HEALTH INSURANCE AND THE LABOR SUPPLY DECISIONS OF OLDER WORKERS: EVIDENCE FROM THE U.S. DEPARTMENT OF VETERANS AFFAIRS

Melissa A. Boyle and Joanna N. Lahey*

CRR WP 2007-23 Released: December 2007 Draft Submitted: October 2007

Center for Retirement Research at Boston College Hovey House 140 Commonwealth Avenue Chestnut Hill, MA 02467 Tel: 617-552-1762 Fax: 617-552-0191 http://www.bc.edu/crr

* Melissa A. Boyle is an assistant professor of Economics at the College of the Holy Cross. Joanna N. Lahey is a research associate of the Center for Retirement Research at Boston College and an Assistant Professor at Texas A&M University's Bush School of Government and Public Service. The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement Research Consortium. The opinions and conclusions expressed are solely those of the authors and should not be construed as representing the opinions or policy of SSA, any agency of the Federal Government, the College of the Holy Cross, Texas A&M University, or Boston College.

© 2007, by Melissa A. Boyle and Joanna N. Lahey. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

About the Center for Retirement Research

The *Center for Retirement Research at Boston College*, part of a consortium that includes parallel centers at the University of Michigan and the National Bureau of Economic Research, was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decision makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources.

Center for Retirement Research at Boston College

Hovey House 140 Commonwealth Avenue Chestnut Hill, MA 02467 phone: 617-552-1762 fax: 617-552-0191 e-mail: crr@bc.edu www.bc.edu/crr

Affiliated Institutions: American Enterprise Institute The Brookings Institution Center for Strategic and International Studies Massachusetts Institute of Technology Syracuse University Urban Institute

Abstract

This paper exploits a major mid-1990s expansion in the U.S. Department of Veterans Affairs health care system to provide evidence on two important and interrelated U.S. policy issues: retirement policy and universal health care. Using data from the Current Population Survey, we compare the labor market behavior of older veterans and non-veterans before and after the VA health benefits expansion to test the impact of public health insurance on labor supply. We find that older workers are significantly more likely to stop working or to move from full- to part-time work after receiving access to non-employer based insurance. Older workers are also more likely to leave self-employment, a result inconsistent with "job-lock" effects of employer-based insurance, but consistent with a positive income effect from new access to public insurance. Some relatively disadvantaged subpopulations, however, may increase their labor supply after gaining greater access to public insurance, consistent with complementary positive health effects of health care access for these groups.

We conclude that recent reforms expanding public health insurance have affected employment and retirement decisions, meaning that future moves toward universal coverage or expansions of Medicare are likely to have significant labor market effects. To illustrate, we calculate that as much as 10% of the difference in retirement rates in the United States and Canada may be due to Canada's provision of universal health care.

I. Introduction

Most existing programs in the United States cannot provide the kind of policy experiment needed to determine the effect of universal health insurance on the labor supply of older workers. In general, social insurance programs that increase income conditional on non-work, such as unemployment insurance (Coile and Gruber 2000) and disability insurance (Bound and Burkhauser 1999), have been found to decrease employment. However, the theoretical predictions and the results of previous research are mixed for the employment effect of government-provided health insurance programs. These programs are often structured so that they provide a mixture of income transfers, employment subsidies and/or taxes, and improvements in human capital (via health), leading to ambiguous net effects on labor supply.

National health insurance that is not linked to employment acts as a positive income transfer for those with low earnings or high health costs because it is paid for via taxes and the employed subsidize the not employed. Theory therefore implies that universal insurance will likely decrease employment. However, empirical evidence for Medicaid (Winkler 1991, Moffitt and Wolfe 1992, Yelowitz 1995, Meyer and Rosenbaum 2001, Borjas 2003), which is need-based and provides a positive income transfer to recipients, is mixed. Depending on the population studied and the methodology used, studies find no effect, small decreases, or even large decreases in working.

Other effects of universal insurance might lead to increases in labor supply. Health insurance may increase employment overall by improving health, and may also result in increased labor productivity. Gruber and Hanratty (1995) find that employment increased in Canada after the introduction of national health insurance. Studies examining the introduction of the U.S. continuation-of-coverage mandates such as COBRA (e.g. Gruber and Madrian 1995), find resulting increases in both employment and job switching. By de-linking health insurance and employment (but not increasing income, since recipients must pay their own health premiums), these mandates may increase productivity by enabling improved job matches, that is, reducing "job-lock".¹

Medicare is a health-care income transfer that is not linked to employment, and so could shed light on the relationship between labor supply and health. Some studies (Lichtenberg 2002) suggest that Medicare improves health, though evidence is mixed depending on the time period studied (Finkelstein and McKnight 2005). The empirical effects of Medicare on labor market outcomes, however, are difficult to disentangle from those of Social Security and other programs linked to the normal retirement age. Most papers that study the Medicare-work relationship use dynamic programming or structural estimation to suggest that an expansion of Medicare will increase retirement (Rust and Phelan 1997, Blau and Gillespie 2003, Johnson et al. 2003, French and Jones 2004).

A unique opportunity to better understand the effects of universal coverage on older workers' employment is provided by a major mid-1990s expansion in both the services offered and the population covered by the Department of Veterans Affairs health care system (VA). This change allows us to study the labor supply impact of a program that provides an income transfer and may have health effects for some recipients, but that is not tied to employment. From a policy standpoint, the effects of this program change are likely comparable to the effects of expanding Medicare to Americans under age 65, a plan often proposed by politicians.

