

The Expansion of Dependent Coverage under the Affordable Care Act and Insurance Patterns of Young Adults

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April 2014

ABSTRACT

I study the health insurance implications of the Affordable Care Act (ACA) provision that allows dependents to remain on parental insurance policies until age 26 using data from the IPUMS March Current Population Survey (CPS) and National Health Interview Survey (NHIS). Within a difference-in-difference framework I compare changes in insurance for young adults affected by the law, those aged 22-25, to those who are older, aged 26-29, before and after the law. I find that the ACA increased insurance rates for those 22-25 by 2.7 percentage points in the CPS and 6.5 percentage points in the NHIS. Both data sets show, however, that there is a great deal of crowd-out in that a sizeable number of young adults dropped their own coverage and became insured through their parents. There is also some evidence of slight reductions in Medicaid and in whether insurance was offered through the workplace, offsetting effects worth exploring further.

I. Introduction

Young adults are the age group in the United States with historically the highest probability of lacking health insurance. This is largely due to the fact that health insurance in the United States is heavily tied to employment, and young adults have a higher likelihood of being unemployed or out of the labor force, of working on entry-level jobs for employers that do not provide employee health benefits, or from refusing health coverage because they do not want to pay the employee portion of the plan. In 2007, for example, 6.6 percent of 18 to 24 year olds were unemployed as opposed to 3.1 percent of the general working age population, while 20.8 percent of the general population was out of the labor force in comparison to 31 percent of young adults age 18 to 24 in 2007 (Bureau of Labor Statistics). And according to the Center for Medicare and Medicaid Services, even employed young adults have an uninsurance rate that is one third higher than that of older employed adults (CMS). For a variety of reasons, until recently, uninsurance among young adults did not garner much political attention. First, young adults are, on average, a relatively healthy group of individuals in comparison to the rest of the population. Second, they are less likely to vote than other age groups and have lacked major advocacy support that would put health insurance on the public agenda. Although the probability of an illness is low for this group, if one occurs, the health care costs could be prohibitive without some form of private or public insurance. As unemployment among young adults soared in the wake of the Great Recession, the problem of uninsurance in this group became even more widespread.

The debate surrounding the Affordable Care Act (ACA) helped bring the problem of access to health insurance among young adults into the spotlight. The passage of the ACA in 2010 led to a potentially significant change in insurance access for this group: a requirement

that insurance policies must provide dependent care coverage for dependent children up to age 26. Prior to passage of the ACA, insurance policies were only required to provide coverage for children up through age 18.

In this paper, I estimate the extent to which the expansion of dependent coverage under the ACA actually increased insurance among young adults. This paper explores this question using data from both the March Current Population Survey (CPS) and the National Health Interview Survey (NHIS). The econometric model is a basic difference-in-difference framework where I consider those aged 22-25 the treatment group using those just outside the eligibility age ranges of the ACA, those aged 26-29, as the comparison sample.

The paper is organized as follows. Section II contains a review of the relevant literature, Section III explains the motivation and hypotheses of this paper, Section IV explains the data and model, Section V presents findings, and Section VI provides limitations and conclusions.

II. Relevant Literature

There is a large academic literature that documents the high rate of uninsurance among young adults. Almost one third of young adults were uninsured in 2005, with “young adults” defined as those between the ages of 19 and 24 (Callahan and Cooper 2005). Collins and Nicholson (2010) found that this number was similar in 2010: young adults accounted for 30 percent of the 46 million uninsured people under the age of 65, even though they comprise just 17 percent of the population. They define the young adult group slightly differently – those 20 to 24 years of age. They also note that a large component of the uninsurance among young adults is due to the prevalence of unemployment, which reached 17.2 percent among this group in 2010. The authors noted that approximately 28 percent of young adults lost coverage and 39 percent

eventually switched to a new source of coverage when they graduated from or left college. Of those who lost or switched coverage, more than 25 percent spent two years or more without insurance. Young adults thus spend extended periods of time with no access to care as they leave college and search for employment (Collins and Nicholson, 2010).

How does this lack of coverage affect the health care purchasing behavior of young adults? Callahan and Cooper found that one in four uninsured women and one in five uninsured men reported that they delayed or missed needed health care in the previous year because of cost. Additionally, without a usual source of care, adults are less likely to receive preventive services than those with a usual source of care. It has been argued that young adults are a healthy group and their lack of insurance is thus not a cause for concern. However, young adults are particularly prone to certain health risks: unintended pregnancy, sexually transmitted infections, substance abuse, and injuries (Callahan and Cooper, 2005). There is also the problem of young adults who have disabilities and chronic medical conditions. Fishman notes that almost 22 percent of young adults (defined as ages 19 to 29) with disabilities are uninsured, and dependent coverage for disabled adults in family health plans almost always requires that the dependent be unemployable. While these young adults will still “age out” of their parents’ coverage at age 26, the passage of the ACA will provide them more time for some employment stability and private coverage options through employment (Fishman, 2001).

How, then, did the ACA affect access to care and health insurance outcomes for young adults? There is some precedent for the ACA in specific young adult dependent coverage mandates in several states – beginning with legislation in Utah in 1995 – but there is a lack of consensus on the effectiveness of these mandates. Several papers use CPS data to measure the effects of state mandates for dependent coverage on insurance. Monheit et al. (2011) found no

significant drop in uninsurance, while Levine, McKnight and Heep (2011) found a 3 percentage point reduction in uninsurance. The ACA provision allows for a more comprehensive look at the expansion of dependent coverage without concern about variations in state-specific mandates. Some literature in the year immediately following the implementation of the ACA explores the short-term effects of the expansion of dependent coverage. (Sommers and Kronick (2012) estimated the impact of the ACA on coverage for 19-25 year olds from the time of implementation in September 2010 to April 2011. They found a 4.3 percent increase in dependents on Employer Sponsored Insurance (ESI), offset by a 2.5 percent reduction in young adults with own-name ESI. Simon et al. explored the increase in ESI for young adults from September 2010, the enactment of the law, to November 2011 and found slightly greater effects given the longer time frame of the study. They found that dependent health insurance coverage for young adults increased by 7 percentage points, which is offset by a 3.1 percentage point reduction in own-name ESI. Overall, Simon et al. estimate that uninsurance among young adults decreased by 3.2 percentage points, or 9.5 percent.

