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**HEALTH INSURANCE ENROLLMENT DECISIONS: UNDERSTANDING THE  
ROLE OF PREFERENCES FOR COVERAGE**

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**Health Insurance Enrollment Decisions:  
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**Abstract**

The weak response by the uninsured to targeted policy initiatives encouraging voluntary enrollment in private and public health insurance has raised concern regarding the extent to which the uninsured value health insurance. To address this issue, we use data from the 2000 Medical Expenditure Panel Survey to examine the association between health insurance preferences and health insurance status and to consider the role played by such preferences in decisions by single and married workers to seek out and enroll in employment-based coverage. Our descriptive tabulations reveal that adults with weak or uncertain preferences for health insurance are more likely than persons with strong preferences to be uninsured and less likely to acquire coverage when uninsured. Our econometric work also indicates that single and married workers with weak or uncertain preferences for health insurance are less likely to obtain job offers with insurance, reinforcing prior evidence that workers may sort among jobs according to their preferences for coverage. We also find that workers with weak or uncertain preferences are less likely to enroll in offered coverage and provide estimates of the subsidy necessary to compensate such workers for the loss in utility were they to enroll. Our results suggest a dual approach to expanding coverage that includes both subsidies and educational efforts to inform targeted groups among the uninsured about the value of health insurance.

# **Health Insurance Enrollment Decisions: Understanding the Role of Preferences for Coverage**

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## **I. Introduction**

Policy initiatives seeking to expand health insurance opportunities for the substantial and rising number of uninsured Americans remain prominent on the public agenda and the subject of intense scrutiny and debate. Apart from the system-wide reform of the Clinton Administration's Health Security Act of 1993, most initiatives over the last two decades have been incremental in nature, targeting specific groups among the uninsured through expanded eligibility for public programs, tax credits and premium subsidies for private insurance, and regulation of private insurance markets. Included among such proposed and enacted legislation are the Medicaid expansions of the late 1980s and early 1990s, the State Children's Health Insurance Program (SCHIP) of 1997, tax credits for the purchase of individual health insurance in the Health Coverage Tax Credits program of the Trade Act of 2002, the proposed Fair Care for the Uninsured Act of 2003, and state premium support programs for employment-based coverage, as well small group and individual health insurance market reform.

Such proposals have typically been introduced with high expectations of success. However, past evidence from demonstration projects, simulations of responses by the uninsured to proposed subsidies, and experience with public insurance expansions suggest that the response by targeted groups to such coverage initiatives may be disappointing. These findings also indicate that large subsidies may be required to induce participation in private coverage and that

intensive outreach efforts may be necessary to overcome informational and administrative impediments to enrollment in public coverage (Bilheimer and Colby 2001; Gruber and Levitt 2001; McLaughlin and Zellers 1992; Thorpe et al. 1992; Selden, Banthin, and Cohen 1999; Marquis and Long, 1995).

The lack of responsiveness to many coverage initiatives has perplexed researchers and policymakers alike who cite several factors as justifying the value of expanded health insurance: the ‘merit good’ aspect of health insurance, the negative externalities from underconsumption of medical care, the financing burden on taxpayers and public institutions from providing care directly to the uninsured; the impact on health care expenditures from the provision of services in inappropriate settings, and the implications for the health of the uninsured from financial barriers to the timely receipt of care. Indeed, as regards the latter, there has been a concerted effort over the last few years to justify efforts to expand coverage by documenting the strong association between health insurance and health status and by demonstrating that such an association reflects a causal relationship between changes in coverage status and changes in health (e.g., Levy and Meltzer, 2004; Institute of Medicine, 20002; Hadley, 2003).

From a policymaker’s perspective, the points outlined above appear to be reasonable rationales for expanded coverage. However, the weak responsiveness of the uninsured to actual and proposed health insurance expansions has raised the issue of whether targeted groups value health insurance relative to other uses of income, or perceive the benefits of public coverage to be commensurate with any direct and indirect costs of participation. Indeed, in their review of evidence regarding enrollment into a variety of public programs, Remler, Rachlin, and Gleid

(2001) note that while the value of health insurance benefits are an important component in take-up decisions, “[i]t may well be that potential recipients do not value health insurance as strongly as policy analysts do – a possibility worth exploring in depth.” (p.15). In this regard, Bilheimer and Colby (2001) also acknowledge that “instilling awareness of the value of health insurance” is an important component of strategies to enroll and retain persons eligible for private or public insurance programs. Finally, Peterson (2004) notes that among the ‘stark lessons’ learned regarding state efforts to expand insurance coverage is that “because many . . . do not understand or are skeptical about the value of insurance, offering coverage does not translate into people accepting it.” (p. 174).

While individual valuation of health insurance is fundamental for approaches that would encourage voluntary participation in private and public health insurance, it also has important implications for proposals to mandate employment-based health insurance. As Summers (1989) has observed, mandated approaches to coverage may be more efficient than alternative tax-based approaches provided that workers fully value the mandated benefits. Consequently, understanding the extent to which targeted populations value health insurance can not only affect the success of particular policy instruments but may also govern selection of which instrument to apply.<sup>1, 2</sup>

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<sup>1</sup> In this regard, Schur, Berk, and Yegin (2004) report that nationally, 87 percent of working-age adults 18 to 64 would support an employer mandate extended to certain types of employers and employees. However, only half of those sampled would endorse a mandate that would apply to all employers.

<sup>2</sup> As another example, efforts to expand access to coverage through reform of the small group insurance market may not be effective if workers employed by small firms have weak

Finally, from a methodological perspective, individual tastes for coverage underlie the demand relationship for health insurance. An important requirement for such demand estimation is that tastes for coverage (or reasonable proxies) be held constant in order to obtain unbiased estimates of the price and income effects. For example, in the context of the demand for employment-based health insurance, estimates of price effects may be overstated as workers with strong preferences for coverage sort into firms with more favorable out-of-pocket premium costs. In empirical work, such tastes are frequently represented by a set of individual demographic characteristics such as age, gender, race/ethnicity and educational attainment.<sup>3</sup> However, analysts have little sense of whether these commonly used proxies for health insurance preferences display any relationship to an individual's stated tastes for coverage.<sup>4</sup> More to the point, Pudney (1989) has cautioned that “. . . not all variation in preferences is likely to be explicable solely in terms of observed demographic and social factors.” (page 34).

In this paper, we examine several aspects of the relationship between preferences for health insurance and decisions to seek out and enroll in employment-based coverage. Using self-

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preferences for coverage.

<sup>3</sup> For example, Blumberg and Nichols (2004) note that empirical estimates of the demand for health insurance, factors such as age, health status, gender, and family status among others are used as proxies for unobserved aversion to risk. In specifying an equation describing the decision to participate in nongroup coverage, Marquis and Long (1995) include income, education, and the spouse's employment status as “measures . . . hypothesized to reflect the family's aversion to risk and so the value the family attaches to the purchase of insurance.” (pages 53-54).

<sup>4</sup> Indeed, in a model of demand for employment-based coverage where income is endogenous (e.g., due to hours of work requirements for coverage) and not included in the estimating equation, such variables may serve as proxies for the ability to pay for coverage rather than tastes.

reported attitudinal measures from the 2000 Medical Expenditure Panel Survey (MEPS), we classify working-age adults as having weak, uncertain, or strong preferences for health insurance. We consider whether individuals with weak or uncertain preferences are more likely to be uninsured than those with strong preferences for coverage and we identify some demographic correlates of weak preferences.

Focusing on workers, we extend our earlier work on job sorting and health insurance preferences (Monheit and Vistnes, 1999) to include working couples as well as single individuals and to also examine the decision to take up offered coverage. We apply econometric models to examine whether workers with weak or uncertain preferences are more likely than those with strong preferences to obtain jobs without health insurance and whether the former are less likely to enroll in offered coverage than the latter. In doing so, we assess the relative contributions of health insurance preferences, human capital (i.e., education), and other attributes to decisions to obtain job offers with coverage and to enroll in offered coverage. Additionally, we compute the level of subsidy necessary to overcome the disutility from enrollment by those with weak or uncertain preferences for coverage. Our findings reveal that persons with weak or uncertain preferences for coverage are more likely to be uninsured and less likely to acquire coverage than those with strong preferences for coverage and, depending on type preference measure, are less likely than workers with strong preferences to obtain offers of health insurance or to enroll in offered coverage.

Our paper is organized as follows. In Section II, we provide a brief review of research on the role of health insurance preferences in enrollment decisions and outline the analytical

framework for our econometric analysis of job choice and enrollment in employment-based health insurance. We describe our data in Section III. In Section IV, we present descriptive tabulations of the prevalence of weak or uncertain health insurance preferences among nonelderly adults and the association of such preferences with health insurance status, demographic characteristics, and offer and take-up rates of employment-based health insurance. Our econometric results regarding job sorting and enrollment decisions are presented in Section V and our conclusions policy implications are stated in Section VI.

## **II. Background and Analytical Framework**

### *Previous research on the role of health insurance preferences*

It has long been recognized that worker preferences for health insurance are likely to underlie decisions by employers to provide health insurance and to govern the content of the health benefits provided. For example, early work by Goldstein and Pauly (1976) first explicitly posited that workers “sort” among alternative employment opportunities according to their tastes for health insurance while subsequent work (e.g., Pauly 1986; Feldman et al. 1997) has also subscribed to the sorting hypothesis. However, these studies did not provide explicit empirical tests of the sorting hypothesis. Most recently, heterogeneity in worker characteristics, such as the age, gender, and income composition of the work force, has also been used to explore the role of worker preferences in employer decisions regarding the content of health insurance benefits (e.g., Moran, Chernew, and Hirth 2001; Bundorf 2002; Gruber and Latta 2004).

