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Abstract

This study tests the impact of a public prescription benefit on Medicare-eligible veterans, utilizing a mid-1990s benefit change in the VA health care system. Using data from the Medicare Current Beneficiary Survey, I compare prescription spending and utilization, as well as use of other health services and health outcomes for veterans and non-veterans before and after the VA insurance change. Results show that receipt of a publicly-provided prescription benefit leads to an increase in spending on prescriptions, and simultaneously, a decrease in spending on other medical services. On average, every $1 increase in drug spending is associated with a $6.50 decrease in other medical spending, and this change is accompanied by measured improvements in the health of benefit recipients. The benefit appears to accrue mainly to low-income and disabled individuals who typically have higher-than-average medical expenses, and are also more likely to experience substantial welfare gains from the relative income increase associated with the reduction (to zero) in the price of prescription drugs.

JEL Classification Codes: I1, H51

Keywords: Medicare, prescription drugs, elderly, veteran, VA healthcare

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I. Introduction

Since the 1965 inception of the Medicare program, the utilization and importance of prescription drug therapies has increased dramatically. When Medicare was first established, the role of pharmaceuticals in medicine was still fairly limited. Because drug spending made up only a small share of total medical expenditures in the U.S., outpatient prescription drug coverage was not a standard feature of most insurance programs, including Medicare. As drugs became an increasingly critical component of modern health care, the vast majority of private insurance plans incorporated prescription drug coverage into their standard benefits packages. The very recent addition of such coverage to Medicare has therefore been a topic of extreme importance.

The discussion of prescription drug coverage for the elderly is of particular significance because these individuals spend more on drugs than any other segment of the U.S. population. While 13 percent of the U.S. population is Medicare-eligible, Medicare beneficiaries account for 36 percent of prescription drug expenditures in this country (Goldman et al., 2002). According to Congressional Budget Office (CBO) estimates, drug spending for this population will rise at an average rate of 10 percent per year over the next ten years – far outstripping the anticipated growth in the U.S. economy (CBO, Oct. 2002). The enactment of the Medicare Prescription Drug Improvement and Modernization Act of 2003 only partly addresses the concerns over the lack of prescription drug coverage for the elderly in the United States. Under this legislation, the Medicare program introduced a drug benefit (first available in January 2006) providing partial coverage of prescriptions. This coverage is designed to protect Medicare-eligibles

with catastrophically high prescription expenditures, but still requires fairly high out-of-pocket payments for many beneficiaries.[1]

The expected impact of Medicare prescription drug eligibility on spending, drug utilization and health outcomes is not theoretically obvious and is important to establish empirically. Proponents of the Medicare drug benefit commonly suggest that this coverage, although expensive initially, will be cost-saving in the long run. It has been argued that the availability of affordable drugs and/or access to more expensive but more effective prescriptions may improve the health of the elderly such that their use of other, more expensive Medicare services will decline.[2] It is also worth noting that regardless of the impact on spending, a prescription benefit may lead to overall welfare increases both from health improvements, and if money that elderly individuals previously spent on prescriptions may now be used for other basic necessities (e.g. food, shelter, heat, clothing).

On the other hand, detractors maintain that the long-run costs will outweigh the benefits. This is a distinct possibility, depending on the direction and magnitude of the impact on utilization of other health services. Goldman and Philipson (2007) demonstrate that the impact of a drug benefit on utilization of other medical services is theoretically ambiguous (i.e. depending on the cross price elasticity of drugs and other types of medical care, use of non-prescription services may actually increase). Yang,

[1] For most individuals, these costs include a $250 annual deductible, a 25% coinsurance rate on the first $2250 of drug spending, no coverage for spending between $2250 and $5100, and a 5% coinsurance rate for all drug expenditures above $5100.

[2] Evidence from the medical literature lends some support to this claim. Soumerai et al. (1991) find that introducing a cap on the number of monthly prescriptions available to elderly Medicaid-eligibles in New Hampshire increased the risk of entering a nursing home over the course of one year. Soumerai et al. (1994) find that the same prescription cap resulted in an almost immediate increase in emergency mental health care and hospitalizations among mental health patients, leading to spending increases that exceeded the savings in prescription costs. Tamblyn et al. (2001) find that greater prescription cost-sharing in Canada led to higher rates of related adverse health events and emergency room visits for the elderly.

Gilleskie and Norton (2004) additionally point out that health improvements resulting from better access to drug therapies may lead to increased life expectancy, and therefore increased lifetime consumption of medical care. Ultimately, empirical evidence is required to determine the overall spending, utilization, and welfare effects of a prescription benefit.

This paper examines the impact of a drug benefit on elderly Medicare beneficiaries by utilizing an exogenous change in eligibility for prescription drug coverage for a subset of the Medicare population. During the mid-1990s, the U.S. Department of Veterans Affairs (VA) revamped its health care system, expanding both the population covered and the menu of available services. As part of this overhaul, VA established its first clearly defined health benefits package. This package was made available to all U.S. veterans, and includes a prescription drug benefit. This unique setup allows for estimation of the impact of drug coverage on Medicare-eligible veterans, utilizing a difference-in-differences strategy with non-veteran Medicare-eligibles as the control group.

Utilizing the VA policy change, this study tests the impact of the introduction of prescription coverage on drug utilization and spending, spending on and utilization of other health care services, and self-reported health. Results indicate that the introduction of a prescription benefit leads to higher spending on drugs, but that spending on other medical services falls by $6.50 for every $1 increase in drug spending. This lends strong credence to the claim that a prescription benefit has the potential to be cost-saving over time, although this study cannot test the impact of the benefit on life expectancy or lifetime medical expenditures.

II. Background

A. Prescription Drugs and the Elderly

Prescription drug spending in the United States has increased rapidly in recent years. These increases in spending can be attributed to a number of factors, including the introduction of new and increasingly more effective drugs with fewer side effects, and the higher cost of new brand-name drugs relative to older, generic alternatives. Older Americans have had particularly large increases in demand for these costly drug therapies because they tend to be in poorer health, with higher rates of disability and chronic illness than their younger counterparts (Yang et al., 2004). The distribution of prescription drug spending by the Medicare population is skewed, with the majority of beneficiaries spending under $2000 per year (CBO, 2002). A large proportion of drug spending by Medicare-eligibles is concentrated in a relatively small share of the population – mainly individuals with chronic conditions. CBO predicted that only 17 percent of the Medicare population would spend more than $5000 on drugs in 2005, but that their spending would comprise more than 54 percent of total drug costs for the group (CBO, 2002).