The employment-based healthcare system, in addition to creating an increasing lack of access to care among young adults as unemployment rises, may also influence the employment decisions of young adults. Madrian finds insurance-induced reductions in job mobility of approximately 25 percent. Young adults may be remaining in undesirable positions and thereby stunting career growth because of the employer-based health insurance system (Madrian 1994). The expansion of dependent coverage under the ACA could be crucial in not only providing young adults with an option for health insurance but also providing them more flexibility in the labor market in a critical transitional phase of life. Simon et al. explores this relationship further in the wake of the implementation of the ACA and finds no statistically significant evidence that

the mandate affected the probability of employment of young adults. She does, however, find that the ACA is associated with a reduction in full-time work among 19-25 year olds of nearly 2 percentage points, or about 5.8 percent, and a decrease in hours of work of about 3 percent (Simon et al. 2012).

III. Motivation and Hypotheses

This paper expands on the previous literature in several ways. First, it explores the effects of the ACA on health insurance coverage and health outcomes for young adults over a longer period of time – through 2012 – and can thus give a more accurate and relevant picture of the law’s long-term effects. One might expect that the overall decrease in uninsurance from the ACA would be greater given additional years of dependent coverage eligibility. Second, I look at the law’s effects on young adults ages 22 to 25 years, a slightly different age group than previous authors have studied. Prior to the ACA, many private health insurance plans covered young adults up to age 22 if they were enrolled in school. Additionally, young adults enrolled in school could qualify for Medicaid up to age 22. Studying the 22-25 age group allows a deeper look at those for whom the law may have been most specifically targeted: those who “age out” of coverage as they graduate college and search for employment. I expect that the estimates on the reduction in uninsurance will be greater for this age group than for more comprehensive young adult age groups previously studied, as my estimates will not be attenuated by younger (19, 20, 21 year olds) adults who could already remain on their parents’ plans while in school prior to the ACA.

IV. Data

This paper employs a difference-in-difference model to explore how the ACA impacted different forms of insurance coverage of young adults ages 22 to 25 between 2008 and 2012. I use two different data sets: the IPUMS-CPS and the IHIS. IPUMS-CPS is an integrated set of data from 48 years (1962-2009) of the March Current Population Survey (CPS). The CPS is a monthly U.S. household survey conducted jointly by the U.S. Census Bureau and the Bureau of Labor Statistics with the primary output being the nationwide unemployment rate. A host of labor force and demographic questions, known as the "basic monthly survey," is asked every month. In most months the CPS has a special supplement and in March, respondents are asked to complete the Annual Demographic Survey which asks detailed questions about income received in the previous year and sources of health insurance. The March CPS is the source of annual poverty and uninsurance rates. To make cross-time comparisons using the March CPS data more feasible, variables in CPS are coded identically or "harmonized" for 1962 to 2013 by the IPUMS project.

Given the insurance variables available in the CPS, I measure the effects of being in the treatment group on various health insurance outcomes including having any insurance coverage, Medicaid coverage, private insurance coverage, employer-provided coverage, own group insurance, and dependent group insurance. The treatment group in the models below is defined as those ages 22 to 25, with the control group comprised of those ages 26 to 29. Since the ACA dependent coverage provision went into effect in September 2010, and the March CPS asks participants about insurance coverage in the past year, the treatment period is defined as the year being greater than or equal to 2011. Therefore in the CPS, we have three years before (2008-2010) and two years after (2011 and 2012) the ACA. When measuring the effects of being in the treatment group on the various outcomes, I include dummy variables for race, sex, age, year,

ethnicity, and state. This particular data set contains information on 119,597 observations of a number of labor market and demographic variables for people ages 22 to 29 over the years 2008 through 2012.

The Integrated Health Interview Survey (IHIS), on the other hand, is a harmonized set of data and documentation based on material originally included in the public use files of the U.S. National Health Interview Survey (NHIS). The (NHIS) is the principal source of information on the health of the civilian noninstitutionalized population of the United States and is one of the major data collection programs of the National Center for Health Statistics (NCHS), which is part of the Centers for Disease Control and Prevention (CDC). While the NHIS has been conducted continuously since 1957, the content of the survey has been updated about every 10-15 years. The NHIS is a cross-sectional household interview survey. Sampling and interviewing are continuous throughout each year. The sampling plan follows a multistage area probability design that permits the representative sampling of households and noninstitutional group quarters (e.g., college dormitories). The sampling plan is redesigned after every decennial census. The current sampling plan was implemented in 2006. It has many similarities to the previous sampling plan, which was in place from 1995 to 2005. The first stage of the current sampling plan consists of a sample of 428 primary sampling units (PSU's) drawn from approximately 1,900 geographically defined PSU's that cover the 50 States and the District of Columbia. A PSU consists of a county, a small group of contiguous counties, or a metropolitan statistical area. This particular NHIS data set contains 49,242 observations on a host of variables for respondents ages 22 to 29 in the years 2008-2012. While the March CPS asks respondents about insurance coverage in the past year, the NHIS data set contains point-in-time information – whether respondents had insurance when asked at that moment. As in the CPS, the treatment group is

defined as those ages 22 to 25 with the year being greater than or equal to 2011. The control group likewise consists of 26 to 29 year olds. The insurance variables in the NHIS data set differ somewhat from those in the CPS. As with the CPS, I measure the effects of being in the treatment group on any insurance coverage, private insurance coverage, and Medicaid coverage. The NHIS does not contain variables pertaining to whether individuals had their own group insurance or group dependent insurance through 2012, but it contains a variable asking whether health insurance was offered to respondents through their workplace. I refer to this as own employer-provided insurance. I include dummy variables for race, sex, age, year, ethnicity, and region. (I constructed variables to indicate region in the CPS as well to test whether the results are sensitive to the inclusion of region as opposed to state covariates. There are no significant differences in the coefficients based on whether the region or state effects are included.)

