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Insurance Choice And The Demand For Prescription Drugs Among Individuals With Chronic Conditions

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DEDICATION

To my loving parents, Xinping Feng and Yueju Dai, who supported me each step of the way.

To my respective grandparents, Yaozong Feng and Gongqiu Shi, whose words of encouragement ring in my ears.

To my wonderful husband, Zili Ke and my lovely daughter, Kimberly Ke, who have been my constant drives for tenacity and sources of inspirations.

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Chapter 1. INTRODUCTION

Prescription drugs play an ever-increasing role in health care sectors. Expenditures for prescription drugs leaped by nearly 500 percent to $234.1 billion in 2008, compared to the $40.3 billion observed in 1990 (Kaiser Family Foundation, 2010). Portions of this increase can be attributed to price inflation and a blend of utilization and mix factors, such as increased drug use, availability of innovative but more expensive agents, and preference for brand-name drugs over generic alternatives. Although the rate of growth in prescription drug expenditures have displayed a downside trend since the early 2000s, even falling to 1.6 percent in 2007 (Aitken, Berndt et al. 2009), it is projected to persistently outpace the growth rate for hospital care and physician services through 2019 (Truffer, Keehan et al. 2010).

Meanwhile, prescription drug coverage is becoming more expensive to obtain for non-elderly adult population, as a consequence of large changes in drug benefits and incremental cost shifting from insurers to policyholders. Given the concern about the skyrocketing costs of prescribed medications and the growing population lacked adequate insurance coverage, there is continuing academic and policy interest in how insurance affects prescription drug expenditures and utilization, especially among chronically ill individuals (Blustein 2000; Shea, Terza et al. 2007; Solomon, Goldman et al. 2009).

Unlike the healthy individuals who require simple routine check up and scheduled immunizations, those with chronic conditions need much more comprehensive health care over time (Bodenheimer and Berry-Millett 2009). Such

life-threatening chronic conditions as hypertension and diabetes frequently cause higher rates of utilization and expenditures on a range of costly health care services including those not related to hypertension and diabetes treatment, when some combination of chronic conditions occur (Anderson and Knickman 2001) or additional acute conditions are developed due to the uncontrolled chronic conditions (Norris, High et al. 2008).

Because prescription drugs are instrumental to managing chronic conditions, it generally accounts for a great portion of total expenditures on health care for chronically ill individuals. If health insurance to some degree eliminates financial barriers to initiate drug therapy for the treatment of chronic conditions, it has the potential to substantially lower individuals' out-of-pocket (OOP) expenditures associated with the use of other health care services related to the uncontrolled condition, and ultimately, to achieve better health outcomes. However, the task of uncovering the role of health insurance on the demand for prescription drugs is complicated by the classic adverse selection and moral hazard problems, that is, individuals who purchase health insurance do not constitute a random part of the population; presumably, individuals, particularly those with chronic conditions, have higher willingness to pay than individuals who refrain from buying. As a consequence, the insured could be less healthy and end up with more consumption of health care services than their counterparts with no insurance.

Although both selection and moral hazard have been well-documented in public and private health insurance settings (Pauly and Zeng 2004; Finkelstein and

McGarry 2006; Einav and Finkelstein 2011), most empirical studies achieve restricted findings on individuals' insurance choice and their demand for prescription drugs, which only hold for a specific subgroup of the overall population (Krobot, Miller et al. 2004; Shea, Terza et al. 2007; Huh, Rice et al. 2008).

Several major causes can led to this disparity in findings. First, there are variations in key features such as sample size, benefit design both cross plans and over time, identification strategies as well as efforts to control for other factors relevant to insurance choice and subsequent prescription use. Second, there might be different anticipated behavioral responses that affect individuals' likelihood to select such plans, depending on their current health status as well as financial constraint. Further, there might be different ex post behavioral responses to the change in medical prices due to insurance effects, depending on the conditions that the medical treatments aim at. Therefore, for chronically ill individuals, their responses to health insurance, especially to plans with drug coverage, depend on the conditions the prescription drugs treat.

Existing literature indicates that consumer sensitivity to cost sharing varies across therapeutic classes (Federman, Adams et al. 2001; Huskamp, Deverka et al. 2003; Goldman, Joyce et al. 2007) and increased net prices of drugs may decrease the use of 'nonessential' drugs more than the use of 'essential' drugs (Martin and McMillan 1996; Mueller, Schur et al. 1997; Piette, Heisler et al. 2006). This makes identifying therapeutic classes essential for interpretation of empirical results on individuals' demand for prescription drugs.

In recognition of the value of health insurance and critical importance of prescription drugs to patients, this study employs a theoretical economic model for the utility maximizing behavior of non-elderly adults with chronic conditions. At the individual level, both descriptive and multiple regression analyses are employed to explore the variation in prescription drug OOP expenditures and utilization by health insurance status, by chronic conditions and by socioeconomic factors. Four chronic conditions which require pharmaceutical intensive treatment are selected, i.e. hypertension, diabetes, depression and asthma. Empirical results are generated using the Medical Expenditure Panel Survey (MEPS) data along with the Red Book files included in the Medstat Database to investigate the determinants of an individual's insurance choice and update estimates of the association between an individual's insurance choice and prescription drug utilization and expenditures.

1.1 Research Questions

This study addresses three related research questions:

1. What factors are associated with a chronically ill individual's insurance choice, out-of-pocket (OOP) prescription drug expenditures and utilization?
2. How is private health insurance associated with OOP prescription drug expenditures and utilization among the chronically ill?
3. Does the association between private health insurance and prescription drug utilization differ by type of chronic condition?

1.2 Hypotheses

Three hypotheses related to the conceptual model and research questions of this study will be examined.

1. Insurance plans, especially those with drug coverage are positively associated with utilization of prescription drugs for all non-elderly adults with chronic conditions.

Because health insurance lowers the net price of health care services while drug coverage may further ease access to prescription drug treatment, it is expected that insurance plans, especially those with drug coverage, will encourage the use of prescription drugs.

2. Drug coverage is negatively associated with OOP expenditures on prescription drugs for all non-elderly adults with chronic conditions.

Drug coverage may trigger moral hazard, which is likely to result in higher prescription drug utilization as well as OOP expenditures associated with the use. However, empirical evidences indicate that individual with no drug coverage face greater financial burdens with higher OOP drug expenditures (Stuart, Shea et al. 2000; Poisal and Murray 2001).

The scope of the moral hazard problem could be less severe than expected. First, in theory, most individuals would weigh the benefits of prescription drug with both the financial and non-financial costs before purchase. With drug coverage, the financial pressure to individuals is low, but still exists. Meanwhile, the non-financial costs such as physical uncomfortableness and time costs could be innegligible.

Second, recent research have shown effective efforts from health plans and pharmacy benefit managers to reduce drug use and steer policyholders to less-expensive alternatives (Joyce, Escarce et al. 2002; Huskamp, Epstein et al. 2003; Goldman, Joyce et al. 2004). Therefore, it is expected that drug coverage is negatively associated with OOP expenditures on prescription drugs for policyholders.

3. The magnitude of the association between private health insurance and prescription drug utilization varies across conditions.

There is only a limited understanding about the specific chronic condition and drug characteristics that individuals take into account when deciding whether to forgo treatment and the level of conditional use. Existing literature suggests the value of drug treatment to an individual depends on its therapeutic importance to health outcome (Soumerai, Avorn et al. 1987; Stuart and Grana 1998). This study take note of empirical research by Pylypchuk (2010) which estimates the demand for prescription drugs to treat a series of chronic conditions. It is relevant to the present study because it suggests that the variation in noticeability of conditions' symptom is an alternative measure to 'poor or fair health' in capturing an individual's actual health status. Moreover, this measure is likely to reflect an individual's utilization behavior. This study would further investigate the demand for prescription drugs by extending the analysis to not only the sub-population with such chronic physical conditions as hypertension, diabetes and asthma but also the sub-population with such chronic mental conditions as depression.

The present study proceeds as follows. Section 2 reviews the literature on the factors associated with insurance choice and the relationship between health insurance

and prescription drug expenditures and utilization, highlighting the limitation of previous studies and the value added from the present approach. Section 3 provides a brief theoretical framework, based on which the model is specified in the next section. Section 4 specifies the empirical model. Section 5 describes the data source, and discusses the empirical strategy. Section 6 analyzes the results and section 7 draws conclusions.

Chapter 2. LITERATURE REVIEW

2.1 Moral Hazard

The conventional wisdom suggests that insurance could lead to the paradoxical outcome of inducing risky and overconsumption behavior. Most consumers choose health insurance because they prefer a certain loss to an uncertain loss of a similar expected magnitude (Nyman 2004). As a result, consumer choice occurs in sequential stages, the first a choice of health insurance based on expectation of future health condition as well as individual risk preference, and the second a series of health care services given the insurance policy and the individual's budget constraint. Therefore, having health insurance, especially with drug benefits, could theoretically motivate individuals to consume more prescription drugs, because their OOP costs are less than the full prices. This effect of insurance on health care demand is termed the moral hazard effect (Arrow 1963; Pauly 1968).

Numerous studies compared prescription drug use by the poor and by vulnerable populations with and without insurance (Grootendorst 1997; Poisal and Chulis 2000). Despite employing different methods and different populations, researchers consistently found that the presence of insurance is associated with greater use of prescription drugs, although only a few used a representative sample (Lillard, Rogowski et al. 1999; Shea, Terza et al. 2007; Huh, Rice et al. 2008; Khan, Kaestner et al. 2008). However, the estimated value of the correlation between insurance and drug use has a wide range. Lillard, Rogowski et al. (1999) documented that insurance

was associated with over 12 percent increase in the probability of any drug use. Shea, Terza et al. (2007) found that the probability of any prescription drug use increased by 30 percent and drug fills increased by almost 50 percent if the individual had prescription drug insurance whereas Khan, Kaestner et al. (2008) predicted the increase of prescription fills associated with drug coverage to be 6 percent to 10 percent.

2.2 Adverse and Favorable Self-selection

The estimated association between insurance and drug use should be interpreted with caution. There could have been unobservable aspects of individual's health status affecting both self-selection of health insurance and the subsequent choice of health care utilization when ill. A classic argument is that individuals with poorer health and higher expected drug use have more incentive to buy health insurance with drug coverage. In this case, the individual's unobserved characteristics, which are related to both the explanatory variable of interest (e.g. insurance choice) and the dependent variable (e.g. prescription expenditures or use), may upwardly bias the estimate of association between insurance and drug use. Such bias is also known as "endogeneity" in econometrics terms.

Meanwhile, profit-maximizing insurance companies may have incentives to design plans that attract lower-risk individuals. Under this scenario, favorable self-selection arising from insurance plan behavior could downwardly bias the estimate of interest. However, evidences on self-section in insurance choice are mixed across studies. Focusing on the non-elderly with private insurance, Strumwasser,

Paranjpe et al. (1989) documented that Health Maintenance Organizations (HMOs) systematically enrolled favorable risks. Dowd, Feldman et al. (1991) reported that selection bias was small and insignificant. Nicholson, Bundorf et al. (2004) found no evidence that HMOs attracted low-risk enrollees. Similarly, Schaefer and Reschovsky (2002) indicated that HMO enrollees were not healthier and even slightly less healthy among the privately insured. More recently, evidence presented in Shin and Moon (2007) suggests that there is no difference in mental and physical limitations between HMO and non-HMO enrollees, whereas HMO enrollees seem to have fewer comorbidities on average than their counterparts. They explain that the age distribution of HMO enrollees is younger. Considering this, it is not surprising that health conditions among HMO enrollees are slightly better than their counterparts, based on the number of comorbidities.

2.3 Modeling the Relationship between Insurance Choice, Utilization and Expenditures

To avoid selection bias issues, some research uses experimental data which are scarce and often out of date (Manning, Newhouse et al. 1987; Ligon 1993). Indeed, without a randomized controlled trial (e.g. HMO group vs. fee-for-service counterpart) like the Rand Health Insurance Experiment (HIE), the relationship between insurance and prescription utilization can only be interpreted as correlated and not causal. However, the Rand HIE itself did not study people without health insurance, so it could not fully determine how the presence or absence of health insurance affects health care utilization. Besides, Rand HIE focused on “bundled” comprehensive

coverage, implying that the level of coverage of all medical care was changed together. There was no experiment in which drug coverage differed, holding the level of coverage of all other medical care constant. Further, the Rand HIE was questioned for its generalizability of comparisons of health care from HMOs and fee-for-service (FFS) sectors given the fact that data on the former were based on a "single, relatively small but well-managed" HMO in Seattle (Ginzberg 1992). Nevertheless, the Rand HIE is still referenced as a "gold standard" study in research on the effects of health insurance and opened the way for increased cost-sharing for health care through the 1990s.

Inspired by the Rand HIE, a number of studies on prescription demand have focused on the effects of alterations in insurance benefits such as the addition of copayment and increased coinsurance rate. However, there remains little systematic evidence on how consumers' prescription use and OOP expenditures vary by the levels of insurance.

Historically, HMOs were known to provide more generous drug coverage than other insurers and thus incurred higher drug use (Weiner, Lyles et al. 1991). However, with the influx of enrollees into HMOs and the prevalence of chronic disease, HMOs and other drug payers alike have introduced cost containment measures - through the use of both physician-oriented and demand-oriented instruments - to curtail the use of unnecessary drugs and alleviate the financial stress of health plans.

The literature suggests that physician-oriented instruments such as prescribing rules and restrictions, physician education, and financial incentive are effective for

cost containment (Robinson 2001; Thomas, Wallack et al. 2002), particularly in HMOs who bear the risk of medication costs (Wallack, Thomas et al. 2007) and can limit their reimbursement to the network of providers. In a qualitative case study of managed health plans in California, it was shown that drug control efforts directed at physicians contributed to decreasing expenditures by emphasizing generic substitution and therapeutic interchange of less expensive drugs (Wallack, Weinberg et al. 2004). Using the National Ambulatory Medical Care Survey, Rice (2011) investigated how managed care, HMOs in particular, had an impact on physicians' prescribing behavior of generic substitutes. However, the result suggested that the probability of prescribing generic drugs were not significantly different between HMO physicians and non-HMO physicians. Further, the variation in generic prescribing rates across the two physician sample, as well as within each sample, largely depends on drug classes and individual drug characteristics such as generic-brand price differential and the length of time a brand-name drug has been on the market relative to its alternatives.

Meanwhile, there are many efficient demand-oriented instruments that intend to influence the behavior of the insured via user fees, including copayments (a flat rate per prescription), coinsurance (a percentage of the expense paid by the insured), deductibles (a fixed amount of expense paid by the insured before the benefits of the insurance plan can apply), multi-tiered formularies (differential copayment or coinsurance rate to multiple tiers of drugs, based on the type of prescribed medications and insurer preference, e.g. generic drugs, preferred brand-name drugs

and non-preferred brand-name drugs in a three-tier formulary).

An early study (Harris, Stergachis et al. 1990) found that progressively higher copayment levels resulted in decreased drug utilization among the non-elderly insured in HMO plans. Several recent studies (Horn, Sharkey et al. 1998; Thomas, Wallack et al. 2002; Huskamp, Epstein et al. 2003) also showed that the adoption of multi-tiered formularies and the accompanying changes in copayments resulted in lower utilization and expenditures on drugs, although most of the savings go to the insurers, not to the insured. Furthermore, higher copayments and multi-tiered formulary plans reduced the use of clinically important drugs that prevented progression of such chronic conditions as hypertension, diabetes and depression (Landsman, Yu et al. 2005; Lu, Ross-Degnan et al. 2008), although the reduction in "essential" drug use due to cost control measures could be less than that in "nonessential" drug use (Soumerai, Avorn et al. 1987; Fortess, Soumerai et al. 2001; Tamblyn, Laprise et al. 2001). Although demand-side interventions help to limit the use of unnecessary and expensive drugs, it may also lead to an increase in the use of other types of medical care (Soumerai, McLaughlin et al. 1994).

By comparing health care spending patterns of HMO enrollees with non-HMO counterparts among the non-elderly privately insured, Shin and Moon (2007) found that having HMO enabled individuals to lower total OOP expenditures as a whole. However, it did not alleviate cost sharing for policyholders on prescription drugs in particular. One limitation of this study is that it provided little detail on how the HMO enrollees differ with their non-HMO counterparts in drug use or expenditures since it

did not further differentiate plans by drug benefits.

Allowing a consumer to choose among four insurance options: no insurance, private non-HMO without drug coverage, private non-HMO with drug coverage, and private HMO with drug coverage, Pylypchuk (2010) estimated multivariate models of the determinants of the probability of any drug use and the conditional level of expenditures among the non-elderly chronically ill. The models were run separately for individuals with hypertension, diabetes and asthma. His study reveals several interesting findings.

First, individuals with drug coverage have a higher propensity to start drug treatment and to spend more on prescription drugs, compared with the uninsured or those with insurance but no drug coverage. However, there is mixed evidence of self selection into insurance choice. For example, in the hypertension sample, a few health risk factors such as diabetes, disability and angina are positively related to health coverage. In the asthma sample, however, respondents reporting eye or kidney problems caused by diabetes are less likely to choose plans with drug coverage. Pylypchuk concluded that the overall tendency of self-selection was adverse for health coverage. Future research should shed more light on this issue by further investigating different subgroups across more conditions.

The second major finding in Pylypchuk's study is that the nature of the symptoms associated with a condition affects a patient's OOP spending on prescription drugs. Generally speaking, individuals with health coverage have higher probability of any drug use and conditional higher level of utilization relative to the

uninsured as mentioned earlier. However, the chronically ill are less responsive to insurance status than the overall population. Further, patients with such asymptomatic chronic conditions as hypertension are more sensitive to insurance status than those with such symptomatic chronic conditions as asthma. However, due to data constraints, Pylypchuk failed to control the therapeutic class of drugs, which represents a significant indicator of intended effect as well as a potentially important factor in determining a patient's response to health insurance.

In addition, the variation in the magnitude of insurance impact on drug expenditures across different conditions might also occur because insurance plans may differ in ways that influence individuals' prescription utilization pattern and, ultimately, their OOP expenditures. There could have been variation in covered drugs and cost sharing. Some have encountered increased cost-sharing for brand name drugs as insurance plans have adopted wider use of tiered formularies that impose higher copayment for more expensive drugs of certain therapeutic classes.

In summary, the findings of previous studies on the impact of insurance choice have been mixed, regardless of whether the outcome was prescription utilization or OOP expenditures. These inconclusive findings are the result of variation in research designs, difference in investigated populations, and more importantly, limitation in analyses. Those analyses were performed at the aggregate rather than the individual level; did not control for the medical condition of patients, nor the severity of that condition; did not specify the therapeutic class of drugs; did not disaggregate prescription drugs into generic and brand-name components to indentify whether

there is variation in the magnitude of utilization and OOP expenditures as a result of different utilization pattern.

The present study estimates the association between health insurance choice and prescription drug expenditures and utilization. It improves upon previous studies with more recent data and controls of prescribed therapeutic classes to ensure utilization to be related to the treatment for target conditions. In addition, by controlling therapeutic classes, the present study compares individuals' demand on prescription drugs by chronic condition in response to different sources and levels of health insurance coverage. Further, by distinguishing brand name drugs from generic drugs, the present study examines whether individuals with drug coverage are more likely to purchase brand name drugs than those who have to pay for the entire costs; whether individuals covered by HMO plans are more likely to purchase generic substitutes than their counterparts covered by non-HMO plans with drug coverage.

Chapter 3. CONCEPTUAL FRAMEWORK

According to neoclassical economy theory, an individual selects a bundle of goods to maximize his utility, subject to a budget constraint. In the context of health care, Grossman (1972) constructed a theoretical model of the demand for health. The model views health as both a consumption good that produces direct utility and an investment good that produces satisfaction to an individual indirectly through greater productivity, fewer sick days and higher income. In the standard neoclassical framework, health capital is a stock variable defined by an initial level of health that depreciates over time and investments in health made through the consumption of medical goods such as prescription drugs and other medical services, along with random shocks. To determine the optimal investment in health and consumption of other goods, the individual maximizes the utility as well as the health capital subject to the budget constraint.

As a result, the demand for prescription drugs is a derived demand from the optimal investment in health. It follows that, given an individual's utility function, all other things equal, the demand for prescription drugs is a function of prices of prescription drugs and other medical goods and services, the individual's income and other exogenous socio-demographic factors. Because prescription price itself is a function of the individual's insurance status and level of coverage, the theory implies that insurance choice will affect a consumer's demand for prescription drugs.

Because individuals are forward looking, those who expect to have greater demand for health care (e.g. those with chronic conditions or high multimorbidity

levels) may have more incentives to obtain health insurance coverage. Therefore, individuals face a two-stage decision. The theoretical framework for the present analysis follows closely the modeling efforts by Cameron, Trivedi et al. (1988), Mello, Stearns et al. (2002) and Koc (2004).

In the first stage, a risk-averse individual uses the available information to form an expectation regarding the distribution of future health status and makes an optimal choice of health insurance coverage that yields maximized utility. The optimality condition for the insurance decision is derived from the first order condition of one's utility function, where the marginal cost of health insurance equals the marginal value of health insurance. The marginal cost of insurance takes the form of foregone consumption as the individual ends up with additional health insurance. The marginal benefit of insurance can be viewed as the value of extra medical goods or services.

Except for the premium and copayment of a given insurance contract, an individual's insurance choice is theorized to be influenced by both the personal characteristics of the decision maker – including actual or perceived health status, socio-demographic characteristics and economic factors (Phelps 1992) – and the characteristics of the local health plan market such as managed care penetration rate (Mello, Stearns et al. 2002; Koc 2004).

In the second stage, nature determines the individual's health state. The individual then makes optimal health care consumption based on the realized health state, health insurance status chosen in the previous stage and other

socio-demographics characteristics. Following the same logic, if enough information about prescription drugs could be obtained, the individual will weigh the cost and benefit of additional drugs relative to other means of producing health before consuming a combination of medical goods and services for maximized utility, subject to the given preference set and budget constraint.

In this conceptual model, health status and socio-demographic characteristics related to health care consumption affect both an individual's insurance choice and the subsequent utilization. Managed care market penetration is correlated with individuals' health insurance choice but not directly with utilization, given observed insurance status.

As mentioned before, the endogeneity of insurance choice complicates the estimation of the relationship between insurance and health care use, when some unobserved factors may an individual's decision to enter an insurance contract or not and therefore create a self-selection bias. The recent evidence from Shea, Terza et al. (2007) suggests that selection into insurance is predictable based on observable health. This finding mitigates concerns about endogeneity for private insurance plans. The present model controls for health status and other observable characteristics by using a set of variables typically absent from most current data set such as morbidity, diagnosed conditions and individuals' attitude towards risk-taking behavior.

In addition, the association of insurance choice and prescription drug expenditures is identified by employment characteristics variables, including whether the individual is self-employed and whether the individual is a union member.

Previous literature has shown that self-employment is a valid predictor for health insurance coverage (Meer and Rosen 2004). The self-employed normally face a higher price for health insurance compared to wage earners, due to adverse selection or administrative cost (Holtz-Eakin, Penrod et al. 1996; Hamilton 2000). Therefore, the self-employed are less likely to be insured than their counterparts.

Union membership is another good predictor in a model of insurance choice and health care demand. Freeman and Medoff (1984) have highlighted the significant impact of labor unions on the provision of employer-based health insurance in the United States. Generous health coverage are highly attractive to older and less mobile inframarginal workers that have greater demand for health care. Therefore, union members have higher propensity to obtain insurance and less restrictive benefits (Pauly and Herring 2007; Ahking, Giaccotto et al. 2009).

Chapter 4. THE MODEL

The present study uses a set of several equations to examine the determinants of healthcare decision: insurance, utilization and spending. The model consists of a discrete insurance choice from four categories and two types of outcome equations i.e. expenditure equations and utilization equations, with binary and expenditure dependent variable measuring OOP expenditures and binary and count dependent variable measuring utilization.

4.1 Insurance Choice Equation

The insurance choice set is composed of four mutually exclusive insurance categories that are similar to the study by Pylypchuk (2010): uninsured, private non-HMO with drug coverage, HMO with drug coverage, and any private health insurance without drug coverage. The specification of this choice set will be presented in the next chapter.

It is assumed that each individual will choose from these four categories, which can yield the highest utility to this individual. Let $d_{ij} = 1$ if individual i chooses insurance j (j=0,…,3). Let V_j be the latent utility associated with the corresponding j^{th} insurance category. Then, for individual i, his insurance choice of j is modeled as:

$$d_{ij} = 1 \text{ if } V_{ij} = \max (V_{i0}, \ldots, V_{i3}) \quad (1)$$

where $V_{ij} = (x_i^{'}, z_i^{'})\alpha_j + u_{ij}, j = 0,...,3$. Vector x_i contains a constant term, socio-demographic and health status variables. Information contained in this vector might also affect prescription expenditures and utilization. Variables assumed to affect insurance choice but with no direct impacts on prescription utilization and

expenditures are included in vector $z_i^{'}$. These variables serve as instrumental variables (IVs). α_j is the coefficient varying across insurance choice. The error term u_{ij} is independently and identically distributed across individual and insurance choice. The probability that individual i chooses insurance j is

$$\Pr(j) = \Pr(V_{ij} - V_{ik} > (x_i^{'}, z_i^{'})\alpha_j \forall k \neq j) \qquad (1)'$$

which is specified as a multinomial logit model.

4.2 Expenditure Equations

4.2.1 Total Expenditure Equations

Due to the skewed distribution of prescription drug expenditure data, along with a non-trivial percent of chronically ill patients with zero expenditure, the present study estimates a two-stage model, which estimates separately: 1) the probability of any expenditure on prescription drugs, and 2) the conditional total OOP expenditures, only for those individuals with any positive expenditure on prescription drugs. The classic two-stage model employs probit and logged-OLS estimation and assumes that health insurance is exogenous, as described by (Duan, Manning et al. 1983). This model has been widely used in literature (Cutler 1995; Goldman, Hosek et al. 1995; Mroz 1999) because it not only addresses the problem of censoring in expenditure and utilization data but also enables one to control for the simultaneous relationship between equations by approximating the effects that are common but unobservable across equations.

Here, consider drug consumption as a two-stage decision process whereby an

individual first decides whether to purchase any prescription drug Pr(Yi>0), where Y_i is defined as the individual's positive annual OOP expenditures on prescription drugs of selected therapeutic classes that treat each studied condition (please see Appendix for selected drug classes). Pr (.) is an indicator function equal to 1 if $Y_i>0$, equal to 0 otherwise. Given $Y_i>0$, the individual then decides how much to spend. The logarithm of annual OOP expenditures Y_i^* is used mainly because expenditure and utilization data are rarely normally distributed. Therefore, it is necessary to transform the data to achieve approximately normal distribution outcome. By using this two-stage model, the present study could detect any variation in effects of the involved independent variables on the decision making of consuming any prescription drug and the condition level of consumption.

More specifically, the first part of the model applies a binary probit model with latent variable M^*:

$$\Pr\left(Y_i > 0\right) = 1 \text{ if } M_i^* \geq 0,$$

$$M_i^* = x_i'\gamma + d_i'\gamma + u_{2i}. \quad (2)$$

Part two is specified as:

$$Y_i^* = \ln(Y_i) \text{ if } \Pr(Y_i > 0) = 1$$

$$Y_i^* = x_i'\beta + d_i'\eta + u_{3i}. \quad (3)$$

where vector x_i is the same as in the insurance choice equation. Here $d_i = (d_{i0,}...d_{i3,})'$ is the vector of insurance choice. The error terms (u_{2i}, u_{3i}) in the two-equation system above can be decomposed into uncorrelated and correlated components as:

$$u_{2i} = \rho_2 c_i + e_{2i}$$

$$u_{3i} = \rho_3 c_i + e_{3i}$$

where c_i, e_{2i} and e_{3i} are mutually independent. The distribution of the uncorrelated components e_{2i} and e_{3i} are assumed to be normal with mean zero and standard deviation σ_{i2} and σ_{i3}, respectively. The correlated component c_i represents the unobservable heterogeneity that causes the correlation across equations. In this study, it represents chronic or permanent conditions that could make individuals more likely than others to purchase prescription drugs and more likely to have a higher level of consumption conditional upon any. To avoid sample bias as such, the two equations are estimated jointly via maximum likelihood.

4.2.2 Conditional on any expenditure, expenditures on generics drugs only, brand drugs only or both?

To further investigate the association between insurance choice and individuals' prescription fill patterns, the outcome of utilization, conditional on any expenditure, is subset to three mutually exclusive categories: conditional expenditures on generics drugs only, on brand name drugs only and on both generics and brand name drugs. The two-stage model is estimated again with the same sets of independent variables as in the total OOP expenditure equation but with three different dependent variable sets for different prescription fill patterns.

For simplicity, the two-stage model can be specified as

$$\Pr(Exp_i > 0) = x_i'\gamma + d_i'\gamma + u_{2i} \qquad (2)'$$

$$(\ln[Exp_i] \,|\, Exp_i > 0) = x_i'\beta + d_i'\eta + u_{3i} \qquad (3)'$$

Case 1: Conditional on any, expenditures on generics drugs only

The dependent variable of Eq. (2)' equals 1 if the individual i purchased generic drugs only, conditional on any positive expenditure on prescription in selected therapeutic classes; otherwise, the variable equals 0. The dependent variable of Eq. (3)' equals the natural logarithm of the annual OOP expenditures on generic drugs if the individual i purchased generics drugs only, conditional on any positive expenditure on prescription in selected therapeutic classes during the year.

Case 2: Conditional on any, spending on brand drugs only

The dependent variable of Eq. (2)' equals 1 if the individual i purchased brand drugs only, conditional on any positive expenditure on prescription in selected therapeutic classes; otherwise, the variable equals 0. The dependent variable of Eq. (3)' equals the natural logarithm of the annual OOP expenditures on brand name drugs if the individual i purchased brand drugs only, conditional on any positive expenditure on prescription in selected therapeutic classes during the year.

Case 3: Conditional on any, spending on both generic and brand drugs

The dependent variable of Eq. (2)' equals 1 if the individual i purchased both generic and brand name drugs, conditional on any positive expenditure on prescription in selected therapeutic classes during the year; otherwise, the variable equals 0. The dependent variable of Eq. (3)' equals the natural logarithm of the annual OOP expenditures on prescription drugs if the individual i purchased both generic and brand name drugs, conditional on any positive expenditure on prescription in selected therapeutic classes during the year.

4.3 Utilization Equations

For the total use equation, the two-stage model is estimated again with the same independent variables as used in total expenditure equations. The dependent variable of Eq. (2)' equals 1 if the individual i used any prescription in selected drug classes to treat the target condition during the interviewed year; otherwise, the variable equals 0. The dependent variable of Eq. (3)' equals the count of prescription fills, conditional on positive use of prescriptions in selected therapeutic classes to treat the target condition during the interviewed year.

Further, the outcome of prescription utilization can be classified into three cases that are similar to the analyses of conditional expenditures in 4.2.2. Eq.(2)' and (3)' are used to estimate: 1) the probability of : a. generic drug use only, conditional on any use during the year, b. brand name drug use only, conditional on any use, c. both generic and brand name drug use, conditional on any use; 2) and the count of prescription fills in three cases mentioned above, conditional on any use during the year.

Chapter 5. DATA, VARIABLES AND ESTIMATION

5.1 Data Overview

The data for the present empirical application come mainly from the 2003-2007 Medical Expenditure Panel Survey (MEPS), supplemented by the Red Book included in the Medstat MarketScan Commercial Claims and Encounter Database (Thomson Medstat Inc., Ann Arbor, MI).

MEPS is conducted by the Agency for Healthcare Research and Quality (AHRQ). It has been used to produce nationally representative estimates of healthcare treatment, medications and other healthcare expenditure, sources of payment, health insurance coverage, health status, demographic and socio-economic characteristics for the US civilian non-institutionalized population. The Household Component (HC) is the core survey of MEPS. This survey is designed as an overlapping panel so that households are interviewed over the course of two consecutive calendar years through five interview rounds and each year a new panel is launched. The full sample during the years 2003-2007 ranges from 30,964 to 34,403 and the response rate ranges from 56.9% to 64.5%.[1] As the sample size in MEPS for each condition is relatively small, five consecutive years of data are selected to assess the consistency of the findings and to limit the potential consequences of sampling biases that may occur from one year to the next.

In addition, MEPS oversample Hispanics and blacks, individuals aged 18-64 who are predicted to have high levels of medical spending, and individuals with

[1] Estimates from MEPS, available at: http://meps.ahrq.gov/mepsweb/survey_comp/hc_response_rate.jsp

family income less than 200 percent of the Federal poverty threshold. Considering the complex survey design of MEPS which involves clustering, oversampling of certain subgroup, and sample stratification into primary sampling unites (PSU), all statistical analyses are performed with weights provided in MEPS to correct mean values, coefficient estimates and standard errors to be reflective of national averages. Specifically, the person-level weight in each annual Consolidated File is adjusted by dividing by five, i.e. the total number of years from 2003 to 2007, to obtain unbiased nationally representative estimates.

In sum, four types of files from MEPS are used for this analysis: annual Full Year Consolidated data, Medical Conditions and Prescribed Medicines files from 2003 through 2007, and the 2003-2007 pooled estimation linkage files. These public use files can be linked to a condition, an event, a person, and/or a household.

5.2 Data Construction and Indicator Generation

In order to perform the data analysis, it is necessary to merge all MEPS data files into one. To construct the sample for each condition of interest, I start with the annual Full Year Consolidated file, which contains detailed information on demographics, income, employment, insurance coverage and health status on all respondents in MEPS.

In this file, HMO and non-HMO status were constructed according to a series of questions asked by MEPS. Respondents with private insurance were classified as being covered by an HMO if (1) the respondents indicated their insurance was purchased directly through an HMO, (2) the plan was identified as being purchased

from an insurance company that was an HMO, (3) the plan required the respondents to generally received care from HMO physicians unless there was a medical emergency or the respondents were referred by HMO. On the contrary, if respondents answered “no” to above questions, but had networks of preferred providers, then respondents are identified as a non-HMO enrollee. In addition, round specific variables were provided in this file, indicating whether the respondents were covered by a private health insurance plan that included at least some prescription drug insurance for each round of the interviewed year.

Because the present study focuses on the association of private health insurance and prescription drug use and expenditures, the respondents who indicated any public coverage during the interviewed year are excluded from the final coefficient estimates, given the fact that those public programs could be associated with entitlement or military status and are different in nature from private insurance plans.

Based on the insurance information obtained in the annual Full Year Consolidated file, the final coding of insurance status consists of four mutually exclusive categories: those with private HMO with drug coverage, those with non-HMO plans with drug coverage, those with any private insurance without drug coverage, and those without insurance. Then to this basic annual file, the annual Medical Condition file is linked for each year using unique identifiers.

The definition for each insurance category is similar to the study of Pylypchuk

(2010)[2]:

HIWDC: individuals reporting having non-HMO private insurance plans with drug coverage during a year

HMODC: individuals reporting having HMO private insurance and not having HIWDC during a year

HINDC: individuals reporting having any private insurance with no drug coverage during a year

Uninsured: the remaining population

The present study focuses on four chronic conditions: hypertension, diabetes, depression and asthma. Information on medical condition is contained in the annual Medical Condition file. At each round of interviewing, respondents were asked whether household members had any medical conditions, when the condition began and whether treatment was sought or not. Subsequently, self-reported prescribed medicines that were said to be related to certain condition were recorded as verbatim text and then converted by professional coders to fully specified International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) codes. The error rate for any coder did not exceed 2.5% on verification. Assigned codes were verified by contacting medical providers and pharmacies that the respondents

[2] Pylypchuk (2010) has pointed out that a more precise category set of health insurance would further decompose any private health insurance without drug coverage into HMO without drug coverage and non-HMO without drug coverage. However, similar to the findings in Pylypchuk's study (2010), the present data reveals that less than 20 respondents in each condition sample reported to have HMO without drug coverage. Therefore, the choice of HMO without drug coverage is consolidated into the category of any private health insurance without drug coverage in the present study. In addition, less than one percent of respondents in each condition sample reported to have switched from one type of drug coverage to another during the interviewed year. Further, no significant difference in results have been found when switchers are excluded to the analysis

identified as their source of care during the interview. Because each record in the Medical Condition file represented a single condition reported by a household respondent, some household members who had multiple medical conditions were represented by multiple records, while others who report no medical conditions had no record on this file.

In order to preserve respondent confidentiality, most ICD-9-CM codes were collapsed to three digits. For example, individuals with a code of 250 are identified as having diabetes, and individuals with a code of 493 are identified as having asthma. In addition, the codes for clinical depression were collapsed to 300, 301, 309 and 311. However, ICD-9-CM codes 300, 301, and 309 contain other mental health diagnoses (Egede and Zheng 2002), thus only ICD-9-CM code 311 is used in this study to identify individuals with depression.

There are six types of hypertension. Primary hypertension, also known as essential hypertension, is the most common type and has no specific, treatable cause. Secondary hypertension is a less common form of the disease that is caused by an underlying condition such as kidney disorder or a congenital abnormality. The four even less common types of hypertension include malignant hypertension, isolated systolic hypertension, white coat hypertension, and resistant hypertension. In MEPS, the ICD-9 codes 401 to 405 include essential hypertension, hypertensive heart disease, hypertensive renal disease, hypertensive heart and renal disease, and secondary hypertension. However, only essential hypertension is referred to as hypertension in this study, because it is usually asymptomatic and accounts for 90-95% of all cases.

Therefore, only individuals with a code of 401 are identified as having hypertension.

Because the definition for the chronic patients is condition based, the sample for each target condition not only includes those who reported having the condition as well as the related prescription drug treatment, but also includes those who reported having the condition but no related prescription drug treatment during the interviewed year. In addition, there is some overlap between the four subsample, especially between diabetes and hypertension. As a result, based on existing ICD-9-CM codes in the Medical Condition file, the indication variables (0/1) for each target condition is created separately for each individual on file for sample extraction later in the next few steps.

MEPS a priori designated certain conditions as priority conditions in view of their prevalence, expenditure or relevance to policy. I modified the multimorbidity classification in MEPS to focus on profound effects of having more than one of the four conditions of interest on individuals' prescription drug utilization and level of expenditures. For example, individuals with diabetes often have two or more comorbidities, such as hypertension and depression. Given a budget constraint, diabetes patients with comorbid conditions may experience difficult choices between forgoing necessary treatments for their diabetes and treatment for their comobid conditions. In a study of the predictors of initiating psychiatric treatment, Nutting, Rost et al. (2000) suggest that 'competing demands' from physical problems lowers the odds that patients would initiate depression therapy. However, there are some researchers argue that co-occurring chronic conditions are actually related to more

appropriate care (Harman, Edlund et al. 2005; Harpole, Williams et al. 2005; Ware, Flavell et al. 2006). It would be interesting to see in which direction the impact of multimorbidity has on patients' drug expenditures and utilization among those with hypertension, diabetes, depression and asthma.

Further, the presence of comobidity may affect patients' drug utilization pattern such as generic substitution and brand loyalty for fear of potential more adverse interaction of generics with other drugs. Consequently, I indentify an individual with a comorbid condition if more than one of the four chronic conditions were present during the interviewed year.

The annual Prescribed Medicines file includes prescription drugs identified in the Prescribed Medicines section of the HC survey instrument, along with those prescription drugs identified related to other medical events. The MEPS respondents were asked to provide the name(s) of any prescription drug(s) obtained by any family members during the interviewed year. Prescription-specific information in file includes whether a free sample of the drug was received, condition(s) associated with the drug, and the date the drug was first used for the condition. If the respondents gave written permission to release their pharmacy records, AHRQ requested the following information from the pharmacy provider: date filled, national drug code (NDC), i.e. a standardized product identifier for drugs for humans, drug name, strength, quantity dispensed, total payment and sources of payment[3]. The resultant

[3] The categories of payment sources include: out of pocket, Medicare, Medicaid, private insurance, veterans' administration (excluding CHAMPVA), CHAMPUS or CHAMPVA, other federal sources (e.g. Military treatment facilities), other state and local sources (e.g. neighborhood clinics), workers' compensation, other unclassified sources, other private and other public (these additional payment source variables were generated for payment classification for particular individuals that appear inconsistent due to differences between the survey questions on

data are available in the annual Prescribed Medicines File.