Prior to the availability of prescription drug coverage through traditional Medicare, many elderly individuals received coverage from other sources including retiree health plans, individually purchased supplemental insurance, and Medicare HMOs. Even so, the generosity of these supplemental insurance plans was variable, and on average, 40 percent of drug expenditures for these individuals were out-of-pocket (CBO, 2002). Additionally, the likelihood that individuals had access to outside coverage varied by income level. Low-income elderly were often eligible for drug

coverage through Medicaid, while individuals with higher incomes were the most likely to have retiree health benefits.[3] Medicare beneficiaries with incomes between these two groups (in particular, those with incomes between one and three times the poverty level) were the most likely to have no outside prescription drug coverage (CBO, 2002).

Most studies examining the impact of prescription drug coverage on drug utilization by Medicare-eligibles rely on cross-sectional comparisons of beneficiaries without any drug coverage to those with prescription drug coverage from an outside source.[4] These papers find, overall, that the presence of prescription insurance is associated with increased drug utilization. While these correlations are of interest, they do not provide direct evidence for the impact of a universal prescription benefit on drug utilization for the elderly. Because these studies cannot control for the endogenous selection of individuals into such supplemental insurance plans, they do not adequately simulate the introduction of a benefit for the entire Medicare population.

Khan et al (2007) utilize longitudinal data and a model with person-specific fixed effects to examine the impact of changes in individuals' drug coverage over time. They find an increase in prescription drug utilization ranging from 6% to 14% as a result of gaining prescription coverage, and find no significant effects on the health or hospitalization rates of users. While their strategy is an improvement over the cross-sectional studies, they are still unable to control for unobservable causes of selection into various plans or time variation in the other (non-drug) components of an individual's insurance coverage.

[3] Because of increases in drug costs and spending, retiree health plans have also begun scaling back their generosity.

[4] For example, Lillard et al. (1999), Poisal et al. (1999), Blustein (2000), Federman et al. (2001), Poisal and Murray (2001).

Shang and Goldman (2007) focus specifically on Medigap enrollees, comparing those with and without drug coverage and controlling for selection into plans. They find that availability of drug coverage leads to an increase in prescription spending and a drop in both Medicare Part A and Medicare Part B spending.[5] This study provides important evidence regarding the impact of prescription consumption on other types of medical spending. It does not, however, simulate a publicly available prescription benefit since individuals must purchase supplemental Medigap insurance. The introduction of the VA benefit is much more similar to the exogenous change in Medicare drug coverage, in that it provides newly-introduced and publicly available prescription coverage at little or no cost to the veteran.[6]

B. The VA Reforms and Medicare-Eligible Veterans

This study utilizes a major expansion in both the services provided and population served by the VA health care system. In 1996, in an effort to catch up with progress in private-sector medicine, the VA health care system began to shift from an emphasis on hospital-based specialty services to a focus on primary care and preventive medicine. Simultaneously, as a result of expected efficiency gains from the new model, VA changed its rules on eligibility for care. Prior to the reform, VA guaranteed care only to veterans with service-connected conditions or low incomes (hereafter referred to as "previously-eligibles"); 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

[5] Medicare Part A covers inpatient services, while Medicare Part B covers outpatient services.
[6] As described in the next section, the benefit is free to many veterans, but non-disabled veterans with high incomes pay a small co-payment to fill a prescription. Even for these individuals, the amount of cost-sharing associated with the drug benefit is substantially smaller than that required by Medicare Part D.

patient load increased from 2.6 million veterans in 1995 to 4.3 million in 2002 (GAO/T-HEHS-96-134, GAO-03-1103R).

The Medicare-eligible portion of the veteran population has been particularly interested in taking up VA care as a result of this policy change. As part of the VA reforms, the government created the Medical Benefits Package, the first health benefits plan for veterans. This plan covers a number of services including primary care and preventive services, and, most notably, prescription drugs.[7] The drug benefit resulted in very high and increasing take-up rates among veterans over the age of 65. In 2002, 26 percent of the veteran population was Medicare-eligible, but 50 percent of VA-users were Medicare-eligible. Among newly-eligible users, the proportion over age 65 grew from 52 percent in 1999 to 65 percent in 2001. Over the same period, the number of 30-day prescription equivalents provided to newly-eligible veterans increased from 11 million to 26 million. The rate of growth of VA pharmacy expenditures for newly-eligible veterans between 1999 and 2001 was more than four times that for all other treated veterans (GAO-03-161).

While the VA drug benefit was particularly important to newly-eligible veterans, the overhaul in the system and expansion in services attracted many previously-eligibles as well. Although spending on prescription drugs increased at a faster rate for the newly-eligible segment of the treated population, the net increase in spending for veterans in the newly-eligible group accounted for only 28 percent of the total increase in drug spending between 1999 and 2001 (GAO-03-161). VA health care may have been particularly

[7] For newly-eligible (non-poor and non-disabled) veterans, VA charges modest co-payments for use of services ($2 per 30-day supply of each prescription drug during the study period), while all previously-eligible (poor and/or service-connected disabled) veterans may use VA services free of charge. If a veteran has private insurance, VA is also authorized to bill the insurance company for any services rendered that are not related to a service-connected condition, but VA cannot seek reimbursement from Medicare.

attractive to low-income veterans following the policy change. These previously-eligibles were less likely than their disabled counterparts to have been aware of their eligibility for VA care prior to the reforms. Because the reforms were well-publicized and laid out much clearer eligibility rules, they may have affected some previously-eligible veterans in similar ways to the newly-eligible population.

III. Data and Empirical Strategy

In order to estimate the impact of a prescription drug benefit on Medicare-eligible veterans, I utilize data from the Medicare Current Beneficiary Survey (MCBS) for the years 1992-2001. The MCBS is a rotating panel of Medicare beneficiaries, with an over-sampling of older individuals. These data combine a survey component with Medicare claims records, resulting in a dataset containing demographics for each survey participant, as well as detailed information about the individual's health status, utilization of medical care and medical spending. Health status information includes a self-reported health measure as well as various activities of daily living assessments. Utilization variables include, among other things, information on doctor visits, hospital admissions, and the number of one-month prescription equivalents filled in the survey year. Spending information is broken down by type of medical service (for example, prescription drugs) and also by payer (for example, VA).

I employ a difference-in-differences estimation strategy to compare prescription drug utilization and payments for veterans and non-veterans before and after the policy change. Because of the very small number of female Medicare-eligible veterans, I restrict my sample to males. Additionally, because of the significant differences between

the elderly and younger individuals receiving Medicare because of disability, I limit my sample to individuals age 65 and over. Finally, I drop Medicare HMO enrollees from the sample, because many of these individuals already received publicly-provided drug coverage in the pre-period. Additionally, changes in Medicare HMO market penetration and benefits in the late post-period[8] impact veterans and non-veterans differentially, potentially clouding the results.