Simply examining the changes in insurance rates over time for this group may provide biased estimates of the impact of the ACA if there are secular changes in insurance rates over time unrelated to the legislated changes. Given that we enter and exit the Great Recession over this period and uninsurance rates are tied to the unemployment rate, this is a distinct possibility. Therefore, we need to identify a group whose coverage rates were not impacted by the ACA over this period but would provide an estimate of how insurance rates for the treatment group would have trended over time. I have selected a control group that comprises those ages 26 to 29. In order for the difference-in-difference model to be valid, it is important to show that insurance rates followed similar trends for those in the treatment group (22 to 25) and those in the control group (26 to 29) in the years preceding the implementation of the ACA dependent coverage provision. Figure 1 shows trends in health insurance coverage of any form for both groups between 2000 and 2012 using the NHIS. As shown in Figure 1, the slope of *any health insurance*

rates follows similar trajectories for both treatment and control groups in the years leading up to the 2010 ACA implementation. Insurance rates for both groups drop off sharply between 2008 and 2010, reflecting the flow-through of the Great Recession to employment and, consequently, health insurance coverage. Figure 1 also displays the much lower level of insurance coverage of the treatment group compared to the control group. Figure 2 shows the same trend using the CPS over a shorter time period: both treatment and control groups follow roughly the same trajectory of slowly declining insurance rates from 2008 to 2009 and a sharp decline in insurance coverage from 2009 until 2010. Simon et al. (2012) find similar patterns of insurance rates prior to the ACA between the treatment and control groups. The 26 to 29 group, then, provides a good estimate of what would have happened to the treatment group in the absence of the ACA.

Table 1 presents summary statistics for both data sets. As displayed, approximately 50 percent of young adults in both the CPS and NHIS are uninsured, highlighting the motivation behind the ACA provision. It is also important to note that, even in a theoretically healthy young sample of 22 to 29 year olds, 27.1 percent of NHIS and 27.6 percent of CPS respondents reported that their health status was less than “very good.” These numbers are not trivial and again reinforce the importance of health insurance coverage for young adults.

V. Empirical Strategy and Results

Basic difference in difference

We have data that varies across people (i) and time (t). There are two groups, those in the treatment group (aged 22-25) and those in the comparison sample (aged 26-29). This is captured by the Treat dummy variable that equals 1 if the respondent is aged 22-25. There are two time periods, before and after the ACA, and this is captured by the ACA dummy variable that equals

1 after the ACA becomes effective. The simple difference in difference specification which is captured in Table 2 can be thought of as being generated by the equation below where β_3 is the difference in difference estimate

$$y_{it} = \beta_0 + Treat_i \beta_1 + ACA_t \beta_2 + Treat_i * ACA_t \beta_3 + \varepsilon_{it}$$

Now I want to control for more covariates. Let's add some descriptive characteristics of the respondents such as their age, race, ethnicity, etc. Call this X. Because X captures age differences there is no need for the Treat dummy variable. I also add year effects λ_t which eliminates the need for the ACA dummy. The treatment effect β_3 is still captured by the interaction variable $Treat_i * ACA_t$

$$y_{it} = \pi_0 + X_{it} \pi_1 + \lambda_t + Treat_i * ACA_t \beta_3 + \varepsilon_{it}$$

Table 2 provides difference-in-difference estimates using the simple method of subtracting pre-ACA means from post-ACA means and subtracting this difference for the control (older) group from the difference for the treatment (younger) group. This method provides estimates on the effects of the ACA that are nearly identical to the coefficients provided through a simple regression with no covariates. As seen in Table 2, the data set generates an estimate of a 2.4 percentage point increase in insurance among young adults after the ACA. Looking at the other insurance variables in the CPS data set, it is easy to see that this 2.4 percentage point increase is in line with the increase in dependent coverage offset by the decrease in own group insurance. There is a 5.5 percentage point increase in group dependent insurance offset by a 3.4 percentage point reduction in own group insurance, for a net increase in insurance of about 2.1 percentage points, which is very close to the *any insurance* estimate. The NHIS data set generates an estimate of a 6.3 percentage point increase in insurance coverage for young adults. Though this is clearly much higher than the CPS coefficient, it could be explained by the fact

that the NHIS contains point-in-time information about insurance coverage. In other words, individuals may be more likely to have insurance at a certain point in time than they are to have had insurance over the course of the past year. The NHIS difference-in-difference calculation also shows a 1.4 percentage point reduction in own employer-provided insurance, or whether respondents were offered group health insurance through their workplace. This estimate is important as it suggests that some younger companies are dropping health benefits as a response to the ACA dependent coverage provision, a possible negative side effect of the law.