Similar to the Medical Condition File, each record in the Prescribed Medicines File represents a single prescribed drug event reported by a household respondent. Some household members who had multiple events of prescribed drug were represented by multiple records, while others who reported no prescribed drug event had no record on this file. Because each individual with any of the four condition can potentially be linked to multiple prescribed drug events associated with the condition(s), I assign prescription drugs to one of the two categories – 'generic drugs' and 'brand name drugs' – based on drug names and NDC provided by the Prescribed Medicines File and information on category description of drugs available in the Red Book included in the Medstat Database.

In the second step, I drop non-essential variables from the Prescribed Medicines File and create an indicator variable (0/1) to identify selected drugs used in the treatment for the target condition. For example, this procedure labels drugs only in selected therapeutic classes (please refer to Table 1 in Appendix for details) reported by the respondents to treat hypertension (ICD-9-CM code 401) with one and other drugs as zero.

The setup of exclusion criteria is mainly due to two concerns. First, some drugs can be prescribed for medical conditions other than the condition of interest. For example, the use of angiotensin coverting enzyme (ACE) inhibitors can be for the treatment of myocardial infarction or congestive heart failure other than for

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health insurance coverage and sources of payment for medical events), total payments (sum of all sources), total charges.

hypertension (Balu and Thomas 2006). Second, physicians may fail to completely record on file all the diagnoses from a visit. A careful review of the weighted frequency list of drugs reported in MEPS as used to treat hypertension includes not only the traditional hypertension drugs such as ACE inhibitors, beta-blockers, calcium channel blockers and diuretics, but also drugs prescribed to treat conditions other than hypertension. Therefore, recoding the misclassified drugs to zero is necessary.

Additionally, variables generated using the Prescribed Medicines file include: (a) count of fills of selected generic drugs and the corresponding OOP expenditures on generic drugs per individual, (b) count of fills of selected brand name drugs only and the corresponding OOP expenditures per individual, and (c) total count of fills of selected drugs and the total corresponding OOP expenditures per individual to treat each condition during the interviewed year. All expenditure data are adjusted to constant 2007 U.S. dollars using the Consumer Price Index (CPI) for all items averaged across all U.S. cities[4].

The third step of merging links the resulting first step file, with an identifier for each condition, to the newly generated consolidated Prescribed Medicines file in the second step, thus creating a merged file of person-level data for each year from 2003 to 2007, respectively. The fourth step pools the annual merged data files from the 6 years to produce estimates with greater reliability, with a total sample size of 167,688 observations.

In the last step, I extract individuals with hypertension, diabetes, depression or

[4] The CPI does not include government purchases and investment goods. However, it is most widely used price index for consumer expenditures. Based on the guideline provided by MEPS, for pooling only one type of OOP expenditure, for example prescription drugs, the CPI component specific to prescription drug is recommended.

asthma and create a separate sample for each condition. Each sample is treated as cross-sectional data. The total number of observations reporting having hypertension is 25,159, diabetes 10,899, asthma 16,831, and depression 11,672. There are more observations than individuals because most people were followed for over 2 years. I exclude individuals younger than 18 or older than 64. Those under 18 are unlikely to have a strong connection to the labor market, and those over 65 face retirement and are more likely to have different health care options such as Medicare. This leaves a sample of 14,440 observations for hypertension, 6,477 for diabetes, 9,090 for depression and 9,288 for asthma. Considering the difficulty in detangling the effect of private health insurance from the effect of the supplemental public health insurance on the demand for prescription drugs, individuals who had any public coverage during the interviewed year are excluded for the present analysis. This leaves 10,595 final eligible observations for hypertension, 4,191 for diabetes, 5,924 for depression and 6,533 for asthma.

The final merged files for the non-elderly adult population with each condition provide rich information not only on individuals' general health status but also on the severity of each condition. Self-reported health index was categorized into five groups, which was based on the answer to the following question: "In general, would you say your health is excellent, very good, good, fair or poor?" The answer to this question was then coded on a 1-5 scale, with 1 being excellent, 2 being very good, 3 being good, 4 being fair, and 5 being poor. Various empirical studies show that self-rated heath is a valid indicator of health status (Sullivan, Karlsson et al. 1995; Farmer and

Ferraro 1997; Miilunpalo, Vuori et al. 1997). It is found to be associated with chronic conditions such as epilepsy, heart trouble, diabetes and psychological distress (Manor, Matthews et al. 2001) and to reflect differential drug use and healthcare costs (Balkrishnan, Christensen et al. 2002; Fleishman, Cohen et al. 2006).

Further, individuals in MEPS with hypertension were asked the following: if they had ever been diagnosed as having coronary heart disease, angina or angina pectoris, a heart attack or myocardial infarction, or any other kind of heart disease or condition. Similarly, individuals with diabetes were asked if diabetes had caused kidney or eye problems. Individuals with asthma were asked if they had ever been diagnosed as having emphysema and whether they kept peak flow meter at home. For individuals with depression, mental health functioning was measured using the Short-Form 12 (SF-12) Mental Component Summary (MCS). For this summary measure, a higher score reflects better emotional health status. The MCS has been shown in recent research to significantly correlate with some mental health scales such as a general mental distress scale (K6) (Kessler, Barker et al. 2003; Fleishman and Zuvekas 2007) and a 2-item depression screener (PHQ-2) (Kroenke, Spitzer et al. 2003). This measure is employed in the present study because the MEPS included the Kessler K6 and PHQ-2 depression screener only in 2004 and beyond.

In addition, two risk preference variables were created in each of the sample group. Adrisk was coded 1 if an individual disagreed with the statement: “I am more likely to take risks than the average person.” Adsmok is another binary variable for individuals who currently smoke.

5.3 Estimation Issue

Numerous studies (Bound, Jaeger et al. 1995; Staiger and Stock 1997; Hahn and Hausman 2003) attest that estimation with weak instruments could cause serious bias and errors in inference. Fortunately, I have a variable that can affect health insurance choice from the supply side yet may not be directly related to drug use and spending. Although the MEPS data base includes little information on geographic location of respondents due to confidentiality considerations, it does include variables indicating the PSU[5] and the strata that a given respondent belonged to. Using these variables and insurance information on total population from 2003 through 2007 in MEPS, I constructed yearly aggregate HMO penetration measures for each PSU in a given strata while applying appropriate weights to calculate average HMO market share and standard errors. That is, for individual i in sampling area j, HMO penetration would be measured as the proportion of all respondents in sampling area j that had HMO coverage as defined in the present study.

[5] U.S. is partitioned into 1,995 Primary Sampling Units (PSUs) and the PSUs are grouped into over 200 design strata. Most of these PSUs consist of individual counties, but sometimes they include two or more adjacent counties. MEPS is based on subsample of about 200 PSUs from the National Health Interview Survey (NHIS).

Chapter 6. RESULTS

6.1 Descriptive Analysis

6.1.1 Overview of Socio-demographic Characteristics

In addition to age, education (high school diploma, bachelor's degree, master's degree), race and ethnicity (Black, Hispanic), socio-demographic controls include gender, marital status, family income level, employment information, health status, and attitudes toward health risk (smoking, willingness to take any risk).

Demand theory demonstrates that income should be included as an explanatory variable. However, income cannot fully capture the true living condition of a family. Therefore, the present study introduces a set of poverty level indicators: poor, near poor, low income, middle income and high income to reflect true living conditions on the family basis. Employment related variables include indicators for whether the respondent is self employed or employed by union, whether the respondent received paid vacation and paid sick leave.

Health and functional status indicators include the respondent's perception of the health status (excellent, very good, good, fair, poor), diagnosed conditions such as hyperlipedemia, heart disease, kidney or eye problems and emphysema, and whether the respondent needs help with activities of daily living (ADLs) such as dressing and eating or help with instrumental activities of daily living (IADLs) such as managing money and shopping for personal items. All these variables are intended to capture differences in health condition, attitude towards insurance and health, and ability to pay for prescription drug treatments.

Finally, dummy variables are also included to indicate census region (Northwest, Midwest, South, and West) and urban or rural status of the respondents' residence for capturing geographic factors that could potentially affect the availability of generic drugs.

Table 2 lists descriptive statistics for the possible explanatory variables in the present model, where Table 2A is for non-elderly adult population with hypertension, diabetes, depression and asthma, and Table 2B serves as a comparison with the general non-elderly adult population, the remaining non-elderly adult population without any of the four conditions, and the total population. Each observation has an associated weight to extrapolate from the sample to the whole population. These tables display weighted means. There are important differences along most dimensions.

The mean value of a dummy variable represents the proportion of individuals that satisfy the condition where the dummy variable equals 1. For example, 0.696 for the hypertension sample on 'married' implies that 69.6% of the individuals in this sample group are married. Table 2 indicates that the majority of non-elderly adults in the sample was married, employed, lived in metro areas and reported at least a high school education. In addition, compared to the comparable subpopulation without any of the four studied conditions (49.7%), the general non-elderly adult population (50.7%) and the entire population (51%), the proportion of females is higher in depression (65.6%) and asthma (58.2%) sample. However, the proportion of females is slightly lower in the hypertension (49.2%) and diabetes (49.1%) sample.

Although most individuals in the sample are White non-Hispanics, there is a difference in the proportion of Blacks diagnosed with hypertension (15.3%), diabetes (13.4%) versus Blacks in a comparable subpopulation without any of the four conditions (12.2%) or in the general non-elderly adult population (12.1%). However, the proportion of Blacks in the depression or asthma sample is much less than that in the hypertension or diabetes sample.

The average age for individuals with hypertension or diabetes is about 51, considerably higher than the general non-elderly adult population (40), while the average age in the depression and asthma sample is around 43 and 39, respectively. This difference in age reflects the prevalence of hypertension and diabetes seen in older age groups. However, in the depression and asthma sample, the opposite is true.

The study sample with any of the four studied conditions is more likely to perceived themselves as having fair/poor physical health (diabetes: 31.2%, depression:20.6%, hypertension:19.2%, asthma: 15.5%) than a comparable subpopulation without any of these four conditions (10.1%). However, there are no large disparities in educational attainments and employment status across chronic conditions. The other interesting characteristics are that the non-elderly adults without chronic conditions are less likely to be union members, to have paid vacation or paid sick leave any time during the interviewed year, and more likely to take risks than their counterparts with chronic conditions. In addition, they are more likely to smoke than their counterparts with hypertension, diabetes or asthma.

Hypertension is by far the most prevalent condition, with an estimated 14

percent of the total non-elderly adult population and 15.9 percent of the U.S. population (Table 2B, $p< 0.001$). This is followed by depression (the total non-elderly adult population: 9.2%, the U.S. population: 7.3%), diabetes (the total non-elderly adult population: 5.4%, the U.S. population: 5.8%) and asthma (the total non-elderly adult population: 4.3%, the U.S. population: 5.2%). As displayed in Table 2A, multimorbidity among the conditions is most common in individuals with diabetes and hypertension, of whom 55.4 percent and 30 percent, respectively, had more than one of the four studied conditions.

Tables 3A-B present trends from 2003 to 2007 in the proportion and total number of non-elderly adults diagnosed with hypertension, diabetes and selected multimorbidities. During this 5-year period, the proportion of hypertension increased from 12.875% to 16.39% and the proportion of diabetes increased from 4.707% to 6.176%. Among the non-elderly adults [6], the total number diagnosed with hypertension and that with diabetes jumped from 23.292 to 30.93 million and from 8.515 to 11.654 million, respectively. In addition, the present findings demonstrate the widespread rise of multimorbidity over this period. The most common combination of chronic conditions – hypertension and hyperlidpidemia, hypertension and diabetes, and diabetes and hyperlidpidemia – increased during this period.

6.1.2 Socio-demographic Characteristics by Health Insurance Status

Table 4 displays the distribution of individuals by health insurance status. The

[6] A limitation of these reports is that it includes only respondent-reported information of a physician diagnosis. Therefore, estimates may be understated because undiagnosed chronic conditions are not included. Further, it is not possible to determine to what extent the observed increase in the prevalence of hypertension and diabetes is due to changing awareness of this condition and to what extent the increase results from changes in health or other factors

study sample with chronic conditions has much lower rates of being uninsured (14.1%-19.7%), compared to the general non-elderly adult population (29%) and the total population (34.2%), indicating evidence of adverse selection. The distribution of insurance status across the four conditions is similar although the hypertension sample has a slightly higher rate of drug coverage than other sample.

Tables 5A – D describe the characteristics of the study sample and present weighted means of the control variables by insurance status[7]. Some observations are immediate. First, a substantial proportion of the sample is uninsured. Second, the uninsured are significantly more likely to be current smoker and risk taker (Adjusted Wald, $p<0.01$). Finally, in general speaking, the uninsured are significantly younger and more likely to be poor (Adjusted Wald, $p<0.01$).

However, it could be hardly concluded that the demand for insurance is income- and age-sensitive because the feature and availability of insurance plans may vary by location and across individuals, and further, employer-sponsored insurance has been the largest source of health insurance coverage for years. For example, income and fringe benefits such as health insurance may increase with seniority. In that case, older and richer individuals are more likely to be insured simply because they have access to cheaper insurance (Cardon and Hendel 2001). One piece of evidence from the present study seems to support this claim. Tables 5A-D show that there is a significant larger proportion of the uninsured reporting being unemployed the whole year than that of insured groups. This finding is consistent across all

[7] The differences in sample means grouped by insurance status for each condition are tested. These tests only provide a preliminary view of the data. Summary statistics of the mean difference are not presented but available upon request.

conditions. The gap in proportion of unemployment is even larger between the uninsured and those covered by insurance plans with drug coverage.

In addition, individuals with any of the four chronic conditions generally perceived themselves to be in good health; only 3.7% (in the asthma sample) to 7.8% (in the diabetes sample) reported that their health status were poor. However, a further examination of the statistics broken down by insurance status for each studied condition reveals some difference in perceived health status.

Compared to the insured groups, the proportion of individuals' self-reporting poor health is larger among the uninsured. In particular, the percentage difference in perceived poor health between the uninsured and those covered by HMO with drug coverage (HMODC) is as high as 8% in the diabetes sample (Adjusted Wald, $p<0.01$). Another noticeable are differences in some observed health characteristics. In the hypertension, diabetes and asthma depression sample, there are significantly larger proportions of the uninsured reporting cognitive limitation, limitation in activities of daily living (ADLs) or instrumental activities of daily living (IADLs), and having more than one of the studied chronic conditions, compared to the insured with drug coverage (Adjusted Wald, $p<0.01$). However, there are no significant differences in those observed health characteristics between individuals covered by HMO with drug coverage (HMODC) and those covered by non-HMO with drug coverage (HIWDC).

In sum, only a few differences in self-reported and observed health status measures such as limitation, comorbidities, eye or kidney problems and heart problems are observed among the three insured groups. This is consistent with the

previous finding that there is little selection into insurance plans on the basis of observable health characteristics (Wolfe and Goddeeris 1991; Ettner 1997).

6.1.3 Expenditures, Cost Sharing and Utilization of Prescription Drugs

Differences in expenditures by insurance status may result from differential selection of enrollees into insurance plans as well as differences in the generosity of the coverage. To provide a context for the current estimates of how expenditures on prescription drugs would potentially change when individuals gain insurance coverage, Table 6 presents individuals' annual conditional OOP expenditures conditional on any expenditure by health insurance status and by chronic condition, with controls of therapeutic classes.

The difference in expenditures by insurance status varies across conditions, likely because of difference in demographics and price sensitivity. The prescription drugs to treat diabetes are most costly, which are generally over 500 dollars for the uninsured and over 200 dollars for the insured with drug coverage. Surprisingly, individuals covered by HINDC are likely to spend more on prescriptions than the uninsured in the hypertension, diabetes and depression sample. Conditional on any positive expenditure, the uninsured spent almost twice as much as the insured with drug coverage across conditions partly because of insurance effect. In the hypertension and depression sample, individuals covered by HIWDC spend significantly more on prescription drugs than others covered by HMODC (mean difference in the hypertension sample: 26.154, in the depression sample: 20.450, Adjusted Wald, $p<0.01$). However, in the diabetes and asthma sample, the difference

in OOP expenditures between HMODC and HIWDC is insignificant.

Table 7 presents the average third party payment and individuals' OOP expenditures per prescription for brand-name and generic drugs to treat the studied conditions. Prices vary substantially across payer and drug type. OOP expenditures are significantly highest for the uninsured across three conditions: hypertension, diabetes and asthma, compared to the insured. Conditional on any expenditure, total costs (sum of the third party payment and OOP) for brand name drugs under HMODC appear to be lower than costs under HIWDC, while there is less difference in total costs for generics between HMODC and HIWDC.

Further, no appreciable differences emerge in terms of how total costs are shared among the insurers and the insured with drug coverage. The ratio of OOP to third party payment for brand-name drugs is similar between HMODC and HIWDC, ranging from approximately 0.4 for anti-diabetes drugs to over 0.7 for anti-hypertensive drugs. The ratio of OOP to third party payment for brand-name drug is highest for anti-asthma drugs under HIWDC. HMODC generally has a slightly lower ratio of OOP to third party payment than HIWDC for generic drugs except for the generics that treat depression.

Table 8 presents the distribution of individuals reporting at least one prescription filled by insurance status. The highest utilization rate of prescription drugs is among individuals with hypertension (generally over 70%), followed by diabetes (>50%), depression (>30%) and asthma (>15%). This finding seems to be consistent with the previous literature, which suggests that medications that treat

asymptomatic, but life-threatening conditions are sometimes more highly valued than medications that aim at symptom relief (Piette, Heisler et al. 2004).

One interesting finding is worth noting in Table 9. In the hypertension and diabetes sample, the average prescriptions filled by the insured with no drug coverage are even higher than those by the insured with drug coverage. However, in general speaking, the distribution of drug utilization is skewed as expected. The average drug use among the insured is higher than that among the uninsured, although the difference is modest and significant at the 1 percent level only across a few columns. The little gap may be cause by three factors: observable demographic differences, price differential and adverse selection.

The first factor is evident from Tables 5A-D, which indicates that the uninsured are generally younger and poorer across conditions. The second factor is the cost of health care. If the demand for prescription drugs is price sensitive, the quantity demanded by the uninsured is less because they face the full price, whereas the insured with drug coverage on average pay only one third to half of the total prices, as seen in Table 7. Finally, adverse selection may be contributed to the gap in drug usage. Sicker individuals are more likely to buy insurance with drug coverage, and then, on average, use more health care than those who are healthier and thus decline to buy any insurance. However, mixed evidence from this study provides little support for this assumption, as discussed earlier.

6.2 Estimation Results

6.2.1 Health Insurance Choice

Overview

Tables 10 presents the coefficient estimates of the multinomial logit model for health insurance choice on the sample of 10,595 individuals with hypertension, 4,191 individuals with diabetes, 5,924 individuals with depression, and 6,533 individuals with asthma.

Identification of the model is secured through exclusion restrictions on the sample, socio-demographic and health characteristics control, and instruments. The coefficients in the insurance choice equation can tell us the odds of having one type of insurance plans, such as private insurance plans without drug coverage (HINDC), non-HMO plans with drug coverage (HIWDC) and HMO plans (HMODC) against having no insurance.

As the nature of multinomial logit, the present model for health insurance choice produces three sets of coefficient estimates for four choices: Uninsured, HINDC, HIWDC and HMODC, when 'Uninsured' is set as the reference category. However, the coefficients of the model alone are difficult to interpret. Neither the sign nor the magnitude of the coefficient has a direct intuitive meaning. Unlike coefficients, marginal effects are directly interpretable. They are interpreted as the expected instantaneous change in the dependent variable as one unit change in the explanatory variable occurs. In other words, it is the net effect holding the other variables at their means. Therefore, this study provides not only the coefficient estimates, but also the

related marginal effects for the presentation purpose. The related marginal effects from this model are presented in Table 15A-D.

There are two ways of estimating how much the event probability changes when a given predictor is changed by one unit. For the first multinomial logit equation, marginal effect is measured by the change in predicted probability for a unit change in the predictor. The marginal effects of dummy variables are analyzed by taking the difference of estimated probabilities between the different levels of dummy covariates (1 and 0), while all other independent variables are evaluated at their sample means. The "average" or "overall" marginal effect is then measured by computing the marginal effect at the sample means of the data.

For the jointly estimated second (probit) and third (OLS) equations on the probability of drug utilization, and the level of conditional utilization and expenditures, the marginal effect of a predictor is defined as the partial derivative of the event probability with respect to the predictor of interest. The "average" or "overall" marginal effect is then measured by computing marginal effect at each observation and then to calculate the sample average of individual marginal effects to obtain the overall marginal effect.

It is worth noting that with more than one choice, the marginal effects for a particular independent variable depend on the magnitudes and signs of the coefficients of that and all other variable (Goodman 2009). Therefore, the coefficients of a multinomial logit model and the related marginal effects for a particular variable may have different signs. This is also true for multinomial probit models.

Socio-Demographic Indicators

The signs of most coefficients seem generally sensible, although some of them are insignificantly identified. Most of the characteristics that are pertinent in describing individuals' differences in Tables 5A-D remain important in the regression and the related marginal effect analysis. In addition, many of the socio-demographics and health status variables affect the odds in the same direction across health insurance status.

Gender is associated with the probability of enrollment in health plans. To be more specific, females are generally more likely to choose insurance over no insurance. This predictor is most significant in the depression and asthma sample. For example, the odds of a woman choosing HIWDC over no insurance are 1.66 times higher than that of a man choosing HIWDC over no insurance, when other indicators controlled. The odds of a woman choosing HMODC over no insurance are even higher than that of a man choosing HMODC over no insurance (1.71 times).

In terms of the marginal effect of gender, women with depression are 43.8% less likely than men with depression to be uninsured. This result is consistent across the other three conditions (hypertension: -17.96%, diabetes: -15.73%, and asthma: -32.45%). Except for the hypertension group, gender is statistically significant indicator of the choice of HMODC. The biggest marginal effect of gender is found in the diabetes group. Holding other factors constant, being female rather than male is related to decreased probability of no insurance (-0.007), decreased probability of

'HINDC' (-0.0046), decreased probability of 'HIWDC' (-0.004) and relatively distinct increased probability of 'HMODC' (+0.057).

Hispanics appear to be one of the most disadvantaged groups with respect to being covered under any non-HMO plans. In term of marginal effects, Hispanics are more likely than non-Hispanics (hypertension: 10.93%, diabetes: 4.69%, depression: 10.61% and asthma: -3.43%) to be uninsured across three conditions. Meanwhile, being Hispanics leads to increased probability of 'HMODC' (hypertension: +0.002, diabetes: +0.056 and asthma: +0.017) and relatively appreciable decreased probability of any other types of insurance plans (hypertension: -0.111, diabetes: -0.103 and asthma: -0.052). Similar results for the association between Blacks and insurance choice are also found in the hypertension and depression sample. These findings are consistent with the previous literature (Banthin and Taylor 2001; Paringer 2007), which suggest that among the non-elderly privately insured population, Blacks and Hispanics are more likely than white and non-Hispanics to be enrolled in a private HMO plan.

An early study (Cutler 1994) pointed out that the demand for protection against a high-risk chronic condition might have a connection with income. High-income persons might be capable of affording such protection, while persons earning less have a greater likelihood of dropping private coverage and receive public financing through Medicaid, Medicare or bad debt care later, if a chronic condition strikes that could raise their private insurance premiums (Schoen, Lyons et al. 1997; Herring and Pauly 2001).

To test this hypothesis, total family income as a percentage of the U.S. Census poverty threshold by family size was constructed and the sample was split by the poverty thresholds. The present result suggests that most income related variables have significantly greatest association with health insurance choice across all conditions, compared with other explanatory variables. Consistent with the hypothesis, the results from the multinomial logit models also indicate that individuals from lower income level household are less likely to enroll in private insurance plans, compared to individuals with high-income level.

The risk of being uninsured is greatest for individuals at the lowest income level. In terms of the marginal effect, the poor are generally over 100% more likely to be uninsured than those with high income. Particularly in the asthma sample, the poor are even 139.22% more likely to be uninsured than those with high income. Meanwhile, the poor are generally over 30% less likely to have HMODC than those with high income. The greatest marginal effect of being poor on the probability of having HMODC is found in the hypertension sample.

As one would expect, the more educated is generally more likely to be insured than those who failed to have high school diploma. In terms of the marginal effect, individuals with more than a high school diploma are over 13% less likely to be uninsured. The association between education and health insurance choice is even greater for individuals who have bachelor or master degree. Across the sample with any of the four studied conditions, it is found that individuals with master degrees are generally over 12% more likely to have HIWDC, 1% more likely to have HMODC.

It is also worth noting that employment benefits serves as a consistently significant predictor of choosing HMODC across conditions. In particular, individuals who have paid vacation during the interviewed year are 12.41% (in the depression sample) to 36.68% (in the diabetes sample) more likely to be covered under HMO plans, while individuals who are unemployed the whole year are 3.06% (in the hypertension sample) to 44.18% (in the diabetes sample) less likely to choose HMO plans.

Region of residence is also important in explaining the choice of health plans among the chronically ill population. Consistent with the findings in Tables 5A-D, individuals in Northeast are more likely to be covered under HMO plans, indicating that HMO enrollment rates are related to HMO penetration rates.

Measures of Health Status and Chronic Conditions

No consistent pattern is evident between individuals' health status and insurance choice. For each condition of interest, some health characteristics indicate favorable selection into health coverage while others indicate the opposite.

Many worse self-reported health measures are negatively signed and statistically significant at the 1% percent level across the columns of Table 10 when the reference category is excellent self-reported health status, suggesting some favorable selection into health coverage. For example, individuals in poor health are 0.3% - 6.24% less likely to have HMODC than those in excellent health across conditions. However, better self-reported health status does not monotonically increase the probability of choosing insurance over no insurance. In the hypertension

and depression sample, individuals with very good health are more likely to choose insurance over no insurance than those with excellent health; in the asthma sample, individuals with very good health are more likely to choose HINDC than those with excellent health.

Further, there is some mixed evidence of adverse selection into health coverage. The presence of more than one of the four studied conditions is consistently positively associated with the probability of HMODC enrollment, while negatively associated with the probability of any alternative insurance status. In the depression sample, individuals with lower scores for mental health component summary (MCS) are more likely to have private insurance plans with drug coverage (HIWDC or HMODC). In the asthma sample, the presence of emphysema largely is associated with higher probability of having any non-HMO plans (HINDC or HIWDC) and moderately lower probability of having HMODC.

The situation is less clear in the hypertension and diabetes sample. In the hypertension sample, evidences show that some chronic problems are associated with lower probability of no insurance. Further, individuals with coronary heart disease or other heart disease are generally over 5% more likely to have insurance plans with drug coverage (HIWDC or HMODC) and over 10% less likely to have insurance plans with no drug coverage (HINDC); individuals with a history of stroke are over 10% more likely to have non-HMO plans (HINDC or HIWDC), and over 15% less likely to have HMODC. The presence of coronary heart disease, other heart disease and stroke are also associated with much lower probability of no insurance in the

diabetes sample. In contrast, the kidney problem caused by diabetes is positively associated with the probability of no drug coverage (no insurance or HINDC), while negatively associated with the probability of drug coverage (HIWDC or HMODC).

In sum, self-reported poor health status increases the probability of no insurance while some objective measures of poor health such as multimorbidity, physical limitation (IADL/ADL) and heart problems is positively associated with the probability of health coverage, especially that of HMODC. However, most of these health characteristics do not have any significant conection with individuals' insurance choices, as most health measures are not precisely identified and unobserved heterogeneity is hard to capture empirically. Further, these results together seem to suggest that health insurance choice between HMO plans (HMODC) and non-HMO plans (HINDC and HIWDC), or that between insurance plans with no drug coverage (HINDC) and insurance plans with drug coverage (HIWDC and HMODC), is unlikely to reflect enrollees' health status in a significant way.

HMO Penetration Rate

Overall, instrumental variables affect insurance choice nontrivially, with at least a 5 percent level of significance for HMODC across conditions. The HMO penetration rate is the most significant and consistent instrument. It is assumed to reflect competition intensity among private health insurance plans, which also generates externality that affects individuals covered by non-HMO health plans in terms of costs, quality and access to health care (Baker and Corts 1996; Litaker and Cebul 2003; Pylypchuk 2010). As expected, individuals living in areas with high

HMO penetration rate are significantly more likely to have HMODC and significantly less likely to have HIWDC. The interaction of HMO penetration rate and marital status variable, which indicates whether a response to availability of HMO plans is different for married people, have expected signs as well. This variable is significantly and positively associated with HMODC enrollment, however, it is insignificant in explaining HINDC and HIWDC in the hypertension, diabetes and depression sample.

Risk Preference

Regarding risk-taking behaviors such as 'currently smoking' and 'likely to take risks', current smokers are significantly less likely to have health coverage than their counterparts. Compared with the indicator of risk taker, the coefficient on 'currently smoking' is consistently negative and large across all conditions. In terms of the marginal effect, individuals who currently smoke are generally over 34% more likely to be uninsured than their counterparts across all conditions.

6.2.2 Out-of-Pocket Expenditures and Utilization on Prescription Drugs

Table 10 to Table 14B present coefficient estimates and standard errors in brackets from expenditure and utilization equations and Table 15A to Table 16D-2 present the related marginal effects of the selected variables of interest. Overall, the models perform quite well. Most of the individual variables are statistically significant at the 1 percent level.

Socio-Demographic Indicators

As in the insurance choice equation, some individual demographics and health

status have important association with drug expenditures. Those in the hypertension, depression and asthma sample, who are female, are more likely to spend on prescription drugs. However, females in those sample are also found to spend fewer amounts than male conditional on any positive expenditure. Another interesting finding in those sample is that marital status is significantly related to the probability of any expenditure. Married people are over 1%-4% more likely to spend on prescription drugs. But the marginal effect of marital status is not consistent across the studied conditions. Except for the depression sample, being married increases the amount spent conditional on any expenditure. Income is also greatly related to the chance to spend. The poor are 0.2%-5.3% less likely to spend on prescription drugs. However, they are expected to spend larger amount conditional on positive expenditure, possibly because the poor are more likely to be uninsured, given the results from the insurance choice equation.

Measures of Health Status and Chronic Conditions

Self-reported health status is among one of the most significantly important predictors in both parts of the expenditure equations ($p<.001$). Individuals indicating fair or poor health are 1.2% -7.1% more likely to spend on prescription drugs, and are expected to spend larger amount given positive expenditures. Some indicators of certain chronic condition such as emphysema and kidney problem caused by diabetes are also positively related to both parts of the expenditure equations ($p<.001$), suggesting that poorer health demands more prescription drugs.

While the presence of some other chronic conditions may increase the

probability of any expenditure, it might also affect individuals' prescription utilization pattern. For example, in the hypertension sample, individuals with heart attack, angina, and hyperlipidemia are 3.9%, 1.3% and 1.1%, respectively, more likely to spend on prescription drugs. Further, conditional of any positive expenditure, the presence of those diseases results in a lower probability of spending on generic drugs only and a higher probability of spending on brand name drugs only.

The association between probability of expenditure and chronic conditions is mixed in the diabetes sample. Surprisingly, the signs of the marginal effects of coronary heart disease, heart attack, angina, and stroke on general expenditures are all reversed, compared to the hypertension sample. However, conditional on any expenditure, the marginal effects of these conditions on the probability of spending on generic drugs only are consistently negative as those in the hypertension sample. In addition, the diabetess who have hypertension or hyperlidpedemia are 12.2%, 6.4%, 3.7% and 6.6%, respectively, more likely to spend on prescription drugs as expected. Conditional on any expenditure, these comobidities also lower the chance to spend on generic drugs only.

Risk Preference

Turning attention to risk preference variables, individuals who currently smoke have lower probability of positive expenditures but higher level of expenditures if they do spend money, implying that smoking behavior is not only an indicator of attitude towards health risks but also reflects current health status to some extent.

Health Insurance Status

The primary interest of the present study is the coefficients of the insurance variables. The results from the probability of total expenditure equations show that health coverage is positively and significantly associated with the chance to spend on prescription drugs across insurance plans. Having HINDC increases the probability of any drug expenditure by 1.1% (in the diabetes sample, coef.=0.3, $p<0.01$) - 15.6% (in the depression sample, coef.=0.5, $p<0.01$), HIWDC increases the probability by 4.6% (in the asthma sample, coef.=0.2, $p<0.01$) – 21.1% (in the depression sample, coef.=0.6, $p<0.01$) and HMODC increases the probability by 6.1% (in the asthma sample, coef.=0.2, $p<0.01$) – 18.3 % (in the depression sample, coef.=0.5, $p<0.01$). The evident shows that HINDC has relatively smaller contribution to increasing the probability of any expenditure than HIWDC and HMODC. This confirms the hypothesis that drug coverage really matters for the chronically ill population.

Another insight into the association between insurance and the probability of any expenditure can be gained by comparing the magnitude of the marginal effects of insurance by chronic condition. The greatest main marginal effect of insurance with drug coverage is in the depression sample (21.1%), followed by hypertension (11.1%), diabetes (9.7%) and asthma (7.3%), meaning that if we move anyone in the sample from no insurance to 'insured with drug coverage', the probability of any expenditure on prescription drugs to treat those condition increases by 21.1%, 11.1%, 9.7% and 7.3%, respectively. This evidence confirms the hypothesis of the present study, that is, the association between health coverage and drug expenditures varies across

conditions.

The marginal effect of health insurance on the probability of any expenditure on antidepressant is relatively greater than that in other sample. Several factors could contribute to this outcome. First, a smaller proportion of individuals report prescription drug expenditures in the depression sample (57%), compared to the hypertension (83%) and diabetes (67%) sample. Second, conditional on any drug expenditure, a larger proportion of individuals in the depression sample (62%) reported to have used brand name drugs only, compared to the hypertension (33%), diabetes (37%) and asthma (12%) sample. Meanwhile, as presented in Table 5, the average OOP expenditure per prescription for brand name drugs is highest in the depression sample across insurance status, compared to that in other sample. If individuals are cost sensitive, it makes sense that depressed patients respond to insurance status more strongly than their counterparts with other conditions.

In contrast, the marginal effect of insurance with drug coverage is slightly smaller in the asthma sample, compared to other sample. This finding is consistent with the previous study conducted by Pylypchuk (2010), which demonstrated that individuals with physically asymptomatic conditions such as hypertension and diabetes are more likely to exhibit moral hazard than those with conditions that impose immediate impairment such as asthma.

It is possible that prescription drugs and physician visits could be considered as complements, especially in a managed care setting (Kapur, Joyce et al. 2000; Escarce, Kapur et al. 2001; Winkelmann 2004), meaning that the increased

consumption of one is accompanied with the increased consumption of the other, and vice versa. It is true that one can hardly obtain prescription drugs without visiting a physician first in the United States. Therefore, obtaining a prescription is often a primary purpose of a physician visit (Allin 2008). It also seems reasonable to believe that insured patients are more likely to visit physicians than the uninsured. If the patient decides to visit a physician, the physician would then determine whether to prescribe any prescription drug and which drug to prescribe, given the patient's health condition and insurance status. In this scenario, it is expected that both insurance and physician visits are related to drug expenditures, and further, to the quantity of prescriptions filled and to the type of drugs obtained by the patients (generic versus brand), if patients do spend on prescription drugs. Thus, the interaction between each insurance status and physician office-based visits are included in the present two-stage models, with physician office-based visits set as the reference level.

The present results show that all coefficients on the interaction terms between insurance status and the number of office-based physician visits are statistically significant at the 1 percent level, and the positive marginal effect of the interaction further increases the probability of any OOP expenditure on prescription drugs by 0.5% - 7.3% across conditions.

To further investigate whether the association between insurance status and prescription utilization pattern is insurance type- or condition-specific, given positive drug expenditures, the two-stage equations (the probability of expenditure and the conditional expenditures) are again employed with the same set of explanatory

variables as in the total OOP expenditure model.

Conditional on any expenditure, HMODC consistently increases the probability of expenditures on generic drugs only, while decreasing the probability of expenditures on brand name drugs only across conditions. Compared to HIWDC and HINDC, HMODC contributes more in the probability of expenditures on generic drugs only across all conditions except for depression. However, the association between HMODC and the probability of expenditures on both generic and brand name drugs is ambiguous. The association is negative in the hypertension and diabetes sample and positive in the depression and asthma sample, likely because of the dominance of brand name drugs to treat depression and asthma (Roebuck, Liberman et al. 2011).

Conditional on any expenditure, some other disparities also arise regarding the marginal effects of drug coverage. For example, in the hypertension sample, the main marginal effects of HMODC and HIWDC are -0.1% and 7.5%, respectively, meaning that HMODC slightly decreases the probability of spending on brand name drugs only while the main effect of HIWDC goes to the opposite direction. Further, the small negative interaction effect between HIWDC and the number of office-based physician visits (-1.3%) tapers the positive effect of HIWDC on the probability of expenditures on brand name drugs only, while the negative interaction effect between HMODC and the number of office-based physicians visits (-0.2%) reinforces the negative association between HMODC and expenditures on brand name drugs only, conditional on any expenditure.

Several factors could be attributed to this disparity. First, many HMO plans have adopted cost-cutting measures such as formularies, in which drugs that are covered or not are all listed. Second, tired-cost sharing arrangement in many insurance plans has been proved to successfully induce patients to purchase generic drugs by lowering the copayment for such drugs. As presented in Table 5, the differential in average OOP expenditure per prescription between brand name and generic drugs for the insured with drug coverage varies across plans with and without drug coverage. Under HMODC, for example, the OOP expenditures on brand name drugs are generally twice as high as those on generic drugs. Finally, generic substitution policies are often employed in HMO plans, which require prior authorization by physicians before a brand name drug rather than its generic equivalent is dispensed. It is reasonable that these policies would affect physicians' prescription behavior in practice. An early study conducted by Hellerstein (1994) suggests that individuals covered by HMO plans are more likely to receive generic drugs due to HMO physicians' tendencies to prescribe generic drugs.

While insurance plans, no matter with or without drug coverage, generally increase the probability of any expenditure on prescription drugs, plans with drug coverage are significantly associated with reduction in individuals' OOP expenditures, although the interaction between different types of insurance and the number of office-based physician visits weakens the effect of drug coverage on individuals' cost saving to some degree. HMODC consistently decreases individuals' OOP expenditures, no matter in terms of total expenditures, expenditures on generic drugs

only, on brand name drugs only or on both, conditional on any expenditure.

In comparison with non-HMO plans with drug coverage, the marginal effect of HMODC on total OOP expenditure is greater across three conditions, i.e. hypertension, diabetes and depression. Among these conditions, the greatest marginal effect differential is found in the hypertension sample (HIWDC vs. HMODC: -0.3 vs. -0.5).

In the diabetes, depression and asthma sample, HMODC contribute more in reducing individuals' OOP expenditures on generic drugs only, compared to HIWDC. In addition, HMODC has a greater marginal effect on reducing individuals' OOP expenditures on brand name drugs only in the depression and asthma sample. All these results suggest that HMO plans are more efficient in cutting back enrollees' cost for prescription drugs.

In sum, insurance with drug coverage significantly increases the probability of any OOP expenditure. Further, insurance coverage significantly lowers the conditional OOP expenditures, thereby decreasing the financial burden on the chronically ill for prescription drugs. In general, HMO plans have stronger effects than non-HMO plans with drug coverage in enrollees' cost saving.

With respect to the coefficient estimates and the associated marginal effects of socio-demographic and health status variables, results from the utilization model regarding the probability of any use are generally similar to those estimates from the expenditure model for the probability of any expenditure.

Consistent with the results of the expenditure analysis, the utilization model

estimates indicate that individuals with depression are more responsive to drug coverage than individuals with other three conditions. Having HIWDC or HMODC is associated with an over 28% increase in individuals' odds to use any prescription drug to treat hypertension.

Among the individuals with physical chronic conditions, the greatest base probability of any prescription drug use is in the hypertension sample (0.82), followed by diabetes (0.68) and asthma (0.21). Moreover, the associated marginal effects of drug coverage is also greatest in the hypertension sample (HIWDC: 0.11, HMODC: 0.09 in hypertension; HIWDC: 0.09, HMODC: 0.08 in diabetes; HIWDC: 0.04, HMODC: 0.07 in asthma). A combination of these results imply that individuals with such asymptomatic physical chronic condition as hypertension will be more likely to use prescription drugs than those with such symptomatic chronic physical conditions as asthma.