¹ For more information on job-lock, see Gruber and Madrian (2002).

We find that the VA expansion decreases employment, increases retirement, and increases part-time work among older recipients. In addition, it results in a drop in self-employment. This outcome is inconsistent with a job-lock reduction in which de-linking health care from employment increases transitions from paid work to more flexible but uninsured self-employment, but consistent with the effect of an income transfer in which the uninsured no longer need additional income to self-insure against adverse health shocks. Additionally, we find suggestive evidence that veterans from disadvantaged groups actually increase their labor supply as a result of gaining public insurance, suggesting that for these groups the health effects of this insurance expansion allow people on the margin to continue working. Finally, we posit that health insurance may be one reason that retirement rates are higher in countries with national health insurance.

The paper is organized as follows: Section II provides a theoretical background for the effects of health insurance on employment, Section III describes the VA program in detail, Section IV describes the dataset and empirical strategies, Section V provides results, Section VI discusses and provides implications and Section VII concludes.

II. Predicted Effects

The option of VA health insurance acts as an income transfer. Given that a worker is employed, the introduction of public health insurance may impact labor supply in a variety of ways. For a full-time worker with employer-provided insurance, labor supply may remain unchanged. This individual no longer has to work in order to retain health insurance, but he may prefer his employer-provided coverage or he may stop paying for premiums but continue working. On the other hand, the worker may also

choose to drop to part-time work, either because he no longer needs to work full-time to qualify for coverage or because he no longer needs income to pay for his premiums and thus substitutes leisure for work because of the positive income transfer. Similarly, in response to the income transfer, he may drop out of the labor market entirely or move to self-employment. Even a worker who is already insured may value the added flexibility public insurance provides; that is, the ability to change jobs in the future for a position that offers higher wages and lower benefits.

The employment status of a full-time worker who does not have health insurance on the job may also be unaffected. This individual may take up the public insurance but not change his labor hours. Alternatively, he may decrease his hours because he no longer needs extra income in order to self-insure or to pay for health costs out-of-pocket. The income transfer should not cause him to increase his hours, since he is richer than before and his underlying wage rate has not changed. However, an uninsured worker whose health is deteriorating and who might previously have been forced to leave the labor market may be able to remain working if the newly-provided insurance improves his health. The addition of health insurance may also allow workers on the margin of applying for SSDI (and receiving Medicare after two years) to stay in the labor force.² Hence, labor supply might increase for some groups after the expansion.³

Part-time workers rarely qualify for employer-provided health insurance. Gaining access to publicly provided health care may therefore not affect these individuals' work hours. Alternatively, however, it could cause them to work fewer hours, since they no

² Thanks to David Autor for recognizing this possibility.

³ Note that an increase in health is equivalent to an increase in the relative wage since work is no longer as painful. As such, for groups not at the margin, the attractiveness of leisure may increase and hours may go down.

longer face as much economic risk from negative health shocks, and may no longer need to work additional hours to afford premiums for non-group health insurance.

III. Description of VA Program

Historically, the Department of Veterans Affairs (VA) health care system was a network of hospitals, established over 70 years ago for the purpose of providing specialty care to veterans with conditions resulting from their military service. Over time, the system was expanded to also include care for low-income veterans. VA provided mainly inpatient care, with outpatient services for non-service-connected conditions available only as follow-up to an inpatient stay.

In 1996, the U.S. government began a major overhaul of this health care system. In an effort to catch up with progress in private-sector medicine, VA health care began a shift from an emphasis on hospital-based specialty services to a focus on primary care and preventive medicine. The total number of patients treated in VA hospitals dropped 44 percent between 1989 and 1999, while the total number of outpatient visits increased 66 percent over the same time period (Klein & Stockford, 2001). In addition to this change, VA's resource allocation system was redesigned. Following the HMO model, VA began distributing its health care budget using a capitated, patient-based formula.⁴

As a result of these changes, VA anticipated that increased efficiency would result in significant reductions in costs per patient and in necessary staff. With this in mind, VA felt that it would have the resources available to be accountable to the entire veteran population. VA therefore changed its rules on eligibility for care. Prior to the reform,

⁴ In a capitated payment system, the health care provider is reimbursed a flat dollar amount for each patient regardless of the services provided.

VA guaranteed care only to veterans with service-connected conditions or low incomes; following the restructuring all veterans became eligible for VA health care (GAO/T-HEHS-99-109). As a result of the changes in the system, VA's patient load increased from 2.6 million veterans in 1995 to 4.3 million in 2002 (GAO/T-HEHS-96-134, GAO-03-1103R).

Boyle (2005) examines the impact of the VA overhaul on veterans' health care utilization and health outcomes. That study finds that between 35 and 70 percent of new VA health care users are individuals who drop private health insurance plans, something that may have been linked to their leaving full-time employment. In addition, she finds that while utilization of health care services increased, there were not net improvements in average veteran health, potentially because healthier veterans may crowd out sicker veterans.

The VA restructuring affects the availability of health care for the entire veteran population. For non-poor, non-disabled veterans, the policy change constitutes the introduction of a form of non-employer-provided health insurance that was previously unavailable. Even for the previously-eligible (i.e., low-income or disabled) segment of the veteran population, this policy change results in a significant, exogenous change in health insurance status because the reorganized VA is a health care provider much more similar to what was available in the private sector. Thus, even for previous users of VA care, the policy change resulted in the introduction of health care benefits that are much more substitutable for private care than anything provided under the old system. We therefore utilize this exogenous introduction of an outside health insurance option for U.S. veterans to estimate the impact of publicly provided health insurance on individuals' labor supply choices.