Tables 3 and 4 provide estimates for the CPS and NHIS, respectively, on the treatment effect of the interaction of being age 22 to 25 post-enactment with the inclusion of covariates for race, age, sex, year, ethnicity, and state or region. In both data sets, the coefficients are stronger after controlling for demographic variables. The CPS generates an estimate of a 2.7 percentage point increase in insurance coverage, while the NHIS data shows a 6.5 percentage point increase in coverage. These estimates are both highly statistically significant: the t-statistic on the CPS coefficient is 4.8 and on the NHIS coefficient is 7.9. The coefficients on own group insurance and group dependent insurance in Table 3 are also of interest. There is a 5.7 percentage point increase in dependent insurance coverage, offset by a 3.1 percentage point fall in young adults with their own group insurance. This difference between alternate forms of insurance suggest a net increase in insurance coverage of 2.6 percentage points, which is approximately equal to the 2.7 percentage point increase in any type of insurance. On a basis of 67.6 percent of young adults who had any form of insurance coverage in 2010, this increase represents a roughly 4 percent increase in coverage for 22 to 25 year olds. The NHIS estimate of a 6.5 percentage point increase in any form of insurance, on the other hand, represents a 10.5 percent reduction in uninsurance based on a 2010 mean of 61 percent of young adults insured. While there are no statistically

significant changes in Medicaid or employer-provided insurance, Table 3 shows there is also a 3.5 percentage point increase in private coverage. On a basis of 54.6 percent of 22 to 25 year olds with private insurance in 2010, this increase represents about a 6.5 percent increase in private insurance coverage for this group. Though the NHIS data set is more limited in the types of insurance coverage explored, Table 4 shows that there is an increase in private insurance coverage of 6.4 percentage points – similar in magnitude to the 6.5 percentage point increase in any insurance. There are no statistically significant changes to Medicaid coverage or to whether individuals were offered insurance through their workplace. Tables 3 and 4, then, show that there is a significant increase in insurance coverage for young adults after the ACA, that this increase is coming from private insurance options, and that this increase can be broken down into a rise in dependent coverage offset by a fall in the number of young adults with their own group coverage.

I next look further at the heterogeneity in the effects of the expansion on different measures of insurance when the 22 to 25 group is broken down further by age, race, and sex. I first look at each year included in the 22 to 25 age group. In the CPS data, the coefficients of the greatest magnitude are those on own group insurance and group dependent insurance. Interestingly, as seen in Table 5, the increase in group dependent insurance is *more* than offset by the fall in own group insurance. The drop in own group insurance and take-up of group dependent insurance is strongest for 23 and 24 year olds. This could reflect the fact that many young adults are still in college at age 22, and the effects of the expansion of coverage are thus being felt most strongly by those who have most recently graduated or left school – those at age 23 and 24. Those age 25, on the other hand, may be more likely to have more stable jobs with good benefits and thus less likely to drop their own insurance for dependent coverage. While

there are no statistically significant changes in any insurance or private insurance for any age group shown, Table 5 also shows statistically significant increases in Medicaid for 22, 23, and 25 year olds, as well as significant drops in employer provided coverage. These findings suggest that the overall increase in insurance coverage for young adults after the ACA is coming from a combination of a drop in own group insurance, a take-up of dependent coverage, and an increased reliance on Medicaid.

Table 6 shows similar patterns by age group using the NHIS data. Though the NHIS estimates are again larger in magnitude than those generated by the CPS data, there is a statistically significant increase in any insurance coverage only for 23 and 24 year olds. Table 6 shows that there is about a 4 percentage point increase in insurance coverage for 23 year olds and a 5.4 percentage point increase for 24 year olds. There is also a statistically significant increase in private insurance of about 4.4 percentage points for both 23 and 24 year olds, showing that the increase in overall coverage is coming from the private sector. The stronger effects for these two age groups are consistent with the pattern seen in the CPS results, with smaller or negligible increases in coverage for 22 and 25 year olds and higher insurance take-up rates for 23 and 24 year olds. Again this could suggest that 22 year olds are still enrolled in school and covered by dependent insurance already, while 25 year olds contain better insurance options through their employers. The final column in Table 6 is also of interest: there is a statistically significant drop in whether insurance is offered through the workplace for every age group shown. Since employers cannot systematically drop coverage of a certain age group, these findings suggest that many younger companies are simply choosing not to offer health benefits to any employees in response to the ACA expansion of dependent coverage.

I next look at the heterogeneity in the effects of the dependent coverage provision by race. Tables 7 and 8 present estimates on changes in insurance coverage for Whites, Blacks, and Hispanics. As one might expect, across all forms of insurance in the CPS data except Medicaid, the changes in coverage are greatest for Whites. A larger increase in dependent coverage for Whites is consistent with patterns of higher availability of (parental) employer-provided insurance (KFF 2009). There is a statistically significant increase in any insurance coverage for Whites only, of about 2.7 percentage points. There is an increase in private insurance for Whites and Hispanics of 3.8 and 3.2 percentage points, respectively, and an increase in group dependent coverage for all three groups. The offsetting effect of a drop in own group coverage is statistically significant only for Whites: there is a 4 percentage point reduction in own group insurance for this group. The NHIS estimates in Table 8 tell a slightly different story. In Table 8, the largest spike in overall insurance rates is clearly for Blacks, though the coefficients for any insurance and private insurance are high in magnitude for all groups shown. Blacks experience an 8.7 percentage point increase in any type of insurance, and a 10.6 percentage point increase in private insurance. On a basis of roughly 59 percent of Blacks who had any insurance in 2010, this 8.7 percentage point increase represents a 14.9 percent increase in coverage, while the 10.6 percentage point increase in private coverage represents a drastic 32.9 percent rise in private insurance. I find a 7 percentage point increase in any insurance and a 6.3 percentage point increase in private insurance for Whites using the NHIS, as well as a 4.4 percentage point increase in overall coverage and a 4.9 percentage point increase in private coverage for Hispanics. Interestingly, there is a statistically significant drop in whether insurance was offered at work only for Hispanics: a decrease of approximately 3 percentage points.

