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# The Effect of Health Reform on Retirement

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# The Effect of Health Reform on Retirement


## Abstract

Many studies have shown that the availability of health insurance is an important determinant of the retirement decision. Beginning in January 2014, the Affordable Care Act (ACA) made affordable alternatives to employer-sponsored health insurance much more widely available than they had been previously through the establishment of health insurance exchanges and, in some states, the expansion of Medicaid eligibility to low-income, childless adults. We analyze whether these new health insurance options led to an increase in retirement or part-time work among individuals ages 55 through 64 during the first 18 months after the policy took effect. Using data from the basic monthly Current Population Survey from January 2005 through June 2015, we find that there was no increase in retirement in 2014 either overall or in Medicare expansion states relative to nonexpansion states. We also find no change in the fraction of older workers who are working part-time.


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## Introduction

Most Americans obtain health insurance as a fringe benefit of employment (Smith & Medalia, 2014). Prior to the Affordable Care Act, few alternatives to employer-sponsored coverage were available for early retirees. This may have discouraged retirement before age 65, the age of near-universal eligibility for Medicare. Beginning in 2014, the Affordable Care Act (ACA) made alternatives to employer-sponsored health insurance available through two channels. First, the ACA established a health insurance marketplace for nongroup coverage, known as an "exchange," in every state. These marketplaces pool risk, encourage price competition between insurers, impose minimum standards on the benefits provided, and administer substantial subsidies for individuals with family income below 400 percent of poverty. Combined with new rules that limit the allowable variation in premiums with regard to age and prohibit insurers from using health information to set premiums or deny coverage, exchanges should substantially lower the cost of nongroup coverage for most early retirees. Second, about half of all states are taking advantage of an ACA provision that allows them to expand Medicaid coverage to low income adults (those with family incomes below 138 percent of the poverty level, or about $22,000 for a couple in 2014). Taken together, these provisions imply a dramatic increase in the availability of affordable alternatives to employer-sponsored coverage for workers nearing retirement. To the extent that older workers had been experiencing "job lock" – that is, remaining in jobs only because those jobs provided health insurance – these new alternatives might be expected to increase retirement or other reductions in labor supply, such as a shift from full-time to part-time work.

The possibility of such reductions in labor supply has been one of the most politically contentious aspects of health reform. The nonpartisan Congressional Budget Office (CBO) projects that ACA will reduce hours worked by 1.5 to 2.0 percent (the equivalent of 2.0 to 2.5 million workers) during the period 2017 to 2024 (Congressional Budget Office, 2014). CBO attributes this effect mainly to reductions in labor supply as opposed to labor demand, but does not make detailed projections about how these reductions might be split between reductions in hours (e.g. shifts from full-time to part-time work) versus exits from the labor force (e.g. retirement), nor do they make projects for workers in specific ages ranges. Nonetheless, given the relatively greater value of health insurance for older workers, it seems reasonable that the largest labor supply effects might be observed in this group.

In this paper, we present evidence from the Current Population Survey on trends in retirement through June 2015, 18 months after the ACA's major coverage provisions took effect. We find no evidence of increases in part-time work or retirement among individuals ages 55 to 64 in 2014 or 2015 compared with earlier years. We also find that there is no differential trend in either outcome in states that have chosen to expand Medicaid under the Affordable Care Act compared with those that have not.

*Background on health insurance and retirement*

A large literature analyzes the effect of health insurance on the retirement decision (Blau & Gilleskie, 2001, 2006, 2008; Fitzpatrick, 2014; French & Jones, 2011; Gruber & Madrian, 1995, 1996; Gustman & Steinmeier, 1994; Johnson, Davidoff, & Perese, 2003; Karoly & Rogowski, 1994; Leiserson, 2013; Lumsdaine, Stock, & Wise, 1996; Madrian & Beaulieu, 1998; Madrian, Burtless, & Gruber, 1994; Nyce, Schieber, Shoven, Slavov, & Wise, 2013; Robinson & Clark, 2010; Rogowski & Karoly, 2000; Rust & Phelan, 1997; Scholz & Seshadri, 2013; Shoven & Slavov, 2014; Strumpf, 2010). Nearly all of these papers find that the availability of insurance that is not contingent upon one's own continued work – which could be from Medicare, as a dependent on a spouse's policy, from coverage intended for early retirees, or from COBRA – significantly increases the probability of retirement.

A related literature uses exogenous changes in eligibility for public insurance coverage to estimate the impact of insurance on labor supply, not necessarily restricting attention to older workers and the retirement decision. Studies that do estimate effects separately for older workers generally find significant labor supply responses to changes in public insurance coverage. One study found substantial increases in labor supply in response to cuts in Medicaid eligibility for childless adults in Tennessee, with the largest increases among individuals ages 40 through 64 (Garthwaite, Gross, & Notowidigdo, 2013). Another study, analyzing the expansion of Medicaid to childless, low-income adults in Wisconsin, found significant reductions in labor supply with the largest effects for individuals over the age of 55 (Dague, DeLeire, & Leininger, 2014). An analysis of Medicaid expansions in 11 different states between 2001 and 2008 finds significant reductions in labor supply in response to these expansions, with the largest effects for workers ages 55 to 64 (Guy, Atherly, & Adams, 2012). There is some evidence that Massachusetts' health insurance reform in 2007 increased in retirement among full-time workers in Massachusetts (Heim & Lin, 2014). In contrast, the Oregon Health Insurance Experiment suggests that there was no labor supply response to the expansion of Medicaid benefits for childless adults in Oregon, although this analysis is for adults of all ages, not only those close to retirement age (Baicker, Finkelstein, Song, & Taubman, 2014).

To summarize: the existing literature strongly suggests that the availability of public health insurance significantly reduces labor supply, particular for individuals nearing retirement.

*Background on the major coverage provisions of the Affordable Care Act*

The Affordable Care Act includes provisions to expand both private coverage and Medicaid that are intended to reach at least some of the 50-million individuals who were uninsured 2010 when the law was enacted (DeNavas-Walt, Proctor, & Smith, 2011). The Medicaid expansions target very low-income, childless adults. Prior to the ACA, states covered low-income children and their families through Medicaid and the State Children's Health Insurance Program (CHIP). However, states typically did not provide coverage for nonelderly, childless adults (Kaiser Family Foundation, 2013). The ACA allocated substantial new federal funding for states to extend coverage to all adults under 138 percent of the federal poverty level. Although the ACA originally required states to expand their Medicaid programs to include this population, a June 2012 Supreme Court ruling made the expansion optional. As of July 2015, 30 states and the District of Columbia have decided to implement the Medicaid expansion. Sixty percent of our sample of individuals ages 55 through 64 live in these states, while the rest live in states that have not expanded Medicaid. Table 1 summarizes state decisions about Medicaid expansion to date. In the majority of the states opting to expand their Medicaid programs, the new eligibility rules went into effect in January 2014.