IV. Data and Empirics

We use data from the Census Bureau's March *Current Population Survey* (CPS) for the years 1992 through 2002. We utilize a difference-in-differences estimation strategy to compare the labor supply choices of veterans and non-veterans before and after the restructuring of VA health care. Because of the small number of female veterans during this time we restrict our sample to include only males. Additionally, since we are interested in workers approaching retirement, we limit the sample to individuals ages 55 through 64⁵. With these restrictions, the treated population is therefore male veterans age 55 to 64, and the control group is male non-veterans in the same age group. Since changes in VA health care were implemented throughout 1996 and 1997, we define 1992-1995 as the pre-policy period and 1998-2002 as the post-policy period⁶.

The CPS allows us to study labor market outcomes such as labor force or employment exit, retirement, and movement into part-time work or self-employment. In addition to information about employment in the current year, the survey questions individuals about their labor market participation in the previous year. In order to isolate the effect of the policy change on individuals' decisions to alter their labor market

⁵ Although it is not uncommon for individuals to continue work past age 64, eligibility for Medicare at age 65 will alter the impact of other public health insurance on the work decision.

⁶ In January 2003, VA again revised the rules for obtaining health care. We therefore end our study period in 2002. Due to concern that particular Vietnam Era veterans are affected by a 2002 change that allowed diabetes to be considered a war-related injury for veterans who may have been exposed to Agent Orange (Duggan, Rosenheck and Singleton 2006; Autor and Duggan 2007) we have also estimated all equations restricting our post-period to 1998-2001. Coefficent magnitudes are nearly identical when 2002 observations are removed from the dataset and significance does not change.

behavior, we restrict our sample to those who report working at least one week in the previous year.⁷ We use a probit model⁸ to estimate the following equation:

(1)
$$y_{it} = \beta_0 + \beta_1 veteran_i + \beta_2 veteran_i * post_t + \beta_3 \mathbf{X}_{it} + \delta_t + \mu_{it}$$

The dependent variable, y_{it}, includes indicator variables for labor supply outcomes such as retired, not working, self-employed, and working part time. The variable not working is 0 if the individual is employed and 1 otherwise. The retirement variable used is self-reported retirement and is not available prior to 1994; retirement regressions are therefore limited to the years 1994-1995 in the pre-period. Several part-time variables were tested. The part-time variable reported is coded as 1 if the number of hours worked is less than 35 hours, and 0 otherwise. Alternate specifications for part-time provide similar results. Self-employed is an indicator that is equal to 1 if the class of worker is self-employed (either incorporated or not incorporated) and 0 otherwise.

Among the independent variables, veteran_i is a dummy equal to 1 if the individual has been honorably discharged from active military duty, post_t is a dummy equal to 1 in the post-policy period, X_{it} is a vector of individual characteristics including age, race, marital status, education, state dummies, industry and occupation dummies, and indicators for employer-provided health insurance and pensions and δ_t is a full set of year dummies. Part-time regressions include an indicator of whether or not the employer

⁷ This strategy is consistent with that used by Gruber and Madrian (1995). We find that restricting our sample to individuals who report working at least 10 weeks in the previous year produces very similar results. Regressions on the whole sample (i.e. including individuals that did not work in the previous year) also produce results that are qualitatively similar, although of smaller magnitude.

⁸ We have also estimated the model using multinomial logit to account for the fact that individuals choose among multiple alternative employment scenarios in the post-period. Marginal effects corresponding to this estimation technique are very similar to the reported probit marginals.

offers a pension; all other regressions include an indicator of whether or not the individual is included in the pension plan.⁹

Summary statistics are reported in Table 1. These statistics demonstrate that the veteran and non-veteran samples are reasonably comparable in the pre-period. The average veteran is more educated, and slightly more likely to have employer-provided health insurance than the average non-veteran. Veterans are more likely to be retired or not working than non-veterans in the pre-period sample.¹⁰

V. Results

A. Main Results

Our primary results are detailed in Tables 2 and 3. Reported coefficients for all regressions are probit marginal effects. These regressions estimate equation (1) and are reported with and without controls for characteristics of the employer in the previous year. Results are qualitatively similar with and without these controls, although the magnitude of the coefficient of interest (the coefficient on veteran*post) varies slightly across the two specifications. In the remainder of the paper we discuss the regressions with the full set of controls.

As theory would predict, providing free health insurance outside of employment decreases work for older workers and increases retirement. As a result of gaining VA coverage, the probability of working drops by 2.47 percentage points for an individual

⁹ There is no consistent variable indicating whether or not a firm offers health insurance, so regressions include an indicator for whether or not an individual is included in a health insurance plan.

¹⁰ One concern with our estimation strategy is the possibility of systematic differences between the treatment and control groups. For this reason, we have also run all reported regressions including veteran interaction terms for every control variable. When we allow all controls to enter for veterans and non-veterans separately, the coefficients on the veteran interactions are typically insignificant, and our coefficient of interest is virtually unchanged.

with average characteristics. Relative to the pre-period average, this is about a 10% increase in the probability that an older worker ceases work. The introduction of the VA health care benefit increases the probability of entering retirement for older workers by .40 percentage points, a 2.5% increase relative to the pre-period veteran average. While the magnitudes of these estimates are not particularly large, this is likely in part because while we measure the effect on the entire veteran population, only about a quarter of U.S. veterans actually enrolled in the VA system during our study period.¹¹ The effects are therefore likely to be attenuated by the large number of veteran non-users, some of whom may have been unaware of their eligibility to use the VA system.