While drug coverage is negatively associated with OOP expenditures as discussed earlier, the results of the utilization analysis indicate that the two types of prescription drug insurance are positively and significantly associated with the total annual number of prescription fills. This occurs across three conditions: hypertension (HIWDC coef=1.3, HMODC coef=0.8, $p<0.01$), depression (HIWDC coef=0.7, HMODC coef=0.9, $p<0.01$) and asthma (HIWDC coef=0.3, HMODC coef=0.8, $p<0.01$)[8], after drug use occurs. As presented in Table 7, it is likely that low cost sharing in health insurance plans with drug coverage makes consumers insensitive to

[8] Although the result from the diabetes sample reveals negative association between HMO plans and the total use of drugs, the interaction term of HMO and the number of physician visit is positively related to the total use of drugs with greater magnitude.

the prices, thereby increasing the total use of prescription drugs, conditional on any use.

After drug use occurs, the greatest main marginal effects of drug coverage among the individuals with the chronic physical conditions are in the hypertension sample (HIWDC: 1.32, HMODC: 0.80) while the smallest marginal effects are in the asthma sample (HIWDC: 0.32, HMODC: 0.76). Consistent with Pylypchuk (2010), all the present results confirm the hypothesis that the association between health insurance and prescription drug utilization varies across individuals with different conditions.

Further, as expected, individuals with HMO plans are more likely to have prescription patterns toward less expensive generic drugs in the hypertension and asthma sample, compared to their counterparts with HIWDC. However, in the diabetes and depression sample, drug coverage contributes more in the probability of using both generic and brand name drugs than other prescription utilization patterns, regardless of the types of the health insurance plans.

After drug use occurs, in the hypertension and diabetes sample, health coverage substantially increases the use of both generic and brand name drugs, compared to their contributions on the use of drugs towards other prescription utilization patterns. For example, for individuals with hypertension, HMODC is associated with around 4.5 additional prescription filled on both generic and brand name drugs, around 0.8 more on generic drugs only and around 0.6 fewer on brand name drugs only to treat hypertension. In contrast, HIWDC is associated with around

1.6 fewer prescription filled on generic drugs only and around 1.4 more on brand name drugs only, although the marginal effect of HIWDC on the use of both generic and brand name drugs is close to that of HMODC.

In the depression and diabetes sample, drug coverage is significantly related to the prescription utilization pattern towards more expensive brand name drugs only, conditional on any drug use. For example, in the depression sample, HIWDC is associated with over 0.3 additional prescription filled on generic antidepressants only and over 0.8 more on both brand name antidepressants and generic substitutes. The main marginal effect of HIWDC on the use of brand name antidepressants only is even greater (> 1.0 additional prescription filled). Similarly, HMODC is associated with around 0.3 additional prescription filled on both generic and brand name antidepressants and around 1.5 additional prescription filled on brand name antidepressants only. However, the association between HMODC and the use of generic antidepressants only is surprisingly negative. This could be explained by the availability of generic antidepressants as discussed earlier.

In all, the overall ratio of annual generic and total number of selected prescriptions filled per individual conditional on any drug use is significantly greater in HMO plans, compared to non-HMO plans with drug coverage across three conditions (HIWDC vs. HMODC in hypertension is 0.81:0.86; diabetes, 0.73:0.80; depression: 0.77:0.82). However, it is less clear whether individuals with HMO plans are more likely to use generic drugs than their counterparts with non-HMO plans with drug coverage. The availability of generic substitutes, price differential in

tiers of formulary, severity of conditions as well as physicians' prescribing behavior might have more important effect on individuals' medication choice than the type of insurance plans.

Chapter 7. CONCLUSION

Policy Implication

This study examines the factors involved in healthcare decisions: insurance, utilization and expenditures, while focusing on two main objectives: 1) to investigate the link between different insurance status and prescription drug utilization as well as the associated expenditures; and 2) to illustrate how different chronic conditions affect individuals' responses to health insurance.

The present study assumes that more generous health coverage is associated with higher drug utilization. The likely endogenous relationship between insurance and drug utilization is addressed by controlling for observed health characteristics and including variables that reflect individuals' attitude towards risks as well as the supply-side factors that have no direction correlation with the drug use but have strong correlation with the plan choice. By doing so, the present study attempts to identify any observed self-selection bias as the consequence of the unobserved, individual-specific and area-specific characteristics that are unrelated to health risks. As the association between individuals' insurance choice and the demand for prescription drugs can be explained largely by the observed variables, it leaves a small and statistically insignificant role for the potential hidden variables.

The analysis of insurance choice shows that health related factors are less important in predicting individuals' health insurance status than usually expected (Koc 2005). Using the nationally representative MEPS data and multiple measures of health conditions, the present study finds a greater proportion of individuals reporting

poor health in the uninsured group compared to the other three insured groups. However, there are few statistically significant differences in health characteristics found between individuals in different health coverage (HMODC, HIWDC and HINDC), and those differences point to either direction, with some health status measures such as some heart problem or kidney problem indicating that HMOs incur adverse selection and others such as multimorbidity indicating favorable selection.

The implication of these findings is twofold. First, the observed opposite selection effects may create potentially conflicting selection bias in estimating the probability of any use as well as the level of utilization. If these effects could offset each other, no selection-bias would be observed as a consequence of health risk segmentation in health insurance enrollment. A handful of previous studies have approved this possibility (Dowd et al.,1991; Taylor et al., 1995; Hurd and McGarry, 1997). Second, health conditions seem to make little significant difference to decision on whether to be insured and what type of health insurance plan to choose, as individuals might not freely make their own choices based on their economic budgets as well as expectation of future health status at the point of decision making.

In contrast, gender, marital status and race are significant predictors of enrollment decision in private health insurance plans. These results are generally consistent with the previous literature (Banthin and Taylor 2001; Paringer 2007; Pylypchuk 2010). Generally, women, married people, or Hispanics are more likely to be in HMO plans than their counterparts. In addition, individuals with lower family income level are less likely to enroll in any type of private insurance plans. All the

present findings suggest that a better understanding of individuals' characteristics information could help insurance policy makers better target the population that are more likely to be enrolled in certain health insurance plan.

Second, the results of prescription drug utilization and expenditures have some significant policy implications related to the previously described hypotheses for the present analysis.

Hypothesis 1: Insurance plans, especially those with drug coverage are positively associated with utilization of prescription drugs for all non-elderly adults with chronic conditions.

Hypothesis 2: Drug coverage is negatively associated with OOP expenditures on prescription drugs for all non-elderly adults with chronic conditions.

In general, health insurance plans, especially those with drug coverage, are expected to encourage the use of prescribed medicines, since the insured are more likely to visit a doctor and bear lower costs for prescription drugs. However, some of the increase in drug use may be attributed to selection effects. Therefore, estimates of the association between health coverage and prescription drug utilization may actually be inflated. Having failed to find significant evidence of adverse selection, the present two-stage models indicate that the drug utilization estimates could be biased but with modest value. Most of the gap in prescription drug use between the uninsured and the insured has been successfully explained by the observable individuals' socio-demographic differences, health condition differences as well as insurance effect (price sensitivity) through their estimated marginal effects.

The first dimension of the demand for prescription drugs is whether an individual has any prescription drug use or expenditure during the interviewed year, given the observed health insurance status chosen at the previous stage. The coefficients of the variables for having private insurance with drug coverage (HIWDC and HMODC) have much larger magnitude than those of the variables for having private insurance without drug coverage (HINDC) across the four studied conditions. Similar results are obtained in the relevant marginal effect analyses. Thus, having a policy including drug benefits reinforces the effect of having private insurance alone on the probability of any prescription drug use.

Using broader population and different time measures, a recent estimate of the impact of health coverage reports a higher increase in the probability of any prescription drug use and support this conclusion (Gu, Dillon et al. 2010). According to that study, individuals with health coverage are around twice as likely to have used at least one prescription drug in the past month than those without health coverage, and among individuals with health coverage, those with drug benefits are over 20% more likely to use prescription drugs than those without those benefits.

There is also evidence in the present study that physician visits and prescription drug use is complement, since the interaction between insurance status and physician visits further increase the probability of any drug use. This is consistent with findings of Lillard, Rogowski et al. (1999).

Interestingly, the estimated marginal effect of non-HMO plans with drug coverage is slightly larger than the marginal effect of HMO plans on the probability of

any drug use to treat hypertension, diabetes or depression. Further, the pattern of prescription drug utilization among the chronically ill across health insurance plans is unclear. Although private health insurance plans have developed many ways to control moral hazard, and the present study confirms the hypothesis that drug coverage are significantly associated with lower OOP expenditures for the covered individuals, the decrease in expenditures could be hardly interpreted into higher ratio of generic drug use among the covered individuals relative to those without drug benefits.

In common belief, HMOs provide relatively extensive coverage for prescription drugs while receiving no marginal revenue associated with any healthcare services. Therefore, with a strong incentive to treat each case as economically as possible, HMOs are sensitive to generic vs. brand name price differential. However, the present study shows mixed evidence about whether HMO plans are associated with more use of generic drugs than experienced by the chronically ill with non-HMO plans. In the hypertension and asthma sample, individuals with HMODC have higher propensity to use generic drugs relative to their counterparts with HIWDC. However, after drug use occurs, health coverage is associated with substantial increase in the use of both generic and brand name drugs - regardless of the types of the health insurance plans – when compared to its contributions on the use of drugs towards other utilization patterns such as generic or brand name drugs only.

These results suggest that although the sponsors of plans with drug benefits might intend to lower pharmaceutical costs by encouraging appropriate use of

generics, both market-level and individual-level effects would jointly complicate the outcome of individuals' prescription utilization pattern in filling behavior. As new drugs are introduced and more generic versions of brand name drugs are available in the market, the chronically ill population could have improved health and quality of life with the appropriate use of prescription drugs. Current prescription drug utilization patterns - regarding how many and what kinds of drugs to treat chronic conditions should be prescribed, and who receives them - must be better understood for plan designers and policy makers to make optimal decisions.

Hypothesis 3: The magnitude of the association between private health insurance and prescription drug utilization varies across conditions.

Individuals with different chronic conditions might not face the same financial pressure nor invest the same in their own health. The conventional wisdom suggests that people prefer short-term drug benefits such as allergy alleviation to long-term outcomes such as survival from hypertension (Krahn and Gafni 1993; Chapman and Elstein 1995; Ortendahl and Fries 2002).

However, more recent research finds that individuals are less cost-sensitive to the "essential" drugs that prevent deterioration in health and prolong life than to the "non-essential" drugs that primarily aim at symptom relief. Focusing on differences in demand elasticity by therapeutic class of drugs, Goldman, Joyce et al. (2004) and Landsman, Yu et al. (2005) both use drug refill data accompanying with cross-sectional variation in health plan benefit designs and conclude that the demand for drugs to treat chronic conditions such as antidiabetes, antiasthmatic and

antidepressant agents are less price sensitive (-0.2 to -0.1) than drugs to treat more acute conditions such as antihistamines, triptans and nonselective nonsteroidal anti-inflammatory agents (-0.6 to -0.3). Further, Tamblyn, Laprise et al. (2001) document the effect of implementing the prescription drug cost-sharing policy on the utilization of essential and less essential drugs among the poor and elderly population. Acknowledging that price elasticities for prescription drugs could be heterogeneous across drugs of different types, their findings also indicate that the target population are more responsive to the introduction of prescription drug cost-sharing with respect to the demand for less essential drugs rather than for essential drugs.

Consistent with these recent studies, the present analyses of prescription drug utilization across the four conditions confirm that individuals' response to health insurance is condition specific. Regarding the probability of any prescription drug use, the demand for antidepressants reacts most strongly to drug coverage (HIWDC or HMODC) compared to other chronic conditions. Among individuals with any of the three physical chronic conditions and with drug coverage, those with asymptomatic chronic conditions (e.g. hypertension) are generally over three times more likely to use prescription drugs than their counterparts with symptomatic chronic conditions (e.g. asthma), while the probability of any drug use for others with mild chronic symptoms (e.g. diabetes) stands in the middle. Further, conditional on any drug use, the marginal effect of HIWDC on drug utilization for individuals with hypertension is over four times as high as that for individuals with asthma.

Such findings provide useful thoughts for plan designers and policy makers to

rationalize drug formulary decisions and better match the needs of the chronically ill, especially the needs of those with multiple conditions. The existing literature suggests that multimorbidity could have profound effects on chronic disease management, depending on expected priority of the conditions and whether they interact with each other (Piette and Kerr 2006; Turner, Hollenbeak et al. 2008). For example, a recent study finds that diabetes-related multimorbidity may increase the probability of intensifying antihypertensive treatment, whereas diabetes-unrelated multimorbidity may divert resources and attention to the treatment for other coexisting conditions known as 'competing demand' (Voorham, Haaijer-Ruskamp et al. 2012). As a result, medication adherence could be difficult when individuals are juggling regimens with limited budget constraints for such multimorbity as hypertension and asthma. Consider the different elasticity of demand for prescription drug in response to health insurance, expansion of prescription drug benefits or imposition of less cost sharing for antihypertensive drugs than that for antiasthmatic drugs could be an efficient way to ensure medication adherence and adequate drug utilization for such coexisting conditions as hypertension and asthma.

Future research should concentrate on developing a more complete model to investigate the effect of health insurance on decision to purchase prescription drugs among individuals with multiple chronic conditions and to which extent and in which direction the multimorbidity complicates the decision making. Understanding how these decisions are made could also improve the ability of healthcare systems to deliver better services to the chronically ill population.

Contributions

The present study contributes to the literature by updating estimates of the association between individuals' insurance choice and prescription drug utilization and expenditures among the non-elderly adult population. In spite of growing research on the demand for prescription drugs in general, only a handful of studies focus on individuals' OOP expenditures and utilization specific to certain chronic condition. Using the national representative data from the 2003-2007 Medical Expenditure Panel Survey (MEPS), the present study extend this sparse literature in several directions.

First, it remains a challenging task to explain the disparity in health care utilization between the insured and uninsured population due to selection bias. The present study employs multiple-stage model of health insurance choice and demand for prescription drugs that controls for selection on both observable and unobservable characteristics to some degree. Maximum simulated likelihood methods are used to estimate the model. With efforts to control for selection effects, I find that individuals with no insurance are found to have significantly higher OOP expenditures and fewer prescriptions filled across chronic conditions of interest.

Second, by including chronic mental and physical conditions in the study and comparing those subgroups, the present study provides some interesting results. In general, the chronically ill individuals are less sensitive to insurance status than the overall population. Moreover, individuals with depression react most strongly to insurance status. Among individuals with physical chronic conditions, those with asymptomatic conditions such as hypertension and diabetes are more sensitive to

insurance status than individuals with symptomatic conditions such as asthma.

Third, total OOP expenditures and utilization of prescription drugs are decomposed into three types of drug consumption pattern: generic drugs only, brand name drugs only and both generic and brand name drugs. By doing so, the present study can detect if there is any significant difference in individuals' prescription utilization relevant to the types of health insurance plans (HINDC, HIWDC and HMODC). However, the findings suggest that the type of health insurance plans has no consistent impact on individuals' prescription utilization pattern.

Limitations and Future Research

While the MEPS data represent one of the best available information for a national population of the chronically ill, the data are vulnerable to reporting biases based on respondents' self-assessment of health care utilization and expenditures. As a consequence, misclassification of the medical condition requiring the utilization or expenditure, misclassification of prescription drugs, and under- or over-reporting are likely problems as in any survey study.

Further, a number of important issues cannot be addressed due to data limitations. Most private health insurance plans cover prescription drugs. However, there is variation in terms of the extent of medical benefit coverage across those plans. Labels such as HINDC, HIWDC and HMODC are ultimately meaningful only if they adequately capture the underlying distinction on individuals' access to prescription drugs, generosity of drug package and the relevant cost sharing features between them. Additional information, such as the overall benefit of HMO plans (e.g. premium,

deductibles, copayments and annual coverage limits) and competing benefit offerings from other alternatives faced by the same individual, could replace the broad labels by more desirable variables if the study seeks to explain to which extent there is self selection into HMO plans. It would also help in explaining the impact of cost-sharing on individuals' prescription drug utilization and expenditures.

There are also several methodological limitations as described earlier. Relying on a cross-sectional design, the present study faces the classical challenges such the potential for bias as a consequence of unobserved heterogeneity and the associated difficulties establishing a causal relationship between insurance choice and prescription utilization and expenditures due to selection issues (Kamal-Bahl and Briesacher 2004). However, current applied econometrics contains many variants of the multiple-stage model, some of which involves the presence of endogenous treatment dummy variables in equations with discrete and censored outcomes like the present study. The approach employed here can be extended to these cases by further developing a single simultaneous model, which allows for the consideration of selection bias, multiple levels of insurance and complex survey sampling.

In addition, the present results must be interpreted in light of two important sample restrictions. First, the sample is drawn from an insured non-elderly adult population with certain chronic condition. Therefore, the findings are not necessarily generalizable to other populations such as the low-income, the elderly or those with other health problems. Second, individuals with public coverage are excluded. The primary concern with this approach is to isolate the independent effect of health

coverage for individuals who have supplemental insurance, which would confound the main findings of the present study.

Finally, the present study mainly focuses on the association of health insurance choice and prescription drug utilization and expenditures. Future research could shed more light on this issue by extending the analysis to other medical care services. Additionally, although the results can make predictions regarding individuals' insurance choice and demand for prescription drugs, it is not possible to assess the clinical necessity, adequacy or quality of drug treatment received among the chronically ill. Moreover, it is not feasible to determine the appropriateness of the level of OOP expenditures and utilization for individuals with chronic conditions and whether they are actually better off with drug coverage. More rigorous exploration is needed into the effects of health insurance choice on the use of different therapeutic classes of drugs, particular on the use of drugs that have high costs and require high level of adherence and, ultimately, the health outcomes of the chronically ill.

APPENDIX

Table 1. List of Drugs in Selected Drug Classes to Treat Target Conditions

Hypertension	Diabetes	Asthma	Depression
Cardiac drug, NEC	Antidiabetic agents, Insulins	Sympathomimetic agents, NEC	Phsychother, antidepressants
Cardiac, ACE inhibitors	Antidiatetic agents, Misc	Adrenals & Comb NEC	
Cardiac, Beta blockers	Antidiabetic agent, Sulfonylureas		
Cardiac, Calcium channel			
Diuretics, loop diuretics			
Diuretics, potassium-sparing			
Diuretics, thiazides & related			

Table 2A. Weighted Means and Definitions of Possible Explanatory Variables for Non-elderly Adult Population (2003-2007)

Variable Name	Variable Description	Hypertension N=10,595	Diabetes N=4,191	Depression N=5,924	Asthma N=6,533
Sociodemographic					
Age	Age at the end of the year	51.331 (0.162)	50.727 (0.249)	42.970 (0.265)	39.439 (0.259)
Female	1 if female else=0	0.492 (0.007)	0.491 (0.014)	0.656 (0.009)	0.582 (0.008)
Black	1 if black else=0	0.153 (0.008)	0.134 (0.011)	0.056 (0.004)	0.106 (0.006)
Hispanic	1 if Hispanic else=0	0.087 (0.005)	0.148 (0.010)	0.091 (0.005)	0.093 (0.007)
Mid Income	1 if family income ranges from 200% to less than 400% of the Federal poverty threshold else=0	0.320 (0.007)	0.345 (0.010)	0.342 (0.009)	0.330 (0.008)
Low Income	1 if family income ranges from 125% to less than 200% of the Federal poverty threshold else=0	0.089 (0.003)	0.115 (0.006)	0.108 (0.005)	0.096 (0.004)
Near Poor	1 if family income ranges from 100% to less than 125% of the Federal poverty threshold else=0	0.022 (0.002)	0.034 (0.003)	0.032 (0.003)	0.027 (0.002)
Poor	1 if family income is less than 100% of the Federal poverty threshold else=0	0.050 (0.003)	0.065 (0.005)	0.086 (0.005)	0.075 (0.004)
Married	1 if married at the end of the year else=0	0.696 (0.008)	0.697 (0.011)	0.530 (0.011)	0.514 (0.010)
Divorced	1 if divorced at the end of the year else=0	0.147 (0.006)	0.147 (0.009)	0.191 (0.008)	0.137 (0.006)
Household	Family size	2.624 (0.021)	2.763 (0.035)	2.611 (0.029)	2.728 (0.034)
Education					
High School	1 if completed high school at the end of the year else=0	0.475 (0.008)	0.490 (0.011)	0.449 (0.011)	0.443 (0.010)
BA	1 if completed BA at the end of the year else=0	0.179 (0.006)	0.140 (0.008)	0.186 (0.008)	0.215 (0.009)
MA	1 if completed MA at the end of the year else=0	0.083 (0.005)	0.050 (0.006)	0.082 (0.006)	0.074 (0.005)
Employment					
Employed	1 if employed the whole year else=0	0.782 (0.006)	0.732 (0.010)	0.732 (0.008)	0.776 (0.007)

Table 2A (Continued)

Variable Name	Variable Description	Hypertension N=10,595	Diabetes N=4,191	Depression N=5,924	Asthma N=6,533
Unemployed	1 if unemployed the whole year else=0	0.162 (0.005)	0.201 (0.009)	0.164 (0.007)	0.126 (0.006)
Selfemployed	1 if self employed anytime during the year else=0	0.112 (0.005)	0.101 (0.006)	0.108 (0.006)	0.094 (0.005)
Union	1 if employed by union anytime during the year else=0	0.136 (0.007)	0.126 (0.008)	0.097 (0.005)	0.108 (0.006)
Payvac	1 if paid vacation anytime during the year else=0	0.585 (0.008)	0.545 (0.012)	0.512 (0.009)	0.553 (0.009)
Sicpay	1 if paid sick leave anytime during the year else=0	0.528 (0.009)	0.481 (0.012)	0.465 (0.009)	0.510 (0.010)
Regions					
Midwest	1 if lives in Midwest Census Region else=0	0.230 (0.012)	0.213 (0.014)	0.264 (0.013)	0.237 (0.013)
South	1 if lives in South Census Region else=0	0.399 (0.013)	0.392 (0.015)	0.333 (0.015)	0.334 (0.013)
West	1 if subject lives in West Census Region else=0	0.184 (0.009)	0.220 (0.013)	0.244 (0.013)	0.231 (0.011)
Urban	1 if lives in metro area else=0	0.810 (0.012)	0.798 (0.014)	0.837 (0.012)	0.852 (0.011)
Health Characteristics					
Very Good Helath	1 if self reports very good health else=0	0.307 (0.006)	0.214 (0.009)	0.313 (0.008)	0.332 (0.007)
Good Health	1 if self reports good health else=0	0.372 (0.006)	0.413 (0.011)	0.323 (0.007)	0.307 (0.007)
Fair Health	1 if self reports fair health else=0	0.151 (0.005)	0.234 (0.008)	0.146 (0.005)	0.118 (0.005)
Poor Health	1 if self reports poor health else=0	0.041 (0.003)	0.078 (0.005)	0.060 (0.003)	0.037 (0.003)
Limit	1 if IADL screener or ADL screener else=0	0.038 (0.002)	0.056 (0.005)	0.061 (0.004)	0.031 (0.003)
Coglim	1 if has cognitive limitation else=0	0.046 (0.003)	0.068 (0.005)	0.116 (0.006)	0.050 (0.004)
MCS	Mental component summary	50.989 (0.132)	50.184 (0.213)	42.303 (0.198)	49.642 (0.180)
Conditions	1 if diagnosed with more than one of the four target conditions else=0	0.300 (0.007)	0.554 (0.011)	0.278 (0.008)	0.168 (0.007)
Lipo_con	1 if had been diagnosed with hyperlipedemia else=0	0.335 (0.007)	0.391 (0.013)	0.154 (0.007)	0.102 (0.007)

Table 2A (Continued)

Variable Name	Variable Description	Hypertension N=10,595	Diabetes N=4,191	Depression N=5,924	Asthma N=6,533
Hyper_con	1 if had been diagnosed with hypertension else=0	-	0.504	0.197	0.161
		-	(0.012)	(0.007)	(0.007)
Dia_con	1 if had been diagnosed with diabetes else=0	0.175	-	0.077	0.056
		(0.006)	-	(0.005)	(0.004)
As_con	1 if had been diagnosed with asthma else=0	0.056	0.048	0.071	-
		(0.003)	(0.005)	(0.005)	-
De_con	1 if had been diagnosed with depression else=0	0.115	0.131	-	0.135
		(0.004)	(0.007)	-	(0.007)
Chddx	1 if had been diagnosed with coronary heart disease else=0	0.049	0.071	0.020	0.015
		(0.003)	(0.006)	(0.002)	(0.002)
Midx	1 if had been diagnosed with heart attack else=0	0.046	0.060	0.019	0.014
		(0.003)	(0.005)	(0.002)	(0.002)
Angidx	1 if had been diagnosed with angina else=0	0.031	0.040	0.017	0.013
		(0.002)	(0.004)	(0.002)	(0.002)
Ohrtdx	1 if had been diagnosed with other heart disease else=0	0.084	0.086	0.070	0.077
		(0.004)	(0.006)	(0.005)	(0.005)
Strkdx	1 if had been diagnosed with stroke else=0	0.027	0.039	0.015	0.016
		(0.002)	(0.005)	(0.002)	(0.002)
Dskidn	1 if diabetes caused kidney problems else=0	0.014	0.062	0.010	0.005
		(0.001)	(0.005)	(0.002)	(0.001)
Dseypr	1 if diabetes caused eye problems else=0	0.028	0.133	0.016	0.009
		(0.002)	(0.006)	(0.002)	(0.001)
Emphdx	1 if had been diagnosed with emphysema else=0	0.013	0.015	0.011	0.021
		(0.002)	(0.003)	(0.001)	(0.002)
Aspkfl	1 if keeps peak flow meter at home else=0	0.021	0.021	0.025	0.157
		(0.002)	(0.003)	(0.003)	(0.007)
Risk Reference					
Adrisk	More likely to take risk*	0.163	0.163	0.188	0.224
		(0.005)	(0.007)	(0.006)	(0.008)
Adsmok	1 if subject currently smokes else=0	0.174	0.178	0.266	0.191
		(0.005)	(0.010)	(0.009)	(0.008)
Others					
HMOrate	Mean of the yearly HMO enrollment grouped by strata and psu	0.214	0.212	0.220	0.228
		(0.006)	(0.006)	(0.006)	(0.006)

Source: All calculations of this study is based on the MEPS data (2003-2007).

Notes: *indicates that the measurement is the following for Adrisk: 1 disagree strongly, 2 disagree somewhat, 3 uncertain, 4 agree somewhat, 5 agree strongly. ADL, activities of the daily living; IADL, instrumental activities of daily living. Standard errors in parentheses.

Table 2B. Weighted Means and Definitions of Possible Explanatory Variables (2003-2007)

Variable Name	Variable Description	Remaining Non-elderly Adult Population N=76,335	Total Non-Elderly Adult Population N=98,085	Total Population N=167,688
Sociodemographic				
Age	Age at the end of the year	38.443	40.137	36.182
		(0.110)	(0.102)	(0.171)
Female	1 if female else=0	0.497	0.507	0.510
		(0.003)	(0.002)	(0.002)
Black	1 if black else=0	0.122	0.121	0.124
		(0.005)	(0.005)	(0.005)
Hispanic	1 if Hispanic else=0	0.157	0.142	0.147
		(0.006)	(0.006)	(0.006)
Mid Income	1 if family income ranges from 200% to less than 400% of the Federal poverty threshold else=0	0.309 (0.004)	0.313 (0.003)	0.313 (0.003)
Low Income	1 if family income ranges from 125% to less than 200% of the Federal poverty threshold else=0	0.125 (0.002)	0.118 (0.002)	0.138 (0.002)
Near Poor	1 if family income ranges from 100% to less than 125% of the Federal poverty threshold else=0	0.038 (0.001)	0.035 (0.001)	0.045 (0.001)
Poor	1 if family income is less than 100% of the Federal poverty threshold else=0	0.122 (0.003)	0.108 (0.002)	0.127 (0.003)
Married	1 if married at the end of the year else=0	0.535 (0.004)	0.553 (0.004)	0.412 (0.003)
Divorced	1 if divorced at the end of the year else=0	0.107 (0.002)	0.117 (0.002)	0.086 (0.002)
Household	Family size	3.084	2.992	3.207
		(0.017)	(0.015)	(0.016)
Education				
High School	1 if completed high school at the end of the year else=0	0.450 (0.004)	0.453 (0.004)	0.341 (0.003)
BA	1 if completed BA at the end of the year else=0	0.176 (0.004)	0.179 (0.004)	0.126 (0.003)
MA	1 if completed MA at the end of the year else=0	0.061 (0.002)	0.065 (0.002)	0.048 (0.001)
Employment				

Table 2B. (Continued)

Variable Name	Variable Description	Remaining Non-elderly Adults Population N=76,335	Total Non-Elderly Adults Population N=98,085	Total Population N=167,688
Employed	1 if employed the whole year else=0	0.723	0.736	0.480
		(0.004)	(0.003)	(0.003)
Unemployed	1 if unemployed the whole year else=0	0.177	0.169	0.213
		(0.003)	(0.003)	(0.003)
Selfemployed	1 if self employed anytime during the year else=0	0.104	0.105	0.074
		(0.002)	(0.002)	(0.001)
Union	1 if employed by union anytime during the year else=0	0.086	0.094	0.060
		(0.002)	(0.002)	(0.002)
Payvac	1 if paid vacation anytime during the year else=0	0.480	0.501	0.319
		(0.004)	(0.003)	(0.002)
Sicpay	1 if paid sick leave anytime during the year else=0	0.421	0.443	0.282
		(0.004)	(0.004)	(0.003)
Regions				
Midwest	1 if lives in Midwest Census Region else=0	0.218	0.223	0.223
		(0.009)	(0.009)	(0.008)
South	1 if lives in South Census Region else=0	0.357	0.359	0.361
		(0.010)	(0.010)	(0.010)
West	1 if subject lives in West Census Region else=0	0.237	0.231	0.232
		(0.009)	(0.009)	(0.009)
Urban	1 if lives in metro area else=0	0.847	0.842	0.836
		(0.009)	(0.009)	(0.009)
Health Characteristics				
Very Good Helath	1 if self reports very good health else=0	0.333	0.330	0.312
		(0.003)	(0.003)	(0.003)
Good Health	1 if self reports good health else=0	0.237	0.263	0.244
		(0.003)	(0.003)	(0.003)
Fair Health	1 if self reports fair health else=0	0.074	0.088	0.083
		(0.002)	(0.002)	(0.001)
Poor Health	1 if self reports poor health else=0	0.027	0.030	0.029
		(0.001)	(0.001)	(0.001)
Limit	1 if IADL screener or ADL screener else=0	0.038	0.037	0.053
		(0.001)	(0.001)	(0.001)
Coglim	1 if has cognitive limitation else=0	0.045	0.047	0.051
		(0.001)	(0.001)	(0.001)
MCS	Mental component summary	51.219	50.683	50.865
		(0.073)	(0.066)	(0.063)

Table 2B. (Continued)

Variable Name	Variable Description	Remaining Non-elderly Adults Population N=76,335	Total Non-Elderly Adults Population N=98,085	Total Population N=167,688
Conditions	1 if diagnosed with more than one of the four target conditions else=0	0.027 (0.001)	0.061 (0.001)	0.064 (0.001)
Lipo_con	1 if had been diagnosed with hyperlipidemia else=0	0.062 (0.002)	0.098 (0.002)	0.105 (0.002)
Hyper_con	1 if had been diagnosed with hypertension else=0	0.039 (0.002)	0.145 (0.002)	0.159 (0.002)
Dia_con	1 if had been diagnosed with diabetes else=0	0.021 (0.001)	0.054 (0.001)	0.058 (0.001)
As_con	1 if had been diagnosed with asthma else=0	0.014 (0.001)	0.043 (0.001)	0.052 (0.001)
De_con	1 if had been diagnosed with depression else=0	0.032 (0.001)	0.092 (0.002)	0.073 (0.001)
Chddx	1 if had been diagnosed with coronary heart disease else=0	0.011 (0.001)	0.016 (0.001)	0.026 (0.001)
Midx	1 if had been diagnosed with heart attack else=0	0.011 (0.001)	0.015 (0.001)	0.023 (0.001)
Angidx	1 if had been diagnosed with angina else=0	0.008 (0)	0.011 (0)	0.016 (0.001)
Ohrtdx	1 if had been diagnosed with other heart disease else=0	0.035 (0.001)	0.044 (0.001)	0.048 (0.001)
Strkdx	1 if had been diagnosed with stroke else=0	0.010 (0.001)	0.012 (0.001)	0.019 (0.001)
Dskidn	1 if diabetes caused kidney problems else=0	0.003 (0.000)	0.005 (0.000)	0.006 (0.000)
Dseypr	1 if diabetes caused eye problems else=0	0.006 (0.000)	0.010 (0.000)	0.011 (0.000)
Emphdx	1 if had been diagnosed with emphysema else=0	0.006 (0.000)	0.008 (0.000)	0.011 (0.000)
Aspkfl	1 if keeps peak flow meter at home else=0	0.006 (0.000)	0.016 (0.001)	0.017 (0.001)
Risk Reference				
Adrisk	More likely to take risk*	0.297 (0.003)	0.287 (0.002)	0.205 (0.002)
Adsmok	1 if subject currently smokes else=0	0.212 (0.004)	0.210 (0.003)	0.142 (0.002)

Table 2B. (Continued)

Variable Name	Variable Description	Remaining Non-elderly Population N=76,335	Total Non-Elderly Population N=98,085	Total Population N=167,688
Others				
HMOrate	Mean of the yearly HMO enrollment rate grouped by strata and psu	0.223 (0.005)	0.222 (0.005)	0.220 (0.005)

Table 3A. Weighted Percentage and Total Number of the Non-elderly Adults Diagnosed with Hypertension and Comorbid Conditions.

Population size (number in millions)	2003	2004	2005	2006	2007
population diagnosed with hypertension					
percent	12.875	13.785	14.604	14.681	16.390
	(0.332)	(0.360)	(0.335)	(0.361)	(0.387)
number in millions	23.293	25.276	27.039	27.480	30.930
	(0.332)	(0.360)	(0.335)	(0.361)	(0.387)
Among persons diagnosed with hypertension, percent diagnosed with					
Hyperlipidemia	28.157	31.370	34.153	35.066	41.075
	(1.135)	(1.079)	(1.147)	(1.100)	(1.046)
Diabetes	18.981	20.196	20.462	22.057	22.598
	(0.938)	(0.863)	(0.904)	(0.957)	(0.835)
Depression	12.631	13.843	15.107	15.619	14.963
	(0.765)	(0.759)	(0.757)	(0.789)	(0.787)
Asthma	6.693	6.469	6.017	7.065	7.986
	(0.628)	(0.546)	(0.542)	(0.558)	(0.644)

Table 3B. Weighted Percentage and Total Number of the Non-elderly Adults Diagnosed with Diabetes and Comorbid Conditions.

Population size (number in millions)	2003	2004	2005	2006	2007
population reporting diabetes					
percent	4.707	5.174	5.414	5.800	6.176
	(0.207)	(0.208)	(0.204)	(0.214)	(0.219)
number in millions	8.515	9.487	10.022	10.856	11.654
	(0.207)	(0.208)	(0.204)	(0.214)	(0.219)
Among persons diagnosed with hypertension, percent diagnosed with					
Hyperlipidemia	35.836	37.233	42.470	43.556	49.335
	(1.737)	(2.058)	(1.777)	(1.763)	(1.733)
Hypertension	51.922	53.809	55.201	55.832	59.954
	(1.841)	(1.902)	(1.818)	(1.938)	(1.695)
Depression	16.737	16.320	19.818	19.971	18.702
	(1.475)	(1.402)	(1.319)	(1.442)	(1.238)
Asthma	7.491	6.751	7.983	7.886	8.495
	(0.894)	(0.846)	(0.923)	(0.910)	(0.958)

Table 4. Distribution of Population by Health Insurance Status (2003-2007)

Insurance Status	Hyper-tension	Diabetes	Depre-ssion	Asthma	Remaining Non-elderly Adult	Total Non-Elderly Adult	Total Population
HMODC	0.304	0.309	0.279	0.293	0.234	0.249	0.220
	(0.010)	(0.013)	(0.011)	(0.009)	(0.006)	(0.006)	(0.005)
HIWDC	0.511	0.472	0.483	0.494	0.388	0.414	0.380
	(0.010)	(0.014)	(0.011)	(0.011)	(0.006)	(0.006)	(0.006)
HINDC	0.043	0.036	0.041	0.044	0.048	0.047	0.059
	(0.003)	(0.004)	(0.004)	(0.004)	(0.002)	(0.001)	(0.001)
Uninsured	0.141	0.183	0.197	0.170	0.330	0.290	0.342
	(0.005)	(0.008)	(0.008)	(0.007)	(0.005)	(0.004)	(0.005)
N	10,595	4,191	5,924	6,533	76,335	98,085	167,688

Notes: HIWDC, any private health insurance with drug coverage; HINDC, private health insurance and no drug coverage; HMODC, HMO and drug coverage.
Standard errors in parentheses.