To date, however, there has been relatively little effort to explore the role of health



insurance preferences on health insurance decisions by individuals or households. Long and Marquis (1992) inferred that weak preferences for health insurance may be a contributing factor in the low take-up rates by young and low-wage workers since the characteristics of those who turn down offered coverage resemble those of workers in jobs that fail to offer coverage. Using explicit responses to questions regarding attitudes toward health insurance from the 1987 National Medical Expenditure Survey (NMES), Monheit and Vistnes (1999) found that preferences for coverage were an important factor in worker sorting between jobs with and without coverage. They found that single workers with weak preferences for coverage were less likely than those with strong preferences to obtain job offers with coverage and concluded that preferences for coverage may be as important as frequently used worker characteristics in explaining the lack of coverage. Additionally, Monheit and Harvey (1993) applied NMES attitudinal data and found that the self employed with weak tastes for health insurance were less likely to obtain employment-based coverage or to provide such coverage for wage earners in their employ.

Considering public insurance and vulnerable populations, Vistnes and Banthin (1997/98) used responses by the elderly to NMES attitudinal data and found that attitudes toward the medical care system and toward risk affected the elderly's demand for Medicare supplemental coverage and the type of supplemental coverage selected. Finally, in a study of the willingness to pay for health insurance by low income residents of three New Jersey counties, Cantor et al. (2001) found that between a quarter and a third of survey respondents who would be income-eligible for subsidized health insurance premiums reported that they were not interested in

coverage.

*Analytical approach*

As noted earlier, our examination of the role of preferences for coverage in health insurance enrollment decisions focuses on decisions by workers to seek out and enroll in employment-based coverage. In doing so, we consider two basic decision processes. First, we consider whether single workers and married couples (with at least one working spouse) “sort” among jobs that offer or fail to offer health insurance according to their preferences for coverage. Next, given the decision to obtain a job with coverage, we examine the role played by preferences and other factors in the decision to take up offered coverage.

*i. Obtaining a job offer with health insurance*

To examine the first process, we apply and extend the simple model of job search used in our earlier work on health insurance preferences and job choice by single workers (Monheit and Vistnes, 1999). In this model, we posit that when selecting a job, an individual will compare the utility of jobs that offer or fail to offer health insurance. The utility of each job is characterized by wage income, search costs, expected out-of-pocket medical expenses (which depend on whether the job provides health insurance), and preferences for health insurance which affect the position and shape of the utility function. The inclusion of search costs in the model recognizes that such costs may preclude some workers from obtaining their desired jobs and thus may contribute to imperfect sorting according to health insurance preferences. A worker will select a job with health insurance if the utility of such a job offer exceeds that of a job offer without health insurance.

As shown in Monheit and Vistnes (1999), the above comparison, based upon utility functions that are linear functions of wages, search costs, out-of-pocket medical costs, tastes, and stochastic error terms yields the following estimating equation:

$$\text{Prob (job with health insurance)} = -\beta(W_N - W_O) + \beta M_N + \beta(T_S - T_W) - \beta(C_O - C_N) + (e_N - e_O)$$

In this model, the probability of a job offer with health insurance is negatively related to the wage difference between jobs without and with coverage ( $W_N - W_O$ ) and positively related to factors associated with increased out-of-pocket medical expenditures if the job does not provide coverage,  $M_N$ .<sup>5</sup> This probability also decreases as search costs incurred to obtain a job with coverage increase relative to the costs of obtaining a job without coverage. Note also that workers with weak preferences for coverage ( $T_W = 1, T_S = 0$ ) will be less likely to take a job without health insurance while those with strong preferences ( $T_S = 1, T_W = 0$ ) will be more likely to obtain a job with health insurance.<sup>6</sup> Assuming  $(e_N - e_O)$  to have a logistic distribution, we estimate the model as a logit equation.

While this model is most directly applicable to single workers, the underlying relationship also guides our empirical specification of job sorting among married couples. For the latter, the decision process is likely to be more complex since the determination of whether one or both spouses work may depend upon who in the household has the best chance of obtaining an offer

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<sup>5</sup> We assume that  $(W_N - W_O) > 0$  as workers bear the full premium costs (employee and employer contributions) to health insurance. We also assume that jobs with health insurance provide full coverage and hence zero out-of-pocket costs.

<sup>6</sup> For ease of exposition, we present our model in terms of strong and weak preferences. In our empirical work, we also include a dummy variable for uncertain preferences.

of coverage. It is beyond the scope of our present analysis to address this complexity.<sup>7</sup> In applying our modeling framework to married couples, we take the labor force participation decision by each spouse as given and consider how the wage opportunities and search costs of the working spouses affect the likelihood that the household will obtain a job offer with health insurance. We extend the model to incorporate the preferences of both spouses through household level measures of weak or strong preferences for coverage.

*ii. Preferences and the decision to enroll in offered coverage*

To estimate the role of health insurance preferences on the decision to enroll in offered coverage, we next consider a simple model of insurance participation. Let  $U_N = U_N(Y_N, M; T_W) + e_N$  where  $U_N$  is the utility from not obtaining insurance,  $Y_N$  is income in the uninsured state,  $M$  are out-of-pocket medical expenses when uninsured (assumed to be zero when insured),  $T_W$  is a shift variable capturing the addition to utility from non-participation for individuals with weak preferences for coverage, and  $e_N$  is a stochastic error term. Next, let  $U_I(Y_I, P; T_S) + e_I$  represent the utility from insurance which depends on income in the insured state,  $Y_I$ , premium  $P$ , a shift factor,  $T_S$ , accounting for the gain in utility from enrolling in health insurance, and error term  $e_I$ . An individual will enroll if  $U_I(Y_I, P; T_S) - U_N(Y_N, M; T) > e_N - e_I$ . Expressing this difference as a simple linear function of  $Y$ ,  $P$ , and the difference in tastes for coverage,  $T_S$ , and  $T_W$ , we obtain the rule for the probability of enrollment:

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<sup>7</sup> For a concise review of such research, see the discussion by Gruber and Madrian (2004). One could also argue that given strong preferences for health insurance, the decision by an unmarried individual to participate in the labor market may depend upon his/her chances of obtaining an offer of coverage.

$$P(\text{enrollment}) = U_I(Y_I, P) - U_N(Y_N, M; T) = \cdot Y - \%P + \acute{U}M + \mu(T_S - T_W) > (e_N - e_I).$$

This probability, or the difference between the utility from enrolling versus not enrolling, increases with income, decreases with higher premiums, increases with expected medical expenditures, increases for individuals with strong preferences for coverage ( $T_S = 1, T_W = 0$ ), and decreases for individuals with weak preferences ( $T_W = 1, T_S = 0$ ). Assuming  $(e_N - e_I)$  to be logistically distributed, coefficient estimates will be derived from logit estimates of the likelihood of enrollment.

Finally, the premium coefficient from such a model of insurance participation together with the coefficient on a dummy variable signifying weak preferences for coverage will be used to assess the magnitude of a price subsidy necessary to encourage enrollment.<sup>8</sup> Note that each dollar decline in premium  $P$  increases the utility from enrollment relative to nonenrollment by  $\%$  units (i.e, the utility gain per dollar price reduction) and persons with weak preferences for coverage experience a decrease in utility of enrollment of  $\mu$ . A price reduction of  $\mu/\%$  units (or a subsidy of this amount) will thus offset the effect of weak preferences for coverage on the likelihood of enrollment.

### III. Data and Empirical Specification

The data used in this study are from the 2000 Medical Expenditure Panel Survey (MEPS), a nationally representative two-year household panel survey sponsored by the Agency

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<sup>8</sup> As Chernew, Frick, and McLaughlin (1997) note, the estimated price effect from such an equation can provide an estimate of the subsidy necessary to induce participation and is equivalent to the compensating variation measure of welfare loss under a health insurance mandate.

for Healthcare Research and Quality (AHRQ). MEPS provides national estimates of the civilian, noninstitutionalized population's access to, use of, and expenditures for health care, their health and health insurance status, demographic characteristics, economic status, and employment and job characteristics. The survey also includes questions on respondent attitudes toward health insurance, risk-taking behavior, and the medical care system contained in a self-administered questionnaire (SAQ) asked of adults around the time of the round 2/4 household interview. In total, the 2000 MEPS includes approximately 10,000 households consisting of nearly 25,000 individuals.

For this analysis, our sample consists of 9545 individuals (workers and non-workers, excluding full-time students) aged 18 to 64 who responded to the SAQ (i.e., we excluded proxy respondents).<sup>9</sup> For our analysis of job search and enrollment decisions, our sample consists of 2613 unmarried wage earners who responded directly to the SAQ without proxy respondents.<sup>10</sup> We constrained our sample of couples in our analysis of job search and enrollment to those in which each spouse individually responded to the SAQ (that is, we excluded couples if one spouse's response was reported by a proxy, typically the other spouse). Our resulting sample

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<sup>9</sup> Ignoring the proxy constraint yields 11641 observations. In comparison, our analysis sample was slightly less likely to be male, exhibited no differences in race/ethnicity, family income in relation to the poverty line, or in educational attainment.

<sup>10</sup> MEPS data included 3051 unmarried wage earners ages 18-64 who responded to the SAQ and were not students. Elimination of proxy respondents reduced this to 2613 wage earners. Compared to the full sample, our analytical sample of single wage earners had the same average age and similar distributions by race/ethnicity, income compared to the federal poverty line, and educational attainment. Those excluded from the sample were more likely to be males and had somewhat lower educational attainment (22 percent had less than 12 years of schooling compared to 13.5 percent of our analytical sample).

of couples consists of 1706 couples where both spouses responded to the SAQ, at least one spouse was employed (as a wage earner).<sup>11</sup> For analyses of the demand for employment-based health insurance, we restrict our sample to single workers and to married couples with at least one working spouse. In all analyses of workers our data exclude the self employed.

All estimates presented have been weighted using the MEPS-SAQ weight to adjust standard errors for the complex sample design of MEPS. Unless otherwise indicated, all findings reported in the text are statistically significant at least at the 0.05 percent level.