As reported in Table 2, our results also suggest an increase in the use of bridge jobs, which are jobs (often part-time) that people transition to after retiring from a main job (Ruhm 1994). We estimate a 1.24 percentage point increase in the probability of working part-time, which is an 11.7% increase relative to the pre-period veteran average.

We also examine the effect of public insurance receipt on the probability of selfemployment. A story consistent with "job-lock," or labor market stickiness caused by workers' reluctance to change jobs because they are afraid of losing health insurance, would predict an increase in (or at least no effect on) self-employment. This is because prior to gaining public insurance, some individuals who preferred self-employment might have remained in a current full-time employment situation in order to retain health benefits. On the other hand, since the public insurance is an income transfer for

¹¹ Any veteran wishing to use VA care must first sign-up for benefits or "enroll" in the system. During our study period, some veterans enrolled but did not actually subsequently use VA care. The fact that these individuals enrolled indicates awareness of their eligibility and a potential desire to access the system at a later point in time. It is not clear what proportions of unenrolled veterans are unaware of their eligibility, not interested in ever using VA care, or relying on the option of enrolling at a later date should they desire VA care.

beneficiaries, the program could decrease self-employment as people potentially no longer need the extra income to self-insure (or pay for) health risks. In Table 2, columns (7) and (8), we find a negative effect of health insurance receipt on self-employment. We estimate a 1.0 percentage point decrease in the probability of self-employment, which is a 5% decrease relative to the pre-period veteran average. This result suggests that the income transfer effect dominates any reduction in job-lock.

However, it is important not to take these results as an indication that providing health insurance to these older workers is simply a productivity diminishing transfer to that group. There are potential distributional differences in how people are affected. Unmarried men in this age group are more likely to be in poor health than married men (Lillard and Panis 1996). Additionally, being below the means test may be highly correlated with poor health. We find some positive work outcomes for these disadvantaged vets after they receive the health insurance offer. Table 3 provides results for single men. Single veterans are less likely to claim they are retired, less likely to be self-employed, and less likely to be working part-time as a result of the policy change. Table 3 provides results for those below the means test. Although the result is not significant at conventional levels, low-income veterans are less likely to be not working after the health insurance offer and expansion. A caution must be offered with the means test results; veterans below the means test already had access to VA health insurance, but as described earlier, this insurance was not comprehensive. Nevertheless, combined, these results are consistent with a situation in which increased medical care for more economically disadvantaged groups leads to health improvements and a corresponding increase in the ability to work. This result is consistent with some Medicaid literature

that finds health increases and positive labor market effects from Medicaid among the poorest populations (Currie and Gruber 1996, 2001, Moffit and Wolfe 2002).

B. Robustness Checks

In interpreting our results, we have assumed that the differential changes in veteran labor supply are directly attributable to the acquisition of public health insurance. This causal interpretation is legitimate as long as no pre-existing veteran-specific trend exists. We therefore must ensure that veteran and non-veteran labor market outcomes do not move relative to one another as a result of unobservables that are unrelated to VA policy. In order to confirm that the changes in veteran labor supply actually result from gaining access to public health care, we check for pre-existing trends by estimating the same difference-in-differences regressions on pre-policy data. We choose the years 1992-1995 because this is a period when no major changes took place in the VHA. We code the years 1992 and 1993 as the "pre" years, and 1994 and 1995 as "post" years. In Table 4, we present a set of specification checks for the results reported in Tables 2 and 3. These falsification tests reveal no pre-existing trend in veterans' labor supply choices relative to their non-veteran counterparts. The coefficient of interest (post*veteran) in these regressions is consistently small and statistically insignificant at standard levels. In the single case where the pre-trend is significant at the 10% level, the sign on this coefficient is the opposite of what we find in our main results and the magnitude is small.¹²

¹² The self-reported retirement variable does not exist prior to 1994 so we cannot run this falsification check for that outcome.

Another concern is that there may be systematic differences between veterans and non-veterans that change over time. When we allow all controls to enter for veterans and non-veterans separately, the coefficients on the veteran interactions are typically insignificant, and our coefficient of interest is virtually unchanged. Additionally, in a specification not reported, we use propensity score matching to draw veteran and nonveteran samples that are comparable based on observable characteristics. Using this strategy also provides results that are qualitatively the same and quantitatively very similar.

As discussed above, certain veterans were eligible for VA health care prior to the policy change. Previously-eligibles (those with service-connected disabilities or low incomes) still have the potential to be affected by the change, since the types of health services available became much more comparable to those covered by employerprovided health insurance. Even so, we would expect to see stronger effects of the policy change on newly-eligible veterans, who go from having no outside insurance to full coverage under the public program. In Table 3, we report results for regressions run on individuals whose household income in the previous year was above or below the VAestablished means test cutoff. All regressions include controls for employer characteristics. In general, we find stronger results for the group above the means test. None of the results are significant for the below-means individuals. The coefficients for the not working and self-employed outcomes switch signs from the main results, the coefficient for the part-time outcome is attenuated. Although the magnitude on the coefficient for the retired result is slightly larger for those below the means test than for those above, the results for the two groups are not significantly different. Caution should

be taken in interpreting these results, however, as the sample size for the below means test group is less than a fifth of the size of the group above means test.