Since changes in the VA system were implemented throughout 1996 and 1997, I define 1992-1995 as the pre-period and 1998-2001 as the post-period. I estimate the following equation by OLS:

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

The dependent variable, y_{it}, includes measures of prescription drug utilization and spending, measures of health, hospital stays and doctor visits, and spending on non-prescription inpatient and outpatient services. Independent variables include $veteran_i$, an indicator equal to one if the individual has been honorably discharged from active military duty, and $post_t$, an indicator equal to one in the post-policy period. $\boldsymbol{X}_{it}$ is a vector of individual characteristics: age, race, marital status, education, income, urban-rural and state dummies, and age*veteran dummies. The model also includes year dummies (δ_t) and a random error term (μ_{it}).

Although respondents may remain in the sample for as long as five years, with the omission of 1996 and 1997 a very small number of pre-period respondents remain in the data for the post-period. For this reason, individual fixed effects are not included in the model and the dataset is treated as though it consists of repeated cross sections.

[8] The Balanced Budget Act of 1997 reduced reimbursements to Medicare HMO participants, causing many plans to either reduce their benefits or withdraw from the market entirely, beginning in 1999.

Summary statistics are reported in Table 1. In comparing the two populations, there is a notable difference in average age patterns across the groups. While the non-veteran sample is slightly older on average, the age of the average non-veteran decreases slightly over time while the age of the average veteran increases. These age differences are likely to explain at least some of the other average demographic differences between the two samples. In order to control for this factor, I allow age to enter into my regressions separately for veterans and non-veterans by including age*veteran interaction terms.

IV. Results

As mentioned above, theory predicts that the introduction of a prescription benefit will lead to increases in total spending on prescriptions and in prescription utilization, although the magnitude of the response depends on the price elasticity of demand for drugs. Since the VA reform results in an exogenous positive change in drug coverage for a large number of veterans, the expectation is that Medicare-eligible veterans will respond by increasing their consumption of prescription drugs. Table 2 reports results for prescription spending and utilization from OLS difference-in-differences regressions.[9] The outcomes considered are total (annual) spending on prescription drugs (where total spending is measured in 2000 dollars as the sum of spending for each individual by all payers in a given year), the logged number of prescriptions filled during the year, and an indicator variable for any drug spending that year. As expected, total spending on prescription drugs for the average Medicare-eligible veteran increases as a result of the

[9] Probits have also been tested for 0-1 outcome variables and produce qualitatively similar results. See Table 5.

introduction of a drug benefit. On average, total spending increases by $97 as a result of the policy change, an 18 percent increase relative to the average the pre-period veteran average.

Surprisingly, this substantial increase does not appear to be accompanied by a marked change in the number of prescriptions filled. Although the coefficient on the logged number of prescriptions is positive, it is relatively small and insignificant. At the same time, there does appear to be a positive change (significant at 10%) in the proportion of individuals with any spending on prescription drugs, but this coefficient is small, indicating a 2 percent increase in the probability that an individual fills any prescriptions during the year. The insignificant change in the average number of prescriptions filled as a result of gaining insurance coverage implies highly inelastic prescription drug demand.[10] Rather than a change in total number of prescriptions filled, the increase in spending potentially represents the ability to switch to newer, more expensive drugs.[11] If these drugs are more effective or have fewer side effects, this switch may have significant benefits. Additionally, there may be substantial positive health and welfare effects for the few individuals who previously could not fill any prescriptions and now have positive drug spending.

As has been noted by researchers and policy-makers alike, a prescription drug benefit for Medicare-eligibles has the potential to impact not only prescription drug

[10] This finding is consistent with Pauly and Zheng (2004) which concludes that expenditures on outpatient prescription drugs are more persistent for individuals across years than other categories of medical spending.

[11] Studies comparing the VA formulary to other formularies (e.g. GAO-01-183 and Institute of Medicine 2000) support this possibility, concluding that while improvements can be made to the system, veterans are generally receiving the drugs preferred by their physicians. A 2000 investigation by the Institute of Medicine concluded that the VA formulary is "in some respects [more], but in many respects less, restrictive than other public or private formularies." That report also states that the VA formulary compares favorably to private-sector and Medicaid formularies.

spending and utilization, but the consumption of other medical services as well. As discussed previously, it is not obvious ex-ante whether such a benefit substitutes for utilization of other services by preventing more serious illness, or whether drugs and other medical services are complements. It is possible that the drug benefit may induce individuals to increase the frequency of their doctor visits for the purpose of obtaining prescriptions, and medical providers may then notice and treat conditions that would otherwise have been ignored. Regardless of whether prescription drugs and other medical services are substitutes or complements, the availability of drug therapies has the potential to impact health outcomes.

For these reasons, I consider the effects of the VA policy change on non-prescription health care utilization and on health outcomes. Results are reported in Table 3. Because the VA policy change had many components, I am unable to specifically isolate the impact of the drug benefit on the outcomes reported in this table. Instead, this table shows the impact of the policy change as a whole on the health and health care utilization of Medicare-eligible veterans. Even so, there is a great deal of evidence that the prescription drug benefit accounted for a significant portion of the increase in VA's Medicare-eligible patient load. The VA Office of Inspector General estimated that as many as 90 percent of newly-eligible users of VA care were primarily interested in using the system to fill prescriptions (Office of Inspector General, 2000). Thus, while the effects reported in Table 3 are not a result of drug coverage alone, they are suggestive of the potential impact of such a benefit.

As shown in the table, the average number of hospital stays falls by .045 as a result of the policy change, a 15 percent decrease relative to the pre-period. The

coefficient on the number of office visits is positive, but substantially smaller (relative to the pre-period mean) and insignificant. These effects are, at least in part, a mechanical result of the shift in the nature of care provided by VA. Since VA shifted from an inpatient to an outpatient emphasis, many services that were previously provided in an inpatient setting were shifted to clinics. However, when examining veterans of all ages together, not limiting Medicare-eligibles, Boyle (2005) finds that while the length of the average hospital stay declines, the number of hospital admissions is unchanged. Thus, the decrease in hospital admissions for Medicare-eligibles, the segment of the population most affected by the acquisition of drug coverage, provides suggestive evidence that the drug benefit is associated with a decline in the overall need for inpatient services.

Even more striking, the results indicate a decline in total spending (by all payers) on both inpatient and outpatient services. The reported coefficients indicate a 7 percent decline in spending on outpatient services and a 14 percent decline in inpatient spending, relative to the pre-period veteran average. These results are consistent with the finding by Shang and Goldman (2007) of a 13 percent decrease in Medicare Part A spending and a 4 percent decrease in Medicare Part B spending as a result of the presence of a Medigap prescription benefit. The drop in spending for both inpatient and outpatient services, coupled with the significant increase in prescription spending provide strong evidence that prescription drugs are a substitute for certain other medical services.