### *Health insurance preferences*

Respondents to the MEPS-SAQ are asked whether they agree strongly, somewhat, are uncertain, disagree somewhat, or disagree strongly with the following four statements regarding

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<sup>11</sup> There were 2559 married couples who responded to the SAQ where each spouse was between 18-64 and both were not students, and at least one spouse was a wage earner. The constraint regarding proxy respondents reduced the sample size to that reported in the text. Compared to all such couples in the MEPS (ignoring the proxy constraint), we found no difference in the husband's age, race/ethnicity, or family income distribution and negligible differences in the distribution of years of education. Couples excluded from the analysis sample were those somewhat more likely to have a Hispanic husband, lower income (20.7 percent less than twice the poverty line compared to 13.8 percent in the sample), and exhibited somewhat lower educational attainment compared to the analysis sample.

attitudes toward health insurance, risk, and the medical care system:

1. I'm healthy enough that I really don't need health insurance
2. Health insurance is not worth the money it costs;
3. I'm more likely to take risks than the average person;
4. I can overcome illness without help from a medically trained person.

The first two statements are directly related to an individual's preferences for health insurance and capture different aspects of its value. The first considers the value of health insurance based upon an individual's evaluation of whether his health status is likely to require the use of medical care and therefore protection from its costs. In the second statement, an individual is asked to directly assess the value of health insurance relative to his perception of its cost.<sup>12</sup> In contrast, the last two statements provide indirect measures that are likely to be associated with attitudes toward health insurance. The third statement provides a general assessment of an individual's risk taking behavior which may have implications for health insurance decisions. Individuals who agree with the fourth statement may not desire health insurance if they expect to have little discretionary contact with the medical care system when ill. Finally, it is important to note that responses to these attitudinal questions were obtained independent of survey questions regarding health insurance status so that responses indicating weak preferences for coverage are not likely

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<sup>12</sup> Since the statement asks individuals to assess both the value of health insurance to an individual and its costs, it is not simply a proxy for whether an individual perceives the cost of coverage to be 'high' or 'low.' Note also that use of this preference is likely to be less relevant when examining participation decisions by persons eligible for public insurance coverage. Many such persons may not face or need to consider premiums or cost-sharing provisions. The present paper focuses on decisions to participate in private employment-based health insurance.



to serve as a rationale for lacking coverage.

Considering each of the attitudinal statements independently, respondents who strongly or somewhat agree with a specific statement are classified as having weak preferences for coverage. Those who respond that they are uncertain with regard to a specific statement are classified as having uncertain preferences, while those who strongly or somewhat disagree with a specific statement are considered to have strong preferences for coverage.

For married couples, we consider responses to each of the attitudinal statements by both spouses in order to characterize the couple's preferences.<sup>13</sup> In our descriptive analysis, we take a fairly conservative approach and classify couples as having strong preferences for coverage only if *both spouses* report strong preferences. We classify couples as having weak preferences if both spouses have weak preferences or one spouse has weak preferences and the other spouse reports uncertain preferences. We also classify couples as having uncertain preferences if both spouses report they are uncertain with regard to the attitudinal statements. Finally, we consider a separate category of 'mixed' preferences consisting of couples in which only one spouse reports strong preferences. At times in our descriptive analyses of job offers and enrollment, in order to address sample size considerations, we group couples with weak or uncertain preferences together and compare these outcome measures to those with strong preferences and

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<sup>13</sup> For this analysis, we assume that the preferences of each spouse are treated equally in household decisions regarding health insurance. Thus we do not construct household preferences indicators by applying any weighting scheme to each spouse's preferences (e.g., counting those working or contributing higher income to the household as having more input in decision making). We do, however, at times in our econometric work consider whether husbands' or wives' preferences (entered separately) bear a stronger association with regard to decisions to obtain jobs with coverage or take up offered coverage.

with mixed preferences. Finally, as described below, our econometric work uses several preference groupings both to examine how differences in preferences by each spouse affect job offer and enrollment decisions and to accommodate sample size constraints.

### *Specification of econometric models*

For our empirical models of job search and enrollment, we draw upon the following data. In our model of job search, we assume that the wage differential (gain) from taking a job without health insurance ( $W_N - W_O$ ) will be positively related to the costs of health insurance and will also vary according to worker characteristics such as age, gender, race/ethnicity, and education. However, older (presumably more experienced workers) and more educated workers may also have easier access to jobs with employment-based coverage than those who are younger or less educated. We proxy variation in health insurance costs through the inclusion of the worker's occupation, a dummy variable to account for the region of residence, and whether the worker resides in an urban or rural locale.<sup>14</sup> Additionally, as in Monheit and Vistnes (1999), we note that workers in areas with higher health insurance costs or those receiving more generous health plans (such as older, more experienced, and better educated workers) may obtain a larger wage gain by taking a job without coverage compared to other workers. We also assume that out-of-pocket medical expenses ( $M_N$ ) depend on the health status of individuals, the presence of small children (less than age five) in the household, and the presence of other health insurance coverage obtained

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<sup>14</sup> We also attempted to include state fixed effects to account for some of the variation in state-specific health insurance costs such as those associated with differences in mandated health insurance benefits and state regulation of small group and private health insurance markets. However, there we lacked sufficient sample size to include dummy variables for each state. As a result we include regional dummy variables to capture some of this variation.

from a prior job, and whether any children or parents are eligible for Medicaid/SCHIP.<sup>15</sup> The specification also includes variables to characterize individual preferences for health insurance and household level indicators of preferences for our analysis of decisions of couples.

As regards ( $C_O - C_N$ ), the difference in costs of searching for jobs with and without coverage, we use proxy variables such as the county unemployment rate from the Area Resource File (higher unemployment rates may increase the costs of search job offers with coverage) and the proportion of establishments in the county with less than 10 employees and between 10 and 19 employees from Department of Commerce's County Business Patterns data base (we posit that search costs for jobs with health insurance rise and for jobs without coverage fall as there are more small employers in the county). In addition, despite constraints on the use of pre-existing health conditions, workers in with health problems may also incur additional search costs to find jobs for which they may be eligible for coverage. Finally, our job search model also includes data on county-specific indicators of the health care safety net (which may yield disincentives to search for jobs with coverage), including the presence of a community health center, Medicare disproportionate share payments, presence of an uncompensated care pool, percent of hospital admissions to public hospitals and to major teaching hospitals, and the number of emergency room visits per hospital admission. These data were obtained from public use files on health care safety net providers available from the Agency for Healthcare Research and Quality

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<sup>15</sup> Coverage from a prior job includes retiree health insurance, coverage that may still be in effect after a job change, and possible COBRA coverage. Since decisions regarding these sources of coverage were made prior to the a worker's current job, we treat such coverage as exogenous.

(<http://www.ahrq.gov/data/safetynet/databooks/safetynet2.htm>, last accessed May 21, 2004).<sup>16</sup>

A key component of our analysis of enrollment in offered coverage is to assess how explicit use of preference measures affects participation in employment-based health insurance and whether price and income responsiveness changes when health insurance preferences are excluded. To assess price responsiveness, we constructed area-specific measures of employee out-of-pocket premium costs derived from establishment-level data in the MEPS Insurance Component (IC). To do so, we matched person-level data from the MEPS household component to area-specific estimates (mean values of employee out-of-pocket contributions) from the MEPS-Insurance Component. Matching is based upon state and establishment size characteristics common to both components of the MEPS. For analyses of both single workers and married couples, we examine the impact of changes in out-of-pocket contributions for single coverage which represents the lowest price a household confronts in order to participate in employment-based coverage.<sup>17</sup>

While we assume such premium costs to be exogenous, we do note that some of the variation in such costs may reflect geographic and firm size differences in health insurance benefits and payment provisions. To adjust for such differences, we also included variables accounting for the presence of particular insurance provisions by state and establishment size. However, as might be expected, such variables appeared to be correlated with the premium data

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<sup>16</sup> Unfortunately, our use of the safety net data was constrained by a large number of counties with missing data.

<sup>17</sup> For couples with two workers who were both offered coverage, we selected the employee contribution of the spouse with the lowest contribution.

and yielded inappropriate signs on the premium coefficients when the insurance benefits were included in our enrollment equations. Since our effort to include state fixed effects in these models to account for some of the geographic difference in insurance benefits (e.g., due to state benefit mandates) was not successful, and we do not expect regional dummy variables to completely adjust for these factors, variation in our estimates of premium contributions may reflect differences in the quantity or quality of insurance provided. Finally, our models of enrollment decisions include family-level characteristics, including family income (measured in relationship to the federal poverty line), the presence of alternatives to employment-based coverage, the number of children predicted to be eligible for Medicaid/SHIP and whether a parent is eligible for these programs. Additionally, we included county-specific indicators of the health care safety net (as noted above), and regional and urban/rural indicators.

In applying these models to our sample of couples, we estimate separate regressions for couples with one and with two working spouses. For the former, our job offer or search equation distinguishes the characteristics of the working spouse from the nonworking spouse while for the latter we include characteristics of both workers. While models for unmarried workers and one-worker couples examine whether the specific worker will obtain a job offer with coverage and enroll in offered coverage, our models for two-worker couples examine whether either of the working spouses receives an offer of coverage or whether either enrolls in offered coverage.

#### **IV. Descriptive Findings**

*Prevalence of weak preferences for health insurance and health insurance status*

*i. Prevalence of weak preferences*

In Table 1, panel A, we display estimates of the prevalence of direct and indirect measures of health insurance preferences by adults aged 18-64. In general, we find that respondents reporting weak or uncertain preferences represent a minority of all adults and that the prevalence of such preferences is lowest for responses to the statement ‘healthy enough, don’t need insurance’ (14.8 percent of adults). In contrast, when we consider the other measures, we find that a fifth to one-quarter of respondents report weak preferences, and when those reporting uncertain preferences are included, over a third of respondents fail to report strong preferences for coverage.