Table 5A. Weighted Means of Possible Explanatory Variables Grouped by Health Insurance Status for Non-elderly Adult Population with Hypertension (2003-2007)

Variable Name	Uninsured	HINDC	HIWDC	HMOWD
	N=2,167	N=473	N=4,840	N=3,115
Sociodemographic				
Age	50.891	52.411*	51.626*	50.885
	(0.275)	(0.487)	(0.202)	(0.265)#
Female	0.504	0.543	0.481	0.496
	(0.014)	(0.021)	(0.010)	(0.011)
Black	0.200	0.151*	0.123*	0.182
	(0.014)	(0.009)	(0.008)	(0.013)#
Hispanic	0.194	0.089*	0.056*	0.090*
	(0.013)	(0.008)	(0.005)	(0.007)#
Mid Income	0.310	0.353	0.322	0.318
	(0.013)	(0.015)	(0.009)	(0.012)
Low Income	0.213	0.098*	0.066*	0.070*
	(0.010)	(0.009)	(0.004)	(0.005)
Near Poor	0.067	0.022*	0.014*	0.016*
	(0.006)	(0.006)	(0.002)	(0.002)
Poor	0.189	0.063*	0.028*	0.020*
	(0.010)	(0.006)	(0.003)	(0.003)#
Married	0.546	0.613*	0.741*	0.704*
	(0.015)	(0.020)	(0.010)	(0.012)#
Divorced	0.210	0.208	0.132*	0.135*
	(0.013)	(0.018)	(0.007)	(0.011)
Household	2.670	2.593	2.565*	2.705
	(0.048)	(0.048)	(0.026)	(0.033)#
Education				
High School	0.451	0.449	0.481	0.480
	(0.014)	(0.020)	(0.011)	(0.013)
BA	0.097	0.215*	0.196*	0.184*
	(0.009)	(0.019)	(0.008)	(0.010)
MA	0.027	0.071*	0.091*	0.098*
	(0.005)	(0.009)	(0.007)	(0.009)
Employment				
Employed	0.598	0.741*	0.799*	0.843*
	(0.014)	(0.017)	(0.009)	(0.009)#
Unemployed	0.299	0.200*	0.150*	0.113*
	(0.012)	(0.015)	(0.007)	(0.007)#
Selfemployed	0.194	0.183	0.101*	0.081*
	(0.012)	(0.013)	(0.007)	(0.006)#

Table 5A (Continued)

Variable Name	Uninsured N=2,167	HINDC N=473	HIWDC N=4,840	HMOWD N=3,115
Union	0.044	0.108*	0.139*	0.179*
	(0.006)	(0.013)	(0.010)	(0.010)#
Payvac	0.236	0.447*	0.632*	0.687*
	(0.012)	(0.026)	(0.011)	(0.012)#
Sicpay	0.168	0.404*	0.574*	0.636*
	(0.012)	(0.025)	(0.011)	(0.013)#
Regions				
Midwest	0.200	0.238	0.259*	0.196
	(0.018)	(0.011)	(0.012)	(0.019)#
South	0.489	0.380*	0.420*	0.326*
	(0.019)	(0.018)	(0.017)	(0.018)#
West	0.207	0.191	0.143*	0.239*
	(0.014)	(0.014)	(0.010)	(0.016)#
Urban	0.749	0.800*	0.778*	0.893*
	(0.022)	(0.018)	(0.015)	(0.011)#
Health Characteristics				
Very Good Helath	0.203	0.309*	0.322*	0.331*
	(0.010)	(0.015)	(0.009)	(0.010)
Good Health	0.365	0.355	0.369	0.383
	(0.013)	(0.017)	(0.008)	(0.010)
Fair Health	0.253	0.152*	0.134*	0.133*
	(0.011)	(0.013)	(0.006)	(0.007)
Poor Health	0.085	0.046*	0.036*	0.028*
	(0.006)	(0.012)	(0.003)	(0.003)#
Limit	0.061	0.050	0.034*	0.032*
	(0.006)	(0.010)	(0.003)	(0.004)
Coglim	0.097	0.070	0.041*	0.028*
	(0.009)	(0.013)	(0.004)	(0.003)#
MCS	47.484	50.465*	51.651*	51.539*
	(0.372)	(0.379)	(0.170)	(0.221)
Conditions	0.356	0.311	0.288*	0.292*
	(0.016)	(0.021)	(0.010)	(0.012)
Lipo_con	0.230	0.3170*	0.371*	0.325*
	(0.012)	(0.017)	(0.011)	(0.012)#
Dia_con	0.208	0.152*	0.164*	0.180*
	(0.012)	(0.012)	(0.008)	(0.009)
As_con	0.054	0.070	0.054	0.059
	(0.007)	(0.007)	(0.005)	(0.006)

Table 5A (Continued)

Variable Name	Uninsured N=2,167	HINDC N=473	HIWDC N=4,840	HMOWD N=3,115
De_con	0.159	0.147	0.113*	0.091*
	(0.010)	(0.022)	(0.005)	(0.007)#
Chddx	0.050	0.060	0.050	0.045
	(0.006)	(0.005)	(0.004)	(0.005)
Midx	0.050	0.044	0.048	0.041
	(0.007)	(0.004)	(0.004)	(0.004)
Angidx	0.041	0.040	0.030	0.028*
	(0.006)	(0.005)	(0.003)	(0.004)
Ohrtdx	0.080	0.078	0.088	0.081
	(0.007)	(0.012)	(0.005)	(0.005)
Strkdx	0.030	0.036	0.030	0.019*
	(0.004)	(0.007)	(0.003)	(0.003)#
Dskidn	0.018	0.019	0.012	0.014
	(0.003)	(0.004)	(0.002)	(0.002)
Dseypr	0.040	0.040	0.026*	0.024*
	(0.005)	(0.005)	(0.003)	(0.003)
Emphdx	0.023	0.009*	0.014*	0.007*
	(0.004)	(0.000)	(0.003)	(0.002)#
Aspkfl	0.017	0.029	0.022	0.021
	(0.003)	(0.005)	(0.003)	(0.003)
Risk Reference				
Adrisk	0.215	0.195	0.151*	0.154*
	(0.012)	(0.014)	(0.006)	(0.009)
Adsmok	0.268	0.162*	0.160*	0.156*
	(0.013)	(0.013)	(0.007)	(0.009)
Others				
HMOrate	0.184	0.206*	0.173*	0.299*
	(0.006)	(0.005)	(0.005)	(0.006)#

Note: *indicates that the estimate is significantly different from the reference group (Uninsured) at the 5 percent level. # indicates that the estimate is significantly different from the reference group (HIWDC) at the 5 percent level. Same rules and notation apply to Table 5A-D.

Table 5B. Weighted Means of Possible Explanatory Variables Grouped by Health Insurance Status for Non-elderly Adult Population with Diabetes (2003-2007)

Variable Name	Uninsured N=1,124	HINDC N=168	HIWDC N=1,693	HMOWD N=1,206
Sociodemographic				
Age	48.900	51.327*	51.388*	50.729*
	(0.419)	(0.343)	(0.354)	(0.378)
Female	0.501	0.485	0.478	0.504
	(0.018)	(0.028)	(0.017)	(0.019)
Black	0.147	0.233*	0.115*	0.145
	(0.012)	(0.015)	(0.011)	(0.016)#
Hispanic	0.306	0.117*	0.087*	0.152*
	(0.019)	(0.011)	(0.010)	(0.012)#
Mid Income	0.287	0.393*	0.368*	0.339*
	(0.016)	(0.022)	(0.015)	(0.017)
Low Income	0.229	0.101*	0.085*	0.094*
	(0.014)	(0.008)	(0.007)	(0.009)
Near Poor	0.091	0.037*	0.018*	0.025*
	(0.008)	(0.002)	(0.004)	(0.005)
Poor	0.206	0.059*	0.035*	0.026*
	(0.014)	(0.004)	(0.005)	(0.005)
Married	0.589	0.633	0.725*	0.724*
	(0.019)	(0.033)	(0.014)	(0.018)
Divorced	0.175	0.118	0.144	0.139
	(0.013)	(0.006)	(0.012)	(0.014)
Household	2.948	2.852	2.626*	2.853
	(0.056)	(0.059)	(0.043)	(0.069)#
Education				
High School	0.434	0.515	0.510*	0.488*
	(0.019)	(0.028)	(0.015)	(0.017)
BA	0.072	0.182*	0.156*	0.150*
	(0.012)	(0.020)	(0.012)	(0.014)
MA	0.034	0.018	0.054*	0.058*
	(0.004)	(0.001)	(0.008)	(0.010)
Employment				
Employed	0.565	0.715*	0.758*	0.792*
	(0.017)	(0.024)	(0.014)	(0.014)
Unemployed	0.322	0.254	0.187*	0.142*
	(0.015)	(0.025)	(0.012)	(0.012)#
Selfemployed	0.163	0.154	0.089*	0.077*
	(0.013)	(0.038)	(0.008)	(0.009)

Table 5B. (Continued)

Variable Name	Uninsured N=1,124	HINDC N=168	HIWDC N=1,693	HMOWD N=1,206
Union	0.037	0.121*	0.131*	0.172*
	(0.010)	(0.013)	(0.012)	(0.014)#
Payvac	0.223	0.456*	0.600*	0.661*
	(0.019)	(0.023)	(0.017)	(0.018)#
Sicpay	0.149	0.430*	0.543*	0.590*
	(0.016)	(0.022)	(0.019)	(0.019)#
Regions				
Midwest	0.198	0.168	0.239*	0.185
	(0.011)	(0.008)	(0.015)	(0.015)#
South	0.467	0.424	0.418*	0.303*
	(0.017)	(0.023)	(0.019)	(0.020)#
West	0.226	0.236	0.176*	0.281*
	(0.014)	(0.012)	(0.013)	(0.022)#
Urban	0.712	0.775	0.762*	0.907*
	(0.026)	(0.026)	(0.017)	(0.011)#
Health Characteristics				
Very Good Helath	0.146	0.220	0.231*	0.228*
	(0.011)	(0.011)	(0.012)	(0.016)
Good Health	0.374	0.368	0.414	0.439*
	(0.015)	(0.017)	(0.014)	(0.017)
Fair Health	0.305	0.249	0.226*	0.202*
	(0.015)	(0.020)	(0.012)	(0.013)
Poor Health	0.134	0.088	0.069*	0.059*
	(0.010)	(0.008)	(0.007)	(0.007)
Limit	0.073	0.090	0.053	0.047*
	(0.008)	(0.004)	(0.007)	(0.007)
Coglim	0.098	0.133	0.061*	0.052*
	(0.008)	(0.009)	(0.007)	(0.006)
MCS	47.157	49.587*	51.115*	50.596*
	(0.455)	(0.350)	(0.276)	(0.289)
Conditions	0.509	0.550	0.559*	0.573*
	(0.019)	(0.029)	(0.015)	(0.017)
Lipo_con	0.266	0.410*	0.437*	0.393*
	(0.017)	(0.034)	(0.015)	(0.022)#
Hyper_con	0.457	0.522	0.513	0.517
	(0.019)	(0.032)	(0.016)	(0.016)
As_con	0.049	0.104	0.043	0.048
	(0.008)	(0.014)	(0.006)	(0.006)

Table 5B. (Continued)

Variable Name	Uninsured N=1,124	HINDC N=168	HIWDC N=1,693	HMOWD N=1,206
De_con	0.139	0.125	0.129	0.129
	(0.013)	(0.008)	(0.009)	(0.013)
Chddx	0.057	0.069	0.073	0.077
	(0.009)	(0.003)	(0.007)	(0.009)
Midx	0.047	0.061	0.058	0.071*
	(0.006)	(0.003)	(0.008)	(0.008)
Angidx	0.038	0.084	0.036	0.043
	(0.006)	(0.005)	(0.005)	(0.007)
Ohrtdx	0.069	0.096	0.085	0.097
	(0.011)	(0.008)	(0.007)	(0.009)
Strkdx	0.030	0.050	0.038	0.044
	(0.006)	(0.002)	(0.006)	(0.006)
Dskidn	0.072	0.094	0.057	0.061
	(0.008)	(0.007)	(0.006)	(0.007)
Dseypr	0.168	0.195	0.128*	0.114*
	(0.014)	(0.013)	(0.008)	(0.009)
Emphdx	0.023	0.052	0.016	0.006*
	(0.006)	(0.010)	(0.005)	(0.003)#
Aspkfl	0.015	0.052	0.021	0.021
	(0.005)	(0.014)	(0.004)	(0.006)
Risk Reference				
Adrisk	0.211	0.158	0.141*	0.168*
	(0.013)	(0.010)	(0.010)	(0.011)
Adsmok	0.244	0.112*	0.167*	0.163*
	(0.019)	(0.010)	(0.014)	(0.014)
Others				
HMOrate	0.185	0.194	0.173	0.290*
	(0.006)	(0.008)	(0.005)	(0.007)#

Table 5C. Weighted Means of Possible Explanatory Variables Grouped by Health Insurance Status for Non-elderly Adult Population with Depression (2003-2007)

Variable Name	Uninsured N=1,550	HINDC N=237	HIWDC N=2,577	HMOWD N=1,560
Sociodemographic				
Age	41.164	43.602*	43.670*	42.939*
	(0.451)	(0.624)	(0.377)	(0.329)
Female	0.567	0.601	0.680*	0.687*
	(0.017)	(0.027)	(0.014)	(0.013)
Black	0.083	0.073	0.035*	0.069
	(0.009)	(0.004)	(0.004)	(0.007)#
Hispanic	0.183	0.111*	0.052*	0.091*
	(0.012)	(0.017)	(0.005)	(0.009)#
Mid Income	0.292	0.377*	0.348*	0.363*
	(0.014)	(0.027)	(0.013)	(0.015)
Low Income	0.190	0.115*	0.087*	0.086*
	(0.011)	(0.014)	(0.006)	(0.008)
Near Poor	0.083	0.026*	0.019*	0.017*
	(0.008)	(0.002)	(0.003)	(0.003)
Poor	0.278	0.073*	0.039*	0.032*
	(0.015)	(0.010)	(0.004)	(0.005)
Married	0.360	0.438*	0.577*	0.584*
	(0.018)	(0.026)	(0.015)	(0.019)
Divorced	0.250	0.156*	0.189*	0.157*
	(0.014)	(0.016)	(0.011)	(0.014)#
Household	2.602	2.396*	2.559	2.740*
	(0.055)	(0.067)	(0.037)	(0.052)#
Education				
High School	0.449	0.479	0.463	0.419
	(0.016)	(0.030)	(0.017)	(0.017)#
BA	0.113	0.193*	0.206*	0.203*
	(0.013)	(0.022)	(0.012)	(0.014)
MA	0.019	0.083*	0.096*	0.101*
	(0.004)	(0.012)	(0.009)	(0.011)
Employment				
Employed	0.550	0.662*	0.773*	0.802*
	(0.015)	(0.021)	(0.011)	(0.011)#
Unemployed	0.283	0.211*	0.141*	0.115*
	(0.014)	(0.018)	(0.010)	(0.010)#
Selfemployed	0.171	0.201	0.086*	0.088*
	(0.014)	(0.016)	(0.007)	(0.009)

Table 5C (Continued)

Variable Name	Uninsured N=1,550	HINDC N=237	HIWDC N=2,577	HMOWD N=1,560
Union	0.030	0.082*	0.112*	0.120*
	(0.006)	(0.023)	(0.009)	(0.010)
Payvac	0.180	0.345*	0.605*	0.612*
	(0.013)	(0.024)	(0.012)	(0.016)
Sicpay	0.151	0.298*	0.542*	0.578*
	(0.012)	(0.026)	(0.012)	(0.016)#
Regions				
Midwest	0.218	0.247	0.306*	0.227
	(0.017)	(0.029)	(0.016)	(0.020)#
South	0.425	0.341*	0.348*	0.240*
	(0.022)	(0.022)	(0.018)	(0.016)#
West	0.250	0.238	0.216*	0.290*
	(0.020)	(0.014)	(0.014)	(0.019)#
Urban	0.798	0.800	0.820	0.898*
	(0.021)	(0.031)	(0.015)	(0.010)#
Health Characteristics				
Very Good Helath	0.206	0.304*	0.337*	0.348*
	(0.013)	(0.021)	(0.012)	(0.013)
Good Health	0.344	0.289	0.329	0.302*
	(0.013)	(0.023)	(0.010)	(0.012)
Fair Health	0.204	0.166	0.126*	0.139*
	(0.013)	(0.018)	(0.007)	(0.009)
Poor Health	0.102	0.085	0.050*	0.045*
	(0.009)	(0.021)	(0.005)	(0.006)
Limit	0.088	0.117	0.050*	0.053*
	(0.009)	(0.014)	(0.005)	(0.006)
Coglim	0.177	0.152	0.102*	0.093*
	(0.011)	(0.023)	(0.007)	(0.009)
MCS	40.037	41.270	43.021*	42.813*
	(0.354)	(0.651)	(0.262)	(0.329)
Conditions	0.254	0.283	0.288*	0.277
	(0.014)	(0.026)	(0.011)	(0.015)
Lipo_con	0.095	0.205*	0.173*	0.155*
	(0.010)	(0.022)	(0.009)	(0.013)
Hyper_con	0.196	0.262	0.206	0.170
	(0.014)	(0.025)	(0.009)	(0.011)
Dia_con	0.076	0.067	0.073	0.086
	(0.009)	(0.010)	(0.006)	(0.009)

Table 5C (Continued)

Variable Name	Uninsured N=1,550	HINDC N=237	HIWDC N=2,577	HMOWD N=1,560
As_con	0.054	0.029*	0.081*	0.073
	(0.007)	(0.006)	(0.008)	(0.009)
Chddx	0.019	0.033	0.019	0.018
	(0.005)	(0.002)	(0.003)	(0.004)
Midx	0.023	0.014	0.020	0.014
	(0.004)	(0.004)	(0.003)	(0.004)
Angidx	0.023	0.023	0.015	0.015
	(0.004)	(0.006)	(0.002)	(0.003)
Ohrtdx	0.051	0.055	0.081*	0.068
	(0.007)	(0.012)	(0.007)	(0.008)
Strkdx	0.018	0.030	0.016	0.011
	(0.003)	(0.006)	(0.003)	(0.003)
Dskidn	0.013	0.013	0.007	0.013
	(0.004)	(0.006)	(0.002)	(0.003)
Dseypr	0.019	0.015	0.016	0.013
	(0.005)	(0.006)	(0.003)	(0.003)
Emphdx	0.024	0.008*	0.008*	0.007*
	(0.005)	(0.000)	(0.002)	(0.002)
Aspkfl	0.010	0.013	0.031*	0.029*
	(0.002)	(0.003)	(0.004)	(0.006)
Risk Reference				
Adrisk	0.266	0.214	0.168*	0.164*
	(0.016)	(0.022)	(0.009)	(0.012)
Adsmok	0.415	0.262*	0.232*	0.222*
	(0.020)	(0.026)	(0.011)	(0.015)
Others				
HMOrate	0.187	0.201	0.183	0.310*
	(0.005)	(0.005)	(0.005)	(0.007)#

Table 5D. Weighted Means of Possible Explanatory Variables Grouped by Health Insurance Status for Non-elderly Adult Population with Asthma (2003-2007)

Variable Name	Uninsured	HINDC	HIWDC	HMOWD
	N=1,475	N=276	N=2,911	N=1,871
Sociodemographic				
Age	36.175	41.803*	40.070*	39.921*
	(0.565)	(0.494)	(0.383)	(0.392)
Female	0.500	0.539	0.599*	0.609*
	(0.017)	(0.025)	(0.012)	(0.014)
Black	0.155	0.135	0.077*	0.122*
	(0.012)	(0.024)	(0.007)	(0.010)#
Hispanic	0.159	0.099*	0.061*	0.110*
	(0.013)	(0.010)	(0.007)	(0.011)#
Mid Income	0.291	0.288	0.323	0.371*
	(0.013)	(0.032)	(0.010)	(0.015)#
Low Income	0.175	0.137	0.069*	0.090*
	(0.013)	(0.013)	(0.005)	(0.007)#
Near Poor	0.086	0.019*	0.015*	0.014*
	(0.009)	(0.005)	(0.003)	(0.003)
Poor	0.277	0.089*	0.031*	0.029*
	(0.015)	(0.011)	(0.003)	(0.004)
Married	0.330	0.488*	0.559*	0.547*
	(0.018)	(0.030)	(0.013)	(0.016)
Divorced	0.183	0.146	0.122*	0.134*
	(0.016)	(0.015)	(0.008)	(0.010)
Household	2.673	2.757	2.714	2.781
	(0.063)	(0.089)	(0.040)	(0.054)
Education				
High School	0.489	0.454	0.420*	0.455
	(0.016)	(0.028)	(0.013)	(0.019)#
BA	0.096	0.189*	0.254*	0.223*
	(0.012)	(0.013)	(0.013)	(0.015)#
MA	0.020	0.071*	0.090*	0.080*
	(0.005)	(0.017)	(0.008)	(0.009)
Employment				
Employed	0.614	0.769*	0.804*	0.825*
	(0.016)	(0.026)	(0.009)	(0.011)
Unemployed	0.216	0.145*	0.114*	0.090*
	(0.013)	(0.021)	(0.008)	(0.008)#
Selfemployed	0.128	0.176	0.077*	0.090*
	(0.012)	(0.021)	(0.007)	(0.008)

Table 5D (Continued)

Variable Name	Uninsured N=1,475	HINDC N=276	HIWDC N=2,911	HMOWD N=1,871
Union	0.028	0.112*	0.120*	0.135*
	(0.004)	(0.027)	(0.008)	(0.010)
Payvac	0.246	0.429*	0.608*	0.656*
	(0.013)	(0.035)	(0.011)	(0.014)#
Sicpay	0.171	0.349*	0.584*	0.606*
	(0.013)	(0.033)	(0.013)	(0.015)
Regions				
Midwest	0.202	0.229	0.275*	0.194
	(0.013)	(0.014)	(0.016)	(0.017)#
South	0.431	0.302*	0.350*	0.257*
	(0.021)	(0.023)	(0.017)	(0.014)#
West	0.229	0.245	0.186*	0.304*
	(0.014)	(0.018)	(0.012)	(0.021)#
Urban	0.805	0.825	0.839*	0.907*
	(0.015)	(0.021)	(0.016)	(0.009)#
Health Characteristics				
Very Good Helath	0.274	0.371*	0.339*	0.348*
	(0.014)	(0.025)	(0.010)	(0.014)
Good Health	0.314	0.365	0.304	0.301
	(0.016)	(0.025)	(0.010)	(0.014)
Fair Health	0.178	0.089*	0.096*	0.123*
	(0.012)	(0.015)	(0.006)	(0.009)#
Poor Health	0.068	0.016*	0.036*	0.021*
	(0.008)	(0.003)	(0.004)	(0.003)#
Limit	0.049	0.020*	0.032*	0.022*
	(0.006)	(0.004)	(0.004)	(0.003)#
Coglim	0.081	0.054	0.045*	0.038*
	(0.008)	(0.020)	(0.005)	(0.007)
MCS	47.774	50.385*	49.867*	50.241*
	(0.351)	(0.374)	(0.262)	(0.281)
Conditions	0.136	0.137	0.169*	0.187*
	(0.010)	(0.012)	(0.010)	(0.013)
Lipo_con	0.055	0.108*	0.113*	0.111*
	(0.007)	(0.010)	(0.010)	(0.013)
Hyper_con	0.129	0.192	0.166	0.168
	(0.009)	(0.016)	(0.010)	(0.012)
Dia_con	0.053	0.050	0.049	0.071
	(0.006)	(0.007)	(0.005)	(0.007)#

Table 5D (Continued)

Variable Name	Uninsured N=1,475	HINDC N=276	HIWDC N=2,911	HMOWD N=1,871
De_con	0.146	0.069*	0.139	0.130
	(0.012)	(0.011)	(0.009)	(0.011)
Chddx	0.012	0.029	0.016	0.012
	(0.004)	(0.012)	(0.003)	(0.004)
Midx	0.018	0.026	0.014	0.009
	(0.007)	(0.012)	(0.003)	(0.002)
Angidx	0.009	0.039	0.012	0.013
	(0.003)	(0.013)	(0.002)	(0.003)
Ohrtdx	0.057	0.086	0.088*	0.070
	(0.007)	(0.013)	(0.007)	(0.007)#
Strkdx	0.011	0.018	0.020*	0.011
	(0.002)	(0.005)	(0.003)	(0.003)#
Dskidn	0.009	0.000*	0.004*	0.006
	(0.002)	(0.000)	(0.001)	(0.002)
Dseypr	0.013	0.011	0.009	0.006
	(0.004)	(0.000)	(0.001)	(0.002)
Emphdx	0.031	0.026	0.020*	0.016*
	(0.005)	(0.005)	(0.004)	(0.003)
Aspkfl	0.117	0.159	0.167*	0.163*
	(0.010)	(0.020)	(0.010)	(0.010)
Risk Reference				
Adrisk	0.288	0.261	0.209*	0.206*
	(0.014)	(0.029)	(0.011)	(0.012)
Adsmok	0.372	0.124*	0.152*	0.161*
	(0.016)	(0.014)	(0.009)	(0.012)
Others				
HMOrate	0.197	0.215	0.191	0.311*
	(0.006)	(0.012)	(0.006)	(0.007)#

Table 6. Summary Statistics of Non-elderly Adults' Annual OOP Expenditures for Prescription Drugs to Treat the Studied Chronic Conditions, Conditional on any Expenditure (2003-2007, $ in 2007).

	Hypertension	**Diabetes**	**Depression**	**Asthma**
Uninsured	351.234	545.298	384.013	145.594
	(11.771)	(28.407)	(19.133)	(13.127)
HINDC	377.079	566.197	464.813	110.786
	(12.701)	(47.739)	(34.076)	(11.353)
HIWDC	197.392*	249.251*	199.881*	65.870*
	(5.139)	(8.420)	(8.057)	(2.981)
HMODC	171.239*	223.156*	179.433*	66.575*
	(6.198)#	(14.347)	(10.691)#	(2.936)
N	8,545	2,727	3,220	1,371

Note: *indicates that the estimate is significantly different from the reference group (Uninsured) at the 1 percent level, two-tailed test. #indicates that the estimate is significantly different from the reference group (HIWDC) at the 1 percent level, two-tailed test. The same rules and notation apply to Table 6-9.

Table 7. Summary Statistics of Average OOP and Third Party Payment Per Prescription across Brand-Name and Generic Drugs, Conditional on any Expenditure on Brands/Generics (2003-2007, $ in 2007).

	Hypertension		Diabetes		Depression		Asthma	
Brand Name	Third Party	OOP	Third Party	OOP	Third Party	OOP	Third Party	OOP
Uninsured	-	59.134	-	88.908	-	79.515	-	63.544
		(1.739)		(3.767)		(3.248)		(3.312)
HINDC	-	55.804	-	71.965	-	93.146	-	57.980
		(1.113)		(2.497)		(2.233)		(8.663)
HIWDC	45.022	32.209*	100.832	33.099*	74.211	34.769*	59.146	27.677*
	(1.180)	(0.740)	(3.064)	(0.732)	(2.615)	(1.037)	(3.198)	(0.794)
HMODC	44.968	32.140*	90.833	32.450*	69.880	34.015*	50.644	31.500*
	(1.404)	(1.094)	(3.123)	(1.259)	(3.518)	(1.334)	(2.771)#	(1.556)#
N	3,758	4,711	1,285	1,708	1,953	2,452	341	416
	Hypertension		Diabetes		Depression		Asthma	
Generic	Third Party	OOP	Third Party	OOP	Third Party	OOP	Third Party	OOP
Uninsured	-	28.086	-	45.684	-	40.712	-	27.063
		(0.938)		(1.777)		(1.490)		(1.427)
HINDC	-	24.859	-	34.735	-	55.409	-	23.071
		(0.757)		(1.898)		(4.718)		(0.610)
HIWDC	21.241	11.533*	30.996	12.529*	45.796	15.400*	13.832	13.682*
	(0.618)	(0.259)	(1.066)	(0.460)	(1.698)	(0.760)	(0.822)	(0.496)
HMODC	24.642	11.720*	35.640	13.026*	44.524	16.870*	15.256	12.812*
	(0.960)	(0.294)#	(1.181)	(0.752)	(1.988)	(1.713)	(0.891)	(0.329)
N	4,391	5,716	1,287	1,738	973	1,229	874	1,112

Table 8. Utilization Rate of Prescription Drugs to Treat the Studied Chronic Conditions among Non-elderly Adults (2003-2007)

	Hypertension	**Diabetes**	**Depression**	**Asthma**
Uninsured	0.736	0.558	0.389	0.153
	(0.012)	(0.018)	(0.015)	(0.011)
HINDC	0.828*	0.622	0.570*	0.221*
	(0.019)	(0.045)	(0.035)	(0.026)
HIWDC	0.866*	0.750*	0.653*	0.223*
	(0.005)	(0.012)	(0.010)	(0.008)
HMODC	0.833*	0.703*	0.603*	0.245*
	(0.008)#	(0.015)#	(0.014)#	(0.011)
N	10,324	4,049	5,722	6,225

Table 9. Non-elderly Adults' Annual Utilization of Prescription Drugs to Treat the Studied Chronic Conditions, Conditional on any Use (2003-2007).

	Hypertension	**Diabetes**	**Depression**	**Asthma**
# of Fills				
Uninsured	9.038	8.932	5.949	4.041
	(0.182)	(0.325)	(0.224)	(0.225)
HINDC	10.091	12.464*	6.092	4.030
	(0.250)	(1.066)	(0.308)	(0.298)
HIWDC	9.741*	10.544*	7.175*	3.776
	(0.173)	(0.288)	(0.182)	(0.159)
HMODC	9.183	9.890	6.954*	4.062
	(0.217)#	(0.368)	(0.258)	(0.143)
N	8,603	2,832	3,309	1,391

Table 10. Regression Results from Insurance Choice Equation

	Hypertension			Diabetes			Depression			Asthma		
	HINDC	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**
Demongranphic												
age	0.0131	0.0014	-0.0016	0.0234**	0.0131*	0.0045	0.0024	-0.0118**	-0.0109*	0.0294***	0.0029	0.0034
	(0.0103)	(0.0055)	(0.0061)	(0.0116)	(0.0074)	(0.0089)	(0.0096)	(0.0059)	(0.0063)	(0.0097)	(0.0065)	(0.0069)
female	0.3046**	0.1089	0.1708	0.0287	0.1193	0.2707*	0.2397	0.5070***	0.5362***	0.2018	0.3518***	0.4042***
	(0.1446)	(0.0894)	(0.1053)	(0.2256)	(0.1400)	(0.1540)	(0.2177)	(0.1308)	(0.1362)	(0.1793)	(0.1241)	(0.1237)
black	-0.3311*	-0.5505***	-0.1112	0.3553	-0.5814***	-0.2681	0.0112	-0.7525***	-0.0181	-0.0046	-0.8232***	-0.2035
	(0.1796)	(0.1243)	(0.1396)	(0.3461)	(0.1884)	(0.1947)	(0.3582)	(0.2278)	(0.2196)	(0.2824)	(0.1823)	(0.1796)
hispanic	-0.7534***	-1.1608***	-0.7033***	-0.9705***	-1.2237***	-0.6670***	-0.2863	-1.2574***	-0.7757***	-0.4739*	-1.0751***	-0.4231**
	(0.2476)	(0.1327)	(0.1307)	(0.3399)	(0.1862)	(0.1857)	(0.3295)	(0.1593)	(0.1714)	(0.2636)	(0.1679)	(0.1839)
mid-income	-0.2621	-0.4341***	-0.4422***	-0.1985	-0.3359*	-0.4197**	-0.5838**	-0.7326***	-0.6077***	-0.6579***	-0.7177***	-0.4531***
	(0.1649)	(0.1141)	(0.1181)	(0.2879)	(0.1901)	(0.1870)	(0.2283)	(0.1537)	(0.1726)	(0.2469)	(0.1534)	(0.1570)
low-income	-0.9047***	-1.2726***	-1.2503***	-1.2159***	-1.2101***	-1.1187***	-1.1823***	-1.4251***	-1.3508***	-0.6789**	-1.5395***	-1.0978***
	(0.2394)	(0.1380)	(0.1493)	(0.3558)	(0.2099)	(0.2204)	(0.2744)	(0.1731)	(0.2005)	(0.2728)	(0.2055)	(0.2151)
near poor	-1.1955***	-1.4755***	-1.3516***	-0.9380***	-1.6705***	-1.3221***	-1.8168***	-1.7873***	-1.9908***	-1.8573***	-2.1196***	-2.1004***
	(0.3608)	(0.1999)	(0.2391)	(0.3535)	(0.3120)	(0.2992)	(0.4537)	(0.2598)	(0.3044)	(0.4646)	(0.2824)	(0.3194)
poor	-1.0023***	-1.6125***	-1.8216***	-1.5081**	-1.7511***	-1.8479***	-2.1093***	-2.2013***	-2.3151***	-1.3672***	-2.4612***	-2.3216***
	(0.2717)	(0.1555)	(0.1929)	(0.6167)	(0.2491)	(0.2753)	(0.3410)	(0.2194)	(0.2696)	(0.3074)	(0.2001)	(0.2264)
married	0.1551	0.7645***	0.4582**	-0.0632	0.2881	0.4434	-0.4832	0.7025***	0.0961	-0.6287	-0.0528	-0.1674
	(0.2979)	(0.2044)	(0.2278)	(0.4349)	(0.2803)	(0.3470)	(0.3890)	(0.2307)	(0.2791)	(0.4130)	(0.2534)	(0.2941)
divorced	0.1308	0.0525	-0.0320	-0.7051*	-0.1392	0.0703	-0.8381**	-0.0277	-0.2148	-0.5485*	-0.4739***	-0.3184
	(0.2376)	(0.1471)	(0.1667)	(0.3600)	(0.2254)	(0.2414)	(0.3270)	(0.1529)	(0.2064)	(0.3083)	(0.1690)	(0.2045)
household	0.0261	-0.0958***	-0.0538	0.1003	-0.0633	-0.0025	-0.1145	-0.1077**	-0.0239	0.1068	0.0396	0.0513
	(0.0616)	(0.0299)	(0.0340)	(0.0764)	(0.0442)	(0.0502)	(0.0787)	(0.0465)	(0.0520)	(0.0673)	(0.0397)	(0.0460)
Education												
high school	0.1750	0.2851***	0.3668***	0.4109	0.2950*	0.1852	0.4012*	0.2608*	0.0878	0.1129	0.1552	0.2398*
	(0.1779)	(0.0999)	(0.1127)	(0.2558)	(0.1511)	(0.1652)	(0.2369)	(0.1370)	(0.1317)	(0.2216)	(0.1196)	(0.1369)
BA	0.5765**	0.4115***	0.2738*	0.4722	0.2555	-0.0826	0.4372	0.2355	-0.0072	0.3351	0.6139***	0.4396**
	(0.2360)	(0.1491)	(0.1635)	(0.3800)	(0.2936)	(0.3025)	(0.3594)	(0.2036)	(0.2110)	(0.3111)	(0.2001)	(0.2075)
MA	0.6850*	0.8687***	0.8879***	-0.9951	-0.0571	-0.1505	1.0863**	0.9896***	0.8450**	0.4534	0.6977*	0.5173
	(0.4045)	(0.3164)	(0.3322)	(0.6570)	(0.3464)	(0.4006)	(0.4244)	(0.3741)	(0.3565)	(0.5092)	(0.4005)	(0.4045)

Table 10. (Continued)

	Hypertension			Diabetes			Depression			Asthma		
	HINDC	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**
Employment												
employed	0.1425	-0.0239	0.1992	0.6722	-0.0886	-0.0810	-0.2387	-0.0955	-0.0475	0.2954	-0.0113	-0.0674
	(0.2685)	(0.1646)	(0.1603)	(0.4188)	(0.1885)	(0.2178)	(0.2949)	(0.1467)	(0.1921)	(0.3064)	(0.1581)	(0.1805)
unemployed	0.2670	0.2996*	0.1966	0.9935**	0.2610	-0.0038	-0.0294	0.0629	-0.1908	0.2451	0.1226	-0.0194
	(0.2792)	(0.1689)	(0.1838)	(0.4568)	(0.2170)	(0.2768)	(0.3385)	(0.1913)	(0.2431)	(0.3197)	(0.2076)	(0.2126)
selemployed	0.2020	-0.1325	-0.2928*	0.2948	-0.0658	-0.1852	0.3720	-0.3346*	-0.2779	0.2355	-0.2412	0.0690
	(0.2314)	(0.1482)	(0.1671)	(0.3919)	(0.2240)	(0.2651)	(0.2697)	(0.1868)	(0.2044)	(0.3117)	(0.1854)	(0.2275)
union	0.3805	0.4201*	0.5462**	0.7206	0.5989	0.7469*	0.6433	0.6812**	0.4833	0.8224*	0.7421**	0.7247*
	(0.2879)	(0.2204)	(0.2257)	(0.5023)	(0.3918)	(0.3915)	(0.4859)	(0.2805)	(0.3024)	(0.4698)	(0.3711)	(0.3808)
sicpay	0.6577***	0.9561***	0.9727***	1.1138***	1.1482***	0.9792***	-0.0594	0.3413*	0.6271***	0.2034	1.0555***	1.0331***
	(0.2194)	(0.1408)	(0.1529)	(0.4300)	(0.2217)	(0.2244)	(0.3471)	(0.1894)	(0.2286)	(0.3125)	(0.2082)	(0.2037)
payvac	0.5457**	1.0130***	1.0366***	0.3195	0.8260***	1.1164***	0.9147***	1.4871***	1.2726***	0.5481*	0.6489***	0.8663***
	(0.2441)	(0.1422)	(0.1643)	(0.4229)	(0.2305)	(0.2758)	(0.3349)	(0.1753)	(0.2182)	(0.3220)	(0.1903)	(0.2159)
Region												
midwest	-0.2982	-0.3039	-0.4218**	-0.5491	-0.4140	-0.5627**	-0.2696	0.1668	-0.3074	-0.1298	0.1291	-0.0642
	(0.2755)	(0.1881)	(0.1747)	(0.4206)	(0.2620)	(0.2749)	(0.3243)	(0.2011)	(0.2103)	(0.4258)	(0.2234)	(0.2104)
south	-0.5488**	-0.5193***	-0.4869***	-0.2647	-0.3208	-0.3987*	-0.5475*	-0.3444*	-0.7142***	-0.5864	-0.3534*	-0.4023**
	(0.2526)	(0.1756)	(0.1729)	(0.4037)	(0.2510)	(0.2293)	(0.3202)	(0.1905)	(0.2098)	(0.3902)	(0.2119)	(0.1900)
west	-0.5073*	-0.7140***	-0.3840**	0.0973	-0.2966	-0.2514	-0.4416	-0.2191	-0.3468*	-0.3967	-0.4851**	-0.1913
	(0.2905)	(0.1828)	(0.1924)	(0.4269)	(0.2534)	(0.2587)	(0.3484)	(0.2005)	(0.1973)	(0.4281)	(0.2411)	(0.2188)
urban	0.1419	0.2573*	0.4037***	0.3512	0.5127***	1.0605***	-0.0625	0.2704	0.2931*	0.0564	0.2298	0.3407*
	(0.2154)	(0.1371)	(0.1439)	(0.3318)	(0.1833)	(0.2161)	(0.2815)	(0.1678)	(0.1768)	(0.3017)	(0.1694)	(0.1869)
HMO rate	0.3154	-1.7261***	3.9042***	-0.8271	-2.7187***	2.8978***	-0.4160	-1.0903**	3.9204***	-0.6699	-1.5024**	3.7597***
	(0.6877)	(0.6523)	(0.6140)	(1.2006)	(0.7494)	(0.7378)	(0.9847)	(0.5407)	(0.7374)	(0.9212)	(0.5896)	(0.5637)
HMO rate * married	0.4800	0.7841	1.4572**	-0.5024	1.5443	1.3400	1.4159	0.5306	2.6128***	2.3581*	1.4285	2.2709***
	(0.9678)	(0.8373)	(0.7188)	(1.6027)	(1.0733)	(1.0750)	(1.4787)	(0.8043)	(0.9991)	(1.3738)	(0.9088)	(0.8454)
Health Characteristics												
very good health	0.0631	0.1030	0.2309	-0.3309	-0.1751	-0.2624	0.3487	0.4383**	0.4183**	0.3342	-0.1650	-0.0464
	(0.2403)	(0.1526)	(0.1642)	(0.5979)	(0.2642)	(0.2890)	(0.2761)	(0.1745)	(0.1963)	(0.2260)	(0.1436)	(0.1564)

Table 10. (Continued)

	Hypertension			Diabetes			Depression			Asthma		
	HINDC	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**
good health	-0.1879 (0.2385)	-0.1070 (0.1425)	0.0528 (0.1518)	-0.7747 (0.5443)	-0.3698 (0.2656)	-0.4997* (0.2854)	-0.1312 (0.2954)	0.0192 (0.1533)	-0.1451 (0.1869)	0.2380 (0.2614)	-0.2829* (0.1635)	-0.2507 (0.1735)
fair health	-0.4830* (0.2763)	-0.3985** (0.1606)	-0.3175* (0.1723)	-0.7134 (0.5818)	-0.4477* (0.2647)	-0.7943*** (0.2951)	0.1448 (0.3082)	0.0124 (0.2001)	0.0527 (0.2413)	-0.5509 (0.3780)	-0.7103*** (0.1797)	-0.4033** (0.1832)
poor health	-0.6457 (0.4101)	-0.4840** (0.1947)	-0.4620** (0.2180)	-1.1207* (0.6527)	-0.5972** (0.3037)	-0.9763*** (0.3419)	0.0935 (0.4131)	-0.0555 (0.2526)	-0.0716 (0.3066)	-1.2410** (0.5123)	-0.5543** (0.2626)	-0.7920*** (0.3009)
limit	0.3656 (0.3178)	0.2430 (0.1854)	0.4809** (0.2072)	0.3228 (0.4008)	0.0994 (0.2518)	0.3221 (0.2712)	0.6512* (0.3452)	-0.0059 (0.1825)	0.2333 (0.2669)	-0.4747 (0.5005)	0.1808 (0.2477)	-0.0686 (0.2686)
coglim	0.1149 (0.2777)	-0.3131 (0.1931)	-0.6419*** (0.2263)	0.6535 (0.4472)	-0.1314 (0.2114)	-0.2672 (0.2764)	-0.0093 (0.3089)	0.0999 (0.1575)	-0.0316 (0.1813)	0.5441 (0.5172)	0.1441 (0.2114)	0.0535 (0.2723)
chddx	0.4455 (0.3953)	0.10551 (0.2534)	0.2611 (0.2839)	-0.4201 (0.4952)	0.0167 (0.3110)	0.0360 (0.3310)						
midx	-0.0794 (0.3967)	0.2638 (0.2368)	0.3085 (0.2459)	0.1127 (0.6573)	0.4955 (0.3822)	0.9628*** (0.3446)						
angidx	-0.0557 (0.4345)	-0.3341 (0.2289)	-0.2114 (0.2687)	0.8634 (0.7317)	-0.3279 (0.3555)	-0.2544 (0.3789)						
ohrtdx	-0.0128 (0.2669)	0.2444* (0.1418)	0.1624 (0.1507)	0.0587 (0.5239)	0.1112 (0.2822)	0.3768 (0.2944)						
strkdx	0.5177 (0.3682)	0.4837** (0.2404)	0.1953 (0.2563)	0.1882 (0.6107)	0.3554 (0.3299)	0.4992 (0.3335)						
dskidn				0.3576 (0.4091)	0.0037 (0.2552)	0.1968 (0.3000)						
dseypr				0.2198 (0.3342)	-0.0577 (0.1689)	-0.1961 (0.1750)						
MCS							-0.0018 (0.0089)	0.0055 (0.0042)	0.0053 (0.0052)			
aspkfl										0.2492 (0.2506)	0.3114* (0.1688)	0.2440 (0.1762)
emphdx										0.3896 (0.5589)	0.2574 (0.3137)	0.0621 (0.3638)

Table 10. (Continued)

	Hypertension			Diabetes			Depression			Asthma		
	HINDC	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**	**HINDC**	**HIWDC**	**HMODC**
conditions	-0.0143	-0.0300	0.0460	0.0713	0.1152	0.2994**	0.0694	0.1303	0.1636	0.0308	0.4158***	0.5837***
	(0.1619)	(0.1110)	(0.1091)	(0.2056)	(0.1410)	(0.1474)	(0.2810)	(0.1451)	(0.1453)	(0.2579)	(0.1457)	(0.1757)
Risk Preferences												
adrisk	0.0937	-0.1409	-0.1269	-0.0852	-0.2324	-0.0227	-0.1598	-0.2949**	-0.2941**	0.0459	-0.2021*	-0.2057*
	(0.1644)	(0.1043)	(0.1223)	(0.2720)	(0.1488)	(0.1595)	(0.2245)	(0.1275)	(0.1381)	(0.2041)	(0.1182)	(0.1230)
adsmok	-0.4327***	-0.4165***	-0.3619***	-0.7331**	-0.3440*	-0.2706	-0.5019**	-0.5827***	-0.5897***	-1.1123***	-0.7220***	-0.6016***
	(0.1670)	(0.1028)	(0.1280)	(0.3044)	(0.1763)	(0.1848)	(0.2234)	(0.1224)	(0.1453)	(0.2269)	(0.1230)	(0.1298)
Year Dummy												
2003	-0.0182	0.2025	0.1838	0.6869**	0.1466	0.4054**	0.7149***	0.4957***	0.4973***	-0.4768**	-0.0140	0.0864
	(0.1936)	(0.1288)	(0.1343)	(0.2884)	(0.1757)	(0.1781)	(0.2707)	(0.1591)	(0.1601)	(0.2218)	(0.1609)	(0.1698)
2004	-0.1514	0.0747	0.0549	0.5181	0.1334	0.3578**	0.6440**	0.6535***	0.6171***	-0.1015	0.1303	0.2121
	(0.2063)	(0.1291)	(0.1339)	(0.3304)	(0.1628)	(0.1823)	(0.2622)	(0.1634)	(0.1870)	(0.2602)	(0.1522)	(0.1662)
2005	-0.3670*	0.0334	-0.0364	0.3757	-0.0981	0.2586	0.2601	0.4427***	0.4561***	0.0298	0.1747	0.1486
	(0.2078)	(0.1257)	(0.1355)	(0.3175)	(0.1728)	(0.1858)	(0.2838)	(0.1453)	(0.1748)	(0.2765)	(0.1481)	(0.1510)
2006	-0.2795	0.0577	-0.0200	0.1910	-0.0318	0.2201	-0.2072	0.2328*	0.2751*	-0.1326	0.3302**	0.2583**
	(0.1785)	(0.0939)	(0.1030)	(0.2628)	(0.1361)	(0.1372)	(0.2545)	(0.1254)	(0.1473)	(0.2309)	(0.1358)	(0.1274)
Intercept	-1.8945**	1.1693**	-1.1112**	-2.7335***	0.9202	-1.1508	-0.5190	0.8034	-0.8356	-2.0779***	1.3419***	-1.1828***
	(0.8207)	(0.4916)	(0.4979)	(0.9235)	(0.6246)	(0.7173)	(0.8905)	(0.5003)	(0.5655)	(0.7186)	(0.4422)	(0.4501)

Notes:

Standard errors in parentheses.