Table 3 also reports the effect of the policy change on two different health outcome measures. The first of these is a health indicator, coded as 1 if a veteran reports excellent, very good or good health, and 0 if health is described as fair or poor. The second tested measure is a dummy for whether the individual's social activities are

limited by health.[12] According to both of these measures, health appears to improve as a result of the VA policy change. As a result of the new VA health benefits, elderly veterans are 1.5 percent more likely to report their health as good, very good or excellent, and 5 percent less likely to report that their health limits their social activities. These results are again in contrast to findings for the entire veteran population, for whom the policy change has a negative effect on self-reported health and activity limitation status (Boyle, 2005).[13] Since younger veterans are less likely than older veterans to gain drug coverage as a result of the policy change (because more of them have access to employer-provided coverage), it is reasonable to conclude that the drug benefit is at least partly responsible for the differential positive impact on health for older veterans.

The lack of an effect of the VA prescription drug benefit on the quantity of drugs consumed calls into question whether the increase in spending for veterans in the post-policy period is in fact a result of the VA benefit, or is a result of some other unobservable phenomenon. In order to better understand the effects of the benefit on drug spending by the veteran population, I next consider the effect of the policy change on the composition of payment for prescription drugs. For each medical service provided during the year, the MCBS contains information on payment, broken down by individual payers. This allows me to consider whether the policy change has an impact on the amount spent by each individual payment source.

[12] Activities of Daily Living (ADL) measures such as this one have been shown to be excellent predictors of morbidity and mortality. Wiener et al. (1990) provides a list of papers which give evidence of the predictive power of ADLs in determining health.

[13] Although not reported in that paper, the same regressions in Boyle (2005) were run for the Medicare-eligible sample in the National Health Interview Survey. For those individuals, self-reported health improved by a magnitude similar to that found with the MCBS data. Thus, results across the two samples are quite consistent for the elderly population.

The results for prescription spending by various payers are reported in Table 4. These results confirm a distinct shift in the source of payment once the benefit is in place. As a result of the policy change, drug spending by VA increases by $88 for the average veteran in the post-period, a 318 percent increase relative to the pre-period average. Simultaneously, spending by veterans out of pocket and spending through insurance plans purchased in the private individual market decline 20 percent and 79 percent respectively. Thus, while there is not an effect on the average number of prescriptions filled, there is a marked change in who pays for these prescriptions. This shift from private to public payment may also be health- and welfare-enhancing, if dollars previously allocated to prescription spending may now be used to purchase other necessities.

Of additional note is the fact that spending by private, employer-provided insurance plans and HMOs increases as a result of the policy change. There is a strong incentive for retirees with these types of benefits to also switch to using the VA drug benefit, because VA requires very little (if any) cost sharing by the veteran.[14] Thus, even if a veteran has outside insurance, he can still save a substantial amount of money by filling prescriptions through a VA doctor. If these prescriptions are not related to a service-connected condition, however, VA can bill the veteran's insurance company for its share of the cost. It is therefore possible that privately insured veterans can afford to switch to costlier drugs as a result of the policy change, and that the cost of the switch is partly borne by the private insurance company.

[14] As mentioned earlier, during the time period considered in this study, newly-eligible veterans paid a co-payment of $2 per prescription, while previously-eligible veterans paid nothing for prescription drugs.

V. Robustness Checks

In interpreting the results above, I have assumed that the differential changes in veteran healthcare utilization and health outcomes are directly attributable to the policy change in question. One concern with this causal interpretation is the possibility that the results are driven by a pre-existing trend that impacts the treated population (veterans) and the non-treated population (non-veterans) differentially, but is not related to the policy change in question. In order to establish that no such trend exists, I have run the regressions reported in tables 2-4 on the pre-period sample alone, coding 1992 and 1993 as "pre" years and 1994 and 1995 as "post" years. Results from this exercise for the three spending outcomes are reported in columns 1-3 of Table 5. As shown in the table, the coefficients on the "*post x veteran*" term are statistically insignificant, and have the opposite sign from those found in the main results, confirming that no such pre-trend exists. The same regression was run for all other outcomes reported in tables 2-4 with similar results. The coefficients on "*post x veteran*" are statistically insignificant and are typically either attenuated or have an opposite sign from the main result.

Another concern is that there may be systematic differences between veterans and non-veterans that change over time. In order to account for this possibility, I run regressions for all outcomes reported in tables 2-4 allowing the control variables to enter for veterans and non-veterans separately. This is achieved by interacting each control with the *veteran* indicator. In these regressions, the coefficients on the veteran interactions are typically insignificant, and the coefficient of interest has similar magnitude and significance to the main results, as demonstrated in columns 4-6 of Table 5.

Finally, as mentioned above, for 0-1 outcomes a probit model was tested in addition to the OLS model. Probit marginal effects for these three outcomes are reported in columns 7-9 of Table 5. These results are very similar to the OLS coefficients reported earlier.

VI. Which Veterans Are Affected?

While it is important to consider the aggregate effects of prescription coverage on Medicare-eligible elderly veterans, these individuals fall into two distinct groups, each of which may be impacted differently. As mentioned above, veterans may be classified as either newly-eligible for VA care (i.e. non-poor and non-disabled) or were eligible previously because of low-incomes or service-connected conditions. Newly-eligible individuals are the only segment of the population that undergoes a true shift from no coverage to a full benefit. Thus, isolating the effect on this group is of particular importance.

At the same time, previously-eligible veterans have the potential to be just as strongly affected, for a number of different reasons. First, these individuals became eligible for use of a health care system with a much wider scope of available services. Prescriptions, under the rules of the previous system, were available only for treatment of service-connected conditions, unless they were issued following a hospitalization. In addition, the publicity surrounding the policy change may have raised awareness among veterans regarding the availability of VA care. Low-income veterans with no service-connected disabilities may have been previously unaware of their eligibility to receive care through the VA system, but may have learned of this option as a result of the policy

change. Low-income individuals additionally are more likely to be in poor health (see, for example Kiulia and Mieszkowski, 2007) and are less likely to be able to afford prescription expenses out of pocket. Thus, the magnitude of the impact on this population is potentially large.

In order to examine the impact of the drug benefit on these two populations separately, I split my veteran sample into newly-eligibles and previously-eligibles, and test for a differential impact on the two groups. To accomplish this, I must first choose comparable non-veteran controls for the newly- and previously-eligible subsets of the veteran population. I achieve this by drawing samples matched on propensity score. The details of this matching procedure are described in the appendix.