In panel B, we examine the prevalence of weak preferences for coverage by several demographic characteristics and by health status. For all measures, we find that the likelihood of reporting weak preferences declines with age (especially when young adults aged 18-24 are compared to near-elderly persons aged 55-64), are more prevalent among males, and among those in excellent health compared to persons in fair or poor health. Hispanics are somewhat more likely than whites or blacks to report that they are ‘healthy, don’t need insurance’ and are also more likely to ‘take risks’ than black Americans. Note, however, that both Hispanic and black adults are less likely than whites to assert that they can ‘overcome illness without a medically trained person.’ Finally, for all preference measures except ‘overcome illness’, we find that the prevalence of weak preferences declines with rising educational attainment, with the largest disparity observed between the lowest and highest educational classes. However, we find little evidence that the prevalence of weak preferences varies with changes in family income.

*ii. Preferences for health insurance and annual insurance status*

In Table 2, we examine the prevalence of weak preferences for coverage by annual health insurance status. Overall, we find that adults uninsured all year are far more likely to report weak preferences for coverage than adults insured throughout 2000. Adults uninsured all year are more than twice as likely as those insured all year to report weak preferences in response to the ‘healthy, don’t need coverage’ statement (17.8 percent to 7.0 percent) and nearly a third of those uninsured all year report ‘health insurance not worth the cost’ compared to a fifth of those covered all year. Adults uninsured all year are also 9.4 percentage points ‘more likely to take risks’ than the all-year insured and only five percentage points more likely to ‘overcome illness without the medical care system.’ Finally, among persons with part-year coverage, the proportion reporting weak preferences generally resembles that of the all-year uninsured, although those responding to the ‘healthy, don’t need coverage’ measure are somewhat closer to the proportion for persons insured all year.

The differences noted above provide some indirect evidence that persons with weak preferences actualize their tastes for coverage as revealed by their greater representation among the uninsured. However, an important issue in this regard is whether the overall differences observed above reflect differences in the prevalence of tastes *per se* or reflect differences in personal characteristics between the insured and uninsured that are correlated with such tastes but by themselves serve to impede the uninsured’s access to coverage.<sup>18</sup>

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<sup>18</sup> For example, it is well known that young adults, persons with low educational attainment, lower incomes, etc. have a comparatively higher risk of being uninsured.

We address this issue in panel B by noting that the differences observed in the aggregate are nearly always maintained when selected respondent characteristics are held constant. For the two direct measures of insurance preferences, in most age, race/ethnicity, income, educational and health status classes, we find persons uninsured all year are at least 10 percentage points more likely to report weak preferences than those insured all year. As regards income, we observe relatively large differentials in the prevalence of weak preferences between the insured and uninsured with middle and high incomes compared to those with lower income. Such differences suggest that some among the higher income uninsured may act on their preferences, ‘choose’ to be uninsured (as they may be able to self insure) and thus exercise more discretion in selecting job opportunities that provide access to health insurance. In contrast, those with low incomes may be less likely to be offered coverage and when they are, may face affordability constraints.

Disparities by demographic characteristics also emerge when we consider the two indirect preference measures although the findings are not as consistent when the two direct measures are used. For example, differences in risk-taking attitudes only emerge for persons 35 years of age or older consistent with the emergence of greater risk aversion for some adults as they age. In addition, we also observe that differences in preferences based on ‘overcome illness’ are only found for persons age 45 or older, suggesting an increased likelihood that some among the insured have experienced age-related serious or chronic illnesses.

*iii. Health insurance preferences and the uninsured*

In Table 3, we further examine the association between health insurance status and



preferences for coverage from a somewhat different perspective. In panel A, we consider whether persons with weak or uncertain preferences are more likely to be uninsured all year compared to persons with strong preferences. For the two direct preference measures, we find that the former groups are more than twice as likely as the latter to be uninsured throughout 2000. Persons reporting weak or uncertain preferences in response to the indirect ‘take risk’ statement are also equally likely to be uninsured all year and are seven to eight percentage points more likely to lack coverage than persons with strong preferences. Finally, we also observe small but statistically significant differences in the likelihood of being uninsured all year for persons who report weak or uncertain preferences in response to the ‘overcome illness’ statement compared to those with strong preferences.

Next (panel B) , we consider persons uninsured during January 2000 and examine whether those with weak or uncertain health insurance preferences are less likely to acquire coverage than persons with strong preferences. For our two direct measures of health insurance preferences, we find that among such uninsured persons, over 30 percent of those with strong health insurance preferences acquired coverage compared to only a fifth of those with weak or uncertain preferences. In contrast, using the indirect preference measures, we find no statistically significant differences in the likelihood of acquiring health insurance between persons with weak or uncertain preferences and those with strong preferences. Taken together, these tabulations raise the question of whether attitudes regarding the value of health insurance are an independent factor that impedes some uninsured adults from resolving spells without coverage or are a correlate of other factors more directly associated with the ability to pay or otherwise obtain

access to coverage.

*iv. Correlates of weak preferences for coverage*

From a methodological perspective, it is instructive to consider whether commonly used demographic characteristics serve as adequate proxies for health insurance preferences in estimates of the demand for coverage. To examine this issue, we applied logit models to our sample of SAQ respondents and regressed dichotomous measures of weak preferences for coverage (using strong and uncertain preferences as the reference group) against a set of demographic and health-related characteristics as well as characteristics of the respondent's area of residence. In general, we found that such models (available upon request) yielded small explanatory power (pseudo R-square statistics ranged between 0.02 and 0.11 depending on preference measure) and that only a few demographic characteristics were uniformly statistically significant across all preference measures.

Focusing on both direct preference measures, we found that females, married adults, and those with children (up to age 17) had a lower likelihood of reporting weak preferences in response to the 'healthy, don't need coverage' measure while young adults (aged 18-39), those in excellent, very good or good health, those who were Hispanic ( $P < 0.10$  compared to whites), and adults responding to the SAQ in Spanish were more likely to do so. In addition, those with low or middle incomes ( $P < 0.103$  for the latter) were also more likely to report weak preferences while adults residing in the north, midwest, and south compared to the east were less likely. For the 'not worth the cost' measure, females, Hispanic and black adults ( $P < 0.076$  for the latter), those with more than a high school education, those with children five years or younger ( $P <$

0.101), young adults 18-24 and those 30-39, and those residing in the midwest (compared to the east) were less likely to report weak preferences while those with low ( $P < 0.66$ ) or middle incomes and those with Medicaid-eligible children were more likely to report weak preferences.

We found somewhat different results for the two indirect preference measures. Adults who were black, female, married, in good health ( $P < 0.10$  compared to those in fair/poor health) and those living in the south (compared to the east) were less likely to be ‘risk takers.’ In contrast, adults 18 to 39 years of age, those with less than 12 years of schooling or 16 or more years compared to high school graduates, those who smoked, and those who responded to the SAQ in Spanish ( $P < 0.10$ ) were more likely to ‘take risks.’ Finally, adults were less likely to report that they could ‘overcome illness’ if they were Hispanic or black, residing in the South ( $P < 0.10$ ), had children less than age five, and if they resided in counties with a community health center. Those who were more likely to ‘overcome illness’ included all but the oldest adults aged 55 to 64, had Medicaid-eligible children, were in excellent, very good or good health, had incomes between two and four times the poverty level, and resided in areas with higher unemployment rates.

In sum, several demographic characteristics, such as age, gender, race/ethnicity, and education (particularly for the two direct preference measures) along with the presence of children emerge as statistically significant correlates of the likelihood of reporting weak preferences. Alternatively, the contribution of several other factors (such as income, Medicaid eligibility, marital status, and presence of children) appear to be unique to one or more specific preference measures. However, all such variables contribute little to explaining variation in

reports of weak preferences, raising concern as to whether such factors can serve as adequate controls for preferences in empirical estimates of health insurance demand.

*Preferences and employment-based health insurance*

Since the majority of uninsured persons reside in households with a working adult, we now focus on the relationship between preferences for coverage and decisions to obtain employment-based health insurance. We begin by examining whether differences in preferences for coverage are associated with differences in the likelihood that a worker will obtain a job offer with employment-based coverage, will enroll in offered coverage, or become uninsured.

These tabulations are summarized in Table 4 for single workers and for married couples with at least one working spouse. For purposes of this discussion, we group together persons and households with weak and uncertain preferences both because separate estimates of coverage availability for these observations were similar and to ensure an adequate sample size. For married couples, we consider three categories of preference groupings: weak/uncertain preferences (both spouse have weak/uncertain preferences); both spouses have strong preferences; and mixed preferences (one spouse has strong preferences, the other has weak/uncertain preferences). Finally, note that offer and enrollment rates for married couples are measured at the household level and indicate whether either spouse was offered coverage and whether either spouse enrolled in offered coverage. Additionally, the uninsured rate indicates that both spouses lack health insurance.

For single workers, we find sharp differences in the likelihood of obtaining an offer of employment-based health insurance according to health insurance preferences. Considering both

direct preference measures, only two-thirds of single workers with weak/uncertain preferences are in jobs that offer coverage compared to 80 percent of single workers with strong preferences. Using the indirect preference measures, we also observe that persons with weak or uncertain preferences have lower probabilities of job offers with health insurance than those with strong preferences although the disparity is much narrower (e.g., roughly over 70 percent of the former compared to over three-quarters of the latter). Finally, note that single workers with weak or uncertain preferences for coverage are also less likely to enroll in offered coverage than are workers with strong preferences. For each preference measure, the lower offer and take-up rates for single workers with weak/uncertain preferences compared to those with strong preferences are also associated with higher annual uninsured rates compared to those with strong preferences (however differences in take-up rates by preferences for the ‘overcome’ measure are not statistically significant).