** Statistically significant at the 5 percent level, two-taileded test.

** Statistically significant at the 5 percent level, two-taileded test.

***Statistically significant at the 1 percent level, two-taileded test.

The same notation applies to Table 10-14B.

Table 11A. Regression Results from Expenditure Equations (Joint Estimates for the Hypertension Sample)

	Hypertension							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Insurance and Utilization								
HINDC	0.3071*** (0.0021)	-0.2142*** (0.0021)	0.0308*** (0.0022)	0.2422*** (0.0023)	0.1759*** (0.0019)	-0.0363*** (0.0026)	-0.0974*** (0.0031)	0.4742*** (0.0034)
HIWDC	0.4624*** (0.0012)	-0.3021*** (0.0012)	0.2178*** (0.0013)	0.1544*** (0.0014)	-0.3289*** (0.0013)	-0.5835*** (0.0016)	-0.4829*** (0.0020)	-0.2023*** (0.0021)
HMODC	0.4050*** (0.0013)	0.0044*** (0.0013)	-0.0043*** (0.0014)	-0.0064*** (0.0015)	-0.4596*** (0.0013)	-0.5001*** (0.0016)	-0.5017*** (0.0021)	-0.2610*** (0.0021)
HINDC*Obnum	0.1535*** (0.0012)	-0.0520*** (0.0008)	0.0522*** (0.0008)	0.0061*** (0.0008)	0.0641*** (0.0007)	0.1187*** (0.0012)	0.0417*** (0.0010)	-0.0547*** (0.0012)
HIWDC*Obnum	0.0524*** (0.0003)	-0.0127*** (0.0002)	-0.0389*** (0.0002)	0.0450*** (0.0002)	0.0316*** (0.0002)	0.0165*** (0.0002)	0.0438*** (0.0004)	0.0005 (0.0004)
HMODC*Obnum	0.0598*** (0.0004)	-0.0478*** (0.0003)	-0.0057*** (0.0003)	0.0661*** (0.0003)	0.0421*** (0.0003)	0.0098*** (0.0004)	0.0334*** (0.0004)	0.0036*** (0.0005)
Uninsured*Obnum	0.1225*** (0.0004)	-0.0887*** (0.0004)	0.0482*** (0.0004)	0.0539*** (0.0004)	0.1140*** (0.0004)	0.0894*** (0.0006)	0.0669*** (0.0006)	0.0797*** (0.0006)
Demographic								
Age	0.0217*** (0.0000)	0.0003*** (0.0000)	-0.0084*** (0.0000)	0.0114*** (0.0000)	0.0102*** (0.0000)	0.0104*** (0.0001)	0.0075*** (0.0001)	0.0070*** (0.0001)
Female	0.1906*** (0.0007)	0.0392*** (0.0006)	-0.1213*** (0.0007)	0.0968*** (0.0007)	-0.0323*** (0.0006)	-0.0477*** (0.0008)	-0.0004 (0.0010)	-0.0635*** (0.0011)
Black	-0.0086*** (0.0010)	-0.1440*** (0.0009)	0.1328*** (0.0009)	0.0307*** (0.0010)	0.1317*** (0.0009)	0.0286*** (0.0013)	0.0982*** (0.0014)	0.1240*** (0.0014)
Hispanic	-0.1220*** (0.0012)	-0.0604*** (0.0012)	0.1849*** (0.0013)	-0.1617*** (0.0014)	0.0142*** (0.0011)	-0.0128*** (0.0015)	0.0231*** (0.0018)	0.0395*** (0.0022)
Mid Income	-0.0035*** (0.0008)	0.0514*** (0.0007)	-0.0392*** (0.0008)	-0.0242*** (0.0008)	0.0241*** (0.0007)	0.0577*** (0.0010)	0.0041*** (0.0011)	0.0678*** (0.0011)
Low Income	-0.1079*** (0.0013)	0.2057*** (0.0012)	-0.2501*** (0.0013)	0.0289*** (0.0014)	-0.0241*** (0.0011)	0.0641*** (0.0016)	0.0765*** (0.0021)	-0.0307*** (0.0018)

Table 11A. (Continued)

	Hypertension							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	$Ln(Exp_{genonly})$ |Exp>0	$Ln(Exp_{braonly})$ |Exp>0	$Ln(Exp_{both})$ |Exp>0
Near Poor	-0.2453***	0.2653***	-0.2679***	-0.0407***	-0.0589***	-0.0025	0.1735***	0.0711***
	(0.0022)	(0.0023)	(0.0025)	(0.0026)	(0.0021)	(0.0028)	(0.0039)	(0.0035)
Poor	-0.1718***	0.1097***	-0.1461***	0.0515***	0.0141***	0.1040***	-0.0147***	-0.0048**
	(0.0017)	(0.0017)	(0.0017)	(0.0018)	(0.0015)	(0.0021)	(0.0026)	(0.0023)
Married	0.0857***	-0.0028***	0.0443***	-0.0465***	0.0270***	0.0868***	0.0151***	-0.0966***
	(0.0011)	(0.0010)	(0.0010)	(0.0011)	(0.0009)	(0.0013)	(0.0015)	(0.0015)
Divorced	-0.1276***	-0.0263***	0.1180***	-0.1030***	0.0273***	0.0456***	-0.0100***	0.0207***
	(0.0012)	(0.0012)	(0.0012)	(0.0013)	(0.0011)	(0.0015)	(0.0017)	(0.0017)
Household	-0.0545***	0.0181***	0.0164***	-0.0467***	-0.0097***	-0.0288***	0.0359***	0.0186***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0004)	(0.0004)	(0.0005)
Education								
High School	-0.0199***	-0.0621***	-0.0284***	0.1203***	0.1058***	0.0761***	0.0457***	0.0916***
	(0.0008)	(0.0008)	(0.0008)	(0.0009)	(0.0007)	(0.0010)	(0.0011)	(0.0014)
BA	0.0324***	-0.1050***	0.0409***	0.0892***	0.0758***	-0.0552***	0.0527***	0.1006***
	(0.0011)	(0.0010)	(0.0010)	(0.0011)	(0.0009)	(0.0013)	(0.0014)	(0.0016)
MA	-0.0427***	0.0264***	-0.0972***	0.0925***	-0.0592***	-0.0931***	-0.0486***	-0.0269***
	(0.0014)	(0.0013)	(0.0013)	(0.0014)	(0.0012)	(0.0016)	(0.0019)	(0.0019)
Empolyment								
Employed	-0.0170***	-0.0219***	0.0622***	-0.0399***	-0.0103***	-0.0077***	-0.0436***	0.0885***
	(0.0015)	(0.0014)	(0.0015)	(0.0016)	(0.0013)	(0.0018)	(0.0022)	(0.0020)
Unemployed	0.0449***	-0.1215***	0.0608***	0.0905***	0.0325***	-0.0780***	0.1675***	-0.0487***
	(0.0017)	(0.0016)	(0.0017)	(0.0018)	(0.0015)	(0.0020)	(0.0025)	(0.0023)
Selfemployed	0.0709***	-0.0750***	0.0282***	0.0618***	0.2148***	0.1551***	0.2917***	0.0617***
	(0.0013)	(0.0013)	(0.0013)	(0.0014)	(0.0012)	(0.0016)	(0.0019)	(0.0020)
Union	0.0027**	-0.0442***	-0.0078***	0.0638***	-0.1159***	-0.1318***	-0.0876***	-0.2052***
	(0.0010)	(0.0009)	(0.0010)	(0.0010)	(0.0009)	(0.0012)	(0.0014)	(0.0014)
Sicpay	0.1305***	-0.0506***	0.0547***	0.0068***	0.0273***	0.0108***	0.1136***	-0.1440***
	(0.0011)	(0.0010)	(0.0011)	(0.0012)	(0.0010)	(0.0013)	(0.0015)	(0.0015)

Table 11A. (Continued)

	Hypertension							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Payvac	-0.0297*** (0.0012)	-0.0645*** (0.0011)	-0.0425*** (0.0012)	0.1393*** (0.0013)	0.0460*** (0.0010)	-0.0818*** (0.0014)	0.1199*** (0.0017)	0.0208*** (0.0018)
Regions								
Midwest	-0.0234*** (0.0011)	0.3063*** (0.0010)	-0.2983*** (0.0010)	-0.0423*** (0.0011)	0.0172*** (0.0009)	0.1871*** (0.0014)	0.1919*** (0.0017)	0.0052*** (0.0014)
South	0.0793*** (0.0010)	0.0325*** (0.0009)	-0.0356*** (0.0009)	-0.0008 (0.0010)	0.1378*** (0.0008)	0.0066*** (0.0012)	0.2666*** (0.0012)	0.2359*** (0.0013)
West	-0.1620*** (0.0011)	0.4501*** (0.0010)	-0.4644*** (0.0011)	-0.0572*** (0.0012)	-0.0828*** (0.0010)	0.0700*** (0.0016)	0.1301*** (0.0022)	0.1228*** (0.0016)
Urban	-0.0478*** (0.0009)	0.0353*** (0.0008)	-0.0301*** (0.0008)	-0.0216*** (0.0009)	-0.0584*** (0.0008)	-0.0820*** (0.0011)	-0.0437*** (0.0012)	0.0268*** (0.0012)
Health Characteristics								
Very Good Health	0.1618*** (0.0011)	-0.0527*** (0.0010)	-0.0841*** (0.0011)	0.1904*** (0.0012)	0.1300*** (0.0010)	0.1645*** (0.0013)	-0.0212*** (0.0015)	0.0641*** (0.0021)
Good Health	0.1687*** (0.0011)	-0.0950*** (0.0010)	-0.0357*** (0.0011)	0.1975*** (0.0012)	0.2220*** (0.0010)	0.2469*** (0.0013)	0.0776*** (0.0014)	0.0805*** (0.0022)
Fair Health	0.1492*** (0.0013)	0.0439*** (0.0012)	-0.2140*** (0.0013)	0.2279*** (0.0014)	0.2146*** (0.0012)	0.2981*** (0.0016)	0.0831*** (0.0020)	0.1301*** (0.0024)
Poor Health	0.0968*** (0.0021)	-0.1301*** (0.0019)	-0.1904*** (0.0020)	0.4213*** (0.0021)	0.3201*** (0.0018)	0.2372*** (0.0026)	0.1632*** (0.0031)	0.1311*** (0.0036)
Limit	0.0470*** (0.0020)	-0.1065*** (0.0018)	0.1169*** (0.0019)	-0.0208*** (0.0019)	-0.0377*** (0.0016)	-0.1988*** (0.0023)	0.0697*** (0.0027)	0.0505*** (0.0023)
Coglim	-0.0916*** (0.0018)	0.2732*** (0.0016)	-0.1868*** (0.0018)	-0.1246*** (0.0018)	-0.0361*** (0.0015)	0.1949*** (0.0021)	-0.0847*** (0.0029)	-0.0180*** (0.0024)
Chddx	0.2291*** (0.0023)	-0.0871*** (0.0017)	-0.2430*** (0.0018)	0.3080*** (0.0017)	0.0644*** (0.0015)	-0.1367*** (0.0024)	-0.0307*** (0.0029)	0.0947*** (0.0026)
Midx	0.1647*** (0.0022)	-0.2339*** (0.0017)	0.0783*** (0.0017)	0.1662*** (0.0017)	0.1721*** (0.0015)	0.0579*** (0.0026)	0.1288*** (0.0025)	0.0302*** (0.0022)

Table 11A. (Continued)

	Hypertension							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Angidx	0.0554*** (0.0026)	-0.1525*** (0.0020)	0.0179*** (0.0020)	0.1257*** (0.0019)	0.1861*** (0.0018)	0.1075*** (0.0029)	0.0987*** (0.0031)	0.1163*** (0.0022)
Ohrtdx	0.1753*** (0.0014)	-0.2242*** (0.0011)	-0.0368*** (0.0011)	0.2874*** (0.0011)	0.0638*** (0.0010)	-0.1349*** (0.0016)	0.0274*** (0.0017)	0.0102*** (0.0021)
Strkdx	-0.0762*** (0.0022)	-0.1763*** (0.0020)	-0.2087*** (0.0021)	0.3518*** (0.0019)	0.2985*** (0.0018)	0.1884*** (0.0028)	0.1100*** (0.0033)	0.2437*** (0.0029)
Diabetes	0.0775*** (0.0010)	-0.1313*** (0.0009)	-0.0029*** (0.0009)	0.1405*** (0.0009)				
Hyerlidpedemia	0.0466*** (0.0008)	-0.0468*** (0.0007)	0.0560*** (0.0007)	-0.0073*** (0.0008)				
Conditions					0.0542*** (0.0006)	0.0098*** (0.0009)	-0.0018* (0.0010)	0.0765*** (0.0011)
Risk Preference								
Adrisk	-0.1406*** (0.0009)	0.0521*** (0.0009)	-0.0283*** (0.0009)	-0.0295*** (0.0010)	-0.0518*** (0.0008)	-0.0402*** (0.0011)	-0.0889*** (0.0013)	0.0382*** (0.0013)
Adsmok	-0.0562*** (0.0009)	-0.0102*** (0.0009)	0.0070*** (0.0009)	-0.0047*** (0.0009)	0.0546*** (0.0008)	0.0114*** (0.0011)	0.0574*** (0.0012)	0.1001*** (0.0012)
Year Dummy								
2004	-0.5248*** (0.0010)	-0.3275*** (0.0010)	0.3955*** (0.0011)	-0.0480*** (0.0011)	0.2397*** (0.0012)	0.2173*** (0.0015)	0.0628*** (0.0019)	-0.0043*** (0.0015)
2005	-0.2967*** (0.0010)	-0.3328*** (0.0010)	0.3923*** (0.0010)	-0.0337*** (0.0011)	0.3261*** (0.0010)	0.2778*** (0.0014)	0.1846*** (0.0019)	0.0267*** (0.0014)
2006	0.1677*** (0.0011)	-0.2438*** (0.0009)	0.2888*** (0.0010)	-0.0250*** (0.0010)	0.3597*** (0.0009)	0.3869*** (0.0012)	0.1898*** (0.0017)	0.1298*** (0.0013)
2007	0.1686*** (0.0011)	-0.1486*** (0.0009)	0.2077*** (0.0010)	-0.0481*** (0.0010)	0.3168*** (0.0009)	0.3046*** (0.0012)	0.2685*** (0.0016)	0.1758*** (0.0013)
Intercept	-0.5759*** (0.0034)	0.2471*** (0.0034)	-0.1480*** (0.0035)	-1.7627*** (0.0039)	3.8769*** (0.0045)	3.4519*** (0.0047)	4.3115*** (0.0063)	4.8263*** (0.0177)

Table 11A. (Continued)

	Hypertension							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Sigma					1.1722***	1.1050***	1.0720***	0.8736***
					(0.0002)	(0.0005)	(0.004)	(0.0003)
Rho					-0.0163***	0.1931***	0.0606***	-0.0105***
					(0.003)	(0.0026)	(0.0041)	(-0.0091)

Notes: Rho (ρ) is a measure of the correlation of errors in the two equations; sigma (σ) is the error for the second equation when the error of the first equation is normalized to 1.

The same notation applies to Table 11A-14B.

Table 11B. Regression Results from Utilization Equations (Joint Estimates for the Hypertension Sample)

	Hypertension							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Insurance and Utilization								
HINDC	0.2720***	0.0084***	-0.0495***	0.2111***	1.7323***	0.0893***	-0.3182***	4.9816***
	(0.0021)	(0.0018)	(0.0020)	(0.0023)	(0.0118)	(0.0189)	(0.0204)	(0.0325)
HIWDC	0.4593***	-0.1502***	0.1255***	0.1297***	1.3199***	-1.5913***	1.4340***	4.0920***
	(0.0012)	(0.0011)	(0.0012)	(0.0014)	(0.0072)	(0.0112)	(0.0122)	(0.0202)
HMODC	0.3851***	0.0704***	-0.0835***	-0.0235***	0.8022***	0.7523***	-0.6636***	4.4822***
	(0.0013)	(0.0011)	(0.0013)	(0.0015)	(0.0077)	(0.0120)	(0.0132)	(0.0218)
HINDC*Obnum	0.1485***	-0.0133***	0.0277***	0.0056***	-0.0019	-0.0935***	0.3172***	-0.5358***
	(0.0012)	(0.0007)	(0.0007)	(0.0008)	(0.0046)	(0.0076)	(0.0074)	(0.0127)
HIWDC*Obnum	0.0593***	-0.0036***	-0.0148***	0.0463***	0.1712***	-0.0097***	-0.1040***	-0.2551***
	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0012)	(0.0019)	(0.0022)	(0.0032)
HMODC*Obnum	0.0685***	-0.0407***	0.0237***	0.0648***	0.3558***	-0.4148***	0.2594***	0.0801***
	(0.0004)	(0.0003)	(0.0003)	(0.0003)	(0.0017)	(0.0029)	(0.0029)	(0.0042)
Uninsured*Obnum	0.1488***	-0.0396***	0.0288***	0.0501***	0.3128***	-0.4056***	0.4025***	0.4634***
	(0.0005)	(0.0003)	(0.0004)	(0.0004)	(0.0022)	(0.0036)	(0.0037)	(0.0057)
Demographic								
Age	0.0238***	-0.0007***	-0.0076***	0.0110***	0.0616***	-0.0057***	-0.0780***	0.0414***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0002)	(0.0004)	(0.0004)	(0.0007)
Female	0.1638***	0.0457***	-0.1480***	0.1006***	0.1441***	0.4815***	-1.5245***	-0.3792***
	(0.0007)	(0.0006)	(0.0006)	(0.0007)	(0.0038)	(0.0061)	(0.0063)	(0.0100)
Black	-0.0044***	-0.0233***	0.1061***	0.0347***	1.0290***	-0.2722***	1.0737***	2.7179***
	(0.0010)	(0.0008)	(0.0009)	(0.0010)	(0.0053)	(0.0088)	(0.0088)	(0.0140)
Hispanic	-0.1423***	-0.0796***	0.0465***	-0.1594***	-0.7587***	-0.8493***	0.4760***	0.4623***
	(0.0012)	(0.0011)	(0.0011)	(0.0014)	(0.0070)	(0.0113)	(0.0117)	(0.0207)
Mid Income	-0.0064***	0.0080***	-0.0412***	-0.0291***	0.1566***	0.0737***	-0.4581***	0.2858***
	(0.0008)	(0.0007)	(0.0007)	(0.0008)	(0.0043)	(0.0070)	(0.0072)	(0.0113)
Low Income	-0.1241***	0.0836***	-0.1973***	0.0284***	0.1603***	0.8473***	-2.0061***	-0.5732***
	(0.0013)	(0.0011)	(0.0012)	(0.0013)	(0.0071)	(0.0114)	(0.0124)	(0.0185)

Table 11B. (Continued)

	Hypertension							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Near Poor	-0.1899***	0.0104***	-0.0484***	-0.0951***	-0.2666***	-0.0416**	-0.3344***	-0.5112***
	(0.0022)	(0.0020)	(0.0022)	(0.0026)	(0.0131)	(0.0209)	(0.0227)	(0.0368)
Poor	-0.1446***	0.0330***	-0.0346***	0.0542***	0.1061***	0.2865***	-0.2595***	-1.1811***
	(0.0017)	(0.0014)	(0.0016)	(0.0018)	(0.0095)	(0.0153)	(0.0162)	(0.0240)
Married	0.0801***	0.0047***	-0.0245***	-0.0361***	-0.0997***	0.0336***	-0.2144***	-0.2040***
	(0.0011)	(0.0009)	(0.0010)	(0.0011)	(0.0058)	(0.0094)	(0.0098)	(0.0153)
Divorced	-0.1299***	-0.0286***	0.0538***	-0.0889***	0.0247***	-0.3102***	0.5795***	0.5958***
	(0.0012)	(0.0010)	(0.0011)	(0.0013)	(0.0066)	(0.0108)	(0.0112)	(0.0171)
Household	-0.0542***	0.0121***	0.0040***	-0.0478***	-0.0743***	0.1275***	0.0323***	0.1001***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0017)	(0.0027)	(0.0028)	(0.0049)
Education								
High School	-0.0027***	-0.0628***	-0.0376***	0.1178***	0.2792***	-0.6750***	-0.3393***	0.3088***
	(0.0009)	(0.0007)	(0.0007)	(0.0009)	(0.0044)	(0.0072)	(0.0074)	(0.0122)
BA	0.0403***	-0.1407***	-0.0026***	0.1094***	0.0436***	-1.4772***	-0.0093	0.1836***
	(0.0011)	(0.0009)	(0.0009)	(0.0011)	(0.0057)	(0.0093)	(0.0095)	(0.0156)
MA	-0.0451***	-0.0758***	-0.0158***	0.1018***	0.0183**	-0.8362***	-0.1067***	-0.2122***
	(0.0015)	(0.0011)	(0.0012)	(0.0014)	(0.0073)	(0.0119)	(0.0123)	(0.0196)
Empolyment								
Employed	-0.0114***	0.0188***	-0.1049***	-0.0249***	0.4074***	0.2089***	-1.1529***	1.4586***
	(0.0016)	(0.0013)	(0.0014)	(0.0016)	(0.0082)	(0.0132)	(0.0139)	(0.0212)
Unemployed	0.0584***	-0.0366***	-0.0393***	0.1062***	0.3727***	-0.3735***	-0.3763***	0.0711***
	(0.0018)	(0.0014)	(0.0015)	(0.0017)	(0.0091)	(0.0147)	(0.0157)	(0.0239)
Selfemployed	0.0608***	-0.0509***	0.0736***	0.0856***	0.4764***	-0.5234***	0.8118***	0.3229***
	(0.0014)	(0.0011)	(0.0012)	(0.0014)	(0.0072)	(0.0116)	(0.0123)	(0.0202)
Union	-0.0155***	-0.0281***	-0.0275***	0.0595***	-0.3554***	-0.2811***	-0.2398***	-1.4409***
	(0.0011)	(0.0008)	(0.0009)	(0.0010)	(0.0054)	(0.0089)	(0.0092)	(0.0143)
Sicpay	0.1455***	-0.0638***	0.0330***	0.0151***	-0.4277***	-0.6474***	0.4057***	-1.2849***
	(0.0011)	(0.0009)	(0.0010)	(0.0012)	(0.0060)	(0.0096)	(0.0101)	(0.0158)

Table 11B. (Continued)

	Hypertension							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. $_{Useboth}$|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Payvac	-0.0457***	-0.0572***	0.0327***	0.1377***	0.4445***	-0.6205***	0.3627***	-0.1761***
	(0.0012)	(0.0010)	(0.0011)	(0.0013)	(0.0065)	(0.0105)	(0.0111)	(0.0175)
Regions								
Midwest	-0.0074***	0.1690***	-0.1411***	-0.0411***	1.0530***	1.7844***	-1.4232***	1.0200***
	(0.0011)	(0.0009)	(0.0009)	(0.0011)	(0.0056)	(0.0091)	(0.0094)	(0.0144)
South	0.0921***	-0.1164***	0.0535***	-0.0002	0.8909***	-1.2442***	0.5781***	2.1056***
	(0.0010)	(0.0008)	(0.0008)	(0.0010)	(0.0051)	(0.0086)	(0.0084)	(0.0133)
West	-0.1554***	0.1901***	-0.2437***	-0.0757***	0.5821***	1.9861***	-2.4881***	1.1429***
	(0.0011)	(0.0009)	(0.0010)	(0.0012)	(0.0060)	(0.0096)	(0.0104)	(0.0162)
Urban	-0.0627***	-0.0387***	-0.0844***	-0.0251***	-0.2113***	-0.4319***	-0.8721***	0.0755***
	(0.0009)	(0.0007)	(0.0008)	(0.0009)	(0.0047)	(0.0077)	(0.0079)	(0.0121)
Health Characteristics								
Very Good Health	0.1802***	-0.0066***	-0.0457***	0.1747***	0.3518***	-0.0699***	-0.3931***	-0.3945***
	(0.0011)	(0.0009)	(0.0010)	(0.0012)	(0.0060)	(0.0098)	(0.0100)	(0.0185)
Good Health	0.1735***	0.0280***	0.0666***	0.1830***	1.0647***	0.3077***	0.7551***	-0.4634***
	(0.0011)	(0.0009)	(0.0010)	(0.0012)	(0.0060)	(0.0096)	(0.0099)	(0.0185)
Fair Health	0.1973***	0.1358***	-0.0975***	0.2200***	1.3242***	1.4321***	-0.9505***	0.0975***
	(0.0014)	(0.0011)	(0.0012)	(0.0014)	(0.0072)	(0.0114)	(0.0121)	(0.0210)
Poor Health	0.1414***	0.1404***	0.0411***	0.4051***	2.4431***	1.5312***	0.4447***	0.0557**
	(0.0021)	(0.0017)	(0.0018)	(0.0020)	(0.0110)	(0.0178)	(0.0187)	(0.0281)
Limit	0.0538***	-0.0741***	0.1541***	-0.0074***	0.6925***	-0.7677***	1.7108***	1.9993***
	(0.0021)	(0.0016)	(0.0017)	(0.0019)	(0.0101)	(0.0165)	(0.0172)	(0.0243)
Coglim	-0.1102***	0.1458***	-0.0819***	-0.1303***	1.0706***	1.5437***	-0.6184***	1.8442***
	(0.0018)	(0.0014)	(0.0016)	(0.0018)	(0.0094)	(0.0150)	(0.0166)	(0.0234)
Chddx	0.2864***	-0.0234***	-0.1566***	0.3092***	1.4692***	-0.2236***	-1.1847***	1.8209***
	(0.0024)	(0.0015)	(0.0017)	(0.0017)	(0.0096)	(0.0158)	(0.0172)	(0.0208)
Midx	0.1534***	0.1470***	0.2144***	0.1832***	1.6049***	1.5617***	2.2001***	-1.2189***
	(0.0023)	(0.0015)	(0.0016)	(0.0017)	(0.0096)	(0.0160)	(0.0162)	(0.0212)

Table 11B. (Continued)

	Hypertension							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. $_{Useboth}$|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Angidx	0.0158***	0.0038**	-0.0343***	0.1083***	1.1512***	0.1499***	-0.2951***	1.9035***
	(0.0027)	(0.0017)	(0.0019)	(0.0019)	(0.0110)	(0.0185)	(0.0192)	(0.0223)
Ohrtdx	0.1781***	-0.1446***	0.0074***	0.3157***	1.4534***	-1.5352***	0.1688***	1.7286***
	(0.0014)	(0.0010)	(0.0010)	(0.0011)	(0.0063)	(0.0105)	(0.0107)	(0.0150)
Strkdx	-0.0292***	0.2149***	-0.0433***	0.3243***	3.1613***	2.4750***	-0.8889***	3.1532***
	(0.0024)	(0.0017)	(0.0019)	(0.0019)	(0.0109)	(0.0180)	(0.0196)	(0.0230)
Diabetes	0.0993***	-0.0012***	-0.0127***	0.1623***				
	(0.0010)	(0.0001)	(0.0003)	(0.0009)				
Hyerlidpedemia	0.0600***	-0.0023***	-0.0029***	0.0046***				
	(0.0008)	(0.0001)	(0.0001)	(0.0008)				
Conditions					0.7685***	-0.0169***	-0.0937***	1.8045***
					(0.0040)	(0.0008)	(0.0024)	(0.0106)
Risk Preference								
Adrisk	-0.1618***	-0.0230***	-0.1179***	-0.0242***	-0.1731***	-0.2347***	-1.2790***	0.8700***
	(0.0009)	(0.0008)	(0.0008)	(0.0010)	(0.0050)	(0.0081)	(0.0085)	(0.0136)
Adsmok	-0.0368***	-0.0124***	-0.0245***	-0.0107***	0.1241***	-0.1232***	-0.2216***	0.8256***
	(0.0009)	(0.0007)	(0.0008)	(0.0009)	(0.0049)	(0.0079)	(0.0082)	(0.0128)
Year Dummy								
2004	-0.5793***	-0.1578***	0.1706***	-0.0465***	0.1189***	-1.6769***	1.6444***	0.9676***
	(0.0010)	(0.0009)	(0.0010)	(0.0011)	(0.0062)	(0.0096)	(0.0099)	(0.0153)
2005	-0.3219***	-0.1561***	0.1800***	-0.0447***	0.0824***	-1.6421***	1.7835***	0.6379***
	(0.0011)	(0.0009)	(0.0009)	(0.0011)	(0.0056)	(0.0091)	(0.0094)	(0.0145)
2006	0.1499***	-0.0501***	0.1395***	-0.0176***	0.5128***	-0.4906***	1.3874***	0.7493***
	(0.0011)	(0.0008)	(0.0009)	(0.0010)	(0.0053)	(0.0085)	(0.0090)	(0.0135)
2007	0.1947***	0.0504***	0.1116***	-0.0512***	0.6746***	0.5656***	1.1191***	1.0236***
	(0.0011)	(0.0008)	(0.0009)	(0.0010)	(0.0052)	(0.0084)	(0.0090)	(0.0137)
Intercept	-0.6303***	0.0319***	0.0791***	-1.7354***	2.2933***	1.1641***	1.4295***	5.9893***
	(0.0034)	(0.0030)	(0.0032)	(0.0039)	(0.0211)	(0.0315)	(0.0324)	(0.0858)

Table 11B. (Continued)

Hypertension								
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Sigma					7.4184***	10.5865***	10.2508***	9.2285***
					(0.0013)	(0.0031)	(0.0037)	(0.0045)
Rho					-0.1121***	0.0099***	0.0606***	-0.1340***
					(0.0013)	(0.0016)	(0.0011)	(-0.0033)

Table 12A. Regression Results from Expenditure Equations (Joint Estimates for the Diabetes sample)

	Diabetes							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Insurance and Utilization								
HINDC	0.0334***	-0.0207***	-0.1318***	0.0744***	-0.0096**	-0.0085	0.0072	0.1641***
	(0.0034)	(0.0046)	(0.0048)	(0.0049)	(0.0047)	(0.0071)	(0.0082)	(0.0082)
HIWDC	0.2984***	0.0323***	-0.1484***	0.0882***	-1.0652***	-0.9850***	-1.0007***	-0.6745***
	(0.0018)	(0.0024)	(0.0024)	(0.0025)	(0.0024)	(0.0036)	(0.0037)	(0.0041)
HMODC	0.2053***	0.1523***	-0.0978***	-0.1452***	-1.1362***	-1.0387***	-0.9818***	-0.5704***
	(0.0019)	(0.0025)	(0.0026)	(0.0027)	(0.0025)	(0.0038)	(0.0038)	(0.0045)
HINDC*Obnum	0.1133***	-0.0245***	0.0098***	0.0081***	-0.0339***	-0.0012	-0.0581***	0.0938***
	(0.0009)	(0.0009)	(0.0010)	(0.0010)	(0.0010)	(0.0013)	(0.0019)	(0.0017)
HIWDC*Obnum	0.0845***	-0.0524***	0.0091***	0.0221***	0.0024***	0.0691***	0.0158***	-0.0119***
	(0.0003)	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0005)	(0.0004)	(0.0003)
HMODC*Obnum	0.0712***	-0.0208***	0.0109***	0.0094***	0.0187***	0.0267***	0.0384***	0.0292***
	(0.0003)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0005)	(0.0003)	(0.0005)
Uninsured*Obnum	0.0961***	-0.0106***	-0.0128***	0.0226***	-0.0070***	0.0660***	-0.0037***	0.0279***
	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0007)	(0.0009)	(0.0009)
Demographic								
Age	0.0147***	0.0057***	-0.0209***	0.0196***	-0.0004***	0.0009***	0.0093***	-0.0085***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Female	-0.0045***	0.0064***	-0.0125***	0.0180***	0.0098***	-0.0057***	-0.0565***	0.0730***
	(0.0010)	(0.0012)	(0.0013)	(0.0013)	(0.0013)	(0.0020)	(0.0018)	(0.0021)
Black	-0.0244***	0.0310***	-0.0733***	0.0571***	0.0415***	0.1485***	-0.0419***	0.0614***
	(0.0015)	(0.0019)	(0.0019)	(0.0020)	(0.0019)	(0.0031)	(0.0027)	(0.0032)
Hispanic	0.0549***	0.3112***	-0.2369***	-0.1137***	-0.2121***	-0.4099***	0.0622***	0.1613***
	(0.0016)	(0.0019)	(0.0020)	(0.0021)	(0.0020)	(0.0029)	(0.0033)	(0.0034)
Mid Income	0.0088***	0.0287***	-0.0978***	0.0925***	0.0639***	0.0566***	0.0752***	-0.0211***
	(0.0012)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0023)	(0.0021)	(0.0022)
Low Income	0.1155***	0.1979***	-0.1707***	-0.0577***	-0.0836***	-0.0390***	0.1135***	-0.2144***
	(0.0018)	(0.0021)	(0.0022)	(0.0023)	(0.0022)	(0.0034)	(0.0032)	(0.0037)

Table 12A. (Continued)

	Diabetes							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Near Poor	-0.1890***	0.2482***	-0.2331***	-0.0605***	0.0154***	0.0160***	-0.0724***	-0.0178***
	(0.0028)	(0.0037)	(0.0039)	(0.0040)	(0.0037)	(0.0055)	(0.0062)	(0.0065)
Poor	-0.0055**	0.1411***	-0.1882***	0.1084***	-0.1044***	-0.0473***	0.0431***	-0.4075***
	(0.0023)	(0.0029)	(0.0029)	(0.0030)	(0.0029)	(0.0045)	(0.0045)	(0.0049)
Married	-0.0708***	-0.0224***	-0.1756***	0.2668***	0.0412***	0.1346***	-0.0782***	-0.3942***
	(0.0015)	(0.0019)	(0.0018)	(0.0020)	(0.0019)	(0.0030)	(0.0027)	(0.0035)
Divorced	-0.1548***	0.1263***	-0.2028***	0.1097***	0.0246***	-0.0917***	0.0007	-0.2206***
	(0.0018)	(0.0022)	(0.0022)	(0.0024)	(0.0022)	(0.0035)	(0.0034)	(0.0039)
Household	-0.0098***	0.0021***	0.0262***	-0.0300***	-0.0145***	-0.0177***	-0.0140***	-0.0022**
	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0008)	(0.0007)	(0.0008)
Education								
High School	-0.0376***	-0.0645***	0.0049***	0.0581***	-0.0566***	-0.0410***	-0.1597***	-0.1788***
	(0.0011)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0022)	(0.0021)	(0.0023)
BA	-0.1513***	0.0057***	0.0105***	-0.0131***	-0.1356***	0.0360***	-0.5094***	-0.0622***
	(0.0016)	(0.0020)	(0.0020)	(0.0021)	(0.0020)	(0.0032)	(0.0029)	(0.0033)
MA	-0.1584***	-0.4967***	0.2993***	0.1630***	0.1935***	0.4679***	0.0010	-0.3131***
	(0.0024)	(0.0033)	(0.0030)	(0.0031)	(0.0030)	(0.0058)	(0.0041)	(0.0048)
Empolyment								
Employed	0.0813***	0.2515***	-0.1800***	-0.0597***	-0.1473***	-0.4796***	0.1252***	0.0817***
	(0.0020)	(0.0027)	(0.0026)	(0.0027)	(0.0026)	(0.0046)	(0.0036)	(0.0042)
Unemployed	0.0416***	0.2038***	-0.0737***	-0.1297***	-0.2117***	-0.5785***	0.1698***	-0.1258***
	(0.0023)	(0.0031)	(0.0030)	(0.0030)	(0.0029)	(0.0051)	(0.0042)	(0.0048)
Selfemployed	0.0347***	0.0002	0.0888***	-0.0957***	-0.0335***	-0.1001***	0.0503***	0.0087**
	(0.0019)	(0.0024)	(0.0025)	(0.0026)	(0.0025)	(0.0039)	(0.0036)	(0.0041)
Union	-0.0871***	0.0128***	-0.0243***	0.0058***	-0.1861***	-0.2852***	-0.1472***	-0.2912***
	(0.0016)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0030)	(0.0028)	(0.0030)
Sicpay	0.0702***	0.0170***	0.0903***	-0.0903***	0.0588***	-0.1151***	0.2943***	0.1584***
	(0.0016)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0031)	(0.0030)	(0.0032)

Table 12A. (Continued)