Summary statistics for the matched samples are reported in Table 6. The characteristics of veterans and non-veterans in these groups are much more similar than in the unmatched sample. Additionally, there are, as expected, distinct differences between the newly- and previously-eligible populations. Previously-eligibles are less educated, less likely to be married, more likely to be black or Hispanic, and on average report poorer health than newly-eligibles.

Selected results by eligibility status are reported in Table 7.[15] Panel A reports the impact of the drug benefit on prescription drug utilization for the two groups. For the previously-eligible population, the results are consistent with those for the entire Medicare veteran population. Total spending on drugs increases significantly, with the drug benefit resulting in an increase in total spending of $61 on average, an 11 percent increase. There is not any significant effect on the number of prescriptions filled but the

[15] The full set of results is available upon request. Outcomes that are similar to those for the aggregate sample and do not vary significantly (as reported in the "sig diff?" row) across the newly- and previously-eligible samples are not reported.

probability of having any prescription spending increases by about 4 percent. The results for newly-eligibles are markedly different, however, in that there is no significant effect on total prescription spending. The coefficient of interest for the *spend any* outcome is positive, and not significantly different from the outcome for previously-eligibles, but it is imprecisely measured. These results imply that wealthier, newly-eligible veterans do not experience much change in the type or quantity of prescription drugs consumed after gaining eligibility for public prescription coverage. This is not surprising, given that individuals in this group are much more likely than their previously-eligible counterparts to have other sources of drug coverage (e.g. retiree health benefits) or to be able to afford to finance their prescription spending either out-of-pocket, or through purchase of a supplemental insurance plan. They are also less likely to have chronic conditions accompanied by high prescription costs. This lack of an effect does not imply, however, that newly-eligibles gain no benefit from public prescription coverage, since private money previously spent on prescriptions may now be used for other health- and welfare-enhancing purchases.

With this in mind, I examine the effects of the policy change on health care utilization and health outcomes of the newly- and previously-eligible populations. Both groups experience a significant improvement in health according to both tested measures. These results are not reported, however, because there is no significant difference for newly- versus previously-eligibles, and the magnitude of the coefficients is very similar to that for the aggregate population. In panel B, I report the effects of the policy change on health care utilization for newly- and previously-eligibles. Number of hospital stays declines for previously-eligibles but does not change significantly for newly-eligibles.

This result is unsurprising on two counts. First, only the previously eligible population was subject to the shift from inpatient-focused to outpatient-focused care that accompanied the VA policy change. Second, as detailed above, only previously-eligibles appear to experience a marked increase in prescription spending. To the extent that drug availability is responsible for a drop in utilization of other services, this substitution should occur for the previously-eligibles but not newly-eligibles. Inpatient and outpatient spending falls for both groups, though the newly-eligible coefficients are not precisely measured. The drop in inpatient spending is significantly larger for previously-eligibles than for newly-eligibles. [16]

Results by payer type are reported in panel C. Both newly- and previously-eligible veterans experience higher drug payments by VA as a result of the policy change. The magnitude of the increase is large for the previously-eligibles, and quite a bit smaller for newly-eligibles. For the previously-eligible population, the policy change results in a $162 increase in average drug spending per person by VA, while the increase is $44 for newly-eligible veterans. As in the results for the entire sample, out-of-pocket spending on drugs falls quite a bit for both newly- and previously-eligibles, and spending through insurance plans purchased on the individual market also falls, although these coefficients are not significantly different across the two groups and thus are not reported.

VII. Discussion and Conclusion

In general, the results of this study indicate that receipt of a publicly-provided prescription benefit will lead to an increase in spending on prescriptions, and

[16] Coefficients for number of doctor visits are small and insignificant and did not statistically differ across the two samples.

simultaneously, a decrease in spending on other medical services. In this instance, for the average veteran, drug spending increases by $97 while spending on inpatient and outpatient services decrease by $202 and $424, respectively. Although some of the drop in spending may be attributable to other changes in the VA health care system, it is likely that for Medicare-eligibles, who were already recipients of an alternative form of public insurance in the pre-period, a substantial portion of the spending changes arise specifically because of the receipt of the prescription coverage that was absent from their Medicare benefits but is included in the VA benefit.

Roughly speaking, the results therefore imply that every additional dollar of drug spending leads to a $6.50 decrease in spending on other medical services. Although this analysis cannot account for general equilibrium effects (e.g. the fact that improved health may lead to increased life expectancy and therefore higher lifetime medical spending) there is strong evidence that at least in a static sense, the drug benefit will be cost-saving for the average recipient. In addition, the benefit appears to accrue mainly to low-income and disabled individuals. This population typically has higher-than-average medical expenses, and is also more likely to experience substantial welfare increases from the relative income increase associated with the reduction (to zero) of the price of prescription drugs.

In a 2002 report on the issues surrounding the design of a Medicare prescription drug benefit, the Congressional Budget Office stated that "the fundamental issue inherent in the debate about adding a drug benefit to Medicare may not be one of providing for use of prescription drugs so much as one of redistributing the cost of drugs away from the people, companies and government entities that now pay for them" (CBO 2002). The

results of this study appear to support that hypothesis. While utilization of prescriptions by Medicare-eligible veterans appears quite inelastic, on average, there is a distinct shift in the composition of who pays for the drugs. Out-of-pocket spending on prescriptions drops sharply when the benefit becomes available and spending by VA increases a great deal, especially for veterans in the previously-eligible group, who tend to have lower incomes and poorer health.

This shift in payers appears to be welfare-enhancing along multiple dimensions. It is accompanied by an increase in spending on drugs, and also improvements in health, suggesting that the drugs received may be more effective. Meanwhile, a much larger decrease in spending on other health services is observed. Finally, if beneficiaries spend the money that they would otherwise have spent on drugs on other health-improving consumption goods (better food, for example), the policy change may improve average health even if it does not substantially change drug consumption.

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Appendix: Sampling Previously- and Newly-Eligibles

For each veteran in the sample, the MCBS contains sufficient detail to determine eligibility status. Using information about the veteran's income (a variable which also accounts for the income of the veteran's spouse, if applicable) I can verify whether or not the veteran is below the VA-established means test cutoff in a given year. Additionally, the data contain information about the veteran's service-connected disability rating. Following military service, every veteran who is injured or disabled in the line of duty is assigned a rating for the severity of that disability. Any veteran with a rating higher than 0 percent was eligible for VA care prior to the policy change. I can therefore establish whether a veteran was previously-eligible as the result of a service-connected condition.