The law also implements a set of private insurance market reforms, such as prohibiting plans from denying coverage or increasing premiums based on an applicant's pre-existing condition. It also establishes new health-insurance marketplaces, also known as exchanges, which are intended to facilitate individuals' plan choices by providing a website where enrollees can easily compare their plan options. Importantly, the law provides premium subsidies for families with incomes between 100 and 400 percent of poverty to purchase coverage through the marketplaces, provided that they do not already have access to Medicaid or coverage through an employer. An individual's share of the premium is determined on a sliding scale, with the individual's cost capped at between 2 and 9.5 percent of family income. The law also limits how much premiums for exchange plans can vary based on age, so that older enrollees cannot be required to pay more than three times what a younger enrollee would be charged for the same plan.

The net effect of these reforms is that, as of 2014, older individuals face a much lower effective price for health insurance coverage options that do not depend on employment. In addition, the means-tested health insurance subsidies in the ACA (like any means-tested subsidies), reduce the incentive to supply labor (Mulligan, 2014). Both of these effects should, in theory, lead older workers to work less. Whether this is, in fact, what has happened in the 18 months after these provisions took effect is an empirical question, so we now turn to our analysis of data.

**Methods**

*Data: Current Population Survey (CPS) data*

The main data for our analysis come from the basic monthly CPS from January 2005 through June 2015. Each month, the sample includes about 150,000 individuals. We focus on individuals ages 55 through 64 in order to capture the ages in which the hazard of retirement is high – overall in our sample, only five percent of individuals are retired at age 54, and 42 percent are retired at age 64 – but before Medicare becomes universally available at 65. Restricting our sample to individuals who are ages 55 through 64 gives us a sample of 15,000 to 18,000 individuals in each month, depending on the year. Respondents are asked about their labor force status in the week prior to the survey, and this is the basis for categorizing people as retired or not. We use data on actual hours worked to categorize workers as full-time (30 hours per week or more) or part-time (less than 30 hours per week). We chose a 30-hour cutoff to define full-time work because this mirrors the Affordable Care Act's definition for purposes of determining penalties facing employers who do not offer affordable coverage to full-time workers. The results reported below are robust to alternative thresholds for defining full-time.

In addition to using the CPS data to measure how the stock of retired persons changes over time, we also use them to calculate monthly flows out of work and into retirement. In order to do this we link basic monthly CPS data across months. Following the literature, we match observations from one month to the next based on dwelling unit, age (allowing age to change by as much as one year), gender, and race (Feng, 2013; Madrian & Lefgren, 2000; Sonnega et al., 2014). After dropping the outgoing rotation groups – that is, the one-quarter of respondents who are by design not interviewed in the following month – the overall match rate is approximately 63 percent, so our matched sample contains just less than half as many observations as the full sample (because 0.75 * 0.63 = 0.47).

Table 2 shows unweighted sample counts and selected characteristics, by year, for our sample of all individuals who are ages 55 through 64, as well as for the smaller matched month-to-month sample. In the full sample, men make up 48 percent of the sample throughout this period. The fraction with a high school diploma declines from 13.6 percent in 2005 to around 10 percent in 2011 and later years. The matched sample looks very similar to the full sample in terms of both of these characteristics, indicating that any attrition from the survey from one month to the next is not correlated with gender or education. In multivariate analyses of retirement, we will control for gender, education, marital status, and race; the inclusion of these controls changes the results very little.

*Data: Health and Retirement Study*

Supplemental analyses are from the 2012 Health and Retirement Study (HRS). The HRS is a nationally representative, longitudinal study of individuals 50 and older that gathers information on a range of topics including health, labor supply, income, and wealth (Sonnega et al., 2014). The full HRS sample in 2012 included just over 20,000 individuals. Of these, 6,810 individuals were ages 55 through 64 at the time of the survey; 3,617 of those were working either part-time or full-time. These 3,617 workers form the basis for our HRS analysis of health insurance options prior to the ACA. Respondents provide detailed information on both public health insurance, including Medicare and Medicaid, as well as the source of any private health insurance (own employer, spouse's current employer, own former employer, spouse's former employer, union, etc.) Most important for our purposes, those with employer-sponsored insurance coverage are asked whether they would be eligible to continue this coverage if they retired before age 65.

All of the data we use are publicly available, and all analyses are carried out using Stata 14. Both CPS and HRS estimates are weighted, except as noted, using sampling weights provided with the data.

## Results

*How big is the pool of workers most likely to be affected?*

We begin by analyzing the current insurance arrangements for workers approaching retirement just prior to the implementation of the ACA reforms, since those with employer-sponsored insurance that would not cover them in the event of retirement are most likely to alter their labor supply in response to the availability of alternative health insurance coverage. To put it another way: Workers who are already uninsured or have the option of retiree coverage are, by definition, not working just to get health insurance (although these workers may be affected by what are in effect new taxes on earned income, as noted above). Figure 1 tabulates workers ages 55 to 64 in the 2012 HRS based on the sources of actual and potential health insurance coverage they report: coverage from their own employer that they would lose if they retired (the group most affected by new nonemployer options), coverage from their own employer that would continue to cover them if they retired, coverage from a former employer, coverage from a spouse's current or former employer, privately purchased individual coverage, Medicare, Medicaid, or no coverage. Respondents are further grouped by education. Overall, about 40 percent of respondents have coverage from their own employer that they would lose if they retired. This fraction is lower for those with the least education; only 17 percent of respondents who did not finish high school are in this group. Half of all workers in this age range with less than a high school education were uninsured in 2012.

*Retirement trends in expansion versus nonexpansion states*

Figure 2 shows the fraction of individuals ages 55 through 64 who are retired, in each month from January 2005 through June 2015, for those in states that had and had not expanded Medicaid under the ACA as of January 1, 2014. Figure 2 includes dashed lines reflecting 95 percent confidence intervals around each of the trend lines. The main takeaway from this figure is that there is no increase in retirement in 2014 either in absolute terms or in expansion states relative to nonexpansion states. The margin of error is about plus or minus one percentage point so that we can effectively rule out the possibility that the fraction of individuals in this age range who are retired increased by more than a percentage point.