	Diabetes							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	$Ln(Exp_{genonly})$ |Exp>0	$Ln(Exp_{braonly})$ |Exp>0	$Ln(Exp_{both})$ |Exp>0
Payvac	0.1401***	-0.0558***	-0.1332***	0.1808***	-0.1561***	0.1220***	-0.2622***	0.020807***
	(0.0018)	(0.0022)	(0.0023)	(0.0023)	(0.0022)	(0.0035)	(0.0033)	(0.001832)
Regions								
Midwest	0.0231***	0.0307***	-0.0507***	0.0477***	-0.1012***	-0.1221***	-0.2238***	0.1346***
	(0.0016)	(0.0019)	(0.0020)	(0.0020)	(0.0020)	(0.0031)	(0.0028)	(0.0032)
South	0.1277***	-0.1085***	0.0425***	0.0795***	-0.0192***	-0.0611***	-0.0701***	0.2331***
	(0.0014)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0029)	(0.0025)	(0.0029)
West	0.1102***	0.2443***	-0.4040***	0.1677***	-0.1029***	-0.2523***	-0.1715***	0.1098***
	(0.0016)	(0.0019)	(0.0020)	(0.0020)	(0.0020)	(0.0031)	(0.0036)	(0.0033)
Urban	-0.0318***	0.2324***	-0.0213***	-0.2100***	-0.1275***	-0.1391***	-0.1073***	0.0663***
	(0.0013)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0028)	(0.0022)	(0.0024)
Health Characteristics								
Very Good Health	0.0051**	-0.0098***	0.0468***	-0.0511***	0.1127***	0.2752***	0.0593***	0.3045***
	(0.0022)	(0.0029)	(0.0030)	(0.0031)	(0.0029)	(0.0046)	(0.0042)	(0.0050)
Good Health	0.1859***	-0.0635***	-0.0175***	0.0400***	0.0563***	0.3095***	0.1000***	0.0944***
	(0.0021)	(0.0028)	(0.0028)	(0.0029)	(0.0028)	(0.0044)	(0.0040)	(0.0048)
Fair Health	0.1752***	-0.0784***	-0.0193***	0.0799***	0.0878***	0.3817***	0.0287***	0.1551***
	(0.0022)	(0.0029)	(0.0030)	(0.0031)	(0.0030)	(0.0047)	(0.0042)	(0.0050)
Poor Health	-0.0918***	-0.1788***	-0.0207***	0.1718***	0.4474***	0.5876***	0.1187***	0.2996***
	(0.0028)	(0.0037)	(0.0037)	(0.0038)	(0.0036)	(0.0060)	(0.0052)	(0.0061)
Limit	-0.1380***	0.1468***	0.1837***	-0.3546***	-0.0483***	-0.3471***	0.1770***	0.2657***
	(0.0024)	(0.0030)	(0.0029)	(0.0031)	(0.0030)	(0.0048)	(0.0042)	(0.0050)
Coglim	-0.0526***	0.0653***	-0.1346***	0.1072***	0.0387***	0.0474***	0.0905***	-0.2820***
	(0.0022)	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0043)	(0.0042)	(0.0042)
Chddx	0.3819***	-0.0577***	0.0803***	-0.0931***	-0.2967***	-0.2906***	-0.0107***	-0.1607***
	(0.0025)	(0.0028)	(0.0026)	(0.0027)	(0.0027)	(0.0048)	(0.0037)	(0.0042)
Midx	-0.1268***	-0.2383***	0.0559***	0.1344***	0.2677***	0.2106***	0.3527***	-0.0705***
	(0.0025)	(0.0030)	(0.0029)	(0.0028)	(0.0029)	(0.0052)	(0.0043)	(0.0042)

Table 12A. (Continued)

	Diabetes							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Angidx	-0.2129*** (0.0030)	0.3400*** (0.0035)	0.0778*** (0.0033)	-0.3610*** (0.0035)	0.0055 (0.0034)	-0.1562*** (0.0061)	-0.2301*** (0.0046)	0.7015*** (0.0056)
Ohrtdx	-0.1175*** (0.0019)	-0.1080*** (0.0023)	0.1020*** (0.0022)	0.0348*** (0.0022)	0.0489*** (0.0022)	-0.1012*** (0.0038)	0.1079*** (0.0032)	-0.0111*** (0.0034)
Strkdx	0.0528*** (0.0028)	-0.1443*** (0.0032)	-0.0167*** (0.0031)	0.1643*** (0.0030)	0.1135*** (0.0031)	0.2100*** (0.0052)	-0.1159*** (0.0048)	0.1405*** (0.0047)
Hypertension	0.1130*** (0.0010)	-0.0016 (0.0012)	0.0270*** (0.0013)	-0.0294*** (0.0012)	-	-	-	-
Hyerlidpedemia	0.2030*** (0.0010)	-0.0425*** (0.0011)	-0.1184*** (0.0013)	0.1341*** (0.0011)	-	-	-	-
Dskidn	0.3754*** (0.0023)	-0.2197*** (0.0026)	-0.0679*** (0.0024)	0.2623*** (0.0024)	-0.0006 (0.0025)	0.2568*** (0.0044)	-0.2478*** (0.0034)	0.1706*** (0.0037)
Dseypr	0.1957*** (0.0016)	-0.3943*** (0.0019)	0.1135*** (0.0018)	0.2556*** (0.0018)	0.0284*** (0.0018)	0.3225*** (0.0035)	0.0107*** (0.0026)	-0.2413*** (0.0028)
Conditions	-	-	-	-	-0.0356*** (0.0013)	0.0828*** (0.0019)	0.0345*** (0.0019)	-0.0273*** (0.0020)
Risk Preference								
Adrisk	-0.0326*** (0.0013)	0.1281*** (0.0016)	-0.1283*** (0.0017)	0.0158*** (0.0017)	0.0309*** (0.0017)	-0.2152*** (0.0025)	0.0772*** (0.0026)	0.1174*** (0.0027)
Adsmok	-0.0839*** (0.0013)	0.1677*** (0.0016)	-0.0746*** (0.0016)	-0.1171*** (0.0017)	0.0066*** (0.0016)	-0.1361*** (0.0026)	0.0785*** (0.0024)	0.1258*** (0.0027)
Year Dummy								
2003	-0.6080*** (0.0016)	-0.7479*** (0.0022)	0.9665*** (0.0020)		0.6875*** (0.0021)	1.0192*** (0.0041)	0.1473*** (0.0052)	0.4369*** (0.0036)
2004	-0.4140*** (0.0015)	-0.4088*** (0.0019)	0.6444*** (0.0018)	-0.2873*** (0.0020)	0.3519*** (0.0019)	0.4862*** (0.0031)	0.0350*** (0.0042)	0.1425*** (0.0033)
2005	-0.1694*** (0.0015)	-0.1280*** (0.0017)	0.1056*** (0.0018)	0.0527*** (0.0018)	0.2247*** (0.0018)	0.2290*** (0.0027)	0.0540*** (0.0030)	-0.0587*** (0.0028)

Table 12A. (Continued)

	Diabetes							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
2006	-0.0146***	-0.1219***	0.0943***	0.0532***	0.2837***	0.4310***	0.0454***	0.1654***
	(0.0015)	(0.0016)	(0.0017)	(0.0017)	(0.0017)	(0.0025)	(0.0028)	(0.0026)
Intercept	-0.7971***	-0.8012***	1.0206***	-1.8067***	6.4157***	6.1672***	5.4298***	8.0168***
	(0.0048)	(0.0065)	(0.0065)	(0.0070)	(0.0070)	(0.0111)	(0.0087)	(0.0142)
Sigma					1.4158***	1.4734***	1.1537***	1.3729***
					(0.0009)	(0.0018)	(0.0007)	(0.0020)
Rho					-0.7416***	-0.8572***	0.0930***	-0.8636***
					(0.0011)	(0.0008)	(0.0062)	(0.0009)

Table 12B. Regression Results from Utilization Equations (Joint Estimates for the Diabetes sample)

	Diabetes							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. Use_{both}|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Insurance and Utilization								
HINDC	-0.0030	-0.0196***	-0.1029***	0.1186***	4.2117***	2.5916***	2.3857***	7.2239***
	(0.0034)	(0.0047)	(0.0048)	(0.0049)	(0.0293)	(0.0294)	(0.0520)	(0.0695)
HIWDC	0.2906***	0.0044*	-0.1593***	0.1924***	0.6369***	0.1947***	0.0190	1.7877***
	(0.0018)	(0.0024)	(0.0024)	(0.0024)	(0.0147)	(0.0151)	(0.0222)	(0.0337)
HMODC	0.2474***	0.0910***	-0.0626***	-0.0342***	-0.1146***	-0.1281***	0.0983***	0.7259***
	(0.0019)	(0.0025)	(0.0025)	(0.0026)	(0.0154)	(0.0152)	(0.0235)	(0.0375)
HINDC*Obnum	0.1092***	-0.0199***	0.0086***	0.0112***	-0.2880***	-0.2178***	-0.4054***	0.1408***
	(0.0009)	(0.0009)	(0.0010)	(0.0010)	(0.0059)	(0.0050)	(0.0120)	(0.0143)
HIWDC*Obnum	0.1332***	-0.0536***	0.0123***	0.0208***	0.1261***	0.0370	0.1281***	0.1120***
	(0.0004)	(0.0003)	(0.0002)	(0.0002)	(0.0013)	(.)	(0.0021)	(0.0021)
HMODC*Obnum	0.0921***	-0.0261***	0.0155***	0.0051***	0.2589***	0.1634***	0.2635***	0.6001***
	(0.0003)	(0.0003)	(0.0002)	(0.0002)	(0.0015)	(0.0016)	(0.0016)	(0.0044)
Uninsured*Obnum	0.0918***	-0.0116***	-0.0147***	0.0254***	0.2268***	0.2747***	0.2395***	0.2024***
	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0032)	(0.0029)	(0.0055)	(0.0073)
Demographic								
Age	0.0175***	0.0049***	-0.0206***	0.0191***	0.0805***	0.0623***	0.0218	0.1004***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0005)	(0.0005)	(.)	(0.0013)
Female	-0.0339***	-0.0317***	0.0170***	0.0259***	-0.1049***	-0.5994***	-0.2134***	0.4750***
	(0.0011)	(0.0012)	(0.0012)	(0.0013)	(0.0076)	(0.0084)	(0.0114)	(0.0166)
Black	-0.0328***	-0.0124***	-0.0769***	0.0789***	1.3012***	1.2827***	0.0978***	3.1177***
	(0.0016)	(0.0019)	(0.0019)	(0.0019)	(0.0115)	(0.0132)	(0.0167)	(0.0256)
Hispanic	0.0351***	0.3369***	-0.2426***	-0.1246***	-1.3679***	-1.1968	-0.8579***	-0.8637***
	(0.0016)	(0.0019)	(0.0020)	(0.0020)	(0.0118)	(.)	(0.0172)	(0.0282)
Mid Income	0.0092***	0.0041***	-0.0945***	0.1042***	0.6377***	1.0022***	0.6911***	-0.6284***
	(0.0012)	(0.0014)	(0.0014)	(0.0014)	(0.0085)	(0.0100)	(0.0123)	(0.0181)
Low Income	0.1286***	0.2011***	-0.1777***	-0.0297***	-0.2557***	1.3555***	0.3908***	-2.5826***
	(0.0018)	(0.0021)	(0.0021)	(0.0022)	(0.0130)	(0.0099)	(0.0186)	(0.0304)

Table 12B. (Continued)

	Diabetes							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. $_{Useboth}$|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Near Poor	0.0240***	0.3662***	-0.2686***	-0.1218***	-1.4968***	-0.1543***	-0.4393***	-2.5467***
	(0.0029)	(0.0035)	(0.0037)	(0.0038)	(0.0218)	(0.0124)	(0.0359)	(0.0536)
Poor	0.0412***	0.1517***	-0.2030***	0.0790***	0.0264	0.7273***	0.9586***	-1.6015***
	(0.0024)	(0.0028)	(0.0029)	(0.0030)	(0.0177)	(0.0172)	(0.0268)	(0.0397)
Married	-0.0755***	-0.0434***	-0.1663***	0.2470***	0.6051***	-0.4532***	0.8687***	0.4563***
	(0.0016)	(0.0018)	(0.0018)	(0.0019)	(0.0113)	(0.0124)	(0.0152)	(0.0287)
Divorced	-0.1233***	0.0684***	-0.1912***	0.1430***	0.4755***	-0.7077***	0.5591***	1.4638***
	(0.0019)	(0.0022)	(0.0022)	(0.0023)	(0.0134)	(0.0144)	(0.0194)	(0.0308)
Household	-0.0080***	0.0057***	0.0275***	-0.0331***	-0.2019***	0.0303***	-0.3116***	-0.1991***
	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0031)	(0.0034)	(0.0044)	(0.0069)
Education								
High School	-0.0479***	-0.0164***	0.0150***	-0.0059***	-0.1524***	-0.3452***	-0.5997***	-0.6591***
	(0.0012)	(0.0014)	(0.0014)	(0.0014)	(0.0084)	(0.0094)	(0.0129)	(0.0181)
BA	-0.1269***	0.0317***	0.0282***	-0.0600***	-1.0073***	0.2474***	-2.9264***	-0.2168***
	(0.0017)	(0.0020)	(0.0020)	(0.0020)	(0.0121)	(0.0136)	(0.0179)	(0.0265)
MA	-0.1607***	-0.4717***	0.3270***	0.0482***	-0.0583***	-1.6768***	-0.1111***	-2.5292***
	(0.0025)	(0.0033)	(0.0029)	(0.0030)	(0.0179)	(0.0095)	(0.0223)	(0.0381)
Empolyment								
Employed	0.1345***	0.2622***	-0.1861***	-0.0366***	-0.0201	-0.0380**	1.7144***	0.2217***
	(0.0021)	(0.0027)	(0.0026)	(0.0026)	(0.0158)	(0.0157)	(0.0213)	(0.0341)
Unemployed	0.0489***	0.3041***	-0.0892***	-0.1996***	-0.1732***	-1.0574***	2.6286***	-0.8958***
	(0.0024)	(0.0031)	(0.0029)	(0.0030)	(0.0180)	(0.0168)	(0.0264)	(0.0379)
Selfemployed	0.0187***	0.0074***	0.0627***	-0.0597***	-0.0098	-0.2246***	0.1444***	-0.7888***
	(0.0020)	(0.0025)	(0.0024)	(0.0025)	(0.0149)	(0.0165)	(0.0224)	(0.0331)
Union	-0.0866***	0.0574***	-0.0533***	0.0177***	-0.8585***	-0.3358***	0.1673***	-3.1005***
	(0.0016)	(0.0019)	(0.0019)	(0.0019)	(0.0113)	(0.0124)	(0.0176)	(0.0240)
Sicpay	0.1088***	0.0329***	0.0836***	-0.1059***	0.3311***	-1.0690***	1.5100***	1.4889***
	(0.0017)	(0.0020)	(0.0020)	(0.0020)	(0.0120)	(0.0131)	(0.0183)	(0.0258)

Table 12B. (Continued)

Diabetes								
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. $_{Useboth}$|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Payvac	0.0920***	-0.0026	-0.1251***	0.1208***	0.4392***	0.5589***	-0.2736***	-0.0147
	(0.0018)	(0.0022)	(0.0022)	(0.0022)	(0.0134)	(0.0151)	(0.0194)	(0.0295)
Regions								
Midwest	-0.0132***	0.0178***	-0.0114***	-0.0061***	0.1688***	0.4195***	-2.7392***	4.3271***
	(0.0017)	(0.0019)	(0.0019)	(0.0020)	(0.0118)	(0.0134)	(0.0176)	(0.0258)
South	0.0697***	-0.0968***	0.0591***	0.0289***	0.3605***	0.1026***	-2.1569***	4.1806***
	(0.0015)	(0.0017)	(0.0017)	(0.0018)	(0.0106)	(0.0112)	(0.0154)	(0.0232)
West	0.0764***	0.2020***	-0.3385***	0.1187***	0.4231***	0.7100***	-3.4074***	3.8212***
	(0.0017)	(0.0019)	(0.0020)	(0.0020)	(0.0118)	(0.0086)	(0.0154)	(0.0259)
Urban	0.0093***	0.1964***	-0.0068***	-0.1816***	-0.8231***	0.8727***	-1.2961***	-0.0094
	(0.0013)	(0.0016)	(0.0015)	(0.0016)	(0.0095)	(0.0061)	(0.0142)	(0.0197)
Health Characteristics								
Very Good Health	0.0674***	-0.0188***	0.0552***	-0.0425***	1.3625***	-0.2443***	2.6239***	3.1832***
	(0.0022)	(0.0029)	(0.0030)	(0.0031)	(0.0181)	(0.0198)	(0.0265)	(0.0405)
Good Health	0.2805***	-0.0946***	0.0167***	0.0799***	1.1986***	-0.2068***	2.4739***	2.0443***
	(0.0021)	(0.0028)	(0.0028)	(0.0029)	(0.0172)	(0.0183)	(0.0251)	(0.0384)
Fair Health	0.2822***	-0.0855***	0.0148***	0.0767***	1.3063***	-0.3902***	2.1557***	3.1011***
	(0.0023)	(0.0029)	(0.0029)	(0.0030)	(0.0181)	(0.0196)	(0.0267)	(0.0405)
Poor Health	0.0499***	-0.1696***	0.0183***	0.1529***	1.8513***	-0.0496**	2.3108***	1.9696***
	(0.0028)	(0.0036)	(0.0036)	(0.0037)	(0.0222)	(0.0243)	(0.0327)	(0.0488)
Limit	-0.2516***	0.0047	0.2004***	-0.2115***	0.3704***	-0.9222***	2.2844***	0.1841***
	(0.0025)	(0.0030)	(0.0029)	(0.0030)	(0.0181)	(0.0216)	(0.0252)	(0.0393)
Coglim	-0.0226***	0.1495***	-0.1897***	0.0572***	-0.1535***	0.8726***	-0.4494***	-0.7128***
	(0.0023)	(0.0027)	(0.0027)	(0.0026)	(0.0162)	(0.0167)	(0.0252)	(0.0337)
Chddx	0.3295***	0.0044	0.0599***	-0.0753***	-0.2556***	-1.7729***	2.3027***	-1.8441***
	(0.0026)	(0.0028)	(0.0026)	(0.0027)	(0.0161)	(0.0207)	(0.0228)	(0.0333)
Midx	-0.1355***	-0.2121***	0.0697***	0.1034***	0.5793***	0.6345***	1.7480***	-1.6637***
	(0.0027)	(0.0030)	(0.0028)	(0.0028)	(0.0176)	(0.0205)	(0.0268)	(0.0338)

Table 12B. (Continued)

	Diabetes							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. $_{Useboth}$|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Angidx	-0.2065***	0.3202***	0.1098***	-0.3914***	0.2900***	0.0830***	-0.6680***	6.3726***
	(0.0031)	(0.0034)	(0.0032)	(0.0034)	(0.0203)	(0.0216)	(0.0281)	(0.0468)
Ohrtdx	-0.1072***	-0.1612***	0.1063***	0.0386***	0.1669***	0.0765***	-0.1249***	0.0825***
	(0.0020)	(0.0023)	(0.0021)	(0.0022)	(0.0132)	(0.0145)	(0.0194)	(0.0265)
Strkdx	0.0308***	-0.0597***	-0.0156***	0.1093***	1.1505***	0.8278***	-0.9593***	2.8276***
	(0.0029)	(0.0032)	(0.0030)	(0.0030)	(0.0188)	(0.0221)	(0.0300)	(0.0378)
Hypertension	0.1643***	-0.0064***	0.0346***	-0.0339***	-	-	-	-
	(0.0011)	(0.0013)	(0.0013)	(0.0013)				
Hyerlidpedemia	0.2344***	0.0034***	-0.1465***	0.1536***	-	-	-	-
	(0.0011)	(0.0009)	(0.0012)	(0.0012)				
Dskidn	0.3110***	-0.1639***	-0.0995***	0.2347***	0.7595***	-0.4667***	-0.8718***	2.8329***
	(0.0024)	(0.0026)	(0.0024)	(0.0024)	(0.0148)	(0.0175)	(0.0214)	(0.0297)
Dseypr	0.2166***	-0.4331***	0.1304***	0.2506***	0.4477***	-0.1794	0.2673***	-0.7539***
	(0.0017)	(0.0019)	(0.0018)	(0.0018)	(0.0110)	(.)	(0.0151)	(0.0227)
Conditions	-	-	-	-	0.3007***	0.9300***	0.7116***	-0.5913***
					(0.0079)	(0.0089)	(0.0118)	(0.0172)
Risk Preference								
Adrisk	-0.0169***	0.1002***	-0.1417***	0.0496***	0.5061***	-0.4794***	1.0264***	0.7650***
	(0.0014)	(0.0016)	(0.0017)	(0.0017)	(0.0100)	(0.0095)	(0.0153)	(0.0213)
Adsmok	-0.0250***	0.1533***	-0.0835***	-0.0694***	-0.3869***	-0.5485***	-0.1506***	0.5983***
	(0.0013)	(0.0016)	(0.0016)	(0.0016)	(0.0098)	(0.0076)	(0.0146)	(0.0213)
Year Dummy								
2003	-0.5264***	-0.8237***	1.0305***	-0.3821***	0.7356***	0.3343	0.9739	1.0167***
	(0.0016)	(0.0022)	(0.0020)	(0.0021)	(0.0126)	(.)	(.)	(0.0321)
2004	-0.3117***	-0.4971***	0.7023***	-0.2521***	-0.2280***	-0.9445	1.2676	-1.7591***
	(0.0016)	(0.0019)	(0.0018)	(0.0019)	(0.0114)	(.)	(.)	(0.0272)
2005	-0.1102***	-0.0723***	0.0595***	0.0459***	0.0121	-0.6261***	0.5917***	-1.2033***
	(0.0016)	(0.0017)	(0.0018)	(0.0018)	(0.0108)	(0.0107)	(0.0187)	(0.0222)

Table 12B. (Continued)

Diabetes								
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. $_{Useboth}$|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
2006	0.0333***	-0.0993***	0.0585***	0.0637***	0.6926***	-0.5379***	0.2526***	1.7944***
	(0.0016)	(0.0016)	(0.0017)	(0.0017)	(0.0103)	(0.0096)	(0.0179)	(0.0203)
Intercept	-1.1167***	-0.7831***	0.9204***	-1.7524***	4.2577***	3.8754	4.7937***	3.4979***
	(0.0049)	(0.0065)	(0.0064)	(0.0069)	(0.0428)	(.)	(0.0517)	(0.1376)
Sigma					8.2536***	5.2630***	7.4113***	9.2470***
					(0.0029)	(0.0028)	(0.0037)	(0.0081)
Rho					-0.2145***	-0.0023	-0.0028	-0.1857***
					(0.0016)	(0.1128)	(0.1891)	(0.0049)

Table 13A. Regression Results from Expenditure Equations (Joint Estimates for the Depression Sample)

	Depression							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Insurance and Utilization								
HINDC	0.4513*** (0.0022)	-0.0629*** (0.0034)	-0.1617*** (0.0031)	0.4465*** (0.0038)	0.1125*** (0.0031)	0.0901*** (0.006)	0.3148*** (0.0034)	0.4528*** (0.0092)
HIWDC	0.6089*** (0.0012)	-0.18*** (0.0019)	-0.0106*** (0.0018)	0.3093*** (0.0024)	-0.8502*** (0.0019)	-0.6128*** (0.0035)	-0.4295*** (0.002)	-0.8783*** (0.0062)
HMODC	0.5294*** (0.0013)	-0.0584*** (0.0021)	-0.1254*** (0.002)	0.338*** (0.0026)	-0.8834*** (0.002)	-0.715*** (0.0034)	-0.4602*** (0.0021)	-0.8224*** (0.0066)
HINDC*Obnum	0.033*** (0.0004)	-0.0397*** (0.0006)	-0.0105*** (0.0003)	0.031*** (0.0004)	0.004*** (0.0003)	0.0632*** (0.0016)	0.0312*** (0.0004)	-0.0191*** (0.0004)
HIWDC*Obnum	0.0158*** (0.0001)	-0.0127*** (0.0001)	0.0007*** (0.0001)	0.0092*** (0.0001)	0.0086*** (0.0001)	0.0135*** (0.0003)	0.0166*** (0.0001)	0.0084*** (0.0002)
HMODC*Obnum	0.0279*** (0.0001)	-0.0027*** (0.0001)	-0.0067*** (0.0001)	0.0124*** (0.0001)	0.0019*** (0.0001)	-0.0086*** (0.0002)	0.0156*** (0.0001)	0.011*** (0.0002)
Uninsured*Obnum	0.0642*** (0.0002)	0.0071*** (0.0002)	-0.0084*** (0.0002)	0.008*** (0.0002)	-0.0068*** (0.0002)	0.0275*** (0.0002)	0.0163*** (0.0002)	0.0327*** (0.0005)
Demographic								
Age	0.0107*** (0)	0.005*** (0.0001)	-0.0066*** (0.0001)	0.0042*** (0.0001)	-0.0032*** (0.0001)	0.0056*** (0.0001)	0.0025*** (0.0001)	-0.0003*** (0.0001)
Female	0.2441*** (0.0008)	0.1097*** (0.0012)	-0.2062*** (0.0011)	0.188*** (0.0014)	-0.0578*** (0.0012)	0.1078*** (0.0024)	0.1211*** (0.0013)	0.1625*** (0.0034)
Black	-0.6743*** (0.0017)	-0.0834*** (0.0034)	0.0381*** (0.003)	0.0404*** (0.0035)	-0.0582*** (0.0029)	-0.2963*** (0.0061)	-0.7427*** (0.0031)	-0.48*** (0.0056)
Hispanic	-0.2574*** (0.0014)	0.0515*** (0.0023)	-0.0027 (0.0021)	-0.0849*** (0.0027)	-0.142*** (0.0021)	-0.3865*** (0.0039)	-0.3327*** (0.0022)	-0.1204*** (0.0047)
Mid Income	-0.0148*** (0.0009)	0.0342*** (0.0013)	-0.0411*** (0.0012)	0.0249*** (0.0014)	-0.0211*** (0.0012)	-0.027*** (0.0023)	-0.0336*** (0.0012)	-0.0894*** (0.0023)
Low Income	-0.1231*** (0.0014)	0.0618*** (0.0021)	-0.0374*** (0.0019)	-0.0232*** (0.0023)	0.2142*** (0.0019)	0.2206*** (0.0036)	0.1964*** (0.002)	-0.2868*** (0.0039)

Table 13A. (Continued)

	Depression							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Near Poor	-0.1162***	-0.0574***	0.0892***	-0.0526***	0.338***	0.7946***	0.0539***	0.1561***
	(0.0023)	(0.0038)	(0.0035)	(0.0043)	(0.0033)	(0.0069)	(0.0035)	(0.0072)
Poor	-0.1523***	0.0402***	0.0611***	-0.1473***	0.323***	0.0971***	0.2685***	0.153***
	(0.0016)	(0.0027)	(0.0025)	(0.0031)	(0.0024)	(0.0047)	(0.0026)	(0.0055)
Married	0.1195***	-0.0065***	-0.1198***	0.2139***	-0.0436***	-0.128***	0.0974***	-0.1235***
	(0.0011)	(0.0017)	(0.0015)	(0.0019)	(0.0015)	(0.0029)	(0.0016)	(0.0044)
Divorced	-0.0719***	0.0081***	-0.0343***	0.0594***	0.036***	-0.1092***	0.0034*	0.0251***
	(0.0012)	(0.0018)	(0.0017)	(0.0021)	(0.0017)	(0.0031)	(0.0018)	(0.0036)
Household	0.0083***	-0.0538***	0.074***	-0.0501***	0.0089***	0.0692***	-0.0026***	-0.0213***
	(0.0003)	(0.0005)	(0.0005)	(0.0006)	(0.0004)	(0.001)	(0.0005)	(0.0011)
Education								
High School	0.1071***	0.003**	0.0373***	-0.0824***	-0.1375***	-0.0084***	-0.0579***	-0.086***
	(0.0009)	(0.0014)	(0.0013)	(0.0015)	(0.0013)	(0.0024)	(0.0013)	(0.0027)
BA	0.1173***	0.0126***	0.0025	-0.0421***	-0.0706***	0.3018***	-0.0689***	-0.0251***
	(0.0012)	(0.0017)	(0.0015)	(0.0019)	(0.0016)	(0.0029)	(0.0017)	(0.003)
MA	0.1291***	-0.1352***	0.058***	0.0875***	0.0531***	0.2943***	0.0842***	0.107***
	(0.0016)	(0.0022)	(0.002)	(0.0023)	(0.002)	(0.0041)	(0.0021)	(0.0038)
Empolyment								
Employed	-0.0026*	0.0695***	0.1339***	-0.3019***	-0.1103***	-0.0149***	-0.087***	-0.1743***
	(0.0013)	(0.0021)	(0.0019)	(0.0022)	(0.0018)	(0.0039)	(0.002)	(0.0053)
Unemployed	-0.0116***	0.1003***	-0.0144***	-0.0891***	-0.1928***	-0.1073***	-0.1846***	-0.2015***
	(0.0016)	(0.0024)	(0.0022)	(0.0025)	(0.0022)	(0.0044)	(0.0023)	(0.0041)
Selfemployed	0.0382***	-0.0388***	0.0103***	0.056***	0.0832***	-0.1217***	0.2324***	0.1498***
	(0.0014)	(0.0021)	(0.0019)	(0.0024)	(0.0019)	(0.0037)	(0.002)	(0.0042)
Union	0.0278***	-0.1771***	0.0958***	0.086***	-0.1449***	0.0466***	-0.3336***	0.1924***
	(0.0013)	(0.0019)	(0.0017)	(0.0021)	(0.0017)	(0.0037)	(0.0018)	(0.0036)
Sicpay	0.1069***	0.0151***	-0.0499***	0.0709***	-0.1459***	-0.0556***	-0.0707***	-0.0361***
	(0.0013)	(0.0019)	(0.0017)	(0.0021)	(0.0017)	(0.0033)	(0.0018)	(0.0038)

Table 13A. (Continued)

	Depression							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Payvac	-0.0601***	0.0989***	-0.0594***	-0.0154***	0.0844***	0.1239***	0.1103***	-0.0916***
	(0.0014)	(0.002)	(0.0018)	(0.0022)	(0.0018)	(0.0035)	(0.0019)	(0.0039)
Regions								
Midwest	0.0016	-0.0196***	-0.0795***	0.1506***	-0.0087***	-0.3959***	0.011***	0.0735***
	(0.0012)	(0.0017)	(0.0016)	(0.0019)	(0.0016)	(0.0029)	(0.0017)	(0.0037)
South	0.0778***	-0.2537***	0.1394***	0.0903***	0.0086***	-0.2184***	0.037***	0.1095***
	(0.0012)	(0.0017)	(0.0015)	(0.0019)	(0.0015)	(0.0036)	(0.0017)	(0.0033)
West	-0.0925***	0.022***	-0.0804***	0.0932***	-0.0103***	-0.184***	-0.0729***	-0.0297***
	(0.0012)	(0.0017)	(0.0016)	(0.002)	(0.0016)	(0.0029)	(0.0018)	(0.0035)
Urban	-0.1618***	-0.0927***	0.0382***	0.0574***	0.1935***	0.0273***	0.106***	-0.0982***
	(0.001)	(0.0014)	(0.0013)	(0.0016)	(0.0014)	(0.0025)	(0.0014)	(0.0028)
Health Characteristics								
Very Good Health	0.0447***	-0.0521***	-0.1087***	0.31***	0.2222***	-0.0516***	0.3235***	0.0227***
	(0.0011)	(0.0017)	(0.0016)	(0.0021)	(0.0016)	(0.003)	(0.0017)	(0.0058)
Good Health	0.084***	-0.0445***	-0.1111***	0.318***	0.1999***	-0.0247***	0.285***	0.0759***
	(0.0012)	(0.0017)	(0.0016)	(0.0021)	(0.0016)	(0.003)	(0.0017)	(0.0059)
Fair Health	0.1647***	-0.0164***	-0.22***	0.4407***	0.1504***	-0.047***	0.3337***	0.1275***
	(0.0014)	(0.002)	(0.0019)	(0.0024)	(0.0019)	(0.0036)	(0.0022)	(0.0074)
Poor Health	0.2059***	-0.0741***	-0.099***	0.3395***	0.1014***	-0.27***	0.426***	-0.2234***
	(0.002)	(0.0028)	(0.0025)	(0.0031)	(0.0026)	(0.005)	(0.0028)	(0.0069)
Limit	0.2770***	-0.039***	-0.0994***	0.1750***	-0.0468***	0.2496***	0.1091***	-0.0559***
	(0.0017)	(0.0023)	(0.0021)	(0.0024)	(0.0022)	(0.004)	(0.0024)	(0.0042)
Coglim	0.0157***	0.0633***	-0.1094***	0.0637***	0.0615***	0.2623***	-0.0407***	0.2181***
	(0.0013)	(0.002)	(0.0018)	(0.002)	(0.0018)	(0.0034)	(0.002)	(0.0034)
MCS	-0.0030***	0.0089***	-0.0033***	-0.0062***	-0.0013***	-0.0003***	-0.0004***	-0.0038***
	(0.0000)	(0.0001)	(0.0000)	(0.0001)	(0.0000)	(0.0001)	(0.0001)	(0.0001)

Table 13A. (Continued)

	Depression							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Conditions	-	-	-	-	0.0135*** (0.001)	0.0745*** (0.0021)	0.0305*** (0.0012)	0.1582*** (0.0023)
Risk Preference								
Adrisk	-0.2178*** (0.001)	-0.0154*** (0.0015)	0.0891*** (0.0014)	-0.1127*** (0.0018)	0.1089*** (0.0014)	-0.007** (0.0028)	-0.0276*** (0.0015)	0.0261*** (0.0034)
Adsmok	-0.058*** (0.0009)	-0.1291*** (0.0013)	-0.0593*** (0.0012)	0.2508*** (0.0014)	0.0629*** (0.0012)	-0.1265*** (0.0027)	0.0128*** (0.0013)	0.0384*** (0.004)
Year Dummy								
2003	-0.432*** (0.0012)	-0.7405*** (0.0019)	0.8291*** (0.0017)	-0.4065*** (0.0022)	0.3079*** (0.0017)	-0.0696*** (0.0071)	-0.1135*** (0.003)	-0.1721*** (0.0067)
2004	-0.3028*** (0.0012)	-0.6635*** (0.0018)	0.6771*** (0.0016)	-0.24*** (0.002)	0.2146*** (0.0016)	0.1441*** (0.0063)	-0.1502*** (0.0027)	-0.1497*** (0.0045)
2005	-0.0729*** (0.0012)	-0.4201*** (0.0016)	0.3767*** (0.0015)	-0.0451*** (0.0018)	0.2109*** (0.0015)	0.1619*** (0.0043)	0.0147*** (0.0021)	0.1199*** (0.0029)
2006	-0.0225*** (0.0012)	-0.1479*** (0.0015)	0.072*** (0.0015)	0.0945*** (0.0017)	0.2283*** (0.0015)	0.3061*** (0.0027)	0.0742*** (0.0018)	0.3461*** (0.0031)
Intercept	-0.6557*** (0.0035)	-0.6828*** (0.0052)	0.5148*** (0.0048)	-1.6456*** (0.0061)	5.9797*** (0.0052)	4.0767*** (0.0165)	4.7182*** (0.0059)	6.2146*** (0.0368)
Sigma					1.4228*** (0.0008)	1.1686*** (0.0007)	1.0859*** (0.0004)	-1.6456 (0.0061)
Rho					0.7696*** (0.0008)	-0.0485*** (0.0092)	0.0454*** (0.0051)	0.0143 (0.0184)

Table 13B. Regression Results from Utilization Equations (Joint Estimates for the Depression Sample)

	Depression							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. Use_{both}|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Insurance and Utilization								
HINDC	0.45***	-0.0767***	-0.1208***	0.4196***	-0.322***	-2.1355***	0.1867***	1.0828***
	(0.0022)	(0.0034)	(0.0031)	(0.0037)	(0.0128)	(0.0234)	(0.0141)	(0.0615)
HIWDC	0.5904***	-0.2497***	0.0274***	0.3491***	0.7178***	0.3248***	1.0717***	0.7831***
	(0.0012)	(0.0019)	(0.0018)	(0.0023)	(0.008)	(0.0148)	(0.0081)	(0.0437)
HMODC	0.5179***	-0.1271***	-0.0767***	0.3609***	0.8801***	-0.3875***	1.4931***	0.2655***
	(0.0013)	(0.002)	(0.0019)	(0.0025)	(0.0084)	(0.014)	(0.0087)	(0.0456)
HINDC*Obnum	0.0294***	-0.047***	-0.0083***	0.0308***	0.2056***	-0.0635***	0.1152***	0.0919***
	(0.0004)	(0.0006)	(0.0003)	(0.0003)	(0.0011)	(0.0067)	(0.0015)	(0.0026)
HIWDC*Obnum	0.0177***	-0.0124***	0.0005***	0.0088***	0.1053***	0.0117***	0.1161***	0.0683***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0004)	(0.001)	(0.0003)	(0.0014)
HMODC*Obnum	0.0307***	-0.003***	-0.0055***	0.011***	0.0371***	0.0461***	0.0132***	0.0504***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0004)	(0.0009)	(0.0005)	(0.0015)
Uninsured*Obnum	0.07***	-0.0076***	-0.005***	0.0201***	0.0952***	0.149***	0.1158***	0.0359***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0007)	(0.0013)	(0.0009)	(0.0026)
Demographic								
Age	0.0105***	0.0049***	-0.0068***	0.0045***	0.0341***	0.0387***	0.0327***	0.0319***
	(0)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0004)	(0.0002)	(0.0009)
Female	0.2338***	0.0506***	-0.1554***	0.1788***	1.1109***	1.261***	0.8415***	1.3704***
	(0.0008)	(0.0012)	(0.0011)	(0.0014)	(0.0048)	(0.0091)	(0.0052)	(0.0233)
Black	-0.6454***	0.0244***	-0.0047*	-0.0319***	-1.7474***	-1.3666***	-2.5754***	-0.665***
	(0.0017)	(0.0031)	(0.0029)	(0.0034)	(0.0123)	(0.0216)	(0.0127)	(0.0398)
Hispanic	-0.2873***	0.0044*	0.0482***	-0.1048***	-1.1099***	-1.9255***	-0.946***	-1.7022***
	(0.0014)	(0.0023)	(0.0021)	(0.0027)	(0.0088)	(0.0157)	(0.0092)	(0.0344)
Mid Income	-0.0372***	0.0081***	-0.0234***	0.0303***	0.0732***	-0.0268***	0.1183***	0.0813***
	(0.0009)	(0.0013)	(0.0012)	(0.0014)	(0.0048)	(0.0091)	(0.0052)	(0.0168)
Low Income	-0.1593***	0.0409***	-0.0045**	-0.0454***	0.6232***	0.9069***	0.2995***	1.7965***
	(0.0014)	(0.002)	(0.0019)	(0.0023)	(0.0079)	(0.0144)	(0.0084)	(0.0283)

Table 13B. (Continued)