Disparities in these measures by health insurance preferences are also observed for married couples with at least one working spouse. For the direct preference measures and the ‘take risk’ measure, we find significantly lower offer rates for couples with weak or uncertain preferences compared to those where both spouses exhibit strong preferences for coverage. While enrollment rates for all couples by health insurance preferences generally exceed 90 percent, couples who report weak or uncertain preferences in response to the ‘healthy, don’t need coverage’ statement have only a 78 percent rate, substantially below couples exhibiting strong preferences. Again, we find that the lower offer and take-up rates for couples with weak/uncertain preferences are associated with higher annual uninsured rates for all measures

except ‘overcome illness.’

*Presence of ‘imperfect sorting’*

The descriptive statistics of Tables 4 reveal that workers with weak or uncertain health insurance preferences are less likely than those with strong preferences to obtain jobs that provide health insurance and thus, are consistent with worker sorting among jobs based on health insurance preferences. However, our data also suggest that such ‘sorting’ may be less than perfect. For example, focusing on the ‘healthy, don’t need coverage’ measure, we find that nearly a quarter of all working adults (23.4 percent) are mismatched, having preferences for coverage that are inconsistent with the availability of coverage at their jobs. 17.1 percent of workers have strong preferences for coverage but do not obtain jobs that provide insurance, and 6.3 percent have weak preferences but are offered coverage. As noted in our earlier work (Monheit and Vistnes 1999), such findings raise the issue of whether search costs, low human capital, or other impediments to jobs preclude some workers from obtaining jobs that meet their preferences for coverage. For example, despite strong preferences for coverage, some workers may lack the requisite human capital to obtain job offers with coverage, while other workers with weak preferences but substantial human capital may find it difficult to avoid employment in jobs that do not offer coverage.<sup>19</sup>

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<sup>19</sup> In other tabulations (not shown), we also found a greater proportion of workers with weak preferences for coverage were in jobs that did not offer health insurance compared to jobs

## V. Econometric Results

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that provided coverage.

In this section, we apply the empirical models described in Section II to examine the role of preferences and other factors in decisions to seek out and enroll in employment-based coverage. First, we fit logit models describing the likelihood of obtaining a job offering employment-based coverage and next, we model the decision to enroll in offered coverage. We estimate these models on single workers (Table 5) and for married couples. For the latter, we fit separate equations for couples with one worker (Table 6) and two working spouses (Table 7). We examine the impact of all preference measures but ‘overcome illness’ in these regressions since the preferences based on the latter variable displayed little relationship to offer and take up rates.<sup>20</sup>

#### *Single workers*

Results presented in Table 5 indicate that single workers with weak or uncertain preferences for coverage are less likely than those with strong preferences to obtain a job that offers health insurance.<sup>21</sup> Considering responses to ‘healthy, don’t need coverage,’ those with weak preferences are 4.3 percentage points less likely to obtain an offer ( $P < 0.132$ ) while those with uncertain preferences exhibit a stronger response, (a 12.5 percentage decline) despite not reporting weak preferences.<sup>22</sup> We also find that workers reporting weak or uncertain preferences in response to ‘not worth the cost’ are, respectively 8.9 and 7.5 percentage points less likely

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<sup>20</sup> We fit separate equations for each of the preference measures to avoid any problems associated with correlation among these measures.

<sup>21</sup> While sample and use of preference variables differ somewhat, our findings are consistent with those from Monheit and Vistnes (1999).

<sup>22</sup> We report the statistical significance of the logit coefficients.



than those with strong preferences to obtain a job with coverage. In addition, those who were uncertain about ‘taking risk’ are 4.1 percentage points less likely ( $P < 0.062$ ). To put these marginal effects in perspective, we find that persons with 12 years of education are over five percentage points less likely to obtain a job with coverage compared to persons who have graduated or have some college education.

Other variables in each of the logit models are also consistent with the underlying search model. Single workers facing higher search costs for jobs with health insurance, such as those residing in counties with higher proportions of small employers (establishments of 10-19 employees), those in fair/poor health compared to adults in excellent, very good, or good health, and smokers are less likely to obtain jobs with insurance. Single workers expected to have lower out-of-pocket medical expenses, such as younger workers, those holding employment-based health insurance from previous jobs, and who have children predicted to be eligible for Medicaid/SCHIP or who themselves are predicted to be eligible are less likely to have coverage, while adults expecting to incur higher medical expenditures, such as those with children ( $P < 0.10$ ), were more likely to obtain jobs with coverage. Finally, we find that better educated workers are more likely to obtain jobs with health insurance, reflecting their greater access to jobs with coverage, their lower search costs given their human capital, and perhaps their greater willingness to invest in health.

We also find limited evidence that preferences play a role in decisions by single workers to enroll in offered coverage. Although each of the weak and uncertain preference measures have a negative effect on the likelihood of enrollment, only weak preferences in response to the ‘not

worth the cost' measure attains statistical significance, reducing this probability by 4.1 percentage points.

In this logit equation, we find that females (who use more health services than males), adults aged 30 to 39 (compared to those 55 to 64,  $P < 0.10$ ), those in excellent health and persons with 16 or more years of education are more likely to enroll in offered coverage. In contrast, single adult workers with access to other insurance (either employment-based coverage from a prior job or with children predicted eligible for Medicaid ( $P < 0.10$  for the latter) are less likely to enroll in offered coverage. Finally, affordability also appears to be an impediment to enrollment as those who are poor or near-poor, low, or middle income are less likely to enroll in offered coverage than persons with high incomes.

We also find that higher employee out-of-pocket premium payments for single coverage reduce the likelihood of enrollment ( $P < 0.11$ ): every \$100 increase in such payments reduces the probability of take up by 0.9 percentage points. As noted above, the ratio of the marginal effect on enrollment from a \$1 change in the out-of-pocket premium to the effect from having weak rather than strong preferences can be used to compute the premium subsidy necessary to offset the reduction in enrollment due to weak preferences. Recall that this metric also approximates the utility loss (compensating variation) were an individual compelled (mandated) to enroll in coverage. This ratio indicates that a rough estimate for such a subsidy (welfare loss) would be \$455. This is comparable to the full cost of single employee contributions (\$454) or 17 percent of the full annual premium for single coverage (e.g., \$2655 in 2000). Interestingly, this point estimate suggests that workers with weak preferences based upon costs must be fully

compensated for any required out-of-pocket premium contributions. It further suggests that on average, such workers may consider the employee contribution as the cost of coverage that they bear rather than the full premium, consistent with other research on the enrollment decision.<sup>23</sup>

Finally, when the preference variables are omitted from each of the offer and enrollment equations, we find negligible changes in the magnitude and statistical significance of the remaining demographic, health status, income, and premium variables. This comparison suggests that variables directly assessing preferences for coverage independently account for differences in the demand for employment-based coverage and that demographic and health status variables may be capturing other factors associated with ease of access to jobs with coverage or with an individual's expected use of health services. Note that we draw similar conclusions from such comparisons using the other logit models describing offer and take up for married couples.

*Married couples: one working spouse*

Results for one worker couples, displayed in Table 6, also indicate that weak or uncertain preferences affect job offer and take-up decisions. In these specifications (as in the case for two-worker couples) we specify preferences through several dummy variables. These variables indicate whether the couple has weak preferences (both spouses); whether the couple has uncertain preferences (both spouses); whether the couple has strong preferences (the reference group) and whether couples have mixed preferences in the following combinations: weak/strong preferences, weak/uncertain preferences, or strong/uncertain preferences. We find that couples

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<sup>23</sup> See for example work by Chernew, Frick, and McLaughlin(1997), Blumberg, Nichols, and Banthin (2001), and Cooper and Vistnes (2003).

reporting a combination of weak and uncertain preferences in response to ‘healthy, don’t need coverage’ exhibit a sizeable decline in offer probabilities (24.9 percentage points). These results appear to be driven by those couples in which the wife reports weak preferences and the husband is uncertain about the value of health insurance (models not shown). Contrary to expectations, however, for couples where both spouses have weak preferences, the worker has an increased likelihood of obtaining a job with coverage (by nearly 13 percentage points). Finally, using the ‘not worth the cost’ statement, we find households with both spouses reporting weak preferences and those where both report uncertain preferences to be, respectively, 11.7 and 17.1 percentage points less likely to obtain a job offer with coverage. In response to the ‘take risk’ statement, single-worker couples where both spouses are ‘risk takers’ are 11.2 percentage points less likely to obtain an offer of coverage.

These equations also reveal that a limited number of other variables display statistical significance and are consistent with the underlying sorting model. We find evidence that having other employment-based coverage or children eligible for Medicaid reduces the likelihood of obtaining jobs without coverage. Compared to near-elderly workers, we find workers aged 40 to 54 more likely to obtain job offers with health.<sup>24</sup> We also find some evidence that increased use of safety net providers, as measured by increased rates of emergency room use, reduces the likelihood that couples with one worker obtain job offers with coverage.

Turning to enrollment decisions, we find that households in which both spouses report

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<sup>24</sup> Thus near-elderly workers may face impediments to jobs with coverage that may reflect an unwillingness of such employers to hire workers nearing retirement who may also have health problems.

uncertain preferences in response to ‘healthy, don’t need coverage’ are 11.4 percentage points less likely to take up offered coverage while, contrary to expectations, those reporting a combination of strong and weak preferences are 10.2 percentage points more likely to enroll (a result driven by the wife having strong preferences, data not shown). We also find couples reporting a combination of weak and uncertain preferences in response to the ‘take risk’ statement are 9.5 percentage points less likely to enroll in offered coverage and appear to result from the wife being a ‘risk taker’. In both equations, the coefficients on employee contributions to single premiums are negative but not statistically significant. We do find some evidence that affordability may be an impediment to enrollment as poor/near poor couples are substantially less likely to enroll in offered coverage than are high income couples.