Tables 9 and 10 show the heterogeneity in the effects of the expansion by sex. I find a greater increase in insurance coverage for males than for females in both the CPS and NHIS. Table 9 shows a 3.8 percentage point increase in any insurance coverage for males, more than twice the 1.7 percentage point increase for females. The difference between the estimates on group dependent and own group insurance again net to roughly the coefficients on any insurance and private insurance in Table 9. Using the NHIS, Table 10 shows a 7 percentage point increase in any insurance for males, and a 5.9 percentage point increase for women. The stronger effect for males is puzzling, but is consistent with Simon et al.'s estimates. Some economists have noted the increase in idleness among young adult males in recent years – or an increase in the number of young adult men who are neither employed, enrolled in school, nor looking for work (Erceg and Levin 2013). Such a population would take up dependent coverage at a higher rate. However, the March CPS data shows that, though there has certainly been a large increase in idleness among young men in recent years, there has been a much sharper increase in idleness among young adult women since 2012. Further research is necessary to determine the dynamics behind the greater increase in dependent coverage for men than for women under the ACA.

Finally, I explore whether there is any heterogeneity in the effects of the dependent coverage expansion by firm size. Smaller firms – here defined as those having less than 100 employees – are known for having more limited health insurance options, if they offer health insurance at all, because of the high administrative costs. One might expect, then, that young adults working for small firms would take up dependent insurance coverage at a higher rate, as their employers likely offer more limited coverage than those at larger firms. Tables 11 and 12 show that this is indeed the general trend. As seen in Table 11, there is a 4.2 percentage point increase in overall insurance coverage for young adults working at small firms, and no

statistically significant increase in insurance for those at large firms. This does not mean, however, that young adults at larger firms are not switching the *type* of insurance they hold. The *own group* and *group dependent* columns in Table 11 are very telling. Here, I find that small-firm employees see a 5.2 percentage point increase in dependent insurance coverage, while large-firm employees experience a greater 6.3 percentage point increase. While the small firm employees' increase in dependent coverage is offset by only a 1.5 percentage point decline in their own group insurance, however, the large-firm employees' increase in dependent coverage is almost entirely offset by the 5.3 percentage point drop in own coverage. Thus, while there is a real increase in overall insurance coverage for young adults working at small firms, for those working at large firms there is a switch in the type of insurance rather than any real change in the amount. I find a similar trend in overall insurance coverage using the NHIS. As seen in Table 12, there is a 6.8 percentage point increase in any insurance for small-firm employees, and a 3.9 percentage point increase for large-firm employees. There is also a 6.4 percentage point increase in private insurance for small-firm employees and a 6.1 percentage point increase for large-firm employees. Interestingly, there is a statistically significant reduction in Medicaid coverage for large-firm employees of about 2.9 percentage points, suggesting some reverse crowd-out. There is no evidence of changes to whether young adults were offered health insurance through their workplace, regardless of employer firm size. These results suggest that expansion of dependent coverage, then, succeeded in increasing the insurance coverage for young adults working at small firms and caused those at large firms to switch out of their own group insurance and onto dependent health plans.

VI. Limitations and Conclusions

Some limitations of this paper should be noted: it uses different data sets than Simon et al., and thus does not provide a direct comparison. The CPS also uses a broad dependent coverage variable, as opposed to Simon et al. who uses a more specific measure of whether participants are covered by their parents' insurance, again making direct comparison difficult. Additionally, the CPS data set does a poor job of identifying who has Medicaid coverage especially through Medicaid managed care programs, making it difficult to draw conclusions from the Medicaid effects here with much confidence.

This paper does, however, extend the research another year past Simon et al.'s period of study, giving some legitimacy to its estimates given that the data is more recent and relevant than Simon et al.'s. More importantly, I use the same econometric model in two different data sets demonstrating that basic direction of the results is the same across the two samples, but the point estimates vary considerably across the two samples.

This paper shows that the expansion of dependent coverage under the ACA achieved its intended purpose of increasing health insurance coverage for young adults. I find a 2.7 percentage point reduction in uninsurance for young adults using the CPS samples, and a 6.5 percentage point reduction in uninsurance using data from the NHIS. These estimates fall on either side of Simon et al.'s estimate of a 3.2 percentage point reduction in uninsurance. The insurance patterns behind these estimates, however, are more complex than a simple increase in coverage. The overall increase in any type of coverage is statistically significant only for 23 and 24 year olds and for small-firm but not large-firm employees. The increase is much more pronounced for males than for females and for Whites and Blacks than for Hispanics. Some groups, though they did not experience an increase in the overall amount of insurance coverage,

switched types of health insurance coverage. The group dependent and own group insurance variables in the CPS allow a closer look at the insurance crowd-out dynamics. Employees at large firms, for example, though they did not experience any overall increase in insurance coverage, experienced a large increase in dependent insurance coverage which was almost entirely offset by a reduction in own group insurance. Additionally, there is some evidence of firms dropping insurance options through the workplace given the small but statistically significant reductions in the NHIS own employer-provided insurance variable, and suggestive evidence of some reductions in Medicaid coverage for large-firm employees. Though the ACA has succeeded thus far then in expanding health insurance for young adults, this expansion has been for a limited group – 23 and 24 year olds – and has come at the expense of offsetting effects in other forms of insurance, such as own group insurance, insurance offered through the workplace, and Medicaid, for all groups. Further research is necessary to explore the extent of the offsetting effects of the ACA.