	Depression							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Near Poor	-0.0574***	0.0916***	-0.0261***	-0.0589***	0.5219***	0.9002***	-0.0634***	3.3164***
	(0.0023)	(0.0035)	(0.0032)	(0.004)	(0.0136)	(0.0245)	(0.0147)	(0.05)
Poor	-0.1569***	0.0438***	0.0896***	-0.2001***	0.275***	0.1648***	0.2969***	3.0903***
	(0.0017)	(0.0026)	(0.0024)	(0.0031)	(0.0099)	(0.0183)	(0.0106)	(0.0416)
Married	0.1394***	0.0213***	-0.1187***	0.1735***	0.41***	0.1967***	0.3702***	0.4352***
	(0.0011)	(0.0016)	(0.0015)	(0.0019)	(0.0062)	(0.0119)	(0.0067)	(0.0281)
Divorced	-0.0626***	0.0504***	-0.0446***	0.0168***	0.3625***	-0.287***	0.1371***	1.4013***
	(0.0012)	(0.0018)	(0.0017)	(0.002)	(0.0069)	(0.0126)	(0.0075)	(0.0248)
Household	0.0064***	-0.0636***	0.0713***	-0.0373***	0.031***	0.1258***	0.1051***	-0.1972***
	(0.0003)	(0.0005)	(0.0004)	(0.0005)	(0.0018)	(0.0043)	(0.002)	(0.0074)
Education								
High School	0.1147***	-0.0343***	0.0588***	-0.073***	-0.1734***	0.1851***	-0.1119***	-0.2488***
	(0.0009)	(0.0013)	(0.0012)	(0.0015)	(0.0051)	(0.0094)	(0.0056)	(0.0185)
BA	0.1097***	-0.0356***	0.0171***	-0.01***	-0.2789***	0.4054***	-0.4832***	0.0298
	(0.0012)	(0.0017)	(0.0015)	(0.0018)	(0.0063)	(0.0117)	(0.0069)	(0.0213)
MA	0.1455***	-0.1705***	0.0425***	0.149***	0.7611***	1.1587***	-0.3112***	3.5873***
	(0.0016)	(0.0022)	(0.002)	(0.0023)	(0.0082)	(0.0169)	(0.0088)	(0.0292)
Empolyment								
Employed	0.0367***	0.0967***	0.1074***	-0.2886***	-0.4348***	0.9221***	0.0653***	-0.9681***
	(0.0014)	(0.0021)	(0.0018)	(0.0022)	(0.0076)	(0.0158)	(0.0083)	(0.0364)
Unemployed	0.0299***	0.1234***	-0.0621***	-0.0464***	-0.4004***	0.7619***	-0.2081***	-1.1801***
	(0.0016)	(0.0024)	(0.0021)	(0.0025)	(0.0089)	(0.018)	(0.0098)	(0.029)
Selfemployed	0.0292***	-0.0849***	0.0193***	0.0968***	-0.0898***	-0.9586***	0.1041***	-0.4***
	(0.0014)	(0.0021)	(0.0019)	(0.0023)	(0.0079)	(0.0149)	(0.0084)	(0.03)
Union	0.0246***	-0.1543***	0.1049***	0.0435***	0.4106***	0.6637***	-0.0581***	2.0845***
	(0.0013)	(0.0019)	(0.0017)	(0.0021)	(0.0071)	(0.0146)	(0.0076)	(0.025)
Sicpay	0.112***	-0.0015	-0.0698***	0.1232***	-0.1204***	0.0886***	-0.6144***	1.9688***
	(0.0013)	(0.0019)	(0.0017)	(0.0021)	(0.0071)	(0.0132)	(0.0075)	(0.0288)

Table 13B. (Continued)

	Depression							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. Use_{both}|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Payvac	-0.0496***	0.1028***	-0.0524***	-0.0359***	0.4147***	0.9674***	0.3775***	-0.6398***
	(0.0014)	(0.002)	(0.0018)	(0.0022)	(0.0074)	(0.0143)	(0.0077)	(0.0277)
Regions								
Midwest	-0.0085***	-0.0098***	-0.0385***	0.0727***	0.2258***	-1.0818***	0.6196***	-0.9919***
	(0.0012)	(0.0017)	(0.0015)	(0.0019)	(0.0065)	(0.0117)	(0.0071)	(0.0231)
South	0.1027***	-0.2258***	0.1467***	0.0463***	-0.3793***	-1.3848***	0.1576***	-1.8484***
	(0.0012)	(0.0016)	(0.0015)	(0.0018)	(0.0063)	(0.0139)	(0.0069)	(0.0223)
West	-0.1005***	0.0366***	-0.0524***	0.0303***	-0.3132***	-1.0887***	-0.1119***	-1.1152***
	(0.0012)	(0.0017)	(0.0016)	(0.0019)	(0.0067)	(0.0119)	(0.0074)	(0.0231)
Urban	-0.1785***	-0.0724***	0.0304***	0.0431***	0.3362***	0.0328***	0.432***	0.0778***
	(0.0011)	(0.0014)	(0.0013)	(0.0016)	(0.0055)	(0.01)	(0.0059)	(0.0195)
Health Characteristics								
Very Good Health	0.0518***	-0.06***	-0.1126***	0.3214***	0.6596***	0.0955***	0.664***	-1.2165***
	(0.0012)	(0.0017)	(0.0016)	(0.0021)	(0.0065)	(0.012)	(0.0069)	(0.0411)
Good Health	0.111***	-0.0509***	-0.1242***	0.3461***	0.4417***	-0.2812***	0.4762***	-1.5649***
	(0.0012)	(0.0017)	(0.0016)	(0.0021)	(0.0066)	(0.0123)	(0.007)	(0.0431)
Fair Health	0.184***	-0.0294***	-0.2084***	0.4378***	1.055***	-0.0278*	1.1477***	-0.3724***
	(0.0014)	(0.002)	(0.0019)	(0.0024)	(0.008)	(0.0144)	(0.0089)	(0.0515)
Poor Health	0.2907***	-0.0331***	-0.1288***	0.3391***	0.5034***	0.2826***	0.6191***	-2.0958***
	(0.002)	(0.0027)	(0.0025)	(0.003)	(0.0105)	(0.019)	(0.0115)	(0.0492)
Limit	0.3088***	-0.0362***	-0.1162***	0.204***	0.6165***	0.883***	0.2135***	0.6151***
	(0.0018)	(0.0022)	(0.002)	(0.0023)	(0.0087)	(0.0156)	(0.0101)	(0.0313)
Coglim	0.0221***	0.0499***	-0.112***	0.0703***	0.8303***	0.5273***	0.0059	3.4357***
	(0.0013)	(0.0019)	(0.0017)	(0.002)	(0.0072)	(0.0129)	(0.0083)	(0.0241)
MCS	-0.0035***	0.008***	-0.0025***	-0.0064***	0.0122***	0.021***	0.0125***	0.0023**
	(0)	(0.0001)	(0)	(0.0001)	(0.0002)	(0.0005)	(0.0002)	(0.0009)

Table 13B. (Continued)

	Depression							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Use>0	Pr. Use_{both}|Use>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Conditions	-	-	-	-	0.359*** (0.0047)	0.4663*** (0.0086)	0.4681*** (0.0052)	0.9833*** (0.0162)
Risk Preference								
Adrisk	-0.2142*** (0.001)	-0.0234*** (0.0015)	0.0678*** (0.0014)	-0.0706*** (0.0017)	0.1302*** (0.0059)	0.1153*** (0.011)	-0.0411*** (0.0062)	0.0368* (0.0218)
Adsmok	-0.049*** (0.0009)	-0.0961*** (0.0013)	-0.0805*** (0.0012)	0.2422*** (0.0014)	-0.008 (0.005)	-0.755*** (0.0102)	-0.0895*** (0.0055)	-0.0303 (0.0274)
Year Dummy								
2003	-0.4797*** (0.0012)	-0.7596*** (0.0019)	0.8406*** (0.0017)	-0.3942*** (0.0021)	-0.8187*** (0.0073)	-1.0981*** (0.0293)	-0.5921*** (0.0118)	-0.3443*** (0.0459)
2004	-0.3104*** (0.0012)	-0.6748*** (0.0017)	0.6456*** (0.0016)	-0.1695*** (0.0019)	-0.7843*** (0.0067)	0.0852*** (0.0256)	-0.81*** (0.0103)	-0.858*** (0.0272)
2005	-0.0839*** (0.0012)	-0.3948*** (0.0015)	0.3701*** (0.0015)	-0.0589*** (0.0018)	-0.2476*** (0.0062)	0.3953*** (0.0166)	-0.2884*** (0.0084)	-0.649*** (0.0215)
2006	-0.0577*** (0.0012)	-0.164*** (0.0015)	0.068*** (0.0014)	0.1233*** (0.0017)	0.2159*** (0.0062)	0.1462*** (0.0109)	-0.1121*** (0.0074)	0.5104*** (0.023)
Intercept	-0.6075*** (0.0035)	-0.5363*** (0.0051)	0.4171*** (0.0048)	-1.6635*** (0.0059)	2.9471*** (0.0223)	1.7427*** (0.0624)	1.1132*** (0.0245)	8.6834*** (0.2545)
Sigma					5.4318*** (0.0017)	4.7594*** (0.0026)	4.5290*** (0.0015)	6.9507*** (0.0046)
Rho					-0.1724*** (0.0017)	-0.0030 (0.0092)	-0.0115*** (0.0044)	0.0008 (0.0171)

Table 14A. Regression Results from Expenditure Equations (Joint Estimates for the Asthma Sample)

	Asthma							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Insurance and Utilization								
HINDC	0.1265***	0.5973***	-0.6407***	-0.0641***	-0.3167***	-0.3855***	-0.1799***	-0.0011
	(0.0024)	(0.0058)	(0.0061)	(0.0068)	(0.0041)	(0.0048)	(0.0118)	(0.0120)
HIWDC	0.1827***	-0.2245***	0.1781***	0.1334***	-0.6927***	-0.5858***	-0.5356***	-1.0473***
	(0.0014)	(0.0032)	(0.0035)	(0.0043)	(0.0027)	(0.0029)	(0.0061)	(0.0073)
HMODC	0.2926***	0.0375***	-0.1995***	0.1834***	-0.6721***	-0.5223***	-0.7733***	-0.7871***
	(0.0015)	(0.0034)	(0.0037)	(0.0045)	(0.0029)	(0.0029)	(0.0066)	(0.0073)
HINDC*Obnum	0.2837***	-0.2813***	0.1599***	0.0448***	-0.0326***	0.2379***	0.0938***	0.0186***
	(0.0016)	(0.0029)	(0.0013)	(0.0013)	(0.0010)	(0.0033)	(0.0015)	(0.0027)
HIWDC*Obnum	0.1841***	0.0157***	-0.0366***	0.0144***	-0.0237***	-0.0101***	0.0511***	0.0305***
	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0004)	(0.0010)	(0.0008)
HMODC*Obnum	0.1464***	-0.0291***	-0.0016***	0.0386***	0.0133***	0.0162***	0.0249***	-0.0023***
	(0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0010)	(0.0006)
Uninsured*Obnum	0.2912***	0.0706***	-0.0907***	-0.0077***	-0.0210***	0.0664***	0.0206***	-0.0129***
	(0.0009)	(0.0015)	(0.0016)	(0.0019)	(0.0014)	(0.0011)	(0.0030)	(0.0034)
Demographic								
Age	0.0000	0.0013***	0.0030***	-0.0066***	0.0035***	0.0092***	-0.0018***	0.0055***
	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)
Female	0.0148***	-0.1068***	0.0647***	0.1268***	-0.2315***	-0.2920***	-0.2571***	-0.3182***
	(0.0009)	(0.0018)	(0.0019)	(0.0023)	(0.0014)	(0.0016)	(0.0033)	(0.0041)
Black	-0.1263***	0.0258***	0.1198***	-0.1582***	0.0997***	0.0163***	0.3549***	-0.0777***
	(0.0014)	(0.0029)	(0.0031)	(0.0037)	(0.0023)	(0.0025)	(0.0056)	(0.0062)
Hispanic	-0.0635***	0.2456***	0.0474***	-0.5764***	-0.3743***	-0.2982***	-0.5862***	0.6217***
	(0.0015)	(0.0031)	(0.0033)	(0.0049)	(0.0024)	(0.0026)	(0.0060)	(0.0088)
Mid Income	-0.0477***	0.1144***	-0.0935***	-0.1395***	0.0645***	0.1215***	0.0348***	0.1797***
	(0.0009)	(0.0019)	(0.0020)	(0.0024)	(0.0015)	(0.0017)	(0.0036)	(0.0041)
Low Income	-0.1495***	0.0773***	0.0035	-0.1397***	-0.0189***	-0.0068**	-0.0941***	0.4407***
	(0.0015)	(0.0033)	(0.0036)	(0.0043)	(0.0026)	(0.0028)	(0.0067)	(0.0074)

Table 14A. (Continued)

	Asthma							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	$Ln(Exp_{genonly})$ |Exp>0	$Ln(Exp_{braonly})$ |Exp>0	$Ln(Exp_{both})$ |Exp>0
Near Poor	-0.0439*** (0.0027)	0.3646*** (0.0068)	-0.3268*** (0.0076)	-0.2180*** (0.0085)	0.4925*** (0.0047)	0.7223*** (0.0047)	-1.2236*** (0.0155)	0.5313*** (0.0158)
Poor	-0.1665*** (0.0019)	-0.3192*** (0.0038)	0.2498*** (0.0040)	0.1793*** (0.0048)	0.1249*** (0.0032)	0.0478*** (0.0037)	0.3397*** (0.0068)	-0.4881*** (0.0084)
Married	0.0472*** (0.0011)	-0.2890*** (0.0024)	0.1640*** (0.0027)	0.3146*** (0.0032)	0.0885*** (0.0019)	-0.0170*** (0.0022)	0.3243*** (0.0052)	-0.1126*** (0.0054)
Divorced	0.0096*** (0.0014)	-0.3466*** (0.0029)	0.1496*** (0.0033)	0.4128*** (0.0037)	0.2864*** (0.0024)	0.1949*** (0.0029)	0.5602*** (0.0064)	-0.4441*** (0.0065)
Household	-0.0162*** (0.0003)	0.0532*** (0.0007)	-0.0186*** (0.0008)	-0.0739*** (0.0009)	0.0024*** (0.0006)	0.0567*** (0.0006)	-0.1240*** (0.0013)	0.0102*** (0.0018)
Education								
High School	-0.0421*** (0.0010)	-0.1471*** (0.0020)	0.0548*** (0.0021)	0.1462*** (0.0025)	0.0627*** (0.0016)	0.0102*** (0.0018)	-0.0258*** (0.0037)	-0.0589*** (0.0041)
BA	-0.0805*** (0.0012)	0.0819*** (0.0025)	0.0024 (0.0026)	-0.2402*** (0.0033)	-0.1107*** (0.0020)	0.0230*** (0.0021)	-0.7070*** (0.0050)	0.2915*** (0.0059)
MA	-0.1718*** (0.0017)	-0.3382*** (0.0034)	0.2968*** (0.0036)	0.1599*** (0.0044)	0.0536*** (0.0029)	0.0281*** (0.0035)	-0.1833*** (0.0062)	0.3564*** (0.0073)
Empolyment								
Employed	-0.1380*** (0.0015)	-0.0157*** (0.0031)	0.1250*** (0.0035)	-0.1815*** (0.0040)	0.2345*** (0.0025)	0.3113*** (0.0025)	0.2180*** (0.0067)	-0.0332*** (0.0072)
Unemployed	-0.0429*** (0.0018)	-0.2501*** (0.0036)	0.1569*** (0.0040)	0.2306*** (0.0045)	0.0885*** (0.0029)	0.1677*** (0.0032)	-0.4918*** (0.0077)	-0.1825*** (0.0084)
Selfemployed	0.0494*** (0.0016)	-0.1494*** (0.0032)	0.1067*** (0.0036)	0.1161*** (0.0042)	0.0071*** (0.0026)	-0.0869*** (0.0028)	-0.0792*** (0.0065)	0.2434*** (0.0079)
Union	0.0933*** (0.0013)	-0.4668*** (0.0024)	0.3151*** (0.0026)	0.4418*** (0.0031)	0.0674*** (0.0020)	-0.1577*** (0.0027)	0.2299*** (0.0047)	0.2125*** (0.0048)
Sicpay	0.0326*** (0.0013)	0.1010*** (0.0028)	-0.0347*** (0.0031)	-0.1673*** (0.0035)	-0.1416*** (0.0023)	-0.1647*** (0.0025)	0.0775*** (0.0057)	0.0916*** (0.0065)

Table 14A. (Continued)

Asthma

	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. $_{Expboth}$|Exp>0	Ln(Exp)|Exp>0	Ln($Exp_{genonly}$) |Exp>0	Ln($Exp_{braonly}$) |Exp>0	Ln(Exp_{both}) |Exp>0
Payvac	0.0346***	-0.1726***	-0.0018	0.3070***	0.0019	-0.0361***	-0.1727***	-0.5018***
	(0.0014)	(0.0029)	(0.0032)	(0.0038)	(0.0024)	(0.0026)	(0.0059)	(0.0075)
Regions								
Midwest	-0.0656***	0.3608***	-0.4440***	0.0171***	0.1876***	0.2988***	-0.5178***	-0.0013
	(0.0012)	(0.0023)	(0.0025)	(0.0030)	(0.0019)	(0.0023)	(0.0050)	(0.0051)
South	-0.1758***	0.0326***	-0.1436***	0.1785***	0.0799***	-0.0210***	-0.1818***	-0.0278***
	(0.0011)	(0.0022)	(0.0024)	(0.0029)	(0.0019)	(0.0020)	(0.0041)	(0.0047)
West	-0.1252***	0.3394***	-0.5052***	0.1096***	-0.0189***	-0.0714***	-0.4800***	0.1110***
	(0.0012)	(0.0024)	(0.0027)	(0.0032)	(0.0020)	(0.0023)	(0.0050)	(0.0053)
Urban	-0.0406***	-0.0643***	0.1493***	-0.0724***	-0.0833***	-0.0478***	-0.3566***	-0.0296***
	(0.0012)	(0.0023)	(0.0025)	(0.0028)	(0.0018)	(0.0020)	(0.0049)	(0.0048)
Health Characteristics								
Very Good Health	0.2476***	-0.2930***	-0.0717***	0.9183***	0.1176***	0.0187***	0.0647***	-0.2535***
	(0.0012)	(0.0027)	(0.0028)	(0.0052)	(0.0023)	(0.0024)	(0.0049)	(0.0124)
Good Health	0.3570***	-0.2502***	-0.1071***	0.8487***	0.1031***	0.0843***	-0.2469***	-0.0593***
	(0.0012)	(0.0028)	(0.0028)	(0.0052)	(0.0025)	(0.0024)	(0.0051)	(0.0122)
Fair Health	0.4662***	-0.3619***	-0.0408***	0.9694***	0.1261***	0.0075**	0.0004	-0.3152***
	(0.0015)	(0.0032)	(0.0033)	(0.0056)	(0.0031)	(0.0030)	(0.0060)	(0.0132)
Poor Health	0.5620***	-0.5535***	-0.0477***	1.2577***	0.5522***	0.4293***	-0.0260***	-0.1282***
	(0.0024)	(0.0044)	(0.0046)	(0.0065)	(0.0041)	(0.0044)	(0.0085)	(0.0148)
Limit	-0.0709***	0.1778***	-0.0678***	-0.2366***	0.1649***	0.4198***	-0.6848***	1.0393***
	(0.0025)	(0.0047)	(0.0051)	(0.0060)	(0.0039)	(0.0043)	(0.0090)	(0.0107)
Coglim	-0.0675***	0.1590***	-0.1147***	-0.0460***	-0.1100***	-0.0791***	-0.0755***	-0.3554***
	(0.0021)	(0.0040)	(0.0043)	(0.0051)	(0.0033)	(0.0035)	(0.0079)	(0.0090)
Emphdx	0.0563***	-0.4965***	0.3465***	0.4824***	0.3945***	0.2333***	1.2073***	-0.3294***
	(0.0027)	(0.0046)	(0.0046)	(0.0051)	(0.0039)	(0.0056)	(0.0081)	(0.0076)

Table 14A. (Continued)

	Asthma							
	Prob. of Expenditure > 0				Ln(Exp)|Exp>0			
		Conditional on Exp > 0				Conditional on Exp > 0		
	Pr. Exp>0	Pr. $Exp_{genonly}$|Exp>0	Pr. $Exp_{braonly}$|Exp>0	Pr. Exp_{both}|Exp>0	Ln(Exp)|Exp>0	$Ln(Exp_{genonly})$ |Exp>0	$Ln(Exp_{braonly})$ |Exp>0	$Ln(Exp_{both})$ |Exp>0
Depression	-0.1170*** (0.0012)	-0.0707*** (0.0024)	0.0408*** (0.0023)	-0.0373*** (0.0027)				
Conditions					0.0049*** (0.0016)	-0.0254*** (0.0017)	0.1944*** (0.0033)	-0.3408*** (0.0038)
Risk Preference								
Aspkfl	0.7617*** (0.001)	-0.1521*** (0.0017)	-0.0496*** (0.0019)	0.3569*** (0.0021)	0.065*** (0.0032)	0.3606*** (0.0016)	-0.1702*** (0.0034)	-0.4751*** (0.004)
Adrisk	-0.0586*** (0.001)	-0.0187*** (0.0022)	-0.0193*** (0.0024)	0.025*** (0.0028)	-0.1376*** (0.0017)	-0.1798*** (0.0019)	-0.2436*** (0.0042)	-0.0386*** (0.005)
Adsmok	-0.0549*** (0.0011)	-0.0375*** (0.0022)	0.0391*** (0.0025)	-0.0181*** (0.0029)	0.0782*** (0.0018)	0.1362*** (0.002)	-0.2099*** (0.0045)	-0.0495*** (0.005)
Year Dummy								
2004	-0.1253*** (0.0013)	0.2831*** (0.0026)	-0.3027*** (0.0027)	-0.0794*** (0.0035)	0.0028 (0.0022)	-0.0469*** (0.0027)	-0.0267*** (0.0048)	-0.2547*** (0.006)
2005	-0.0283*** (0.0013)	0.4525*** (0.0025)	-0.5346*** (0.0027)	-0.0631*** (0.0033)	-0.0933*** (0.0021)	0.0309*** (0.0028)	-0.3553*** (0.0049)	-0.662*** (0.0053)
2006	0.1031*** (0.0013)	0.6136*** (0.0025)	-0.6963*** (0.0027)	-0.125*** (0.0033)	-0.0992*** (0.002)	-0.0058** (0.003)	-0.1518*** (0.0053)	-0.1635*** (0.0056)
2007	0.1299*** (0.0012)	0.4137*** (0.0024)	-0.6711*** (0.0026)	0.1834*** (0.0031)	0.1873*** (0.002)	0.4567*** (0.0026)	-0.4655*** (0.005)	-1.0126*** (0.0056)
Intercept	-1.1587*** (0.0031)	0.7155*** (0.0067)	-0.6253*** (0.0072)	-2.228*** (0.0096)	4.3718*** (0.009966)	3.1032*** (0.006336)	3.9988*** (0.014134)	8.4976*** (0.025147)
Sigma					1.1351*** (0.0015)	0.9770*** (0.0008)	1.4416*** (0.0033)	1.2456*** (0.0049)
Rho					-0.3834*** (0.0041)	-0.1983*** (0.0065)	0.8766*** (0.0012)	-0.9128*** (0.0016)

Table 14B. Regression Results from Utilization Equations (Joint Estimates for the Asthma Sample)

	Asthma							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Insurance and Utilization								
HINDC	0.1111***	0.5824***	-0.4271***	0.0416***	0.5757***	0.2141***	-0.2239***	-0.9854***
	(0.0024)	(0.0058)	(0.0064)	(0.0067)	(0.0140)	(0.0164)	(0.0346)	(0.0625)
HIWDC	0.1740***	-0.2418***	0.0866***	0.2062***	0.3235***	0.2874***	1.3828***	-0.0503
	(0.0014)	(0.0032)	(0.0038)	(0.0043)	(0.0090)	(0.0100)	(0.0219)	(0.0390)
HMODC	0.2823***	0.0296***	-0.2307***	0.2566***	0.7601***	0.6755***	0.7712***	-0.0810**
	(0.0015)	(0.0034)	(0.0041)	(0.0045)	(0.0096)	(0.0103)	(0.0240)	(0.0398)
HINDC*Obnum	0.2759***	-0.2744***	0.1020***	0.0407***	-0.1424***	0.1392***	0.3823***	0.9059***
	(0.0016)	(0.0028)	(0.0026)	(0.0013)	(0.0033)	(0.0119)	(0.0042)	(0.0156)
HIWDC*Obnum	0.1860***	0.0183***	-0.0255***	0.0191***	0.0415***	0.0233***	-0.0361***	0.2756***
	(0.0004)	(0.0004)	(0.0004)	(0.0005)	(0.0015)	(0.0013)	(0.0018)	(0.0040)
HMODC*Obnum	0.1508***	-0.0284***	-0.0148***	0.0436***	0.1562***	0.1115***	-0.0301***	0.2848***
	(0.0004)	(0.0003)	(0.0005)	(0.0004)	(0.0012)	(0.0015)	(0.0039)	(0.0037)
Uninsured*Obnum	0.3098***	0.0471***	0.0375***	0.0046**	0.2599***	0.1881***	0.8203***	-0.9645***
	(0.0009)	(0.0014)	(0.0014)	(0.0019)	(0.0042)	(0.0040)	(0.0089)	(0.0182)
Demographic								
Age	0.0001***	0.0011***	0.0026***	-0.0068***	0.0039***	0.0231***	-0.0370***	-0.0133***
	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0003)	(0.0006)	(0.0009)
Female	0.0136***	-0.1059***	-0.0620***	0.1415***	-1.1143***	-1.1589***	-0.9064***	-2.7909***
	(0.0009)	(0.0017)	(0.0020)	(0.0023)	(0.0049)	(0.0055)	(0.0107)	(0.0227)
Black	-0.1071***	-0.0224***	0.2685***	-0.0912***	0.5089***	0.6050***	1.8218***	-0.9991***
	(0.0014)	(0.0028)	(0.0032)	(0.0036)	(0.0080)	(0.0090)	(0.0181)	(0.0300)
Hispanic	-0.0520***	0.2051***	-0.0355***	-0.5740***	-0.9953***	-0.7723***	-1.0605***	0.3501***
	(0.0015)	(0.0031)	(0.0033)	(0.0048)	(0.0082)	(0.0089)	(0.0164)	(0.0589)
Mid Income	-0.0456***	0.0942***	-0.0871***	-0.1123***	0.5669***	0.6846***	-0.0646***	2.3596***
	(0.0009)	(0.0019)	(0.0023)	(0.0024)	(0.0053)	(0.0059)	(0.0118)	(0.0213)
Low Income	-0.1553***	0.0668***	-0.2489***	-0.1349***	-0.2075***	0.0971***	-1.2360***	1.8715***
	(0.0015)	(0.0033)	(0.0039)	(0.0042)	(0.0091)	(0.0099)	(0.0197)	(0.0384)

Table 14B. (Continued)

Asthma

	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	**Pr. $Use_{genonly}$|Use>0**	**Pr. $Use_{braonly}$|Exp>0**	**Pr. Use_{both}|Exp>0**	**Use|Use>0**	**$Use_{genonly}$|Use>0**	**$Use_{braonly}$|Use>0**	**Use_{both}|Use>0**
Near Poor	-0.0576***	0.3547***	-0.0992***	-0.1366***	2.3976***	2.9500***	-0.4489***	-2.9939***
	(0.0027)	(0.0068)	(0.0076)	(0.0083)	(0.0164)	(0.0169)	(0.0639)	(0.0835)
Poor	-0.1706***	-0.3326***	0.1600***	0.1900***	-0.2301***	-0.0160	-0.4066***	0.9609***
	(0.0019)	(0.0037)	(0.0043)	(0.0048)	(0.0110)	(0.0130)	(0.0212)	(0.0452)
Married	0.0498***	-0.2818***	-0.0117***	0.3200***	-0.0115*	-0.2068***	0.3121***	1.5474***
	(0.0011)	(0.0024)	(0.0029)	(0.0032)	(0.0067)	(0.0076)	(0.0165)	(0.0322)
Divorced	0.0154***	-0.3407***	0.2357***	0.4069***	0.7908***	0.3373***	1.8660***	1.6174***
	(0.0014)	(0.0029)	(0.0033)	(0.0037)	(0.0083)	(0.0097)	(0.0197)	(0.0400)
Household	-0.0140***	0.0502***	-0.0014	-0.0727***	0.0287***	0.0956***	-0.1429***	-0.0091
	(0.0003)	(0.0007)	(0.0008)	(0.0009)	(0.0019)	(0.0022)	(0.0042)	(0.0094)
Education								
High School	-0.0394***	-0.1468***	0.0283***	0.1538***	-0.1700***	-0.4239***	-0.0606***	-0.0729***
	(0.0010)	(0.0019)	(0.0023)	(0.0025)	(0.0055)	(0.0063)	(0.0121)	(0.0226)
BA	-0.0761***	0.0604***	-0.1830***	-0.2158***	-0.3530***	-0.2260***	-1.1316***	-0.0411
	(0.0012)	(0.0024)	(0.0029)	(0.0033)	(0.0069)	(0.0076)	(0.0163)	(0.0323)
MA	-0.1761***	-0.3507***	0.2168***	0.1842***	0.0829***	-0.2317***	-0.0622***	5.3938***
	(0.0017)	(0.0034)	(0.0040)	(0.0044)	(0.0102)	(0.0122)	(0.0189)	(0.0374)
Empolyment								
Employed	-0.1381***	-0.0175***	0.0984***	-0.1647***	0.5245***	0.8716***	0.2912***	-3.1197***
	(0.0015)	(0.0031)	(0.0037)	(0.0039)	(0.0085)	(0.0091)	(0.0235)	(0.0393)
Unemployed	-0.0397***	-0.2843***	0.1243***	0.2191***	1.4482***	1.3036***	0.2870***	1.5681***
	(0.0018)	(0.0036)	(0.0044)	(0.0045)	(0.0100)	(0.0112)	(0.0256)	(0.0453)
Selfemployed	0.0534***	-0.1559***	0.2204***	0.1217***	-0.5604***	-1.0008***	0.8170***	1.2941***
	(0.0016)	(0.0032)	(0.0037)	(0.0042)	(0.0090)	(0.0099)	(0.0197)	(0.0416)
Union	0.0765***	-0.4657***	0.3162***	0.3979***	0.2730***	-0.2691***	0.6608***	2.3135***
	(0.0013)	(0.0024)	(0.0029)	(0.0030)	(0.0070)	(0.0086)	(0.0161)	(0.0343)
Sicpay	0.0381***	0.0871***	0.1489***	-0.1677***	0.0192**	-0.1552***	1.6838***	-0.2136***
	(0.0013)	(0.0028)	(0.0033)	(0.0035)	(0.0079)	(0.0089)	(0.0184)	(0.0355)

Table 14B. (Continued)

Asthma

	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	**Pr. $Use_{genonly}$|Use>0**	**Pr. $Use_{braonly}$|Exp>0**	**Pr. Use_{both}|Exp>0**	**Use|Use>0**	**$Use_{genonly}$|Use>0**	**$Use_{braonly}$|Use>0**	**Use_{both}|Use>0**
Payvac	0.0366***	-0.1737***	-0.0394***	0.3266***	-0.2914***	-0.3550***	-1.3692***	-0.4717***
	(0.0014)	(0.0029)	(0.0034)	(0.0038)	(0.0082)	(0.0090)	(0.0197)	(0.0433)
Regions								
Midwest	-0.0483***	0.3368***	-0.5354***	-0.0012	0.3503***	0.4319***	-2.2338***	-0.6546***
	(0.0012)	(0.0023)	(0.0028)	(0.0030)	(0.0065)	(0.0075)	(0.0161)	(0.0251)
South	-0.1717***	0.0101***	-0.0932***	0.1655***	0.2903***	-0.0676***	-0.8852***	1.5471***
	(0.0011)	(0.0022)	(0.0027)	(0.0029)	(0.0065)	(0.0074)	(0.0142)	(0.0257)
West	-0.1197***	0.3262***	-0.3475***	0.0980***	0.0369***	-0.4437***	-1.0583***	0.4074***
	(0.0012)	(0.0024)	(0.0029)	(0.0032)	(0.0068)	(0.0077)	(0.0161)	(0.0269)
Urban	-0.0416***	-0.0787***	-0.0400***	-0.1122***	-0.4391***	-0.0805***	-0.6870***	-0.8629***
	(0.0012)	(0.0023)	(0.0025)	(0.0028)	(0.0064)	(0.0072)	(0.0148)	(0.0222)
Health Characteristics								
Very Good Health	0.2469***	-0.2983***	-0.0531***	1.0526***	0.8266***	0.3531***	0.0128	1.9912***
	(0.0012)	(0.0027)	(0.0031)	(0.0056)	(0.0077)	(0.0081)	(0.0159)	(0.0948)
Good Health	0.3545***	-0.2340***	-0.0929***	0.9804***	1.2074***	0.8398***	0.1158***	1.9029***
	(0.0012)	(0.0027)	(0.0030)	(0.0056)	(0.0080)	(0.0082)	(0.0163)	(0.0909)
Fair Health	0.4756***	-0.3494***	0.0384***	1.1023***	1.1489***	0.7023***	0.1272***	2.5423***
	(0.0015)	(0.0032)	(0.0037)	(0.0059)	(0.0097)	(0.0101)	(0.0186)	(0.0990)
Poor Health	0.5555***	-0.5488***	0.0092*	1.4081***	2.6825***	1.6908***	0.0201	4.9596***
	(0.0024)	(0.0043)	(0.0054)	(0.0068)	(0.0133)	(0.0151)	(0.0295)	(0.1161)
Limit	-0.0737***	0.1578***	-0.1184***	-0.2146***	1.0564***	1.9812***	-1.9388***	7.8706***
	(0.0025)	(0.0047)	(0.0063)	(0.0059)	(0.0137)	(0.0156)	(0.0327)	(0.0544)
Coglim	-0.0758***	0.1633***	-0.2218***	-0.0188***	-1.0543***	-0.8518***	-0.9293***	-7.0591***
	(0.0020)	(0.0040)	(0.0054)	(0.0050)	(0.0115)	(0.0127)	(0.0299)	(0.0458)
Emphdx	0.0889***	-0.4672***	0.4367***	0.3024***	1.7936***	1.5170***	4.2457***	0.1810***
	(0.0027)	(0.0045)	(0.0055)	(0.0050)	(0.0134)	(0.0188)	(0.0274)	(0.0402)

Table 14B. (Continued)

	Asthma							
	Prob. of Use > 0				Use|Use>0			
		Conditional on Use > 0				Conditional on Use > 0		
	Pr. Use>0	Pr. $Use_{genonly}$|Use>0	Pr. $Use_{braonly}$|Exp>0	Pr. Use_{both}|Exp>0	Use|Use>0	$Use_{genonly}$|Use>0	$Use_{braonly}$|Use>0	Use_{both}|Use>0
Depression	-0.1252*** (0.0012)	-0.0773*** (0.0024)	0.1703*** (0.0028)	-0.0004 (0.0030)				
Conditions					-0.2834*** (0.0055)	-0.2622*** (0.0063)	0.9164*** (0.0106)	-2.5620*** (0.0203)
Risk Preference								
Aspkfl	0.7727*** (0.0010)	-0.1532*** (0.0017)	-0.1427*** (0.0021)	0.3334*** (0.0021)	0.4631*** (0.0078)	0.9224*** (0.0055)	-0.5482*** (0.0109)	-1.6875*** (0.0281)
Adrisk	-0.0442*** (0.0010)	0.0008 (0.0021)	-0.1802*** (0.0027)	0.0751*** (0.0027)	-0.7181*** (0.0059)	-0.9545*** (0.0067)	-0.5481*** (0.0142)	-1.6397*** (0.0256)
Adsmok	-0.0402*** (0.0011)	-0.0531*** (0.0022)	-0.0392*** (0.0029)	0.0279*** (0.0028)	0.4727*** (0.0064)	0.7605*** (0.0073)	-0.4211*** (0.0154)	-0.0780*** (0.0245)
Year Dummy								
2004	-0.1474*** (0.0013)	0.2925*** (0.0025)	-0.0686*** (0.0029)	-0.0371*** (0.0035)	-0.1965*** (0.0076)	-0.3184*** (0.0090)	0.2409*** (0.0144)	-1.1115*** (0.0298)
2005	-0.0391*** (0.0013)	0.4424*** (0.0025)	-0.3693*** (0.0030)	-0.0414*** (0.0033)	0.0870*** (0.0072)	0.4652*** (0.0088)	-1.0493*** (0.0155)	-3.8804*** (0.0256)
2006	0.0933*** (0.0013)	0.6264*** (0.0025)	-0.4289*** (0.0028)	-0.1166*** (0.0033)	0.2479*** (0.0069)	0.4703*** (0.0085)	-0.6881*** (0.0142)	-2.4380*** (0.0290)
2007	0.1172*** (0.0012)	0.4143*** (0.0024)	-0.5283*** (0.0030)	0.2512*** (0.0031)	-0.1696*** (0.0069)	0.1950*** (0.0083)	-1.6711*** (0.0163)	-4.2578*** (0.0300)
Intercept	-1.1629*** (0.0031)	0.7886*** (0.0066)	-0.4244*** (0.0079)	-2.4773*** (0.0098)	2.9819*** (0.0259)	1.4269*** (0.0206)	-0.0131 (0.0429)	11.5209*** (0.2464)
Sigma					3.8682*** (0.0019)	3.5370*** (0.0018)	4.3167 (0.0098)	4.2785*** (0.0051)
Rho					-0.1299*** (0.0029)	-0.0872 (0.0026)	0.0921 (0.3252)	-0.0072 (0.0190)

Table 15A. Marginal Percentage Impacts of Selected Explanatory Variables on Insurance Choices among Non-elderly Adults with Hypertension
Results from the First Equation in the Hypertension Sample

Variable Name	Uninsured	HINDC	HIWDC	HMODC
Female	-17.964	12.432	-7.119	-0.932
Black	27.135	-5.805	-27.570	16.149
Hispanic	68.194	-4.301	-44.295	0.708
Mid Income	32.349	6.423	-10.764	-11.572
Low Income	86.248	1.814	-34.623	-32.456
Near Poor	96.955	-13.688	-41.115	-29.111
Poor	101.276	11.327	-48.683	-67.798
Married	-35.769	-21.144	38.851	7.910
Divorced	-4.930	8.144	0.319	-8.127
Household	3.716	6.324	-5.862	-1.664
High School	-23.948	-6.561	4.446	12.600
BA	-38.471	18.639	2.193	-11.564
MA	-70.886	-5.599	12.752	14.663
Employed	-9.747	4.495	-12.130	10.157
Unemployed	-22.618	3.984	7.241	-3.055
Selfemployed	3.755	23.842	-9.487	-25.387
Union	-39.956	-2.450	1.509	14.096
Sicpay	-71.612	-9.155	20.605	22.246
Payvac	-70.634	-19.183	27.316	29.629
Urban	-24.074	-9.993	1.538	16.143
Very Good Health	-11.691	-5.393	-1.404	11.374
Good Health	7.345	-11.430	-3.352	12.611
Fair Health	34.661	-13.266	-4.835	3.264
Poor Health	45.107	-18.620	-2.504	-0.304
Limit	-33.287	2.960	-9.293	14.465
Coglim	18.859	30.173	-12.379	-44.517
Chddx	-27.364	16.972	-12.013	-1.427
Midx	-14.626	-22.496	11.715	16.163
Angidx	16.012	10.467	-17.320	-5.092
Ohrtdx	-11.179	-12.455	13.230	5.048
Strkdx	-36.700	14.624	11.238	-17.545
Conditions	-0.121	-1.551	-3.120	4.479
Adrisk	3.898	13.249	-10.182	-8.785
Adsmok	34.909	-7.996	-6.378	-0.920

Table 15B. Marginal Percentage Impacts of Selected Explanatory Variables on Insurance Choices among Non-elderly Adults with Diabetes

Results from the First Equation in the Diabetes Sample

Variable Name	Uninsured	HINDC	HIWDC	HMODC
Female	-15.725	-12.870	-3.827	11.300
Black	2.342	37.426	-54.393	-24.346
Hispanic	73.781	-19.556	-44.198	10.721
Mid Income	30.885	11.272	-2.456	-10.825
Low Income	98.564	-13.613	-13.036	-3.914
Near Poor	99.656	15.572	-56.101	-22.708
Poor	128.975	2.484	-21.730	-31.238
Married	-32.410	-48.672	28.653	39.523
Divorced	18.672	-50.656	4.806	25.615
Household	-2.132	7.894	-8.457	-2.382
High School	-26.652	14.254	2.688	-8.287
BA	-17.557	29.403	7.943	-25.719
MA	36.043	-61.058	30.492	21.310
Employed	-16.241	49.869	-25.005	-24.257
Unemployed	-43.815	53.481	-18.385	-44.177
Selfemployed	-2.581	26.738	-9.155	-21.023
Union	-67.011	2.358	-9.804	4.987
Sicpay	-92.308	11.515	14.939	-1.933
Payvac	-71.274	-41.962	8.051	36.676
Urban	-64.252	-31.233	-15.310	38.936
Very Good Health	26.331	-6.603	8.969	0.245
Good Health	54.506	-21.468	18.883	5.948
Fair Health	66.013	-2.759	23.698	-10.839
Poor Health	85.519	-20.606	31.408	-6.238
Limit	-28.758	3.321	-18.962	3.251
Coglim	-16.840	47.543	-29.796	-42.922
Chddx	11.091	-30.664	12.755	14.676
Midx	-61.994	-51.637	-14.527	31.902
Angidx	-28.553	56.050	-59.668	-52.901
Ohrtdx	-22.978	-17.168	-11.946	14.574
Strkdx	-35.951	-17.481	-0.806	13.553
Dskidn	-23.135	12.505	-22.770	-3.559
Dseypr	1.196	23.073	-4.573	-18.362
Conditions	-18.539	-11.450	-7.069	11.336
Adrisk	6.302	-2.216	-16.896	4.033
Adsmok	40.754	-31.708	6.930	14.248