In order to test more formally whether there is any break in trend in either expansion or nonexpansion states, as well as whether trends in retirement prior to 2014 were significantly different across the two groups of states, we estimate multivariate regression models with a dependent variable equal to 1 if an individual is retired and 0 if s/he is not. We estimate linear probability models in order to facilitate the interpretation of the interaction terms, in light of the well-documented complexity of interpreting interaction terms in nonlinear models (Ai & Norton, 2003). Standard errors are clustered at the state level. Explanatory variables include a linear (monthly) time trend, a dummy for being in a Medicaid expansion state, and a dummy for 2014 and later; a full set of interactions between these three variables; and controls for calendar month, gender, race, education, and marital status. The regression models are estimated over three different time periods. In all three models, the ending date is June 2015, and starting dates set at January 2005, January 2008, or January 2012.

Table 3 reports the coefficients on time, expansion vs. nonexpansion status, the "2014 and later" dummy, and the interaction of these three variables. Full regression results with coefficients on all covariates are reported in Appendix Table A1. In all three models, the fraction retired trends slowly downward by about one-fifth of a percentage point per year (0.00024*12), although this trend is insignificant in the model beginning in January 2012 (column 3). Trends in retirement prior to 2014 are similar in expansion and nonexpansion states, as indicated by the insignificant coefficients on the "=1 if expansion" dummy and the "Year/month*expansion" interaction. These trends do not change after 2014, as indicated by the insignificant coefficients on the "Year≥2014" dummy and the three accompanying interaction terms. Thus, we find no evidence of an increase in retirement in 2014 in states that expanded Medicaid, either in absolute terms or relative to states that did not expand Medicaid.

*Monthly flows from work to retirement in expansion versus nonexpansion states*

Figure 3 presents trends in the rate of transitions from work in one month to retirement in the next, using our matched CPS sample. Approximately 1.5 – 2 percent of workers ages 55 through 64 in any given month report being retired in the following month. These estimates are noisier than the estimates of trends in the stock of retirees presented in Figure 2, and this is reflected in the relatively wide 95 percent confidence intervals shown in Figure 4. Additional statistical tests not reported here, including linear regressions like those described above, confirm that the data are too noisy to detect any significant differences between expansion and nonexpansion states in the probability of monthly work-to-retirement transitions. Analyses of trends in *annual* flows from work to retirement (that is, working in January in one year, retired in January of the following year) yield similarly inconclusive results.

*Trends in part-time work*

As already noted, older workers may also respond to new health insurance options by switching to part-time work rather than outright retiring. To investigate this possibility, we present trends in the fraction of workers who work less than 30 hours per week in expansion versus nonexpansion states in Figure 4. Each trend is accompanied by lines indicating a 95 percent confidence interval. The fraction of these workers who are part-time fluctuates but shows no consistent trend over time. The part-time rate is about a percentage point higher in expansion than nonexpansion states, and this gap does not change significantly in January 2014. Coefficients reported in Table 4, with full model results available in Table A3, confirm the absence of any significant break in trend in part-time work.

*Robustness checks*

We tested the robustness of our results to alternative sample and variable definitions, three of which we discuss here: using alternative definitions of part-time work, excluding six states that expanded Medicaid either before or after January 2014, and estimating results separately by education level.

Our results for part-time work, which we have so far defined as working less than 30 hours per week, are very similar if we define part-time work as working less than 25, 35, or 40 hours per week. Thus, we feel confident concluding that there are no significant changes in part-time work, regardless of exactly how this is defined.

Next, we re-estimated our analyses of retirement and part-time work excluding eight states that expanded Medicaid under the Affordable Care Act either before or after January 2014. The excluded states are four that substantially expanded Medicaid between 2010 and 2013: California, Connecticut, the District of Columbia, and Minnesota (Sommers, Kenney, & Epstein, 2014), and four that expanded Medicaid after January 2014: Michigan (expanded in April 1, 2014), New Hampshire (August 15, 2014), Pennsylvania (January 1, 2015); and Indiana (February 1, 2015). Although New Jersey and Washington state also adopted early Medicaid expansion under the ACA, we do not exclude them from the robustness analysis because their early expansions involved primarily or exclusively shifting individuals who had previously been enrolled in state-financed programs onto Medicaid (Sommers et al., 2014); as a result, access to Medicaid expanded substantially for residents of those states in January 2014. Re-estimating our results using the resulting 43 states that expanded their Medicaid programs under the ACA either in January 2014 or not at all yields results that are very similar to those reported above for all 50 states plus D.C.

Finally, we estimate trends in retirement and part-time work by respondents' level of education, in three categories: those with less than a high school education (11 percent of the sample), those with a high school diploma and possibly some additional education but no college degree (58 percent), and those with a college degree or more (31 percent). These subgroup analyses confirm that for all education groups, there was no significant break in trend in the probability of retirement or part-time work, in either expansion or nonexpansion states. There is one intriguing but insignificant exception to this pattern: in the last months of 2014 and the first half of 2015, there appears to be an increase in part-time work among workers without a high school diploma in expansion states, but not in nonexpansion states. This trend will be worth monitoring as more data become available.

**Discussion**

We find no evidence of an increase in retirement or a shift to part-time work among older workers during the first 18 months in which the Affordable Care Act's new alternatives to employer-sponsored coverage were widely available. It may still be the case that over time, retirement patterns will shift in response to the significant new incentives embodied in these programs. Several factors may have led prospective retirees to exercise caution in relying on ACA coverage in 2014. First, there were well-publicized obstacles to enrollment in health insurance exchanges in the first open enrollment period in late 2013 and early 2014. Second, prospective retirees may have been prudently waiting to see whether the ACA reforms survived significant legal challenges that were not resolved until a U.S. Supreme Court ruling (*King v. Burwell*) in June 2015. As the ACA's reforms become more firmly established and more familiar, the availability of subsidized coverage that is not tied to employment may still lead to in increases in early retirement or shifts to part-time work among older workers in the near future.

**Table 1:**
**State Medicaid expansion status as of July 2015**

| Expanded between March 2010 and Dec. 2013 (4) | Expanded Jan. 2014 (21) | Expanded between Jan. 2014 and July 2015 (4) | No expansion as of July 2015 (22) |
|---|---|---|---|
| California | Arizona | Michigan (April 1, 2014) | Alabama |
| Connecticut | Arkansas | New Hampshire (August 15, 2014) | Alaska** |
| Washington, DC | Colorado | Pennsylvania (January 1, 2015) | Florida |
| Minnesota | Delaware | Indiana (February 1, 2015) | Georgia |
| | Hawaii | | Idaho |
| | Illinois | | Kansas |
| | Iowa | | Louisiana |
| | Kentucky | | Maine |
| | Maryland | | Mississippi |
| | Massachusetts | | Missouri |
| | Nevada | | Montana** |
| | New Jersey* | | Nebraska |
| | New Mexico | | North Carolina |
| | New York | | Oklahoma |
| | North Dakota | | South Carolina |
| | Ohio | | South Dakota |
| | Oregon | | Tennessee |
| | Rhode Island | | Texas |
| | Vermont | | Utah |
| | Washington* | | Virginia |
| | West Virginia | | Wisconsin |
| | | | Wyoming |

Sources: Kaiser Family Foundation website: http://kff.org/health-reform/slide/current-status-of-the-medicaid-expansion-decision/, downloaded on July 20, 2015; Sommers et al. (2014).