Finally, VA health care covers only the veteran and not the veteran's spouse or dependents.¹³ For this reason, married veterans whose wives have access to employerprovided health insurance may not experience increased labor mobility as a result of receiving this insurance if their spouses depend on health insurance provided through the veteran's employer.¹⁴ As reported in Table 3, the coefficient on *veteran*post* for those whose wives have this insurance is of larger magnitude than for those whose wives do not, although only the results for the part-time outcome are significantly different across the two groups. The magnitudes are as expected. The results may not be significantly different because the effect is clouded by the fact that wives with health insurance of their own often must continue working to keep that health insurance and the decision to retire is often jointly determined between husband and wife (Coile 2003).

VI Implications and Discussion

To facilitate a comparison of the labor market effects of this insurance transfer to other social insurance receipt, we calculate elasticities. In order to calculate these elasticities, we make a number of assumptions. We estimate the value of VA insurance to be equivalent to the single coverage health insurance premium for workers in 2002, or \$3270.60¹⁵ multiplied by 102% (since COBRA allows employers to charge individuals

¹³ In cases where the veteran is catastrophically disabled or dies as a result of military service, the spouse and other dependents do become eligible for VA care under the CHAMPVA program. This is not relevant in our study, however, as catastrophically disabled veterans will not be in the work force. ¹⁴ 57% of veterans in the sample have wives who are employed.

¹⁵ According to National Compensation Survey: Employee Benefits in Private Industry in the United States, 2002-2003, U.S. Dept. of Labor and Bureau of Labor Statistics.

102% of these costs in order to cover administrative fees) giving a value of \$3336. The average income of full-time workers in 2002 in our sample, dropping those with negative income, is \$59,913.62. By this calculation, VA provides an income transfer equivalent to (3336/59913.62)=.06 or 6% of the average individual's income.

We find that individuals are 10% more likely to be not-working as a result of gaining VA coverage, implying a non-participation elasticity of 1.67. This is more elastic than the result of .6 found for Social Security (Coile and Gruber 2000) and the range of .63 to .81 found for disability insurance (Chen and van der Klaauw 2007). Individuals are 2.5% more likely to label themselves as "retired" as a result of gaining VA coverage implying an elasticity of .42. They are 11.7% more likely to report working part-time as a result of gaining VA coverage which corresponds with an elasticity of 1.95. Finally, they are 5% less likely to be self-employed; this implies an elasticity of -.833.

Our methodology can also be used to make back of the envelope comparisons about the effect of national health insurance on employment for this age group. If, instead of using the hazard rate (that is, not limiting to people who worked in the previous year) that we have presented in our regressions, we estimate equation (1) on the full set of men aged 55-64, the coefficient on *veteran*post* variable for the not working outcome is equal to .0086. Given that the not-working rate for this age group in Canada is .4333 and in the United States is .3450, the gap between the two countries is .0883. Using this rough estimation, we find that .0088/.0883, or 9.96% of that gap, can be explained by the availability of non-employer-linked health insurance for that age group.

As final cautions, these results do not prove that offering health insurance will decrease employment overall. We are only examining the effects on men close to the end

of their full-time work-lives. Social norms may keep prime-aged males in the labor force regardless of the offer of outside health insurance. Indeed, our results are not inconsistent with Gruber and Hanratty (1995) which finds that employment rises with the introduction of national health insurance. Productivity may increase overall since this insurance allows the unhealthy to cut down on full-time work which may be optimal. Given that current United States labor market laws protecting older workers reduce job separations for older men (Lahey 2007), insurance may encourage older workers who are less happy with their jobs to retire and be replaced by less-experienced (and thus less costly under an assumption of Lazear contracts) and potentially more productive matches. Additionally as discussed above, health insurance may improve the productivity of the unhealthy on the margin of working by increasing their health capital.

VII. Conclusion

In conclusion, we find that providing free comprehensive health insurance outside of employment decreases full-time work for older workers and increases the use of bridge jobs. Our results imply that the income effect of public insurance receipt dominates the potential reduction in job lock. To the extent that younger workers subsidize national health insurance for older workers, the income effect from universal coverage may be a reason that non-employment is higher for older people in countries with national health coverage. However, lower employment in these groups may not be a bad thing to the extent that it allows for more productive sorting into work and retirement.

Table 1. Summary Statistics, CPS 1992-2002*

	<u>Veterans</u>		Non-Veterans			
	Pre	Post	Pre	Post		
	(N=7684)	(N=8150)	(N=6195)	(N=10692)		
Age	59.364	58.849	58.474	58.652		
Married	0.812	0.804	0.803	0.791		
White	0.934	0.913	0.852	0.851		
	0.144	0.072	0.004	0.000		
No HS	0.144	0.063	0.294	0.209		
HS	0.352	0.352	0.309	0.299		
Some College	0.238	0.295	0.151	0.178		
College Grad	0.16	0.172	0.112	0.152		
Grad School	0.107	0.118	0.134	0.163		
Pension Plan	0.429	0.486	0.404	0.44		
Empl. HI Plan	0.627	0.652	0.581	0.595		
Empi. III I lan	0.027	0.032	0.561	0.595		
Northeast	0.238	0.221	0.262	0.229		
Midwest	0.26	0.249	0.248	0.234		
South	0.289	0.281	0.294	0.306		
West	0.213	0.281	0.196	0.231		
	0.210	0.201	0.170	0.201		
Not Working	0.25	0.225	0.229	0.198		
Retired**	0.163	0.148	0.12	0.106		
Self-Employed	0.201	0.166	0.209	0.192		
Part Time	0.106	0.104	0.093	0.09		
O a anna tha a a c						
Occupations:	0.250	0.20	0.256	0.200		
Prof/Management	0.259	0.28	0.256	0.298		
Tech/Sales/Cleric	0.186	0.187	0.148	0.148		
Service	0.07	0.074	0.087	0.081		
Farming	0.046	0.032	0.064	0.051		
Craftsman	0.145	0.149	0.138	0.136		
Operator	0.144	0.14	0.168	0.161		
Industries:						
Agric/Mining	0.045	0.034	0.06	0.052		
Construction	0.068	0.07	0.078	0.082		
Manufacturing	0.16	0.147	0.182	0.151		
Transport/Commun	0.078	0.098	0.064	0.067		
Trade	0.137	0.125	0.149	0.131		
Finance/Real estate	0.051	0.053	0.045	0.05		
Business/Repair	0.045	0.055	0.045	0.055		
Personal	0.032	0.028	0.03	0.035		
Public	0.052	0.065	0.032	0.033		
Professional	0.14	0.133	0.142	0.173		
*Sample includes males ao			0.172	0.1/5		