Appendix

Figure 1 NHIS Insurance Trends 2000-2012

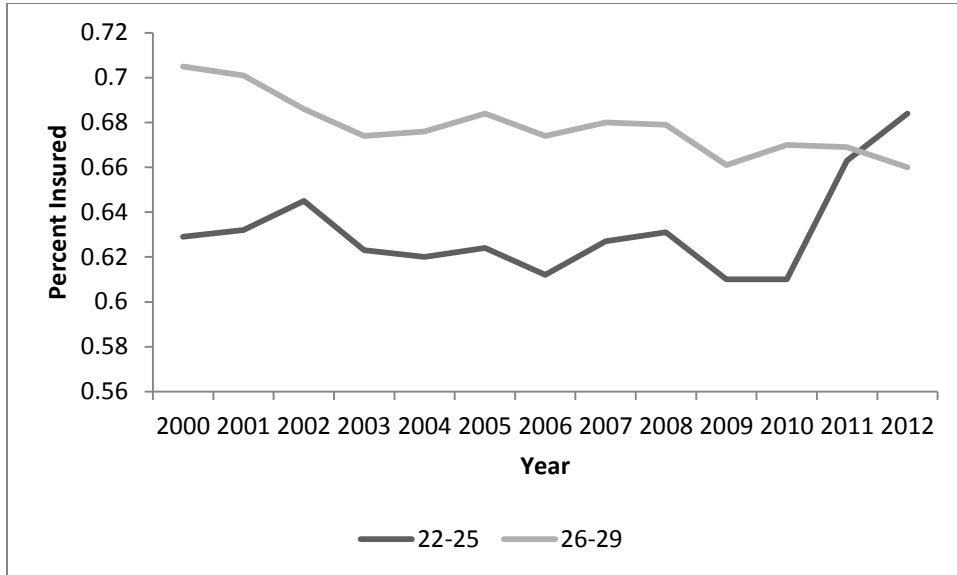


Figure 2 CPS Insurance Trends 2008-2012

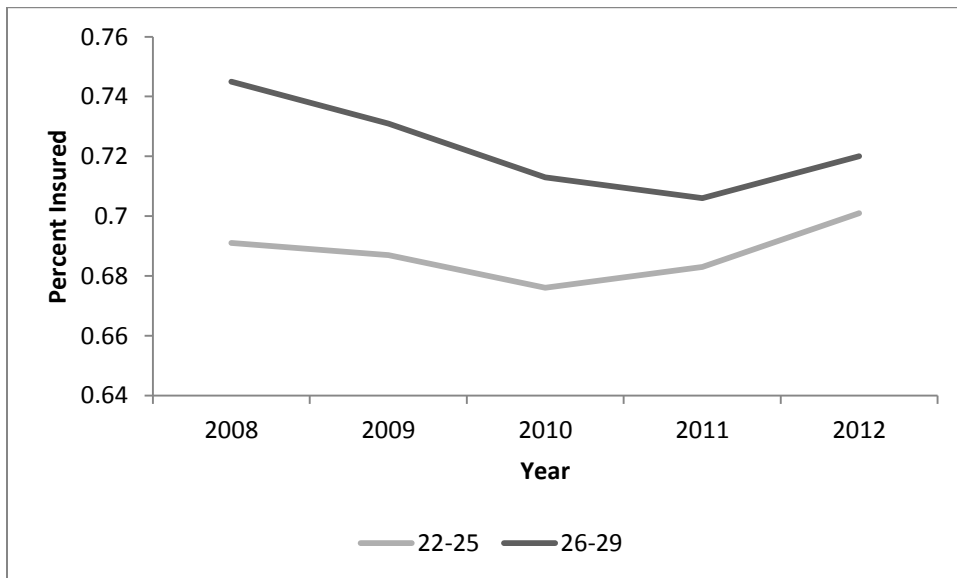


Table 1: Descriptive Statistics for 2008-2012 NHIS and March CPS

Demographic group	% of respondents	
	NHIS	CPS
Gender		
Female	51.93	52.15
Male	48.07	47.85
Race/Ethnicity		
White	74.50	76.33
Black	15.15	12.40
American Indian/Eskimo	1.24	1.59
Asian	6.37	6.38
Hispanic	20.7	22.42
Age		
22-25	50.12	48.22
26-29	49.88	51.79
Insurance Status		
Covered by any insurance	65.57	70.57
Covered by Medicaid	8.73	11.19
Covered by any private insurance	52.35	57.88
Covered by employer-provided insurance		50.99
Group health insurance in own name last year		34.84
Own group health insurance offered through work	44.73	
Dependent covered by group insurance last year		17.25
Health Status		
Excellent	39.39	37.57
Very good	33.32	34.81
Good	22.39	22.34
Fair	4.11	4.23
Poor	0.58	1.05
Observations	49,242	119,597

Table 2: Difference in Difference Estimates,
 Respondents Aged 22-29, 2008-2012 NHIS and March CPS

	Treatment group Ages 22-25			Control Group Ages 26-29			Difference in Difference (3) – (6)
	Before ACA (1)	After ACA (2)	Difference (3)=(2) –(1)	Before ACA (4)	After ACA (5)	Difference (6)=(5) –(4)	
2008-2012 March CPS (119,597 Observations)							
Has any insurance	0.684	0.692	0.008	0.729	0.713	-0.016	0.024 (0.0059)
Medicaid	0.119	0.130	0.011	0.106	0.122	0.016	-0.005 (0.0042)
Has private insurance	0.564	0.562	-0.002	0.620	0.586	-0.034	0.032 (0.0064)
Employer-provided insurance	0.470	0.440	-0.030	0.572	0.534	-0.038	0.008 (0.0064)
Own group insurance	0.310	0.242	-0.068	0.434	0.400	-0.034	-0.034 (0.0061)
Group dependent insurance	0.156	0.215	0.059	0.155	0.159	0.004	0.055 (0.0048)
2008-2012 NHIS (49,242 Observations)							
Has any insurance	0.617	0.674	0.057	0.670	0.664	-0.006	0.063 (0.0086)
Medicaid	0.105	0.117	0.012	0.098	0.103	0.005	0.007 (0.0055)
Has private insurance	0.459	0.501	0.042	0.520	0.503	-0.017	0.059 (0.0090)
Employer provided insurance	0.366	0.342	-0.024	0.485	0.475	-0.010	-0.014 (0.0089)

Note: Standard errors in parentheses.