*Although New Jersey and Washington State also adopted early Medicaid expansion under the ACA, their early expansions were limited and involved primarily or exclusively shifting individuals who had previously been enrolled in state-financed programs onto Medicaid (Sommers et al., 2014). Full expansion of Medicaid eligibility to all individuals below 138 percent of poverty did not occur until 2014. Therefore, we code them as having expanded Medicaid in January 2014.

**Expansions in Alaska and Montana were not implemented as of July 2015 and these states are coded in our data as nonexpansion states.

**Table 2:**
**Sample characteristics**
**Basic Monthly Current Population Survey**
**All individuals ages 55 –64 and subset of observations matched month-to-month**

| | All individuals ages 55 through 64 | | | Matched sample only | | |
|---|---|---|---|---|---|---|
| Year | Fraction male | Fraction without high school diploma | Unweighted n | Fraction male | Fraction without high school diploma | Unweighted n |
| 2005 | 0.481 | 0.136 | 178,232 | 0.480 | 0.135 | 84,499 |
| 2006 | 0.481 | 0.125 | 182,772 | 0.481 | 0.124 | 86,855 |
| 2007 | 0.481 | 0.117 | 187,475 | 0.482 | 0.116 | 89,157 |
| 2008 | 0.481 | 0.114 | 191,487 | 0.482 | 0.114 | 91,458 |
| 2009 | 0.482 | 0.111 | 198,103 | 0.482 | 0.110 | 94,768 |
| 2010 | 0.482 | 0.106 | 201,643 | 0.482 | 0.106 | 96,098 |
| 2011 | 0.482 | 0.104 | 206,618 | 0.482 | 0.103 | 98,462 |
| 2012 | 0.481 | 0.102 | 207,851 | 0.480 | 0.102 | 98,795 |
| 2013 | 0.481 | 0.100 | 209,710 | 0.480 | 0.100 | 99,614 |
| 2014 | 0.481 | 0.102 | 212,679 | 0.480 | 0.102 | 100,599 |
| 2015 | 0.481 | 0.105 | 106,234 | 0.480 | 0.102 | 41,701 |

Notes: Estimates of characteristics are weighted using the Census-provided variable *pwsswgt*. Data for 2015 are for January through June only. All other years have 12 months of data.

**Table 3: Multivariate regression models (selected coefficients only)**
**Outcome = 1 if retired**
**Sample includes all individuals ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (2) | (1) | (3) |
| =1 if expansion | 0.00900 | -0.00077 | 0.00414 |
| | (0.00816) | (0.00701) | (0.00700) |
| Year/month (linear) | -0.00024*** | -0.00019** | -0.00022 |
| | (0.00006) | (0.00007) | (0.00018) |
| Year/month*expansion | -0.00008 | 0.00006 | 0.00008 |
| | (0.00007) | (0.00008) | (0.00024) |
| Year ≥ 2014 | 0.01896 | 0.01665 | 0.00825 |
| | (0.04249) | (0.02800) | (0.01053) |
| (Year ≥ 2014)*expansion | -0.03164 | -0.01599 | -0.01311 |
| | (0.05737) | (0.03879) | (0.01464) |
| (Year ≥ 2014)*year/month | -0.00012 | -0.00017 | -0.00010 |
| | (0.00040) | (0.00040) | (0.00046) |
| (Year ≥ 2014)*year/month*expansion | 0.00025 | 0.00010 | 0.00009 |
| | (0.00052) | (0.00053) | (0.00057) |
| Observations | 2,081,983 | 1,533,793 | 736,200 |
| R-squared | 0.01 | 0.01 | 0.01 |

Notes:
Standard errors in parentheses
*Significant at 10%; ** significant at 5%; *** significant at 1%
All models are linear probability models, weighted using Census-provided sampling weights.
All models also include controls for calendar month, gender, education, race, marital status, and an intercept term.
Data are from the basic monthly Current Population Survey, with varying start dates as indicated in the table, and an end date of June 2015.

**Table 4 :**
**Multivariate regression models (selected coefficients only)**
**Outcome = 1 if working <30 hours per week**
**Sample includes all workers ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (1) | (2) | (3) |
| =1 if expansion | 0.01169** | 0.01249*** | 0.00847 |
| | (0.00547) | (0.00398) | (0.00712) |
| Year/month (linear) | 0.00004 | -0.00000 | -0.00084*** |
| | (0.00005) | (0.00007) | (0.00020) |
| Year/month*expansion | 0.00003 | 0.00005 | 0.00045 |
| | (0.00008) | (0.00009) | (0.00028) |
| Year ≥ 2014 | 0.06118 | 0.04000 | 0.00604 |
| | (0.04025) | (0.02797) | (0.01196) |
| (Year ≥ 2014)*expansion | -0.06138 | -0.04301 | -0.01313 |
| | (0.05148) | (0.03592) | (0.01569) |
| (Year ≥ 2014)*year/month | -0.00055 | -0.00051 | 0.00031 |
| | (0.00035) | (0.00036) | (0.00038) |
| (Year ≥ 2014)*year/month*expansion | 0.00050 | 0.00050 | 0.00009 |
| | (0.00044) | (0.00045) | (0.00053) |
| Observations | 1,183,734 | 874,061 | 422,743 |
| R-squared | 0.025 | 0.025 | 0.025 |

Notes:
Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
All models also include controls for calendar month, gender, education, race, marital status, and an intercept term.
All models are linear probability models, weighted using Census-provided sampling weights.
Data are from the basic monthly Current Population Survey, with varying start dates as indicated in the table, and an end date of July 2015.