*Sample includes males ages 55-64 and employed last year **Number of observations for Retired is 3628 for pre veterans and 3196 for pre non-veterans because the variable does not exist in 1992-1993

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Not Working	Not Working	Retired	Retired	Part Time	Part Time	Self Employed	Self Employed
veteran	0.0140**	0.0078**	0.0161**	0.0094**	-0.0004	0.0029	-0.0275**	-0.0065+
	(0.0048)	(0.0028)	(0.0018)	(0.0008)	(0.0039)	(0.0037)	(0.0040)	(0.0039)
veteran*post	0.0179**	0.0247**	0.0142**	0.0040**	0.0099*	0.0124**	-0.0144**	-0.0102**
	(0.0064)	(0.0043)	(0.0032)	(0.0012)	(0.0043)	(0.0041)	(0.0043)	(0.0035)
married	0.1098**	0.0251**	0.0764**	0.0145**	-0.0254**	-0.0163**	0.0151**	0.0199**
	(0.0036)	(0.0045)	(0.0039)	(0.0026)	(0.0051)	(0.0042)	(0.0048)	(0.0049)
nonwhite	0.0494**	0.0225**	0.0174*	-0.0015	-0.0103	-0.0157*	-0.0731**	-0.0508**
	(0.0068)	(0.0068)	(0.0074)	(0.0036)	(0.0073)	(0.0064)	(0.0092)	(0.0072)
pension		-0.1327**		-0.0388**		-0.0409**		-0.1230**
		(0.0055)		(0.0025)		(0.0037)		(0.0048)
health ins		-0.0376**		0.0166**		-0.0486**		-0.1234**
		(0.0082)		(0.0015)		(0.0044)		(0.0053)
Observations	32721	32721	25666	25666	23978	23978	32721	31250

Table 2Effect of Insurance Receipt on Labor Supply Outcomes

Note: Coefficients estimates are taken from a probit regression of veteran and veteran x post as described in eq. (1). Marginal effects are reported. Regressions include age, state, year and education dummies and a constant. Health insurance denotes whether or not an individual is included in a health insurance plan in the previous year. Part-time regressions include a control for whether the firm offers a pension plan, all other regressions include a control for whether or not the individual has a pension. Robust standard errors in parentheses are clustered on veteran and year. Regression universe is restricted to men who were employed at least one week in the year prior to the survey year.

+ significant at 10%; * significant at 5%; ** significant at 1%

			Daa	Table 3ults by Group State	atus			
			Kest	· 1	Means Test Cutoff			
		Above M	Ieans Test	By Estimated	Wieans Test Cuton	Below	Means Test	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Not Working	Retired	Self Employed	Part Time	Not Working	Retired	Self Employed	Part Time
veteran	0.0047+	0.0072**	-0.0065*	-0.0019*	0.0559**	0.0176**	-0.0070	0.0331**
	0.0028	(0.0008)	(0.0030)	(0.0030)	(0.0170)	(0.0038)	(0.0092)	(0.0138)
veteran*post	0.0280**	0.0043**	-0.0113**	0.0113**	-0.0183	0.0060	0.0011	0.00083
1	(0.0043)	(0.0012)	(0.0028)	(0.0035)	(0.0205)	(0.0038)	(0.0100)	(0.0218)
Sig. Different?	, ,	()	· · · ·		Yes	No	No	No
Observations	27677	21781	26281	21066	5044	3885	4969	2912
				By Ma	arital Status			
	Married				Single			
	Not Working	Retired	Self Employed	Part Time	Not Working	Retired	Self Employed	Part Time
veteran	0.0011	0.0051**	-0.0114*	-0.0019	0.0219**	0.0192**	0.0173**	0.0198**
	(0.0027)	(0.0010)	(0.0049)	(0.0034)	(0.0059)	(0.0043)	(0.0062)	(0.0089)
veteran*post	0.0329**	0.0080**	-0.0033	0.0225**	0.0039	-0.0060*	-0.0276**	-0.0218*
	(0.0042)	(0.0015)	(0.0051)	(0.0046)	(0.0072)	(0.0030)	(0.0067)	(0.0085)
Sig. Different?					Yes	Yes	Yes	Yes
Observations	26221	20528	25049	18704	6500	5138	6201	5274
				By Wife's Hea	lth Insurance Status			
	Wife Has Employer-Provided Health Insurance				Wife Without Employer-Provided Health Insurance			
	Not Working	Retired	Self Employed	Part Time	Not Working	Retired	Self Employed	Part Time
veteran	-0.0143**	0.0114*	0.0010 +	-0.0176**	0.0109*	0.0160**	0.0009	0.0105*
	(0.0049)	(0.0052)	(0.0006)	(0.0054)	(0.0050)	(0.0028)	(0.0008)	(0.0034)
veteran*post	0.0514**	0.0064	-0.0029**	0.0365**	0.0190*	-0.0012	-0.0030*	0.0137*
	(0.0073)	(0.0054)	(0.0009)	(0.0078)	(0.0087)	(0.0025)	(0.0014)	(0.0056)
Sig. Different?					No	No	No	Yes
Observations	12603	12603	10983	8673	13197	13197	10955	9672