*Married couples: two working spouses*

Further evidence of job sorting by health insurance preferences is also found for two-worker households (Table 7). We find with regard to the ‘healthy, don’t need coverage’ measure, couples with mixed preferences are less likely to obtain a job with coverage than those with strong preferences. These probabilities decline by 4.2 percentage points for couples reporting weak and strong preferences (driven by the husband having weak preferences) and by 3.2 percentage points ( $P < 0.10$ ) for those reporting a combination of weak and uncertain preferences. For the ‘not worth the cost’ statement, we also find that couples reporting mixed preferences are also less likely to obtain a job offer with health insurance. For those with a combination of weak and uncertain preferences, the probability is reduced by 5.4 percentage points (driven by the husband’s weak preferences when the wife has uncertain preferences and

by the wife's weak preferences when the husband is uncertain) and for couples with weak and strong preferences, by 4.1 percentage points. Finally, the likelihood of obtaining a job offer with coverage declines by 5.2 percentage points when both couples are 'risk takers,' and by 4.1 percentage points when couples report strong and uncertain preferences (a result driven by the husband's uncertain preferences) or report weak and uncertain preferences ( $P < 0.10$ , a result driven by the husband's weak preferences and wife's uncertain preferences).<sup>25</sup>

We also find evidence that two-worker couples with weak preferences for coverage are less likely to enroll in offered coverage. When both spouses report weak preferences in response to 'healthy, don't need coverage,' the probability of enrolling in offered coverage declines by 7.1 percentage points and when couples report a combination of uncertain and strong preferences, by 3.2 percentage points (a result driven by the husband's uncertain preferences). When both spouses report weak preferences in response to the 'not worth the cost,' statement, the likelihood of enrollment declines by 4.4 percentage points. Unexpectedly, we do find spouses reporting strong and uncertain preferences to have an increased likelihood of enrollment of 5.7 percentage points. Finally, when both spouses are 'risk takers,' the likelihood of enrollment declines by 4.3 percentage points.

Note that we also find significant negative effects of increased employee premium contributions when the 'not worth the cost' preference measures are used and when the 'take

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<sup>25</sup> A limited number of variables are consistent with the underlying job search model. For example, we find that working couples with wives aged 40-54 more likely to obtain a job with coverage (compared to those ages 55-64) and those with husbands who have coverage from another job, children predicted to be Medicaid eligible, or residing in a county with a major teaching hospital as one safety net provider to be less likely to obtain a job offer with insurance.

risk' measures are used. For the former, a \$100 dollar increase in such costs reduces enrollment by 0.87 percentage points while for the latter enrollment is reduced by 0.81 percentage points. In all specifications, we find that the probability of take up declines with the presence of other job-related coverage, for couples with incomes less than four times the poverty level, for households with wives in excellent health (the probability increases when the husband's health is excellent), and for those residing in a county with a community health center.

As with our findings for single workers, we use the above results to compute the magnitude of the premium subsidy necessary to overcome the impact of weak or uncertain preferences on enrollment. Taking the ratio of the relevant marginal effect for preferences to that of the employee contribution yields a rough estimate of \$490, the annual premium subsidy based on the both spouses reporting weak preferences to the 'cost' statement, and roughly \$526 as an annual subsidy based on both spouses reporting weak preferences based on the 'take risk' statement. For families, these are likely to be lower bound estimates since they are based on the out-of-pocket cost of single rather than family coverage. We intend to re-estimate the model for couples using the latter measure and to compute standard errors for the subsidy estimates.

## **VI. Conclusions and Implications**

Concern over the weak response by the uninsured to initiatives encouraging voluntary enrollment in health insurance has led policymakers and researchers to question whether the uninsured value health insurance and, thus, whether policy initiatives ought to foster an awareness of the value of coverage. In this paper, we have addressed this issue by examining the

role played by preferences for health insurance in decisions by individuals and married couples to seek out and enroll in employment-based coverage. Our descriptive tabulations reveal that adults with weak or uncertain preferences for coverage are more likely to be uninsured and less likely to acquire coverage when uninsured than those reporting strong preferences. Our econometric work also reveals that single workers and married couples with weak or uncertain preferences are less likely to obtain jobs with health insurance than those with strong preferences (holding a variety of demographic and health-related characteristics constant) and reinforces earlier findings that workers may sort among jobs according to their preferences for coverage. We also find evidence that single workers with weak preferences for coverage and married couples with weak or uncertain preferences are also less likely to take up offered coverage. Note that since our survey data on health insurance preferences have been obtained independent of questions on respondent health insurance status, the former are unlikely to serve as a rationale for a respondent's lack of coverage.

Among single workers with weak preferences for coverage in response to the 'not worth the cost' statement, and two-worker couples reporting weak preferences based on the this measure and the 'take risk' statement, we estimate the premium subsidy necessary to compensate such workers for the utility loss associated with enrollment. Our computations reveal that this is equivalent to the out-of-pocket premium costs faced by such workers, in effect validating responses to the 'not worth the cost' statement and suggesting that workers focus on out-of-pocket premium costs when deciding to enroll in offered coverage. Finally, our results also indicate that apart from economic status, preferences make an independent contribution to



explaining variation in offer and take-up rates. Additionally, we find little change in the contribution of demographic and health-related characteristics when the preference measures are omitted from the specifications.

Since our findings suggest that weak and uncertain preferences for coverage are more prevalent among the uninsured and contribute to job seeking and enrollment decisions, it is instructive to estimate the size of this group and to identify their characteristics. Among adults aged 18 to 64 uninsured throughout 2000, 29.4 percent reported weak or uncertain preferences in response to ‘healthy, don’t need coverage,’ while over half (52.6 percent) of the all-year uninsured report weak or uncertain preferences in response to the ‘not worth the cost’ measure.<sup>26</sup> Among workers uninsured all year, the percentages are comparable: 29.4 percent with weak or uncertain preferences in response to ‘healthy, don’t need coverage’ and 53.5 percent in response to ‘not worth the cost’ measure. Thus by both measures, persons with weak /uncertain preferences for health insurance represent a sizeable portion of the persons who were uninsured throughout 2000. Such persons tend to be young (57 percent are between ages 18 and 34), economically vulnerable (nearly three-quarters have attained 12 years of schooling or less, 44 percent have incomes less than twice the poverty line, and 45 percent reside in middle income households), and male (two-thirds of the group).<sup>27</sup> Given these characteristics, our findings should not be interpreted as ignoring the importance of ability to pay as a factor

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<sup>26</sup> As noted above, since we exclude proxy respondents, our estimates cannot be considered nationally representative. However, our examination of samples with and without proxy respondents revealed only small differences in selected demographic characteristics.

<sup>27</sup> These tabulations are based upon responses to ‘healthy, don’t need coverage’ and

impeding in employment-based coverage.

Our findings suggest that there may be a considerable gap between the perceptions of policymakers and some of the uninsured regarding the social and private value of health insurance. The equity and efficiency considerations noted in our introductory section may not resonate with some of the uninsured. Apart from human capital considerations, such individuals select jobs without coverage, preferring wage income with certainty over the uncertain yield of health insurance benefits, especially when the latter entails out-of-pocket premium contributions and deductibles and copayments, excludes valued services, or restricts choice of providers.

Finally, our results also shed light on the relative merits of encouraging enrollment through mandatory versus voluntary approaches. As regards the former, our findings suggest that some of the uninsured are likely to experience welfare losses should mandatory provision of health insurance benefits be imposed without premium or income subsidies to offset required premium contributions. Alternatively, our finding that weak/uncertain preferences reduce the likelihood of enrollment for some workers, apart from considerations of income, suggests that reliance on ‘voluntarism’ should also be accompanied by educational efforts to inform targeted uninsured groups (such as those identified above) about the merits of health insurance. Such educational efforts should not merely be restricted to informing targeted groups about the presence of a new program, but provide more generic information regarding the purpose of health insurance, its attendant costs, and its likely impact on improving timely access to services and the quality and continuity of care. Such an information exchange might focus on health plan design, soliciting

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estimates are nearly identical when responses to the ‘not worth the cost measure’ are used.

feedback on valued benefits or aggressively marketing low-cost catastrophic coverage to the young and unmarried. Thus a dual approach which would provide a combination of subsidies and educational efforts to those most likely to exhibit weak or uncertain preferences for coverage might prove more effective than one limited to either component.

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Table 1. Direct and indirect preferences for health insurance: prevalence among persons 18 - 64 years of age, 2000				
Preference measure	'Healthy enough, don't need health insurance'	'Health insurance is not worth the cost'	'More likely to take risks than the average person	"Overcome illness without medical care system
A. All persons 18 to 64 years of age:				
Responses	Percent distribution for each preference measure (standard error)			
Weak preferences	8.8 (0.37)	22.5 (0.50)	22.3 (0.56)	25.1 (0.69)
Uncertain preferences	6.0 (0.33)	15.0 (0.47)	11.8 (0.49)	10.7 (0.37)
Strong preferences	85.2 (0.52)	65.6 (0.61)	62.7 (0.63)	64.2 (0.67)
B. Percent in each demographic cell reporting weak preferences for coverage:				
Preference measure	'Healthy enough, don't need health insurance'	'Health insurance is not worth the cost'	'More likely to take risks than the average person	"Overcome illness without medical care system
<i>Age in years</i>				
18 - 24	18.0 (1.95)	28.3 (2.03)	33.0 (2.9)	33.9 (2.09)
25 - 34	12.1 (0.91)	24.2 (1.07)	26.2 (1.34)	30.5 (1.13)
35 - 44	8.1 (0.79)	22.5 (0.95)	21.6 (0.93)	26.4 (0.92)



55 - 64	5.2 (0.59)	19.5 (1.29)	19.1 (1.15)	16.2 (1.06)
Male	11.8 (0.58)	25.8 (0.79)	30.5 (0.75)	29.5 (0.99)
Female	6.3 (0.44)	19.9 (0.59)	15.5 (0.66)	21.5 (0.72)
<i>Race/Ethnicity</i>				
Black	9.5 (1.09)	20.9 (1.27)	18.8 (1.31)	21.1 (1.34)
Hispanic	14.4 (0.89)	23.4 (1.46)	25.8 (1.12)	22.0 (1.10)
White and others	8.0 (0.43)	22.7 (0.61)	22.4 (0.67)	26.2 (0.86)