Table 15C. Marginal Percentage Impacts of Selected Explanatory Variables on Insurance Choices among Non-elderly Adults with Depression

Results from the First Equation in the Depression Sample

Variable Name	Uninsured	HINDC	HIWDC	HMODC
Female	-43.775	-20.454	6.203	9.118
Black	14.525	15.639	-58.902	12.724
Hispanic	68.037	41.614	-53.543	-6.707
Mid Income	54.575	-2.386	-17.224	-4.776
Low Income	100.851	-7.228	-31.253	-23.966
Near Poor	123.719	-36.714	-33.856	-53.223
Poor	137.121	-42.356	-51.053	-61.528
Married	-55.435	-70.881	24.870	10.159
Divorced	17.903	-63.578	15.152	-3.529
Household	5.040	-6.406	-5.727	2.651
High School	-13.953	25.996	12.089	-5.195
BA	-8.585	34.773	14.932	-9.303
MA	-78.623	25.397	15.831	1.404
Employed	6.689	-17.136	-2.858	1.942
Unemployed	9.613	6.678	15.877	-9.453
Selfemployed	20.054	55.802	-13.319	-7.665
Union	-48.965	14.325	18.090	-1.650
Sicpay	-43.992	-49.606	-10.583	17.939
Payvac	-103.683	-23.258	33.556	12.410
Urban	-22.542	-28.689	4.402	6.670
Very Good Health	-37.068	-2.631	6.327	4.328
Good Health	8.927	-4.186	10.842	-5.576
Fair Health	-4.424	10.046	-3.185	0.845
Poor Health	4.794	14.122	-0.755	-2.365
Limit	-19.324	44.955	-19.908	3.945
Coglim	-0.479	-1.409	9.504	-3.639
Conditions	-13.193	-6.270	-0.182	3.148
Adrisk	24.848	8.991	-4.513	-4.433
Adsmok	49.747	0.623	-7.454	-8.153

Table 15D. Marginal Percentage Impacts of Selected Explanatory Variables on Insurance Choices among Non-elderly Adults with Asthma

Results from the First Equation in the Asthma Sample

Variable Name	Uninsured	HINDC	HIWDC	HMODC
Female	-32.450	-12.542	2.441	7.677
Black	18.785	18.329	-61.431	-1.510
Hispanic	44.320	-2.322	-60.490	2.758
Mid Income	48.064	-16.729	-22.650	3.712
Low Income	86.220	24.240	-59.815	-17.486
Near Poor	138.333	-15.472	-41.137	-39.295
Poor	139.215	34.849	-70.966	-58.475
Married	-22.094	-31.037	5.104	12.834
Divorced	35.367	-19.049	-11.634	3.903
Household	-5.754	4.923	-1.796	-0.626
High School	-18.811	-7.573	-3.347	5.112
BA	-40.385	-7.434	20.372	3.012
MA	-48.536	-4.184	20.177	2.205
Employed	-1.730	27.632	-2.860	-8.465
Unemployed	-5.884	18.571	6.372	-7.821
Selfemployed	-7.840	15.674	-31.695	-0.944
Union	-68.493	10.853	2.834	1.094
Sicpay	-73.767	-55.574	27.951	25.751
Payvac	-68.926	-17.016	-6.975	14.736
Urban	-23.792	-18.215	-0.926	10.156
Very Good Health	-3.504	29.694	-19.938	-8.140
Good Health	12.017	35.453	-16.223	-13.020
Fair Health	42.418	-12.004	-27.778	2.741
Poor Health	73.829	-45.787	21.968	-1.713
Limit	11.358	-35.713	29.239	4.510
Coglim	-18.756	35.227	-4.401	-13.441
Aspkfl	-23.637	1.172	7.388	0.652
Emphdx	-15.929	22.897	9.770	-9.745
Conditions	-42.049	-39.096	-1.106	15.652
Adrisk	13.274	17.836	-6.914	-7.273
Adsmok	64.174	-43.976	-5.675	6.362

Table 16A-1. Marginal Effects of Selected Variables in the Hypertension Sample

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Base Probability	0.810	0.448	0.332	0.221	–	–	–	–
HINDC	0.074	-0.080	0.011	0.068	0.176	-0.036	-0.097	0.474
HIWDC	0.111	-0.113	0.075	0.043	-0.329	-0.584	-0.483	-0.202
HMODC	0.097	0.002	-0.001	-0.002	-0.460	-0.500	-0.502	-0.261
HINDC*Obnum	0.037	-0.019	0.018	0.002	0.064	0.119	0.042	-0.055
HIWDC*Obnum	0.013	-0.005	-0.013	0.013	0.032	0.016	0.044	0.000
HMODC*Obnum	0.014	-0.018	-0.002	0.019	0.042	0.010	0.033	0.004
Uninsured*Obnum	0.029	-0.033	0.017	0.015	0.114	0.089	0.067	0.080
Female	0.046	0.015	-0.042	0.027	-0.032	-0.048	0.000	-0.063
Black	-0.002	-0.054	0.046	0.009	0.132	0.029	0.098	0.124
Hispanic	-0.029	-0.023	0.064	-0.045	0.014	-0.013	0.023	0.039
Mid Income	-0.001	0.019	-0.014	-0.007	0.024	0.058	0.004	0.068
Low Income	-0.026	0.077	-0.086	0.008	-0.024	0.064	0.077	-0.031
Near Poor	-0.059	0.099	-0.093	-0.011	-0.059	-0.003	0.174	0.071
Poor	-0.041	0.041	-0.051	0.014	0.014	0.104	-0.015	-0.005
Married	0.021	-0.001	0.015	-0.013	0.027	0.087	0.015	-0.097
Divorced	-0.031	-0.010	0.041	-0.029	0.027	0.046	-0.010	0.021
Household	-0.013	0.007	0.006	-0.013	-0.010	-0.029	0.036	0.019
High School	-0.005	-0.023	-0.010	0.034	0.106	0.076	0.046	0.092
BA	0.008	-0.039	0.014	0.025	0.076	-0.055	0.053	0.101
MA	-0.010	0.010	-0.034	0.026	-0.059	-0.093	-0.049	-0.027
Employed	-0.004	-0.008	0.021	-0.011	-0.010	-0.008	-0.044	0.088
Unemployed	0.011	-0.045	0.021	0.025	0.033	-0.078	0.167	-0.049
Selfemployed	0.017	-0.028	0.010	0.017	0.215	0.155	0.292	0.062
Union	0.001	-0.017	-0.003	0.018	-0.116	-0.132	-0.088	-0.205
Sicpay	0.031	-0.019	0.019	0.002	0.027	0.011	0.114	-0.144
Payvac	-0.007	-0.024	-0.015	0.039	0.046	-0.082	0.120	0.021
Urban	-0.011	0.013	-0.010	-0.006	-0.058	-0.082	-0.044	0.027
Very Good Health	0.039	-0.020	-0.029	0.053	0.130	0.164	-0.021	0.064
Good Health	0.040	-0.035	-0.012	0.055	0.222	0.247	0.078	0.080
Fair Health	0.036	0.016	-0.074	0.064	0.215	0.298	0.083	0.130
Poor Health	0.023	-0.049	-0.066	0.118	0.320	0.237	0.163	0.131
Limit	0.011	-0.040	0.040	-0.006	-0.038	-0.199	0.070	0.050
Coglim	-0.022	0.102	-0.065	-0.035	-0.036	0.195	-0.085	-0.018

Table 16A-1. (Continued)

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Chddx	0.055	-0.033	-0.084	0.086	0.064	-0.137	-0.031	0.095
Midx	0.039	-0.087	0.027	0.047	0.172	0.058	0.129	0.030
Angidx	0.013	-0.057	0.006	0.035	0.186	0.108	0.099	0.116
Ohrtdx	0.042	-0.084	-0.013	0.081	0.064	-0.135	0.027	0.010
Strkdx	-0.018	-0.066	-0.072	0.099	0.299	0.188	0.110	0.244
Conditions	–	–	–	–	0.054	0.010	-0.002	0.076
Diabetes	0.019	-0.049	-0.001	0.039	–	–	–	–
Hyerlidpedemia	0.011	-0.018	0.019	-0.002	–	–	–	–
Adrisk	-0.034	0.019	-0.010	-0.008	-0.052	-0.040	-0.089	0.038
Adsmok	-0.013	-0.004	0.002	-0.001	0.055	0.011	0.057	0.100

Table 16A-2. Marginal Effects of Selected Variables in the Hypertension Sample

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Base Probability	0.822	0.433	0.327	0.223	–	–	–	–
HINDC	0.062	0.003	-0.017	0.060	1.737	0.089	-0.318	4.982
HIWDC	0.105	-0.058	0.044	0.037	1.320	-1.591	1.434	4.092
HMODC	0.088	0.027	-0.029	-0.007	0.801	0.752	-0.664	4.482
HINDC*Obnum	0.034	-0.005	0.010	0.002	-0.001	-0.093	0.317	-0.536
HIWDC*Obnum	0.013	-0.001	-0.005	0.013	0.171	-0.010	-0.104	-0.255
HMODC*Obnum	0.016	-0.016	0.008	0.018	0.356	-0.415	0.259	0.080
Uninsured*Obnum	0.034	-0.015	0.010	0.014	0.313	-0.406	0.402	0.463
Female	0.037	0.018	-0.052	0.028	0.146	0.481	-1.524	-0.379
Black	-0.001	-0.009	0.037	0.010	1.028	-0.272	1.074	2.718
Hispanic	-0.032	-0.031	0.016	-0.045	-0.761	-0.849	0.476	0.462
Mid Income	-0.001	0.003	-0.014	-0.008	0.157	0.074	-0.458	0.286
Low Income	-0.028	0.032	-0.069	0.008	0.162	0.847	-2.006	-0.573
Near Poor	-0.043	0.004	-0.017	-0.027	-0.256	-0.042	-0.334	-0.511
Poor	-0.033	0.013	-0.012	0.015	0.115	0.287	-0.259	-1.181
Married	0.018	0.002	-0.009	-0.010	-0.096	0.034	-0.214	-0.204
Divorced	-0.030	-0.011	0.019	-0.025	0.024	-0.310	0.579	0.596
Household	-0.012	0.005	0.001	-0.013	-0.074	0.128	0.032	0.100
High School	-0.001	-0.024	-0.013	0.033	0.282	-0.675	-0.339	0.309
BA	0.009	-0.054	-0.001	0.031	0.046	-1.477	-0.009	0.184
MA	-0.010	-0.029	-0.006	0.029	0.020	-0.836	-0.107	-0.212
Employed	-0.003	0.007	-0.037	-0.007	0.416	0.209	-1.153	1.459
Unemployed	0.013	-0.014	-0.014	0.030	0.383	-0.374	-0.376	0.071
Selfemployed	0.014	-0.020	0.026	0.024	0.476	-0.523	0.812	0.323
Union	-0.003	-0.011	-0.010	0.017	-0.358	-0.281	-0.240	-1.441
Sicpay	0.033	-0.024	0.012	0.004	-0.426	-0.647	0.406	-1.285
Payvac	-0.010	-0.022	0.011	0.039	0.447	-0.621	0.363	-0.176
Urban	-0.014	-0.015	-0.030	-0.007	-0.210	-0.432	-0.872	0.075
Very Good Health	0.041	-0.003	-0.016	0.049	0.353	-0.070	-0.393	-0.394
Good Health	0.040	0.011	0.023	0.052	1.066	0.308	0.755	-0.463
Fair Health	0.045	0.052	-0.034	0.062	1.326	1.432	-0.951	0.097
Poor Health	0.033	0.054	0.014	0.114	2.447	1.531	0.445	0.056
Limit	0.013	-0.028	0.054	-0.002	0.685	-0.768	1.711	1.999
Coglim	-0.026	0.056	-0.029	-0.037	1.070	1.544	-0.618	1.844

Table 16A-2. (Continued)

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Chddx	0.065	-0.009	-0.055	0.087	1.470	-0.224	-1.185	1.821
Midx	0.035	0.056	0.075	0.052	1.605	1.562	2.200	-1.219
Angidx	0.004	0.001	-0.012	0.031	1.152	0.150	-0.295	1.903
Ohrtdx	0.040	-0.055	0.003	0.089	1.453	-1.535	0.169	1.729
Strkdx	-0.006	0.082	-0.015	0.091	3.161	2.475	-0.889	3.153
Conditions	–	–	–	–	0.770	-0.017	-0.094	1.805
Diabetes	0.023	0.000	-0.004	0.046	–	–	–	–
Hyerlidpedemia	0.014	-0.001	-0.001	0.001	–	–	–	–
Adrisk	-0.037	-0.009	-0.041	-0.007	-0.169	-0.235	-1.279	0.870
Adsmok	-0.008	-0.005	-0.009	-0.003	0.124	-0.123	-0.222	0.826

Table 16B-1. Marginal Effects of Selected Variables in the Diabetes Sample

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Base Probability	0.656	0.373	0.360	0.271	–	–	-	–
HINDC	0.011	-0.007	-0.044	0.023	-0.010	-0.008	0.007	0.164
HIWDC	0.097	0.011	-0.049	0.027	-1.065	-0.985	-1.001	-0.675
HMODC	0.067	0.052	-0.033	-0.045	-1.136	-1.039	-0.982	-0.570
HINDC*Obnum	0.037	-0.008	0.003	0.002	-0.034	-0.001	-0.058	0.094
HIWDC*Obnum	0.028	-0.018	0.003	0.007	0.002	0.069	0.016	-0.012
HMODC*Obnum	0.023	-0.007	0.004	0.003	0.019	0.027	0.038	0.029
Uninsured*Obnum	0.031	-0.004	-0.004	0.007	-0.007	0.066	-0.004	0.028
Female	-0.001	0.002	-0.004	0.006	0.010	-0.006	-0.057	0.073
Black	-0.008	0.011	-0.024	0.018	0.042	0.149	-0.042	0.061
Hispanic	0.018	0.106	-0.079	-0.035	-0.212	-0.410	0.062	0.161
Mid Income	0.003	0.010	-0.033	0.028	0.064	0.057	0.075	-0.021
Low Income	0.038	0.067	-0.057	-0.018	-0.084	-0.039	0.114	-0.214
Near Poor	-0.062	0.085	-0.078	-0.019	0.015	0.016	-0.072	-0.018
Poor	-0.002	0.048	-0.063	0.033	-0.104	-0.047	0.043	-0.408
Married	-0.023	-0.008	-0.058	0.082	0.041	0.135	-0.078	-0.394
Divorced	-0.050	0.043	-0.068	0.034	0.025	-0.092	0.001	-0.221
Household	-0.003	0.001	0.009	-0.009	-0.015	-0.018	-0.014	-0.002
High School	-0.012	-0.022	0.002	0.018	-0.057	-0.041	-0.160	-0.179
BA	-0.049	0.002	0.003	-0.004	-0.136	0.036	-0.509	-0.062
MA	-0.052	-0.169	0.100	0.050	0.194	0.468	0.001	-0.313
Employed	0.027	0.086	-0.060	-0.018	-0.147	-0.480	0.125	0.082
Unemployed	0.014	0.069	-0.025	-0.040	-0.212	-0.579	0.170	-0.126
Selfemployed	0.011	0.000	0.030	-0.029	-0.033	-0.100	0.050	0.009
Union	-0.028	0.004	-0.008	0.002	-0.186	-0.285	-0.147	-0.291
Sicpay	0.023	0.006	0.030	-0.028	0.059	-0.115	0.294	0.158
Payvac	0.046	-0.019	-0.044	0.056	-0.156	0.122	-0.262	-0.300
Urban	-0.010	0.079	-0.007	-0.065	-0.127	-0.139	-0.107	0.066
Very Good Health	0.002	-0.003	0.016	-0.016	0.113	0.275	0.059	0.305
Good Health	0.061	-0.022	-0.006	0.012	0.056	0.309	0.100	0.094
Fair Health	0.057	-0.027	-0.006	0.025	0.088	0.382	0.029	0.155
Poor Health	-0.030	-0.061	-0.007	0.053	0.447	0.588	0.119	0.300
Limit	-0.045	0.050	0.061	-0.109	-0.048	-0.347	0.177	0.266
Coglim	-0.017	0.022	-0.045	0.033	0.039	0.047	0.090	-0.282

Table 16B-1. (Continued)

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Chddx	0.125	-0.020	0.027	-0.029	-0.297	-0.291	-0.011	-0.161
Midx	-0.041	-0.081	0.019	0.041	0.268	0.211	0.353	-0.071
Angidx	-0.069	0.116	0.026	-0.111	0.005	-0.156	-0.230	0.702
Ohrtdx	-0.038	-0.037	0.034	0.011	0.049	-0.101	0.108	-0.011
Strkdx	0.017	-0.049	-0.006	0.051	0.113	0.210	-0.116	0.141
Dskidn	0.122	-0.075	-0.023	0.081	-0.001	0.257	-0.248	0.171
Dseypr	0.064	-0.134	0.038	0.079	0.028	0.323	0.011	-0.241
Conditions	–	–	-	–	-0.036	0.083	0.034	-0.027
Hypertension	0.037	-0.001	0.009	-0.009	–	–	-	–
Hyerlidpedemia	0.066	-0.014	-0.039	0.041	–	–	-	–
Adrisk	-0.011	0.044	-0.043	0.005	0.031	-0.215	0.077	0.117
Adsmok	-0.027	0.057	-0.025	-0.036	0.007	-0.136	0.078	0.126

Table 16B-2. Marginal Effects of Selected Variables in the Diabetes Sample

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Base Probability	0.681	0.365	0.280	0.357	–	–	-	–
HINDC	-0.001	-0.034	0.037	-0.007	4.212	2.592	2.386	7.224
HIWDC	0.090	-0.053	0.060	0.001	0.637	0.195	0.019	1.788
HMODC	0.077	-0.021	-0.011	0.030	-0.115	-0.128	0.098	0.726
HINDC*Obnum	0.034	0.003	0.004	-0.007	-0.288	-0.218	-0.405	0.141
HIWDC*Obnum	0.041	0.004	0.007	-0.018	0.126	0.037	0.128	0.112
HMODC*Obnum	0.029	0.005	0.002	-0.009	0.259	0.163	0.264	0.600
Uninsured*Obnum	0.028	-0.005	0.008	-0.004	0.227	0.275	0.240	0.202
Female	-0.010	0.006	0.008	-0.011	-0.105	-0.599	-0.213	0.475
Black	-0.010	-0.025	0.025	-0.004	1.301	1.283	0.098	3.118
Hispanic	0.011	-0.080	-0.039	0.112	-1.368	-1.197	-0.858	-0.864
Mid Income	0.003	-0.031	0.033	0.001	0.638	1.002	0.691	-0.628
Low Income	0.040	-0.059	-0.009	0.067	-0.256	1.356	0.391	-2.583
Near Poor	0.007	-0.089	-0.038	0.122	-1.497	-0.154	-0.439	-2.547
Poor	0.013	-0.067	0.025	0.051	0.026	0.727	0.959	-1.601
Married	-0.023	-0.055	0.078	-0.014	0.605	-0.453	0.869	0.456
Divorced	-0.038	-0.063	0.045	0.023	0.475	-0.708	0.559	1.464
Household	-0.002	0.009	-0.010	0.002	-0.202	0.030	-0.312	-0.199
High School	-0.015	0.005	-0.002	-0.005	-0.152	-0.345	-0.600	-0.659
BA	-0.039	0.009	-0.019	0.011	-1.007	0.247	-2.926	-0.217
MA	-0.050	0.108	0.015	-0.157	-0.058	-1.677	-0.111	-2.529
Employed	0.042	-0.061	-0.012	0.087	-0.020	-0.038	1.714	0.222
Unemployed	0.015	-0.029	-0.063	0.101	-0.173	-1.057	2.629	-0.896
Selfemployed	0.006	0.021	-0.019	0.002	-0.010	-0.225	0.144	-0.789
Union	-0.027	-0.018	0.006	0.019	-0.858	-0.336	0.167	-3.101
Sicpay	0.034	0.028	-0.033	0.011	0.331	-1.069	1.510	1.489
Payvac	0.029	-0.041	0.038	-0.001	0.439	0.559	-0.274	-0.015
Urban	0.003	-0.002	-0.057	0.066	-0.823	0.873	-1.296	-0.009
Very Good Health	0.021	0.018	-0.013	-0.006	1.362	-0.244	2.624	3.183
Good Health	0.087	0.005	0.025	-0.032	1.199	-0.207	2.474	2.044
Fair Health	0.087	0.005	0.024	-0.029	1.306	-0.390	2.156	3.101
Poor Health	0.015	0.006	0.048	-0.057	1.851	-0.050	2.311	1.970
Limit	-0.078	0.066	-0.066	0.002	0.370	-0.922	2.284	0.184
Coglim	-0.007	-0.063	0.018	0.050	-0.153	0.873	-0.449	-0.713

Table 16B-2. (Continued)

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Chddx	0.102	0.020	-0.024	0.001	-0.256	-1.773	2.303	-1.844
Midx	-0.042	0.023	0.033	-0.071	0.579	0.635	1.748	-1.664
Angidx	-0.064	0.036	-0.123	0.107	0.290	0.083	-0.668	6.373
Ohrtdx	-0.033	0.035	0.012	-0.054	0.167	0.076	-0.125	0.083
Strkdx	0.010	-0.005	0.034	-0.020	1.150	0.828	-0.959	2.828
Dskidn	0.096	-0.033	0.074	-0.055	0.759	-0.467	-0.872	2.833
Dseypr	0.067	0.043	0.079	-0.144	0.448	-0.179	0.267	-0.754
Conditions	–	–	-	–	0.301	0.930	0.712	-0.591
Hypertension	0.051	0.011	-0.011	-0.002	–	–	-	–
Hyerlidpedemia	0.073	-0.048	0.048	0.001	–	–	-	–
Adrisk	-0.005	-0.047	0.016	0.033	0.506	-0.479	1.026	0.765
Adsmok	-0.008	-0.028	-0.022	0.051	-0.387	-0.548	-0.151	0.598

Table 16C-1. Marginal Effects of Selected Variables in the Depression Sample

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Base Probability	0.542	0.235	0.619	0.147	–	–	–	–
HINDC	0.156	-0.018	-0.057	0.096	0.112	0.090	0.315	0.453
HIWDC	0.211	-0.052	-0.004	0.067	-0.850	-0.613	-0.430	-0.878
HMODC	0.183	-0.017	-0.044	0.073	-0.883	-0.715	-0.460	-0.822
HINDC*Obnum	0.011	-0.011	-0.004	0.007	0.004	0.063	0.031	-0.019
HIWDC*Obnum	0.005	-0.004	0.000	0.002	0.009	0.013	0.017	0.008
HMODC*Obnum	0.010	-0.001	-0.002	0.003	0.002	-0.009	0.016	0.011
Uninsured*Obnum	0.022	0.002	-0.003	0.002	-0.007	0.027	0.016	0.033
Female	0.085	0.032	-0.073	0.040	-0.058	0.108	0.121	0.162
Black	-0.234	-0.024	0.013	0.009	-0.058	-0.296	-0.743	-0.480
Hispanic	-0.089	0.015	-0.001	-0.018	-0.142	-0.387	-0.333	-0.120
Mid Income	-0.005	0.010	-0.015	0.005	-0.021	-0.027	-0.034	-0.089
Low Income	-0.043	0.018	-0.013	-0.005	0.214	0.221	0.196	-0.287
Near Poor	-0.040	-0.017	0.032	-0.011	0.338	0.795	0.054	0.156
Poor	-0.053	0.012	0.022	-0.032	0.323	0.097	0.269	0.153
Married	0.041	-0.002	-0.042	0.046	-0.044	-0.128	0.097	-0.124
Divorced	-0.025	0.002	-0.012	0.013	0.036	-0.109	0.003	0.025
Household	0.003	-0.015	0.026	-0.011	0.009	0.069	-0.003	-0.021
High School	0.037	0.001	0.013	-0.018	-0.138	-0.008	-0.058	-0.086
BA	0.041	0.004	0.001	-0.009	-0.071	0.302	-0.069	-0.025
MA	0.045	-0.039	0.021	0.019	0.053	0.294	0.084	0.107
Employed	-0.001	0.020	0.047	-0.065	-0.110	-0.015	-0.087	-0.174
Unemployed	-0.004	0.029	-0.005	-0.019	-0.193	-0.107	-0.185	-0.201
Selfemployed	0.013	-0.011	0.004	0.012	0.083	-0.122	0.232	0.150
Union	0.010	-0.051	0.034	0.019	-0.145	0.047	-0.334	0.192
Sicpay	0.037	0.004	-0.018	0.015	-0.146	-0.056	-0.071	-0.036
Payvac	-0.021	0.028	-0.021	-0.003	0.084	0.124	0.110	-0.092
Urban	-0.056	-0.027	0.014	0.012	0.193	0.027	0.106	-0.098
Very Good Health	0.015	-0.015	-0.038	0.067	0.222	-0.052	0.323	0.023
Good Health	0.029	-0.013	-0.039	0.068	0.200	-0.025	0.285	0.076
Fair Health	0.057	-0.005	-0.078	0.095	0.150	-0.047	0.334	0.127
Poor Health	0.071	-0.021	-0.035	0.073	0.101	-0.270	0.426	-0.223
Limit	0.096	-0.011	-0.035	0.038	-0.047	0.250	0.109	-0.056
Coglim	0.005	0.018	-0.039	0.014	0.062	0.262	-0.041	0.218

Table 16C-1. (Continued)

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
MCS	-0.001	0.003	-0.001	-0.001	-0.001	0.000	0.000	-0.004
Conditions	–	–	–	–	0.013	0.074	0.031	0.158
Adrisk	-0.075	-0.004	0.032	-0.024	0.109	-0.007	-0.028	0.026
Adsmok	-0.020	-0.037	-0.021	0.054	0.063	-0.126	0.013	0.038

Table 16C-2. Marginal Effects of Selected Variables in the Depression Sample

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Base Probability	0.555	0.238	0.610	0.152	–	–	–	–
HINDC	0.154	-0.022	-0.043	0.093	-0.322	-2.135	0.187	1.083
HIWDC	0.202	-0.072	0.010	0.077	0.718	0.325	1.072	0.783
HMODC	0.178	-0.037	-0.027	0.080	0.880	-0.387	1.493	0.266
HINDC*Obnum	0.010	-0.014	-0.003	0.007	0.206	-0.063	0.115	0.092
HIWDC*Obnum	0.006	-0.004	0.000	0.002	0.105	0.012	0.116	0.068
HMODC*Obnum	0.011	-0.001	-0.002	0.002	0.037	0.046	0.013	0.050
Uninsured*Obnum	0.024	-0.002	-0.002	0.004	0.095	0.149	0.116	0.036
Female	0.080	0.015	-0.056	0.040	1.111	1.261	0.842	1.370
Black	-0.221	0.007	-0.002	-0.007	-1.747	-1.367	-2.575	-0.665
Hispanic	-0.099	0.001	0.017	-0.023	-1.110	-1.926	-0.946	-1.702
Mid Income	-0.013	0.002	-0.008	0.007	0.073	-0.027	0.118	0.081
Low Income	-0.055	0.012	-0.002	-0.010	0.623	0.907	0.299	1.796
Near Poor	-0.020	0.027	-0.009	-0.013	0.522	0.900	-0.063	3.316
Poor	-0.054	0.013	0.032	-0.044	0.275	0.165	0.297	3.090
Married	0.048	0.006	-0.042	0.038	0.410	0.197	0.370	0.435
Divorced	-0.021	0.015	-0.016	0.004	0.363	-0.287	0.137	1.401
Household	0.002	-0.018	0.025	-0.008	0.031	0.126	0.105	-0.197
High School	0.039	-0.010	0.021	-0.016	-0.173	0.185	-0.112	-0.249
BA	0.038	-0.010	0.006	-0.002	-0.279	0.405	-0.483	0.030
MA	0.050	-0.049	0.015	0.033	0.761	1.159	-0.311	3.587
Employed	0.013	0.028	0.038	-0.064	-0.435	0.922	0.065	-0.968
Unemployed	0.010	0.036	-0.022	-0.010	-0.400	0.762	-0.208	-1.180
Selfemployed	0.010	-0.025	0.007	0.021	-0.090	-0.959	0.104	-0.400
Union	0.008	-0.045	0.037	0.010	0.411	0.664	-0.058	2.085
Sicpay	0.038	0.000	-0.025	0.027	-0.120	0.089	-0.614	1.969
Payvac	-0.017	0.030	-0.019	-0.008	0.415	0.967	0.378	-0.640
Urban	-0.061	-0.021	0.011	0.010	0.336	0.033	0.432	0.078
Very Good Health	0.018	-0.017	-0.040	0.071	0.660	0.095	0.664	-1.217
Good Health	0.038	-0.015	-0.044	0.077	0.442	-0.281	0.476	-1.565
Fair Health	0.063	-0.009	-0.074	0.097	1.055	-0.028	1.148	-0.372
Poor Health	0.100	-0.010	-0.046	0.075	0.503	0.283	0.619	-2.096
Limit	0.106	-0.010	-0.042	0.045	0.617	0.883	0.213	0.615
Coglim	0.008	0.014	-0.040	0.016	0.830	0.527	0.006	3.436

Table 16C-2. (Continued)

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
MCS	-0.001	0.002	-0.001	-0.001	0.012	0.021	0.013	0.002
Conditions					0.359	0.466	0.468	0.983
Adrisk	-0.073	-0.007	0.024	-0.016	0.130	0.115	-0.041	0.037
Adsmok	-0.017	-0.028	-0.029	0.054	-0.008	-0.755	-0.089	-0.030

Table 16D-1. Marginal Effects of Selected Variables in the Asthma Sample

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Base Probability	0.208	0.694	0.196	0.113	–	–	–	–
HINDC	0.032	0.188	-0.161	-0.011	-0.317	-0.386	-0.180	-0.001
HIWDC	0.046	-0.071	0.045	0.023	-0.693	-0.586	-0.536	-1.047
HMODC	0.073	0.012	-0.050	0.031	-0.672	-0.522	-0.773	-0.787
HINDC*Obnum	0.071	-0.088	0.040	0.008	-0.033	0.238	0.094	0.019
HIWDC*Obnum	0.046	0.005	-0.009	0.002	-0.024	-0.010	0.051	0.031
HMODC*Obnum	0.037	-0.009	0.000	0.007	0.013	0.016	0.025	-0.002
Uninsured*Obnum	0.073	0.022	-0.023	-0.001	-0.021	0.066	0.021	-0.013
Female	0.004	-0.034	0.016	0.022	-0.231	-0.292	-0.257	-0.318
Black	-0.032	0.008	0.030	-0.027	0.100	0.016	0.355	-0.078
Hispanic	-0.016	0.077	0.012	-0.098	-0.374	-0.298	-0.586	0.622
Mid Income	-0.012	0.036	-0.024	-0.024	0.064	0.122	0.035	0.180
Low Income	-0.037	0.024	0.001	-0.024	-0.019	-0.007	-0.094	0.441
Near Poor	-0.011	0.115	-0.082	-0.037	0.492	0.722	-1.224	0.531
Poor	-0.042	-0.100	0.063	0.030	0.125	0.048	0.340	-0.488
Married	0.012	-0.091	0.041	0.053	0.088	-0.017	0.324	-0.113
Divorced	0.002	-0.109	0.038	0.070	0.286	0.195	0.560	-0.444
Household	-0.004	0.017	-0.005	-0.013	0.002	0.057	-0.124	0.010
High School	-0.011	-0.046	0.014	0.025	0.063	0.010	-0.026	-0.059
BA	-0.020	0.026	0.001	-0.041	-0.111	0.023	-0.707	0.291
MA	-0.043	-0.106	0.075	0.027	0.054	0.028	-0.183	0.356
Employed	-0.034	-0.005	0.031	-0.031	0.234	0.311	0.218	-0.033
Unemployed	-0.011	-0.079	0.040	0.039	0.089	0.168	-0.492	-0.183
Selfemployed	0.012	-0.047	0.027	0.020	0.007	-0.087	-0.079	0.243
Union	0.023	-0.147	0.079	0.075	0.067	-0.158	0.230	0.212
Sicpay	0.008	0.032	-0.009	-0.028	-0.142	-0.165	0.078	0.092
Payvac	0.009	-0.054	0.000	0.052	0.002	-0.036	-0.173	-0.502
Urban	-0.010	-0.020	0.038	-0.012	-0.083	-0.048	-0.357	-0.030
Very Good Health	0.062	-0.092	-0.018	0.156	0.118	0.019	0.065	-0.254
Good Health	0.089	-0.079	-0.027	0.144	0.103	0.084	-0.247	-0.059
Fair Health	0.117	-0.114	-0.010	0.164	0.126	0.008	0.000	-0.315
Poor Health	0.140	-0.174	-0.012	0.213	0.552	0.429	-0.026	-0.128
Limit	-0.018	0.056	-0.017	-0.040	0.165	0.420	-0.685	1.039
Coglim	-0.017	0.050	-0.029	-0.008	-0.110	-0.079	-0.075	-0.355

Table 16D-1. (Continued)

Results from the Expenditure Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Expenditure > 0				Meff_Covariate Ln(Exp)|Exp>0			
		Conditional on Exp > 0 Pr.(*) |Exp>0				Conditional on Exp > 0 Ln(Exp*)|Exp>0		
Variable Name	Pr.Exp	$Pr.Exp_{genonly}$	$Pr.Exp_{braonly}$	$Pr._{Expboth}$	Ln(Exp)	$Ln(Exp_{genonly})$	$Ln(Exp_{braonly})$	$Ln(Exp_{both})$
Emphdx	0.014	-0.156	0.087	0.082	0.395	0.233	1.207	-0.329
Conditions	-	-	-	-	0.005	-0.025	0.194	-0.341
Aspkfl	0.190	-0.048	-0.013	0.061	0.065	0.361	-0.170	-0.475
Adrisk	-0.015	-0.006	-0.005	0.004	-0.138	-0.180	-0.244	-0.039
Adsmok	-0.014	-0.012	0.010	-0.003	0.078	0.136	-0.210	-0.050

Table 16D-2. Marginal Effects of Selected Variables in the Asthma Sample

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Base Probability	0.211	0.690	0.204	0.112	-	-	-	-
HINDC	0.028	0.184	-0.111	0.007	0.576	0.214	-0.224	-0.985
HIWDC	0.044	-0.077	0.022	0.035	0.324	0.287	1.383	-0.050
HMODC	0.071	0.009	-0.060	0.043	0.760	0.675	0.771	-0.081
HINDC*Obnum	0.069	-0.087	0.026	0.007	-0.142	0.139	0.382	0.906
HIWDC*Obnum	0.047	0.006	-0.007	0.003	0.041	0.023	-0.036	0.276
HMODC*Obnum	0.038	-0.009	-0.004	0.007	0.156	0.111	-0.030	0.285
Uninsured*Obnum	0.078	0.015	0.010	0.001	0.260	0.188	0.820	-0.964
Female	0.003	-0.034	-0.016	-0.001	-1.114	-1.159	-0.906	-2.791
Black	-0.027	-0.007	0.070	-0.015	0.509	0.605	1.822	-0.999
Hispanic	-0.013	0.065	-0.009	-0.097	-0.995	-0.772	-1.061	0.350
Mid Income	-0.011	0.030	-0.023	-0.019	0.567	0.685	-0.065	2.360
Low Income	-0.039	0.021	-0.064	-0.023	-0.208	0.097	-1.236	1.871
Near Poor	-0.015	0.112	-0.026	-0.023	2.398	2.950	-0.449	-2.994
Poor	-0.043	-0.105	0.041	0.032	-0.230	-0.016	-0.407	0.961
Married	0.013	-0.089	-0.003	0.054	-0.012	-0.207	0.312	1.547
Divorced	0.004	-0.108	0.061	0.069	0.791	0.337	1.866	1.617
Household	-0.004	0.016	0.000	-0.012	0.029	0.096	-0.143	-0.009
High School	-0.010	-0.046	0.007	0.026	-0.170	-0.424	-0.061	-0.073
BA	-0.019	0.019	-0.047	-0.036	-0.353	-0.226	-1.132	-0.041
MA	-0.044	-0.111	0.056	0.031	0.083	-0.232	-0.062	5.394
Employed	-0.035	-0.006	0.025	-0.028	0.525	0.872	0.291	-3.120
Unemployed	-0.010	-0.090	0.032	0.037	1.448	1.304	0.287	1.568
Selfemployed	0.013	-0.049	0.057	0.021	-0.560	-1.001	0.817	1.294
Union	0.019	-0.147	0.082	0.067	0.273	-0.269	0.661	2.314
Sicpay	0.010	0.028	0.039	-0.028	0.019	-0.155	1.684	-0.214
Payvac	0.009	-0.055	-0.010	0.055	-0.291	-0.355	-1.369	-0.472
Urban	-0.010	-0.025	-0.010	-0.019	-0.439	-0.081	-0.687	-0.863
Very Good Health	0.062	-0.094	-0.014	0.178	0.827	0.353	0.013	1.991
Good Health	0.089	-0.074	-0.024	0.166	1.207	0.840	0.116	1.903
Fair Health	0.120	-0.111	0.010	0.186	1.149	0.702	0.127	2.542
Poor Health	0.140	-0.174	0.002	0.238	2.682	1.691	0.020	4.960
Limit	-0.019	0.050	-0.031	-0.036	1.056	1.981	-1.939	7.871
Coglim	-0.019	0.052	-0.057	-0.003	-1.054	-0.852	-0.929	-7.059

Table 16D-2. (Continued)

Results from the Utilization Equations (Joint Estimates)

	Meff_P2_Covariate Prob. of Use > 0				Meff_Covariate Use|Use>0			
		Conditional on Use > 0 Pr.(*) |Use>0				Conditional on Use > 0 Use*|Use>0		
Variable Name	Pr.Use	$Pr.Use_{genonly}$	$Pr.Use_{braonly}$	$Pr.Use_{both}$	Use	$Use_{genonly}$	$Use_{braonly}$	Use_{both}
Emphdx	0.022	-0.148	0.113	0.051	1.794	1.517	4.246	0.181
Conditions	-	-	-	-	-0.283	-0.262	0.916	-2.562
Aspkfl	0.194	-0.049	-0.037	0.056	0.463	0.922	-0.548	-1.688
Adrisk	-0.011	0.000	-0.047	0.013	-0.718	-0.954	-0.548	-1.640
Adsmok	-0.010	-0.017	-0.010	0.005	0.473	0.761	-0.421	-0.078

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ABSTRACT

INSURANCE CHOICE AND THE DEMAND FOR PRESCRIPTION DRUGS AMONG INDIVIDUALS WITH CHRONIC CONDITIONS

by

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This study explores insurance choice of the chronically ill non-elderly adults and their utilization and expenditures on prescription drugs. Discrete factor model is used to estimate an individual's probability of any drug use and the conditional level of utilization and associated out-of-pocket expenditures. Analyses on four subpopulation groups, i.e. hypertension, diabetes, asthma and depression, provide detailed insights into individuals' health insurance decision making and subsequent prescription drug filling behavior, given their health insurance status. The results indicate that only a few health risk factors are statistically significant in determining an individual's health insurance status, and that the direction of the effects are mixed, implying no definite pattern of self-selection. Meanwhile, most health characteristic variables are strongly related to overall use of prescription drugs. The association between health insurance and prescription drug utilization and expenditures differs by condition. The greatest one is evident among individuals with depression or hypertension, while the weakest is among individuals with asthma. These findings have important implication for policy makers and plan designers in evaluating the affordability of the combination of drugs, assessing individuals' financial burden of drug treatment and rationalizing drug formulary decisions, to ultimately improve population health outcomes.

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