Note: Coefficients estimates are taken from a probit regression of veteran and veteran x post as described in eq. (1). Marginal effects are
reported. Regressions are restricted to those who worked at least one week in the year prior to the survey. Regressions include age, race,
marital status, whether the individual is included in a health insurance plan in the previous year and a full set of state, year, industry,
occupation, and education dummies and a constant. Part-time regressions include a control for whether the firm offers a pension plan, all
other regressions include a control for whether or not the individual has a pension. Robust standard errors in parentheses are clustered on
veteran and year. "Sig. Different" reports whether the veteran*post coefficients for the two populations are statistically significantly different
from one another at the 5% level. The regression universe in "By Estimated Means Test Cutoff - Above" is restricted to those persons who
are above the income means test (given number of children under the age of 18) needed to meet the VA requirement prior to the reform.
The regression universe in "By Estimated Means Test Cutoff - Below" is restricted to those below the same income means test. The
regression universe in "Marital Status - Married" is restricted to married men. The universe in "Marital Status - Single" is restricted to not
married men.

+ significant at 10%; * significant at 5%; ** significant at 1%

	(1)	(2)	(2)	(A)	(5)	(f)
	$\frac{(1)}{(1)}$	$\frac{(2)}{(2)}$	$\frac{(3)}{(3)}$	(4)	(5)	$\frac{(6)}{\mathbf{D} + \mathbf{T}^{*}}$
	Not Working	Not Working	Self Employed	Self Employed	Part Time	Part Time
veteran	0.0212*	0.0098 +	-0.0272**	-0.0006	0.0042	0.0070*
	(0.0091)	(0.0054)	(0.0049)	(0.0045)	(0.0032)	(0.0033)
veteran*post	-0.0161+	-0.0017	0.0001	-0.0068	-0.0079	-0.0066
	(0.0095)	(0.0084)	(0.0079)	(0.0069)	(0.0061)	(0.0062)
married	0.1186**	0.0344**	0.0085	0.0217*	-0.0337**	-0.0218**
	(0.0044)	(0.0079)	(0.0067)	(0.0092)	(0.0081)	(0.0061)
nonwhite	0.0522**	0.0249 +	-0.0946**	-0.0640**	-0.0098	-0.0153
	(0.0096)	(0.0151)	(0.0103)	(0.0069)	(0.00107)	(0.0097)
pension		-0.1500**		-0.1226**		-0.0344**
		(0.0078)		(0.0047)		(0.0059)
health insurance		-0.0432**		-0.1306**		-0.0542**
		(0.0118)		(0.0108)		(0.0068)
Observations	13879	13879	13879	13292	9863	9863

 Table 4

 Specification Checks: "Pre" = 1992-1993, "Post" = 1994-1995

Note: Coefficients estimates are taken from a probit regression of veteran and veteran x post as described in eq. (1). Marginal effects are reported. Regressions include age, state, year and education dummies and a constant. Health insurance denotes whether or not an individual is included in a health insurance plan in the previous year. Part-time regressions include a control for whether the firm offers a pension plan, all other regressions include a control for whether or not the individual has a pension. Robust standard errors in parentheses are clustered on veteran and year. Regression universe is restricted to men who are currently employed in the survey year.

+ significant at 10%; * significant at 5%; ** significant at 1%

Works Cited:

- Autor, David H. and Mark G. Duggan, 2007. "Distinguishing Income from Substitution Effects in Disability Insurance," *American Economic Review*, 97(2): 119-24.
- Blau, David M. and Donna B. Gilleskie, 2001. "Retiree Health Insurance and Labor Force Behavior of Older Men in the 1990s," *Review of Economics and Statistics*, 83(1): 64-80.
- Borjas, George, 2003. "Welfare Reform, Labor Supply, and Health Insurance in the Immigrant Population," *Journal of Health Economics*, 22(6): 933-58.
- Bound, John and Richard V. Burkhauser, 1999. "Economic Analysis of Transfer Programs Targeted on People with Disabilities." *Handbook of Labor Economics, Volume 3*, Edited by O. Ashenfelter and D. Card, Elsevier Science: Amsterdam, 3417-3528.
- Boyle, Melissa, 2005. "Health and Utilization Effects of Expanding Public Health Insurance," Unpublished manuscript.
- Chen, Susan and Wilbert van der Klaauw, 2007. "The Work Disincentive Effects of the Diability Insurance Program in the 1990s". *Journal of Econometrics*. Forthcoming.
- Coile, Courtney, 2003. "Retirement Incentives and Couples' Retirement Decisions" NBER Working Paper 9496.
- Coile, Courtney C. and Jonathan Gruber, 2000. "Social Security and Retirement." NBER Working Paper 7830.
- Currie, Janet and Jonathan Gruber, 1996. "Saving Babies: The Efficacy and Cost of Recent Changes in the Medicaid Eligibility of Pregnant Women," *Journal of Political Economy*, 104(6): 1263-96.
- Currie, Janet and Jonathan Gruber, 2001. "Public Health Insurance and Medical Treatment: The Equalizing Impact of the Medicaid Expansions" *Journal of Public Economics*, 82: 63-89.
- Department of Veterans Affairs, 2002. "Fact Sheet: VA Health Care and the Medical Benefits Package." Office of Public Affairs and Media Relations. Washington, DC. July.
- Duggan, Mark, Robert Rosenheck, and Perry Singleton, 2006. "Federal Policy and the Rise in Disability Enrollment: Evidence for the VA's Disability Compensation Program." NBER Working Paper 12323.
- Finkelstein, Amy and Robin McKnight. 2005. "What Did Medicare Do (And Was It Worth It)?". NBER Working Paper 11609.
- French, Eric and John Bailey Jones, 2004. "The Effects Of Health Insurance And Self-Insurance on Retirement Behavior," Center for Retirement Research, Working Paper, Center for Retirement Research at Boston College.
- Gruber, Jonathan and Maria Hanratty, 1995. "The Labor-Market Effects of Introducing National Health Insurance: Evidence from Canada," *Journal of Business & Economic Statistics*, 13(2): 163-173.