Table 1B (continued): Direct and indirect preferences for health insurance: prevalence among persons 18 - 64 years of age, 2000				
Percent in each demographic cell reporting weak preferences for coverage:				
Preference measure	'Healthy enough, don't need health insurance'	'Health insurance is not worth the cost'	'More likely to take risks than the average person	"Overcome illness without medical care system
Less than 9	14.2 (1.78)	26.5 (2.06)	27.6 (2.72)	21.4 (2.18)
9 - 11	10.8 (1.09)	24.5 (1.32)	26.2 (1.67)	24.3 (1.48)
12	8.6 (0.62)	24.6 (0.79)	20.5 (0.85)	24.7 (0.93)
13 - 15	8.9 (0.67)	21.7 (0.99)	21.3 (0.99)	26.3 (1.00)
16 or more	7.6 (0.64)	19.9 (0.89)	22.9 (1.06)	25.4 (1.32)
Family income as a % of the federal poverty line (FPL)*				
Poor/near poor	10.0 (0.93)	22.6 (1.57)	22.5 (1.77)	21.1 (1.46)
Low	11.3 (1.19)	25.7 (1.54)	24.3 (1.85)	26.3 (1.75)
Middle	9.4 (0.76)	24.7 (0.87)	22.0 (0.83)	27.0 (1.01)
High	7.6 (0.54)	20.4 (0.87)	22.0 (0.80)	24.6 (1.13)
<i>Self-assessed health status</i>				
Excellent	15.0 (0.95)	24.5 (1.10)	26.0 (1.03)	30.3 (1.16)
Very good	7.7 (0.54)	22.9 (0.91)	21.6 (0.98)	26.7 (0.97)
Good	6.3 (0.54)	22.3 (0.85)	20.0 (1.00)	22.1 (1.25)
Fair or poor	2.7 (0.49)	16.8 (0.13)	20.8 (1.82)	12.4 (1.20)
Sample size	9545	9458	9422	9468

\* Poor or near poor if incomes are < 125% of FPL; low income: 125 % to < 200% of FPL; middle income: 200 to < 400% of FPL; high income if 400% or more of FPL.

Table 2. Health Insurance Preferences and Annual Health Insurance Status, 2000

	Percent reporting weak preferences for coverage											
	Annual health insurance status											
	‘Healthy, don’t need coverage’			Health insurance ‘not worth the cost’			‘More likely to take risks’			‘Overcome illness without medical care system’		
	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year
All Persons	7.0 (0.39)	10.0 (1.06)	17.8 (1.22)	19.7 (0.58)	29.2 (1.65)	32.3 (1.80)	20.2 (0.64)	27.0 (1.48)	29.6 (1.50)	23.8 (0.78)	28.2 (1.65)	29.4 (1.39)
<i>Age</i>												
18-24	17.3 (2.94)	11.6 (3.09)	26.4 (4.00)	27.0 (2.79)	27.6 (4.29)	31.1 (3.90)	33.4 (3.84)	30.1 (3.16)	35.9 (3.31)	33.7 (4.19)	37.1 (3.96)	30.5 (3.98)
25-34	10.9 (1.05)	11.6 (1.65)	17.4 (2.33)	20.8 (1.29)	29.2 (2.80)	33.4 (2.92)	25.4 (1.74)	32.1 (2.69)	26.0 (2.59)	31.0 (1.51)	29.9 (2.97)	29.1 (2.45)
35-44	6.5 (0.97)	9.8 (2.08)	16.9 (2.38)	20.3 (1.16)	29.8 (2.89)	30.4 (3.03)	19.5 (1.06)	26.1 (2.89)	30.9 (2.96)	25.4 (1.09)	30.1 (2.91)	29.3 (2.51)
45-54	4.7 (0.49)	8.7 (1.82)	15.7 (2.27)	18.7 (1.05)	30.4 (3.05)	34.3 (3.77)	16.0 (1.00)	22.6 (2.40)	29.6 (3.05)	20.6 (1.18)	18.5 (2.96)	30.6 (2.63)
55-64	4.1 (0.48)	4.3 (0.32)	13.8 (3.16)	17.1 (1.34)	28.5 (3.84)	32.4 (4.02)	18.4 (1.29)	13.8 (2.95)	27.8 (3.38)	14.6 (1.24)	18.5 (2.44)	27.1 (2.85)
<i>Gender</i>												
Male	9.4 (0.64)	13.5 (1.86)	21.5 (1.77)	22.8 (0.79)	33.1 (2.78)	33.6 (2.78)	27.8 (0.90)	38.2 (2.62)	37.4 (2.14)	27.7 (1.19)	36.0 (2.59)	32.7 (2.02)
Female	5.0 (0.41)	7.4 (1.39)	13.6 (1.51)	17.1 (0.65)	26.3 (1.81)	31.0 (2.18)	14.1 (0.72)	18.6 (1.81)	20.8 (1.70)	20.7 (0.80)	22.4 (1.85)	25.7 (1.79)

Table 2 (continued). Health Insurance Preferences and Annual Health Insurance Status: Selected Demographic Characteristics												
	Percent reporting weak preferences for health insurance											
	Annual health insurance status											
	‘Healthy, don’t need coverage’			Health insurance ‘not worth the cost’			‘More likely to take risks’			‘Overcome illness without medical care system’		
	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year
<i>Race/Ethnicity</i>												
Hispanic	10.3 (1.29)	14.7 (2.86)	21.3 (1.79)	18.8 (1.51)	24.4 (2.75)	30.6 (2.53)	22.2 (1.49)	31.4 (2.84)	28.7 (1.86)	19.4 (1.35)	26.0 (2.95)	24.7 (2.16)
Black	6.8 (1.14)	7.9 (2.30)	19.5 (3.27)	19.2 (1.56)	23.2 (4.08)	25.3 (3.13)	16.7 (1.53)	24.6 (3.10)	22.6 (2.84)	21.3 (1.42)	23.3 (4.23)	18.5 (2.54)
White and others	6.7 (0.45)	9.5 (1.32)	15.9 (1.64)	19.8 (0.64)	31.1 (1.88)	35.0 (2.19)	20.5 (0.78)	26.7 (1.85)	31.8 (2.07)	24.6 (0.88)	29.5 (1.95)	34.3 (1.89)
<i>Income as a percent of the federal poverty line</i>												
Poor/Near Poor	7.4 (1.16)	10.0 (1.99)	13.4 (1.71)	19.8 (2.35)	24.6 (2.29)	25.2 (2.05)	21.4 (2.86)	22.8 (2.81)	23.0 (2.24)	16.2 (1.68)	22.4 (2.43)	26.7 (2.56)
Low income	9.5 (1.71)	10.3 (1.82)	15.6 (2.12)	22.2 (2.08)	28.4 (3.80)	30.1 (2.82)	21.1 (2.18)	25.2 (3.69)	29.6 (3.16)	26.5 (2.43)	23.7 (3.38)	27.9 (3.42)
Middle income	7.1 (0.72)	9.7 (1.62)	21.1 (2.38)	20.9 (0.87)	29.8 (2.59)	38.4 (3.07)	19.0 (1.15)	28.2 (2.72)	31.2 (2.39)	25.4 (1.12)	31.8 (2.76)	30.5 (2.37)
High Income	6.5 (0.53)	10.4 (2.36)	21.5 (2.92)	18.6 (0.85)	33.2 (3.63)	35.2 (3.31)	20.6 (0.84)	31.0 (2.97)	37.0 (3.17)	23.6 (1.08)	31.6 (3.26)	33.7 (3.06)

Table 2 (continued). Health Insurance Preferences and Annual Health Insurance Status: Selected Demographic Characteristics												
Percent reporting weak preferences for health insurance												
Annual health insurance status												
	'Healthy, don't need coverage'			Health insurance 'not worth the cost'			'More likely to take risks'			'Overcome illness without medical system'		
	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year	Insured, all year	Insured, part year	Uninsured, all year
Years of education												
< 8 years	8.4 (1.96)	13.7 (4.47)	21.4 (2.77)	20.3 (2.57)	34.4 (2.62)	29.8 (3.35)	22.2 (3.17)	26.5 (3.44)	34.6 (3.80)	17.4 (2.81)	25.0 (5.65)	24.6 (3.07)
9 - 11 years	5.7 (1.01)	10.3 (1.62)	17.6 (2.88)	19.3 (1.77)	28.2 (3.62)	32.5 (3.16)	23.0 (1.93)	21.8 (3.21)	30.6 (3.40)	19.2 (1.72)	26.2 (2.78)	28.5 (3.00)
12 years	7.0 (0.69)	8.6 (1.60)	15.4 (1.89)	21.4 (0.94)	28.6 (2.89)	33.7 (2.46)	18.1 (1.03)	26.7 (27.2)	23.9 (2.08)	22.9 (1.00)	26.1 (2.38)	28.6 (2.30)
13 - 15	7.2 (0.60)	12.1 (2.37)	18.9 (3.07)	19.5 (1.03)	30.9 (3.98)	29.8 (3.64)	19.5 (1.13)	27.2 (3.03)	29.9 (3.25)	24.8 (1.10)	32.4 (3.78)	32.1 (2.90)
16 or more	7.8 (0.65)	8.3 (2.66)	19.3 (3.59)	18.0 (0.95)	28.7 (3.04)	38.0 (4.06)	21.3 (1.11)	31.9 (3.83)	36.4 (3.09)	24.8 (1.43)	26.3 (3.83)	32.8 (3.11)
Self-reported health												
Excellent	9.3 (0.70)	21.5 (2.97)	31.2 (3.47)	19.8 (1.08)	37.7 (3.64)	35.8 (3.28)	22.9 (1.28)	38.3 (3.20)	28.5 (2.73)	28.0 (1.36)	36.4 (4.06)	32.5 (2.68)
Very good	6.8 (0.56)	7.6 (1.50)	14.6 (2.01)	20.6 (0.94)	30.0 (2.99)	33.6 (3.21)	19.7 (1.02)	21.1 (2.47)	25.8 (3.08)	25.2 (1.01)	27.8 (2.35)	31.5 (3.07)
Good	5.2 (0.83)	4.5 (1.30)	14.5 (2.29)	19.2 (1.17)	22.5 (2.91)	33.0 (2.73)	17.5 (1.07)	26.5 (2.88)	35.8 (3.16)	20.3 (1.38)	23.5 (2.89)	30.3 (2.32)
Fair or poor	3.2 (0.67)	4.0 (1.59)	6.1 (1.07)	15.8 (1.44)	24.0 (4.31)	24.4 (2.43)	18.1 (1.63)	19.4 (3.92)	22.0 (3.06)	11.8 (1.27)	16.2 (3.17)	15.8 (2.05)