In order to choose comparable controls from my sample of non-veterans, I divide my treated (i.e. post-period) veteran sample into two groups – those with and those without service-connected conditions. I then use propensity score matching to draw groups of individuals with comparable characteristics from the pre- and post-period non-veteran samples, as well as from the pre-period veteran sample. I calculate the propensity score (probability of treatment) using a logit model and controlling for a set of characteristics that includes year of birth, income, education, state of residence, residence in an MSA, race and marital status. Additionally, I include a number of activities of daily living (ADL) measures. These measures are indicator variables coded to 1 if the individual reports having a lot of difficulty with or being unable to perform the following actions: kneeling, lifting, reaching, walking and writing.

Once the propensity score is calculated, I match each treated veteran to the individual in each of the other three groups (pre- and post-period non-veterans, and pre-period veterans) with the closest propensity score. This matching is done without

replacement, and I impose a common support, meaning that treated individuals with propensity scores either above or below the scores for all non-treated individuals are dropped.[17] This leaves me with comparable control groups for both the disabled and non-disabled veterans in my sample. I then code each individual as being "newly-eligible" or "previously-eligible" based on income and disability group (where non-veterans matched to disabled veterans are considered "disabled" and therefore "previously-eligible.")

The benefit of performing such a match is that it allows me to select a group of observably similar individuals to serve as controls for veterans with and without service-connected disabilities. The major drawback, however, is that unmatched individuals must be dropped from the sample. In general, this can result in large reductions in sample size (Blundell & Costa Dias, 2000). In this case, I retain about half of my original sample.

[17] The matching is accomplished with a Stata module, psmatch2, written by Leuven and Sianesi (see references).

Table 1. Summary Statistics MCBS 1992-2001

	Veterans		Non-veterans	
	Pre (N=8436)	**Post (N=9062)**	**Pre (N=6552)**	**Post (N=5359)**
Age	72.978	75.060	79.236	77.607
	(6.179)	(6.120)	(7.855)	(8.451)
Hispanic	.005	.008	.018	.045
Black	.067	.064	.105	.111
Married	.762	.747	.680	.649
HS Diploma	.291	.272	.210	.214
Some College	.142	.231	.086	.130
College Degree	.208	.234	.114	.144
Metro	.721	.687	.672	.640
Income	33451.57	36698.13	24020.51	26471.15
	(43837.44)	(48215.68)	(42157.90)	(50774.48)
Health (=0 if poor or fair, 1 if good, very good or excellent)	.768	.769	.684	.686
Activity Limitation?	.286	.284	.401	.377
Any Drug Spending	.807	.863	.779	.808
Total Drug Spending	547.12	1037.06	524.23	880.26
	(764.12)	(1281.49)	(738.82)	(1358.22)
Number Prescriptions	14.401	20.15	15.075	20.280
	(18.308)	(21.59)	(19.258)	(22.867)
Drug Spend OOP	287.53	370.67	308.44	414.66
	(457.93)	(534.02)	(498.58)	(639.43)
Drug Spend Private HMO	18.46	45.57	14.84	26.80
	(157.00)	(291.51)	(153.24)	(203.43)
Drug Spend Empl Provided	141.24	379.31	96.15	227.16
	(422.50)	(851.42)	(347.45)	(969.09)
Drug Spend Individual Mkt	17.40	32.19	15.19	38.88
	(129.16)	(189.61)	(121.86)	(210.91)
Drug Spend VA	27.70	111.84	n/a	n/a
	(204.78)	(469.26)		
Outpatient Spending	2930.27	3669.85	3005.31	3600.62
	(6634.55)	(6083.01)	(4858.21)	(6042.94)
Inpatient Spending	2967.02	3206.82	3484.35	3830.58
	(10271.61)	(9956.76)	(13163.34)	(11327.44)
Hospital Stays	.295	.336	.405	.450
	(.766)	(.824)	(.926)	(1.027)
Doctor Visits	4.450	5.528	5.135	5.525
	(5.432)	(6.188)	(5.775)	(6.202)

Sample restricted to males age 65+. All dollar amounts are in 2000$. Standard deviations in parentheses where applicable.

Table 2. Prescription Drug Utilization

	(1)	(2)	(3)
	Total Spending	Log (#Prescriptions)	Spend Any (0-1)
post x veteran	**97.4582****	**0.0191**	**0.0162+**
	(17.5248)	**(0.0256)**	**(0.0092)**
veteran	-236.3554	-0.3002	0.0212
	(137.4091)	(0.2867)	(0.1336)
urban	41.7397	-0.0236	0.0115
	(28.3260)	(0.0303)	(0.0071)
hispanic	75.6159+	0.0278	0.0651*
	(43.0235)	(0.0516)	(0.0226)
black	-92.4067**	0.0231	-0.0116+
	(26.4644)	(0.0334)	(0.0065)
marital status	87.0584**	0.0428+	0.0415**
	(17.7828)	(0.0206)	(0.0057)
observations	28883	23871	28883

Results from estimating equation (1) by OLS. Dependent variables include a measure of total annual spending on prescription drugs (total from all payer sources), log number of prescriptions filled during the year, and an indicator for any drug spending during the year. Robust standard errors in parentheses are clustered on veteran and year. Spending is measured in 2000$. Controls also include age, age*veteran, state, year, income group and education dummies and a constant. Robust standard errors in parentheses are clustered on veteran and year.

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

Table 3. Utilization and Health

	(1) Hospital Stays	(2) Office Visits	(3) Outpatient Spending	(4) Inpatient Spending	(5) Health (0-1)	(6) Activity Limitation (0-1)
post x veteran	**-0.0451***	**0.0846**	**-201.8444***	**-423.7555***	**0.0122***	**-0.0131+**
	(0.0172)	**(0.1033)**	**(77.5558)**	**(186.9180)**	**(0.0051)**	**(0.0070)**
veteran	0.1102	-1.5825	-30.4967	1,205.4890	-0.0054	0.0044
	(0.2457)	(1.1447)	(800.1400)	(3,153.7430)	(0.0045)	(0.0058)
urban	0.0166	0.5634**	288.0152**	564.5913**	-0.0010	0.0099
	(0.0178)	(0.1280)	(73.5115)	(161.3298)	(0.0065)	(0.0083)
hispanic	-0.0814+	0.8904*	96.2379	786.2235	-0.0008	-0.0349
	(0.0385)	(0.3310)	(174.5389)	(1,630.0492)	(0.0243)	(0.0227)
black	-0.0485*	-1.0736**	-68.7646	168.7677	-0.0378**	0.0220
	(0.0171)	(0.0884)	(165.3538)	(227.1263)	(0.0091)	(0.0127)
marital status	-0.0214	0.2894*	17.6230	-144.8095	-0.0184*	0.0071
	(0.0133)	(0.1064)	(76.4422)	(113.4840)	(0.0079)	(0.0076)
observations	28883	28883	28883	28883	28794	28667

Results from estimating equation (1) by OLS. *Hospital Stays* is the number of unique hospitalizations in the past year and *Office Visits* is the number of unique outpatient visits in the past year. *Outpatient Spending* is the sum of spending for all clinic visits and outpatient hospital admissions by all payment sources, and *Inpatient Spending* is the sum of spending for all inpatient hospital admissions by all payment sources. *Health* is an indicator =1 if individual is in excellent, very good or good health, and 0 otherwise. *Activity Limitation* is an indicator =1 if individual reports that health limits social activity. Robust standard errors in parentheses are clustered on veteran and year.
Controls also include age, age*veteran, state, year, income group and education dummies and a constant.