- Gruber, Jonathan and Brigitte C. Madrian, 1995. "Health Insurance Availability and the Retirement Decision," *American Economic Review*, 85(4): 938-948.
- Gruber, Jonathan, and Brigitte C. Madrian. 2002. "Health Insurance, Labor Supply, and Job Mobility: A Critical Review of the Literature," NBER Working Paper 8817.
- Johnson, Richard W. and Amy J. Davidoff and Kevin Perese, 2003. "Health Insurance Costs and Early Retirement Decisions," *Industrial and Labor Relations Review*, 56(4): 716-729.
- Klein, Robert E. and Donald D. Stockford, 2001. "Data on the Socioeconomic Status of Veterans and on VA Program Usage." <u>http://www.va.gov/vetdata/demographics/index.htm</u>
- Lahey, Joanna N., 2007. Age Discrimination Laws and the Age Discrimination in Employment Act. *Journal of Law and Economics*, 51. Forthcoming.
- Lichtenberg, Frank. (2002): "The Effects of Medicare on Health Care Utilization and Outcomes," in Alan Garber, ed., Frontiers in Health Policy Research, Vol.5, Cambridge, MA: MIT Press.
- Lillard, Lee A., and Constantijn W. A. Panis. 1996. "Marital Status and Mortality: The Role of Health." *Demography*, 33 (3):313-27.
- Meyer, Bruce D. and Dan T. Rosenbaum, 2001. "Welfare, The Earned Income Tax Credit, and The Labor Supply of Single Mothers," *The Quarterly Journal of Economics*, 116(3): 1063-1114.
- Moffitt, Robert and Barbara L. Wolfe, 1992. "The Effect of the Medicaid Program on Welfare Participation and Labor Supply," *Review of Economics and Statistics*, 74(4): 615-626.
- Ruhm, Christopher, 1994. "Do Pensions Increase the Labor Supply of Older Men?" NBER Working Paper 4925.
- Rust, John and Christopher Phelan, 1997. "How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets," *Econometrica*, 65(4): 781-831.
- U.S. General Accounting Office, 1999. Veterans' Affairs: Progress and Challenges in Transforming Health Care, GAO/T-HEHS-99-109, Washington, DC, April 15.
- Winkler, Anne E., 1991. "The Incentive Effects of Medicaid on Women's Labor Supply," Journal of Human Resources, 26(2): 308-337.
- Yelowitz, Aaron S., 1995. "The Medicaid Notch, Labor Supply and Welfare Participation: Evidence from Eligibility Expansions," *Quarterly Journal of Economics*, 110(4): 909-940.

RECENT WORKING PAPERS FROM THE

CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

Why Are Companies Freezing Their Pensions?

Alicia H. Munnell and Mauricio Soto, November 2007

Capital Income Flows and the Relative Well-Being of America's Aged Population *Barry P. Bosworth, Gary Burtless, and Sarah E. Anders, November 2007*

The Role of Governance in Retirement Investments: Evidence from Variable Annuities

Richard Evans and Rudiger Fahlenbrach, October 2007

A New Approach to Raising Social Security's Earliest Eligibility Age *Kelly Haverstick, Margarita Sapozhnikov, Robert Triest, and Natalia Zhivan, October* 2007

What Makes Retirees Happier: A Gradual or 'Cold Turkey' Retirement? *Esteban Calvo, Kelly Haverstick, and Steven A. Sass, October 2007*

Why Do Married Men Claim Social Security Benefits So Early? Ignorance, Caddishness, or Something Else? Steven A. Sass, Wei Sun, and Anthony Webb, October 2007

Measurement Error in Earnings Data in the Health and Retirement Study Jesse Bricker and Gary V. Engelhardt, October 2007

Evaluating the Advanced Life Deferred Annuity – An Annuity People Might Actually Buy

Guan Gong and Anthony Webb, September 2007

Population Aging, Labor Demand, and the Structure of Wages *Margarita Sapozhnikov and Robert K. Triest, September 2007*

Work at Older Ages: Is Raising the Early Retirement Age an Option for Social Security Reform? John A. Turner, August 2007

The Labor Supply of Older Americans *Alicia H. Munnell and Steven A. Sass, May 2007*

All working papers are available on the Center for Retirement Research website (http://www.bc.edu/crr) and can be requested by e-mail (crr@bc.edu) or phone (617-552-1762).