Table 3: Linear Probability Estimates of Insurance Coverage,
2008-2012 March CPS, Respondents Age 22-29

	Any Insurance	Medicaid	Private Insurance	Employer Provided	Own Group Insurance	Group Dependent Insurance
	Coefficient (standard error)					
Treat	0.0273 (0.0057)	-0.0020 (0.0040)	0.0353 (0.0062)	0.0116 (0.0063)	-0.0308 (0.0060)	0.0571 (0.0047)
R ²	0.0763	0.0466	0.0713	0.0571	0.0649	0.0405
	Dependent Variable means (standard deviations) in 2010					
Treatment	0.6758 (0.4681)	0.117 (0.321)	0.5461 (0.4979)	0.4449 (0.4970)	0.2819 (0.4499)	0.1545 (0.3615)
Control	0.7128 (0.4525)	0.1188 (0.3235)	0.5896 (0.4919)	0.5397 (0.4984)	0.4116 (0.4922)	0.1433 (0.3504)

Note: Number of observations is 100,043. Covariates are included for race, sex, age, ethnicity, state, and year.

Table 4: Linear Probability Estimates of Insurance Coverage,
2008-2012 NHIS, Respondents Age 22-29

	Any Insurance	Medicaid	Private Insurance	Own Employer- Provided Insurance
	Coefficient (standard error)			
Treat	0.0645 (0.0081)	0.0033 (0.0054)	0.0638 (0.0086)	-0.0120 (0.0087)
R ²	0.1060	0.0593	0.0998	0.0599
	Dependent Variable means (standard deviations) in 2010			
Treatment	0.6103 (0.4877)	0.1113 (0.3145)	0.4424 (0.4976)	0.3458 (0.4757)
Control	0.6700 (0.4703)	0.1019 (0.3026)	0.5083 (0.5000)	0.4714 (0.4992)

Note: Number of observations is 49,242. Covariates are included for race, sex, age, ethnicity, region, and year.

Table 5: Linear Probability Estimates of Insurance Coverage,
For Specific Ages 2008-2012 March CPS

Age group	Any insurance	Medicaid	Private insurance	Employer provided	Own Group	Group Dependent
22	0.0205 (0.0129) [0.6793]	0.0281 (0.0096) [0.1473]	-0.0088 (0.0138) [0.5353]	-0.0373 (0.0140) [0.3982]	-0.0991 (0.0111) [0.1714]	0.0703 (0.0123) [0.2252]
23	0.0196 (0.0134) [0.6563]	0.0337 (0.0093) [0.1151]	-0.0113 (0.0141) [0.5408]	-0.0622 (0.0143) [0.4286]	-0.1256 (0.0126) [0.2558]	0.0833 (0.0112) [0.1599]
24	0.0128 (0.0133) [0.6851]	0.0053 (0.0096) [0.1324]	0.0002 (0.0142) [0.5486]	-0.0494 (0.0145) [0.4542]	-0.1002 (0.0135) [0.3129]	0.0796 (0.0104) [0.1247]
25	-0.0064 (0.0129) [0.6814]	0.0217 (0.0089) [0.1162]	-0.0173 (0.0138) [0.5587]	-0.0514 (0.0141) [0.4947]	-0.0869 (0.0137) [0.3796]	0.0480 (0.0098) [0.1117]

Note: Number of observations is 12,034 for age 22, 11,786 for age 23, 11,830 for age 24, and 12,429 for age 25. Covariates are included for race, sex, age, ethnicity, state, and year. Standard errors are in parentheses, means of 2010 outcomes in brackets.

Table 6: Linear Probability Estimates of Insurance Coverage,
For Specific Ages 2008-2012 NHIS

Age group	Any Insurance	Medicaid	Private Insurance	Own Employer Provided
22	0.0288 (0.0191) [0.5911]	0.0207 (0.0128) [0.1113]	-0.0176 (0.0200) [0.4221]	-0.0623 (0.0185) [0.2597]
23	0.0401 (0.0192) [0.6101]	-0.0029 (0.0124) [0.1078]	0.0436 (0.0198) [0.4437]	-0.0341 (0.0195) [0.3447]
24	0.0543 (0.0191) [0.6092]	0.0231 (0.0130) [0.1150]	0.0435 (0.0198) [0.4325]	-0.0567 (0.0201) [0.3675]
25	0.0317 (0.0188) [0.6301]	0.0358 (0.0126) [0.1112]	-0.0214 (0.0199) [0.4706]	-0.0767 (0.0202) [0.4102]

Note: Number of observations is 6,094 for age 22, 6,169 for age 23, 6,026 for age 24, and 6,173 for age 25. Covariates are included for race, sex, age, ethnicity, region, and year. Standard errors are in parentheses, means of 2010 outcomes in brackets.