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

Table 4. Composition of Spending

	(1)	(2)	(3)	(4)	(5)
	HMO	VA	Private Insurance (Employer Provided)	Private Insurance (Individual Market)	Out of Pocket
post x veteran	**22.3821****	**88.4966****	**81.2422****	**-13.7806****	**-57.0276****
	(3.2076)	**(15.8545)**	**(8.7532)**	**(3.2029)**	**(6.7794)**
veteran	-20.5171+	-2.8186	-8.4362	-25.8026	-173.3387**
	(11.6662)	(31.2541)	(64.7334)	(18.2641)	(45.7939)
urban	16.1737**	1.9586	31.7017+	-3.4297	-16.5916*
	(4.7105)	(2.8694)	(16.2568)	(2.4494)	(7.6370)
hispanic	2.5097	2.1002	-72.6389**	-12.3095**	-25.6172
	(8.7898)	(8.8863)	(8.5042)	(2.3609)	(32.0614)
black	2.1111	11.5306+	-27.0723*	-8.6502**	-73.7808**
	(5.7111)	(6.4787)	(12.4475)	(1.7492)	(12.4139)
marital status	0.8148	12.0980	27.6174**	0.5465	28.0161**
	(2.3848)	(9.3438)	(6.8764)	(2.1170)	(8.4802)
observations	28883	28883	28883	28883	28883

Results from estimating equation (1) by OLS. Dependent variables are annual amount of spending by payer type. Robust standard errors in parentheses are clustered on veteran and year. Spending is measured in 2000$. Controls also include age, age*veteran, state, year, income group and education dummies and a constant.

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

Table 5. Robustness Checks

	"Pre"=1992 & 1993, "Post" = 1994 & 1995			Fully Interacted			Probit Marginal Effects		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Total Drug Spending	Outpatient Spending	Inpatient Spending	Total Drug Spending	Outpatient Spending	Inpatient Spending	Any Drug Spending (0-1)	Health (0-1)	Activity Limitation (0-1)
post x veteran	**-1.6386**	**104.4266**	**296.7965**	**106.5164****	**-169.8245***	**-372.0021+**	**0.0213***	**0.0111***	**-0.0143***
	(12.3752)	**(100.4597)**	**(224.6388)**	**(17.4141)**	**(69.3050)**	**(201.0340)**	**(0.0095)**	**(0.0050)**	**(0.0069)**
veteran	-8.9208	193.5784	7,073.1804	205.3500	1,985.4111	2,030.3071	0.0131	-0.0046	0.0044
	(8.9947)	(610.6095)	(4,071.4308)	(196.3203)	(1,361.9156)	(3,903.5949)	(0.1102)	(0.0046)	(0.0059)
metro	-6.7144	285.6448*	407.9059	-23.7618	252.5714+	615.9011*	0.0115+	-0.0020	0.0116
	(21.6688)	(114.4341)	(230.7870)	(17.8310)	(137.6013)	(243.1702)	(0.0068)	(0.0068)	(0.0089)
hispanic	162.7018*	752.2012*	3,903.2108	122.3804*	226.2911	1,401.2054	0.0557**	0.0001	-0.0324
	(56.3898)	(316.5323)	(4,519.7756)	(46.9814)	(226.6630)	(2,168.0670)	(0.0181)	(0.0209)	(0.0212)
black	-38.5373	-134.2035	180.0146	-127.2429*	-292.2588	215.6667	-0.0126*	-0.0334**	0.0205
	(20.6206)	(229.3243)	(371.1073)	(46.5298)	(272.4998)	(305.2435)	(0.0062)	(0.0086)	(0.0126)
marital status	33.3768+	-84.4254	-196.7419	99.6388**	-39.5780	-254.7070+	0.0411**	-0.0171*	0.0062
	(16.6284)	(123.7693)	(147.2712)	(26.2832)	(102.5486)	(133.5239)	(0.0062)	(0.0074)	(0.0077)
observations	14717	14717	14717	28883	28883	28883	28876	28786	28659

Results from estimating equation (1). Estimation is by OLS in columns 1-6 and Probit in columns 7-9. Marginal effects are reported for Probit results. Controls also include age, age*veteran, state, year, income group and education dummies and a constant. Robust standard errors in parentheses are clustered on veteran and year. Spending is measured in 2000$. Columns 1-3 report results from restricting the regression universe to years 1992-1995, with '94 and '95 coded as "post". Columns 4-6 report results when a full set of *veteran* interaction terms is added to the controls. Columns 7-9 report results for 0-1 outcomes when estimated with a probit model rather than OLS.

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

Table 6A. Summary Statistics, Matched Sample of Newly Eligibles

	Veterans		Non-veterans	
	Pre (N=907)	**Post (N=1592)**	**Pre (N=1121)**	**Post (N=1743)**
Age	75.039	75.241	74.062	75.513
	(6.659)	(7.980)	(6.223)	(7.271)
Hispanic	.006	.008	.010	.007
Black	.049	.036	.042	.032
Married	.848	.842	.864	.823
HS Diploma	.298	.278	.326	.290
Some College	.162	.143	.175	.210
College Degree	.216	.273	.270	.286
Metro	.666	.691	.716	.667
Income	43493.94	49418.90	48522.64	51572.01
	(42967.11)	(61275.21)	(62667.54)	(82017.58)
Health (=0 if poor or fair, 1 if good, very good or excellent)	.750	.797	.794	.814
Activity Limitation?	.323	.280	.270	.268
Any Drug Spending	.839	.863	.855	.866
Total Drug Spending	634.20	1035.21	622.73	1074.49
	(783.74)	(1229.99)	(791.07)	(1810.27)
Number Prescriptions	15.888	19.925	15.410	20.444
	(17.959)	(20.950)	(19.427)	(21.986)
Drug Spend OOP	336.20	397.52	363.87	500.05
	(511.28)	(576.15)	(522.18)	(696.49)
Drug Spend Private HMO	25.78	64.85	28.57	43.20
	(199.27)	(348.82)	(179.50)	(217.22)
Drug Spend Empl Provided	189.60	408.20	167.17	414.57
	(446.50)	(874.06)	(437.23)	(1506.75)
Drug Spend Individual Mkt	21.35	40.97	29.30	60.71
	(154.34)	(213.92)	(200.76)	(289.37)
Drug Spend VA	12.76	57.49	n/a	n/a
	(98.85)	(272.79)		
Outpatient Spending	3490.42	3645.03	3175.63	3770.75
	(6428.34)	(5563.99)	(5364.89)	(6698.59)
Inpatient Spending	3147.63	3363.99	3127.12	3443.73
	(9829.78)	(10429.83)	(10301.24)	(11000.57)
Hospital Stays	.334	.339	.351	.364
	(.799)	(.826)	(.897)	(.914)
Doctor Visits	5.405	5.802	5.502	6.014
	(5.774)	(6.507)	(5.880)	(6.386)

Sample restricted to males age 65+. All dollar amounts are in 2000$. Standard deviations in parentheses where applicable.

