 (0.03) (0.05)	0.05 0.15 (0.06) (0.09)	0.03 0.03 (0.05) (0.08)	-0.01 0.05 (0.04) (0.07)
2008	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
2009	0.01 0.01 (0.05) (0.06)	-0.03 -0.05** (0.02) (0.02)	-0.02 -0.02 (0.04) (0.05)	-0.004 -0.001 (0.04) (0.06)	0.009 -0.003 (0.05) (0.07)	0.07 0.005 (0.07) (0.10)	-0.03 0.02 (0.03) (0.03)	-0.007 -0.009 (0.02) (0.03)	0.03 0.11*** (0.04) (0.04)	0.01 0.02 (0.02) (0.05)	- -
2011	-0.06 -0.001 (0.06) (0.08)	-0.07** -0.08** (0.03) (0.04)	0.06 0.08 (0.04) (0.05)	-0.04 -0.01 (0.06) (0.08)	-0.08 -0.05 (0.06) (0.08)	-0.06 -0.25* (0.08) (0.14)	-0.05 -0.04 (0.03) (0.03)	-0.05* -0.05 (0.03) (0.04)	0.11** 0.23*** (0.05) (0.06)	-0.02 -0.02 (0.02) (0.05)	- -
2012	-0.08 -0.01 (0.06) (0.07)	-0.06** -0.07** (0.03) (0.03)	0.05 0.04 (0.04) (0.06)	-0.05 -0.07 (0.05) (0.07)	-0.04 -0.008 (0.06) (0.08)	0.06 -0.09 (0.08) (0.12)	-0.01 0.01 (0.04) (0.04)	-0.02 -0.03 (0.03) (0.04)	0.04 0.06 (0.04) (0.05)	0.01 -0.02 (0.03) (0.06)	- -
2013	-0.07 -0.06 (0.06) (0.08)	-0.03 -0.05 (0.03) (0.03)	0.06 0.06 (0.04) (0.06)	-0.05 -0.06 (0.06) (0.07)	-0.05 -0.06 (0.06) (0.09)	0.15* -0.02 (0.09) (0.13)	-0.05 0.007 (0.03) (0.04)	-0.03 -0.05 (0.03) (0.04)	0.007 0.09 (0.05) (0.06)	0.07* 0.09 (0.04) (0.07)	-0.02 -0.01 (0.02) (0.03)
R-Squared	0.01 0.17	0.009 0.08	0.01 0.06	0.01 0.05	0.01 0.03	0.02 0.08	0.009 0.07	0.007 0.03	0.01 0.07	0.02 0.10	0.02 0.07
Controls	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y	N Y
Observations	1086 625	1.090 625	1090 625	1,073 618	1,073 618	607 279	1,075 619	1,075 619	1,069 617	880 486	719 373

Notes: \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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