**Table A1:**
**Multivariate regression models (all coefficients)**
**Outcome = 1 if retired:**
**Sample includes all individuals ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (1) | (2) | (3) |
| =1 if expansion | 0.00900 | -0.00077 | 0.00414 |
| | (0.00816) | (0.00701) | (0.00700) |
| Year/month (linear) | -0.00024*** | -0.00019** | -0.00022 |
| | (0.00006) | (0.00007) | (0.00018) |
| Year/month*expansion | -0.00008 | 0.00006 | 0.00008 |
| | (0.00007) | (0.00008) | (0.00024) |
| Year ≥ 2014 | 0.01896 | 0.01665 | 0.00825 |
| | (0.04249) | (0.02800) | (0.01053) |
| (Year ≥ 2014)*expansion | -0.03164 | -0.01599 | -0.01311 |
| | (0.05737) | (0.03879) | (0.01464) |
| (Year ≥ 2014)*year/month | -0.00012 | -0.00017 | -0.00010 |
| | (0.00040) | (0.00040) | (0.00046) |
| (Year ≥ 2014)*year/month*expansion | 0.00025 | 0.00010 | 0.00009 |
| | (0.00052) | (0.00053) | (0.00057) |
| Month (omitted: January) | | | |
| February | -0.00175 | -0.00156 | -0.00073 |
| | (0.00127) | (0.00114) | (0.00130) |
| March | -0.00509*** | -0.00525*** | -0.00560** |
| | (0.00112) | (0.00151) | (0.00220) |
| April | -0.00473*** | -0.00470** | -0.00639*** |
| | (0.00141) | (0.00176) | (0.00220) |
| May | -0.00272* | -0.00290 | -0.00439* |
| | (0.00146) | (0.00186) | (0.00237) |
| June | -0.00027 | -0.00050 | -0.00159 |
| | (0.00178) | (0.00178) | (0.00240) |
| July | 0.00068 | 0.00065 | -0.00029 |
| | (0.00175) | (0.00181) | (0.00288) |
| August | 0.00305* | 0.00299 | -0.00001 |
| | (0.00158) | (0.00187) | (0.00275) |
| September | 0.00052 | 0.00095 | 0.00037 |
| | (0.00168) | (0.00197) | (0.00302) |
| October | -0.00015 | 0.00105 | -0.00150 |
| | (0.00154) | (0.00191) | (0.00259) |
| November | 0.00034 | 0.00123 | -0.00246 |
| | (0.00149) | (0.00172) | (0.00177) |
| December | -0.00041 | 0.00005 | -0.00031 |
| | (0.00092) | (0.00111) | (0.00175) |

Table continues on next page.

**Table A1 (CONTINUED):**
**Multivariate regression models (all coefficients)**
**Outcome = 1 if retired**
**Sample includes all individuals ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (1) | (2) | (3) |
| Female | 0.04294*** | 0.04260*** | 0.04536*** |
| | (0.00268) | (0.00282) | (0.00355) |
| Education (omitted: no high school diploma) | | | |
| High school diploma | 0.01639*** | 0.01806*** | 0.02200*** |
| | (0.00411) | (0.00390) | (0.00502) |
| College degree or more | -0.00412 | 0.00123 | 0.00710 |
| | (0.00500) | (0.00442) | (0.00547) |
| Marital status (omitted: married, spouse present) | | | |
| Married – spouse absent | -0.03144*** | -0.03537*** | -0.03514*** |
| | (0.00428) | (0.00513) | (0.00864) |
| Widowed | 0.05197*** | 0.05315*** | 0.05506*** |
| | (0.00482) | (0.00550) | (0.00773) |
| Divorced | -0.06069*** | -0.05639*** | -0.05574*** |
| | (0.00299) | (0.00323) | (0.00474) |
| Separated | -0.07605*** | -0.07101*** | -0.06480*** |
| | (0.00399) | (0.00428) | (0.00618) |
| Never married | -0.04770*** | -0.04638*** | -0.04254*** |
| | (0.00383) | (0.00377) | (0.00450) |
| Race (omitted: White) | | | |
| Black | 0.00189 | 0.00220 | 0.00168 |
| | (0.00610) | (0.00641) | (0.00701) |
| Other | -0.01485*** | -0.01049** | -0.00830* |
| | (0.00440) | (0.00425) | (0.00443) |
| Constant | 0.18255*** | 0.16836*** | 0.15335*** |
| | (0.00955) | (0.00792) | (0.00809) |
| Observations | 2,081,983 | 1,533,793 | 736,200 |
| R-squared | 0.011 | 0.010 | 0.010 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes:
Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
All models are linear probability models, weighted using Census-provided sampling weights.
Data are from the basic monthly Current Population Survey, with varying start dates as indicated in the table, and an end date of July 2015.

**Table A2:**
**Multivariate regression models (all coefficients)**
**Outcome = 1 if working <30 hours per week**
**Sample includes all workers ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (1) | (2) | (3) |
| =1 if expansion | 0.01169** | 0.01249*** | 0.00847 |
| | (0.00547) | (0.00398) | (0.00712) |
| Year/month (linear) | 0.00004 | -0.00000 | -0.00084*** |
| | (0.00005) | (0.00007) | (0.00020) |
| Year/month*expansion | 0.00003 | 0.00005 | 0.00045 |
| | (0.00008) | (0.00009) | (0.00028) |
| Year ≥ 2014 | 0.06118 | 0.04000 | 0.00604 |
| | (0.04025) | (0.02797) | (0.01196) |
| (Year ≥ 2014)*expansion | -0.06138 | -0.04301 | -0.01313 |
| | (0.05148) | (0.03592) | (0.01569) |
| (Year ≥ 2014)*year/month | -0.00055 | -0.00051 | 0.00031 |
| | (0.00035) | (0.00036) | (0.00038) |
| (Year ≥ 2014)*year/month*expansion | 0.00050 | 0.00050 | 0.00009 |
| | (0.00044) | (0.00045) | (0.00053) |
| Month (omitted: January) | | | |
| February | -0.00040 | -0.00090 | -0.00421** |
| | (0.00099) | (0.00104) | (0.00167) |
| March | 0.00043 | 0.00058 | -0.00287 |
| | (0.00139) | (0.00157) | (0.00191) |
| April | -0.00022 | 0.00045 | -0.00046 |
| | (0.00150) | (0.00169) | (0.00249) |
| May | -0.00101 | -0.00146 | -0.00293 |
| | (0.00150) | (0.00160) | (0.00270) |
| June | -0.00112 | -0.00182 | 0.00076 |
| | (0.00153) | (0.00175) | (0.00264) |
| July | -0.00356* | -0.00353 | -0.00172 |
| | (0.00207) | (0.00215) | (0.00305) |
| August | -0.00408** | -0.00421** | -0.00228 |
| | (0.00160) | (0.00191) | (0.00266) |
| September | -0.00351** | -0.00306* | -0.00459 |
| | (0.00150) | (0.00177) | (0.00288) |
| October | -0.00492*** | -0.00377* | -0.00203 |
| | (0.00172) | (0.00195) | (0.00253) |
| November | -0.00005 | 0.00025 | -0.00104 |
| | (0.00155) | (0.00186) | (0.00340) |
| December | -0.00097 | 0.00027 | -0.00161 |
| | (0.00094) | (0.00108) | (0.00227) |

Table continues on next page.