Table 6B. Summary Statistics, Matched Sample of Previously Eligibles

	Veterans		Non-veterans	
	Pre (N=2174)	**Post (N=3039)**	**Pre (N=2030)**	**Post (N=2730)**
Age	74.789	76.032	72.631	76.098
	(6.786)	(6.918)	(5.916)	(6.983)
Hispanic	.015	.020	.018	.023
Black	.129	.113	.106	.110
Married	.601	.620	.643	.638
HS Diploma	.240	.255	.240	.242
Some College	.102	.150	.119	.153
College Degree	.090	.115	.108	.119
Metro	.634	.631	.664	.653
Income	17462.23	19728.67	20994.38	19605.82
	(15128.65)	(30576.79)	(41213.11)	(21258.01)
Health (=0 if poor or fair, 1 if good, very good or excellent)	.617	.657	.671	.673
Activity Limitation?	.442	.389	.371	.390
Any Drug Spending	.774	.826	.784	.819
Total Drug Spending	540.84	963.53	544.83	901.87
	(781.45)	(1254.98)	(721.61)	(1207.94)
Number Prescriptions	16.794	20.838	15.565	21.426
	(21.529)	(23.084)	(19.318)	(23.712)
Drug Spend OOP	286.41	314.45	290.40	428.06
	(450.35)	(496.41)	(444.99)	(601.40)
Drug Spend Private HMO	10.06	33.25	14.62	27.62
	(92.51)	(290.70)	(120.75)	(217.91)
Drug Spend Empl Provided	105.56	248.64	116.03	222.98
	(412.68)	(700.59)	(384.87)	(753.13)
Drug Spend Individual Mkt	11.98	21.95	13.46	37.05
	(90.77)	(155.83)	(384.87)	(192.76)
Drug Spend VA	44.57	212.78	n/a	n/a
	(234.96)	(624.12)		
Outpatient Spending	3355.03	3597.60	3116.02	3605.75
	(6808.98)	(6201.08)	(5673.46)	(6388.11)
Inpatient Spending	4296.25	3644.30	3456.93	3891.26
	(13611.53)	(10257.64)	(11240.89)	(11032.70)
Hospital Stays	.398	.398	.358	.456
	(.884)	(.911)	(.857)	(1.043)
Doctor Visits	4.257	4.703	4.996	5.756
	(5.648)	(6.066)	(5.751)	(6.476)

Sample restricted to males age 65+. All dollar amounts are in 2000$. Standard deviations in parentheses where applicable.

Table 7. Results By Eligibility Status

A. Prescription Drug Utilization

	Newly Eligible			Previously Eligible		
	(1)	(2)	(3)	(4)	(5)	(6)
	Total Spending	Log (#Prescriptions)	Spend Any (0-1)	Total Spending	Log (#Prescriptions)	Spend Any (0-1)
post x veteran	**-17.3762**	**-0.0234**	**0.0117**	**60.8701+**	**-0.0412**	**0.0281***
	(24.7993)	**(0.0337)**	**(0.0090)**	**(32.0560)**	**(0.0487)**	**(0.0130)**
veteran	17.5167	0.0610*	-0.0041	-304.9164	-0.6012+	-0.1926
	(23.2637)	(0.0279)	(0.0042)	(275.7636)	(0.3295)	(0.2652)
sig diff?	Yes	No	No			
observations	5316	4578	5316	9824	7969	9824

B. Health Care Utilization

	Newly Eligible			Previously Eligible		
	(1)	(2)	(3)	(4)	(5)	(6)
	Hospital Stays	Inpatient Spending	Outpatient Spending	Hospital Stays	Inpatient Spending	Outpatient Spending
post x veteran	**-0.0159**	**-320.0943**	**-392.2700**	**-0.0846***	**-1,206.3949***	**-356.3767***
	(0.0400)	**(337.0718)**	**(254.7127)**	**(0.0321)**	**(421.6436)**	**(139.1801)**
veteran	-0.0209	6.3653	299.9851	0.0163	852.5496*	284.5285*
	(0.0306)	(277.9271)	(236.4172)	(0.0254)	(337.0732)	(129.3990)
sig diff?	Yes	Yes	No			
observations	5316	5316	5316	9824	9824	9824

C. Composition of Payment

	Newly Eligible			Previously Eligible		
	(1)	(2)	(3)	(4)	(5)	(6)
	Private Insurance (Employer Provided)	Out of Pocket	VA	Private Insurance (Employer Provided)	Out of Pocket	VA
post x veteran	**-16.5373**	**-48.4405***	**44.3382****	**25.7489****	**-108.8805****	**162.2713****
	(15.4172)	**(22.7250)**	**(13.6340)**	**(7.3583)**	**(7.5099)**	**(26.4247)**
veteran	31.0296**	-32.9639*	9.4248*	8.4890	-0.3261	53.3215**
	(9.9905)	(15.3875)	(4.1446)	(6.8931)	(6.3524)	(5.9968)
sig diff?	Yes	Yes	Yes			
observations	5316	5316	5316	9824	9824	9824

Results from estimating equation (1) by OLS. Dependent variables in panel A. include a measure of total annual spending on prescription drugs (total from all payer sources), log number of prescriptions filled during the year, and an indicator for any drug spending during the year. In panel B., *Hospital Stays* is the number of unique hospitalizations in the past year, *Outpatient Spending* is the sum of spending for all clinic visits and outpatient hospital admissions, and *Inpatient Spending* is the sum of spending for all inpatient hospital admissions. Dependent variables in panel C. are annual amount of spending by payer type. Robust standard errors in parentheses are clustered on veteran and year. Spending is measured in 2000$. Controls also include age, age*veteran, state, year, income group and education dummies and a constant. "Sig diff?" indicates whether the coefficient of interest is statistically significantly different across the two populations at the 5% level.