Table 7: Linear Probability Estimates of Insurance Coverage,
by Race, 2008-2012 March CPS, Respondents Age 22-29

Ethnicity	Any Insurance	Medicaid	Private Insurance	Employer Provided	Own Group Insurance	Group Dependent
White/Non-Hispanic	0.0292 (0.0071) [0.7522]	-0.0051 (0.0052) [0.1078]	0.0382 (0.0081) [0.6379]	0.0068 (0.0085) [0.5090]	-0.0406 (0.0083) [0.3241]	0.0638 (0.0068) [0.1825]
Black	0.0172 (0.0170) [0.6356]	-0.0218 (0.0140) [0.2038]	0.0325 (0.0181) [0.4389]	0.0224 (0.0179) [0.3817]	-0.0157 (0.0165) [0.2296]	0.0561 (0.0116) [0.1348]
Hispanic	0.0157 (0.0133) [0.5033]	-0.0112 (0.0087) [0.1358]	0.0315 (0.0134) [0.3727]	0.0192 (0.0131) [0.3200]	-0.0128 (0.0118) [0.2026]	0.0379 (0.0088) [0.1011]

Note: Number of observations is 56,032 for White/Non-Hispanics, 12,392 for Blacks, and 22,334 for Hispanics. Covariates are included for race, sex, age, ethnicity, state, and year. Standard errors are in parentheses, means of 2010 outcomes for treatment in brackets.

Table 8: Linear Probability Estimates of Insurance Coverage,
by Race, 2008-2012 NHIS, Respondents Age 22-29

Ethnicity	Any Insurance	Medicaid	Private Insurance	Own Employer Provided
White/Nonhispanic	0.0702 (0.0112) [0.7246]	0.0074 (0.0069) [0.0788]	0.0632 (0.0127) [0.5853]	-0.0046 (0.0129) [0.4174]
Black	0.0874 (0.0214) [0.5876]	-0.0179 (0.0176) [0.2050]	0.1063 (0.0221) [0.3230]	0.0128 (0.0220) [0.3130]
Hispanic	0.0436 (0.0162) [0.4403]	-0.0002 (0.0108) [0.1281]	0.0491 (0.0154) [0.2660]	-0.0307 (0.0154) [0.2600]

Note: Number of observations is 23,378 for White/Nonhispanics, 7,782 for Blacks, and 14,081 for Hispanics. Covariates are included for race, sex, age, ethnicity, region, and year. Standard errors are in parentheses, means of 2010 outcomes for treatment group in brackets.

Table 9: Linear Probability Estimates of Insurance Coverage,
by Sex, 2008-2012 March CPS, Respondents Age 22-29

Sex	Any Insurance	Medicaid	Private Insurance	Employer Provided	Own Group Insurance	Group Dependent
Male	0.0377 (0.0085) [0.6299]	0.0001 (0.0050) [0.0838]	0.0396 (0.0089) [0.5398]	0.0187 (0.0091) [0.4384]	-0.0351 (0.0088) [0.2988]	0.0688 (0.0060) [0.1284]
Female	0.0173 (0.0076) [0.7190]	-0.0098 (0.0062) [0.1689]	0.0314 (0.0085) [0.5520]	0.0051 (0.0087) [0.4511]	-0.0269 (0.0082) [0.2660]	0.0471 (0.0072) [0.1791]

Note: Number of observations is 47,811 for males and 52,232 for females. Covariates are included for race, sex, age, ethnicity, state, and year. Standard errors are in parentheses, means of 2010 outcomes for treatment group in brackets.

Table 10: Linear Probability Estimates of Insurance Coverage,
by Sex, 2008-2012 NHIS, Respondents Age 22-29

Sex	Any Insurance	Medicaid	Private Insurance	Own Employer Provided
Male	0.0705 (0.0121) [0.5478]	0.0019 (0.0058) [0.0528]	0.0750 (0.0124) [0.4415]	-0.0145 (0.0126) [0.3603]
Female	0.0590 (0.0110) [0.6711]	0.0058 (0.0088) [0.1683]	0.0533 (0.0119) [0.4434]	-0.0095 (0.0119) [0.3317]

Note: Number of observations is 23,669 for males and 25,573 for females. Covariates are included for race, sex, age, ethnicity, region and year. Standard errors are in parentheses, means of 2010 outcomes for treatment group in brackets.

Table 11: Linear Probability Estimates of Insurance Coverage,
by Firm Size, 2008-2013 March CPS, Respondents Age 22-29

Firm Size	Any Insurance	Medicaid	Private Insurance	Employer-Provided Insurance	Own Group Insurance	Group Dependent Insurance
Less than 100	0.0418 (0.0081) [0.6040]	-0.0018 (0.0062) [0.1586]	0.0506 (0.0084) [0.4452]	0.0292 (0.0083) [0.3386]	-0.0148 (0.0068) [0.1555]	0.0524 (0.0067) [0.1665]
Greater than 100	0.0085 (0.0075) [0.7625]	-0.0095 (0.0051) [0.0902]	0.0168 (0.0084) [0.6681]	-0.0109 (0.0088) [0.5734]	-0.0526 (0.0092) [0.4346]	0.0629 (0.0066) [0.1400]

Note: Number of observations is 53,572 for small firms and 46,471 for large firms. Covariates are included for race, sex, age, ethnicity, state, and year. Standard errors are in parentheses, means of 2010 outcomes for treatment group in brackets.

Table 12: Linear Probability Estimates of Insurance Coverage,
by Firm Size 2008-2012 NHIS, Respondents Age 22-29

Firm Size	Any Insurance	Medicaid	Private Insurance	Own Employer- Provided Insurance
Less than 100	0.0682 (0.0089) [0.5880]	0.0079 (0.0059) [0.1124]	0.0642 (0.0093) [0.4194]	-0.0144 (0.0092) [0.3161]
Greater than 100	0.0393 (0.0190) [0.7778]	-0.0292 (0.0134) [0.1024]	0.0605 (0.0222) [0.6163]	-0.0059 (0.0229) [0.5694]

Note: Number of observations is 42,394 for small firms and 6,848 for large firms. Covariates are included for race, sex, age, ethnicity, region, and year. Standard errors are in parentheses. Means of 2010 outcomes for treatment group in brackets.

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