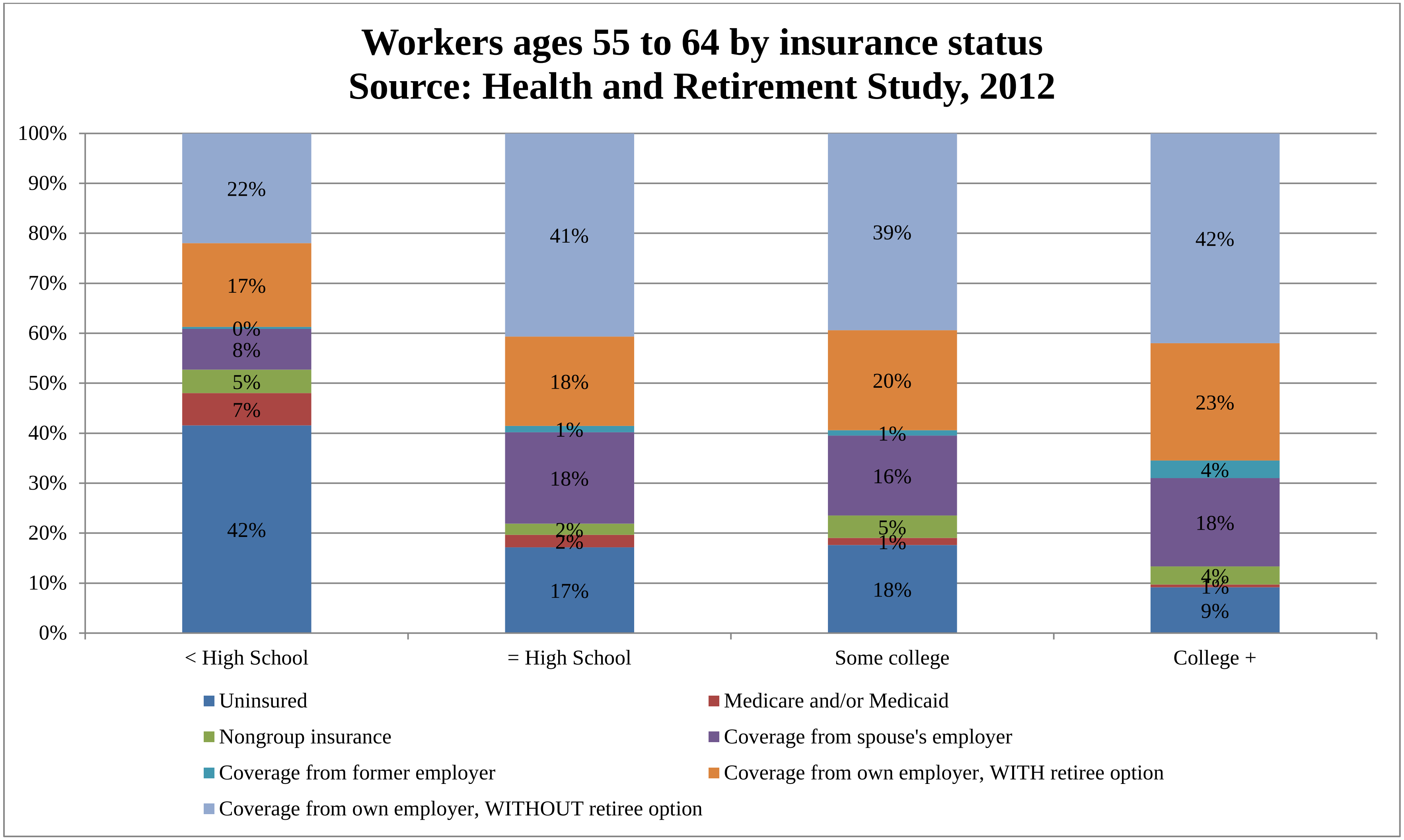
**Table A2 (CONTINUED):**
**Multivariate regression models (all coefficients)**
**Outcome = 1 if working <30 hours per week**
**Sample includes all workers ages 55 through 64**

| | Start date for sample: | | |
|---|---|---|---|
| | Jan. 2005 | Jan. 2008 | July 2012 |
| | (1) | (2) | (3) |
| Female | 0.09735*** | 0.09705*** | 0.09749*** |
| | (0.00326) | (0.00352) | (0.00403) |
| Education (omitted: no high school diploma) | | | |
| High school diploma | -0.03651*** | -0.03836*** | -0.03938*** |
| | (0.00331) | (0.00290) | (0.00343) |
| College degree or more | -0.04091*** | -0.04449*** | -0.04739*** |
| | (0.00371) | (0.00378) | (0.00515) |
| Marital status (omitted: married, spouse present) | | | |
| Married – spouse absent | -0.01371** | -0.00859 | -0.01735** |
| | (0.00576) | (0.00767) | (0.00754) |
| Widowed | 0.00110 | 0.00267 | -0.00646 |
| | (0.00300) | (0.00439) | (0.00690) |
| Divorced | -0.02624*** | -0.02334*** | -0.01620*** |
| | (0.00321) | (0.00302) | (0.00330) |
| Separated | -0.00989* | -0.00801 | -0.00070 |
| | (0.00500) | (0.00534) | (0.00578) |
| Never married | -0.01059*** | -0.00877** | -0.00641 |
| | (0.00315) | (0.00360) | (0.00458) |
| Race (omitted: White) | | | |
| Black | -0.02946*** | -0.02694*** | -0.02647*** |
| | (0.00459) | (0.00467) | (0.00590) |
| Other | -0.02425*** | -0.02272*** | -0.01632*** |
| | (0.00252) | (0.00290) | (0.00300) |
| Constant | 0.10595*** | 0.11061*** | 0.12115*** |
| | (0.00460) | (0.00381) | (0.00702) |
| Observations | 1,183,734 | 874,061 | 422,743 |
| R-squared | 0.025 | 0.024 | 0.025 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes:
Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
All models are linear probability models, weighted using Census-provided sampling weights.
Data are from the basic monthly Current Population Survey, with varying start dates as indicated in the table, and an end date of July 2015.

**Figure 1**



Workers ages 55 to 64 by insurance status
Source: Health and Retirement Study, 2012
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
22%
17%
0%
8%
5%
7%
42%
41%
18%
1%
18%
2%
2%
17%
39%
20%
1%
16%
5%
1%
18%
42%
23%
4%
18%
4%
1%
9%
< High School
= High School
Some college
College +
Uninsured
Medicare and/or Medicaid
Nongroup insurance
Coverage from spouse's employer
Coverage from former employer
Coverage from own employer, WITH retiree option
Coverage from own employer, WITHOUT retiree option

**Figure 2**

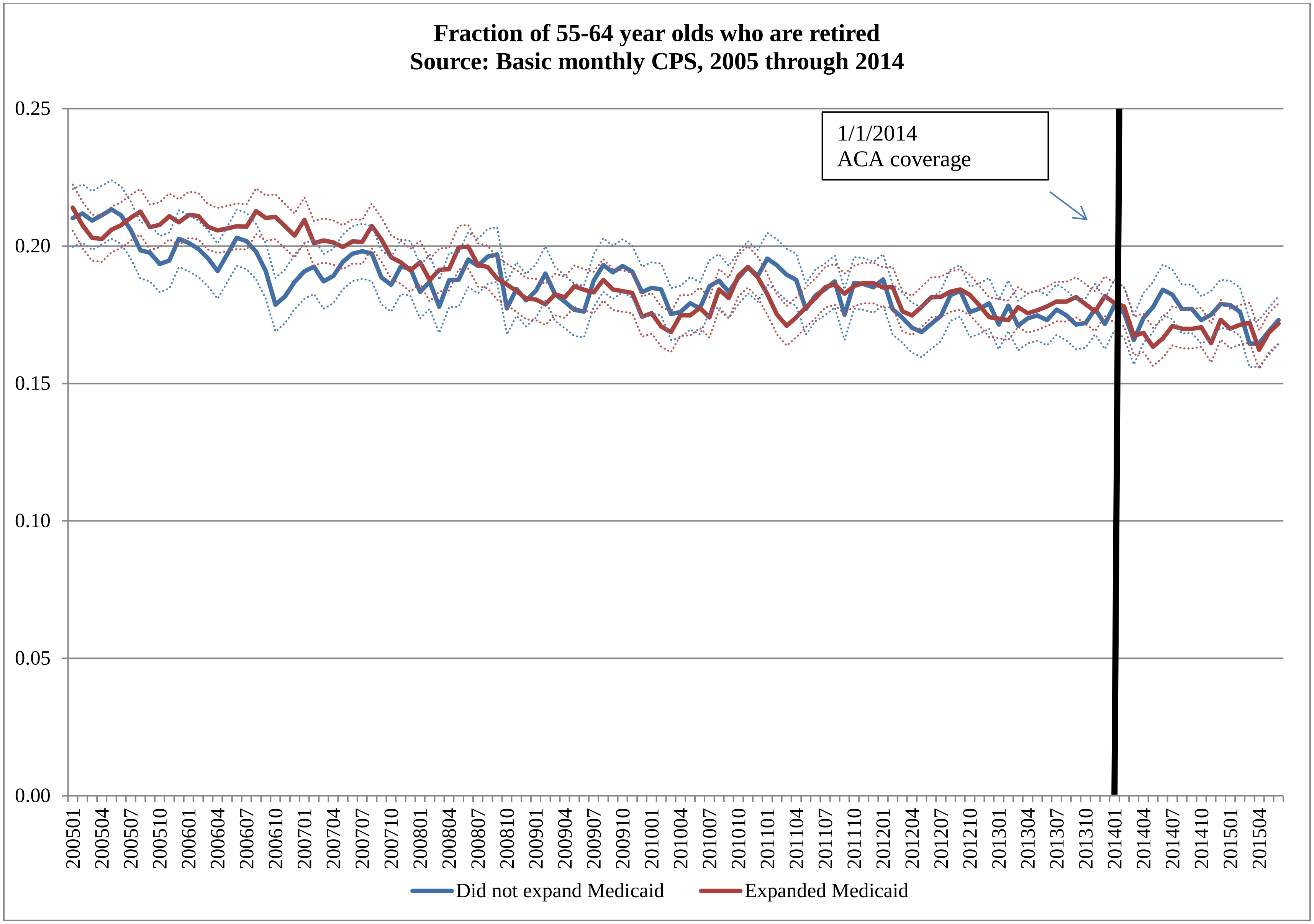
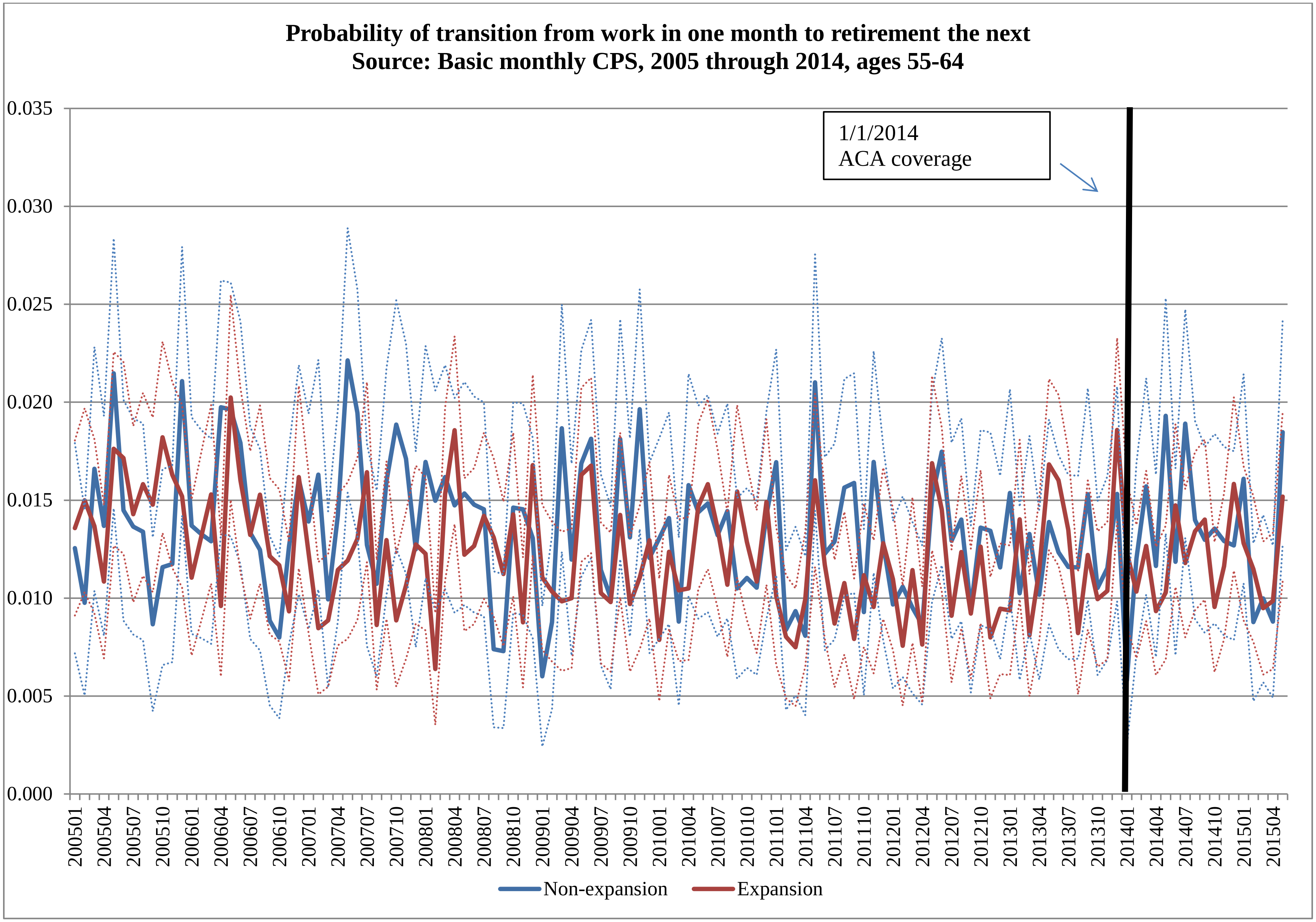
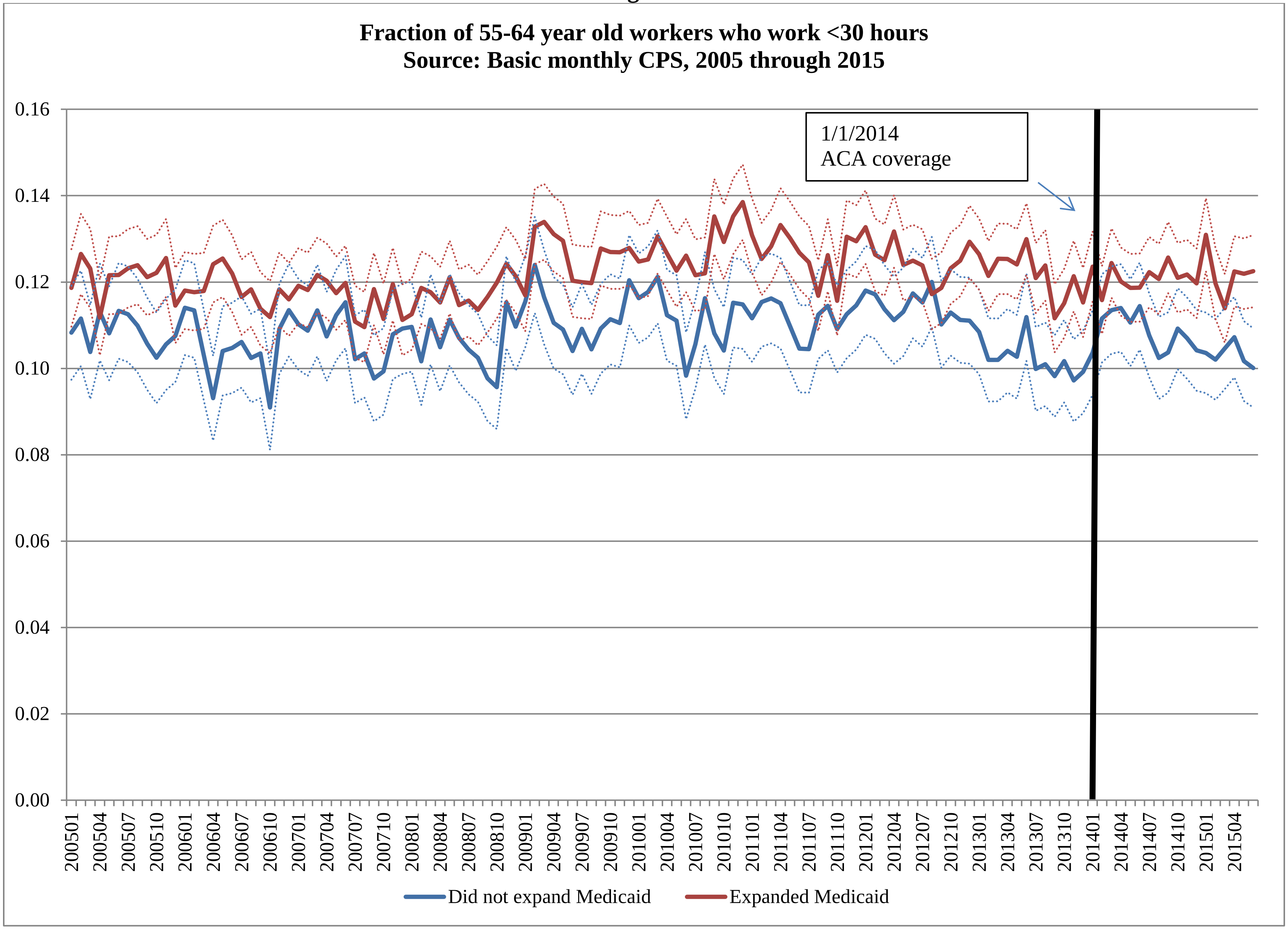

Fraction of 55-64 year olds who are retired
Source: Basic monthly CPS, 2005 through 2014
1/1/2014
ACA coverage
0.25
0.20
0.15
0.10
0.05
0.00
200501
200504
200507
200510
200601
200604
200607
200610
200701
200704
200707
200710
200801
200804
200807
200810
200901
200904
200907
200910
201001
201004
201007
201010
201101
201104
201107
201110
201201
201204
201207
201210
201301
201304
201307
201310
201401
201404
201407
201410
201501
201504
Did not expand Medicaid
Expanded Medicaid

**Figure 3**



Probability of transition from work in one month to retirement the next
Source: Basic monthly CPS, 2005 through 2014, ages 55-64
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
1/1/2014
ACA coverage
200501
200504
200507
200510
200601
200604
200607
200610
200701
200704
200707
200710
200801
200804
200807
200810
200901
200904
200907
200910
201001
201004
201007
201010
201101
201104
201107
201110
201201
201204
201207
201210
201301
201304
201307
201310
201401
201404
201407
201410
201501
201504
Non-expansion
Expansion

**Figure 4**


Fraction of 55-64 year old workers who work <30 hours
Source: Basic monthly CPS, 2005 through 2015
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1/1/2014
ACA coverage
200501
200504
200507
200510
200601
200604
200607
200610
200701
200704
200707
200710
200801
200804
200807
200810
200901
200904
200907
200910
201001
201004
201007
201010
201101
201104
201107
201110
201201
201204
201207
201210
201301
201304
201307
201310
201401
201404
201407
201410
201501
201504
Did not expand Medicaid
Expanded Medicaid

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