Table 3. Uninsured persons and health insurance preferences, 2000.				
a. Percent uninsured all year by health insurance preferences				
Preference measure	'Healthy enough, don't need health insurance'	'Health insurance is not worth the cost'	'More likely to take risks than the average person'	Overcome illness without medical care system
	Percent uninsured all year (standard error)			
Weak preferences	27.7 (2.01)	19.7 (1.11)	18.0 (1.09)	16.0 (0.95)
Uncertain preferences	26.8 (2.19)	23.6 (1.29)	18.4 (1.49)	17.7 (1.29)
Strong preferences	11.3 (0.48)	9.9 (0.59)	10.8 (0.53)	12.1 (0.56)
b. Percent uninsured in January 2000 who acquire coverage during 2000 (standard error).				
Preference measure	'Healthy enough, don't need health insurance'	'Health insurance is not worth the cost'	'More likely to take risks than the average person'	Overcome illness without medical care system
Weak preferences (agree)	19.6 (2.42)	23.8 (1.79)	27.5 (2.46)	29.0 (1.96)
Uncertain preferences	23.0 (3.33)	23.3 (2.34)	25.6 (2.75)	22.3 (3.18)
Strong preferences (disagree)	30.8 (1.42)	32.8 (1.67)	30.0 (1.52)	29.4 (1.56)

Table 4. Offer rates, take-up rates, and uninsured rates by health insurance preferences: single workers and couples with at least one working spouse, 2000.

A. Single workers								
Measure	‘Healthy enough, don’t need coverage’		‘Health insurance is not worth the cost’		‘More likely to take risks’		‘Overcome illness without medical care system’	
	Weak/ uncertain	Strong	Weak/ uncertain	Strong	Weak/ uncertain	Strong	Weak/ uncertain	Strong
% Offered insurance	64.3% (2.87)	78.0% (1.15)	66.6% (1.95)	80.5% (1.34)	71.4% (1.72)	78.7% (1.27)	73.0% (1.89)	77.2% (1.20)
% Enrolled/ Offered	86.4 (2.26)	90.6 (0.83)	86.9 (1.81)	91.4 (1.05)	87.7 (1.54)	91.7 (0.95)	89.0 (1.35)	90.5 (0.98)
% All-year uninsured	27.2 (2.33)	14.0 (0.91)	25.8 (1.62)	11.3 (1.10)	20.4 (1.60)	13.2 (0.98)	19.1 (1.37)	14.5 (1.02)

B. Married couples with at least one working spouse												
All couples												
Measure	‘Healthy enough, don’t need coverage’			‘Health insurance is not worth the cost’			‘More likely to take risks’			‘Overcome illness without medical care system’		
	Weak/ uncertain	Both strong	One strong	Weak/ uncertain	Both strong	One strong	Weak/ uncertain	Both strong	One strong	Weak/ uncertain	Both strong	One strong
% Offered	83.7% (2.42)	93.2% (0.73)	84.6% (2.57)	83.1% (1.83)	94.2% (0.91)	93.0% (1.37)	85.4% (2.06)	93.9% (1.00)	91.6 (1.27)	89.0% (1.66)	92.7% (0.99)	91.9 (1.22)
% Enrolled/ Offered	78.6 (2.95)	94.4 (0.64)	93.0 (1.38)	90.2 (1.63)	94.8 (0.85)	93.3 (1.42)	90.3 (2.39)	93.6 (1.02)	94.9 (1.00)	92.9 (1.07)	92.8 (1.01)	95.0 (1.22)
% All-year uninsured	13.0 (2.17)	3.5 (0.51)	8.1 (1.82)	8.9 (1.25)	2.7 (0.62)	5.3 (1.14)	8.8 (2.07)	2.5 (0.57)	5.1 (1.05)	4.4 (0.88)	4.5 (0.73)	4.6 (1.07)

<b>Table 5: Selected Coefficients from the Logit Estimates for Single Workers</b>			
<b>Independent Variables</b>	<b>Healthy, Don't Need</b>	<b>Not Worth the Cost</b>	<b>Take Risk</b>
<b>Offer Equations</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Preferences: Weak</b>	-.2928 (.1935)	-.6109*** (.1572)	-.1142 (.1439)
<b>Preferences: Uncertain</b>	-.8620*** (.2177)	-.5172*** (.1928)	-.2800* (.1489)
<b>Education: &lt; 12 years</b>	-.6027*** (.2050)	-.6104*** (.2039)	-.6165*** (.2036)
<b>Education: 13-15 years</b>	.3633** (.1438)	.3852*** (.1426)	.3710*** (.1409)
<b>Education: 16 years</b>	.3815* (.2276)	.3774* (.2285)	.3910* (.2294)
<b>Education: &gt; 16 years</b>	.4976* (.2571)	.4946* (.2546)	.5231** (.2532)
<b>Pseudo R-Squared</b>	.1921	.1936	.1854
<b>Number of Observations</b>	2613	2613	2613
<b>Take-Up Equations</b>			
<b>Preferences: Weak</b>	-.1775 (.3565)	-.5391** (.2535)	-.3473 (.2337)
<b>Preferences: Uncertain</b>	-.3350 (.3451)	-.1169 (.2667)	-.2691 (.2652)
<b>Income: Poor/near poor</b>	-2.3312*** (.3701)	-2.3714*** (.3808)	-2.3804*** (.3669)
<b>Income: Low income</b>	-1.0873*** (.3111)	-1.0688*** (.3093)	-1.126*** (.3132)
<b>Income: Middle income</b>	-.7504*** (.2697)	-.7340*** (.2724)	-.7737*** (.2631)
<b>Single Out-of-Pocket Premium</b>	-.0012 (.0007)	-.0012 (.0007)	-.0011 (.0007)
<b>Pseudo R-Squared</b>	.2011	.2070	.2029
<b>Number of Observations</b>	1898	1898	1898

Source: MEPS-Household Component, 2000. \*, \*\*, \*\*\* Indicates significance at the 10%, 5% and 1% levels, respectively. Other variables in the models are described in Section III of the paper. To obtain approximations to the marginal effects for these equations, multiply by .145 for the offer equations and .076 for the take-up equations.



<b>Table 6: Selected Coefficients from the Logit Estimates for One Worker Households</b>			
<b>Independent Variables</b>	<b>Healthy, Don't Need</b>	<b>Not Worth the Cost</b>	<b>Take Risk</b>
<b>Offer Equations</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Preferences: Both weak</b>	1.2304** (.5901)	-1.0874*** (.3863)	-1.0410** (.5192)
<b>Preferences: Both uncertain</b>	1.4539 (1.0081)	-1.5971*** (.4532)	-.9204 (.7365)
<b>Preferences: Mixture of weak/strong</b>	-.2679 (.6032)	-.2142 (.5429)	-.2552 (.3855)
<b>Preferences: Mixture of weak/uncertain</b>	-2.3500*** (.8472)	-.4147 (.6179)	-.3532 (.6526)
<b>Preferences: Mixture of strong/uncertain</b>	-.5471 (.4577)	-.8023 (.4935)	.1116 (.3737)
<b>Education of Worker: &lt; 12 years</b>	-.6957** (.3008)	-.5112 (.3147)	-.7093** (.3023)
<b>Education of Worker: 13-15 years</b>	.2735 (.5155)	.3295 (.5099)	.2952 (.5032)
<b>Education of Worker: 16 years</b>	-.3493 (.6429)	-.2218 (.6163)	-.2455 (.5933)
<b>Education of Worker: &gt; 16 years</b>	.4470 (.7563)	.5455 (.7473)	.4861 (.7196)
<b>Pseudo R-Squared</b>	.2488	.2447	.2325
<b>Number of Observations</b>	585	585	585
<b>Take-Up Equations</b>			
<b>Preferences: Both weak</b>	-.0045 (.7177)	-.3435 (.8860)	-.1724 (.7255)
<b>Preferences: Both uncertain</b>	-2.0441** (.9676)	-.3107 (.7431)	-.6509 (.8767)
<b>Preferences: Mixture of weak/strong</b>	1.819** (.9044)	-.2464 (.7321)	.6831 (.8032)
<b>Preferences: Mixture of weak/uncertain</b>	.1636 (1.5308)	-.7525 (1.0521)	-1.6765* (.8914)
<b>Preferences: Mixture of strong/uncertain</b>	.5657 (1.0081)	-.8786 (.8131)	.3401 (.7570)
<b>Income: Poor/near poor</b>	-4.2166*** (.8473)	-3.6575*** (.8639)	-4.0485*** (.9357)

**Table 6 (continued): Selected Coefficients from the Logit Estimates for One Worker Households**

Independent Variables	Healthy, Don't Need	Not Worth the Cost	Take Risk
<b>Take-Up Equations (continued)</b>			
<b>Income: Low income</b>	-2.134*** (.6582)	-1.7039** (.6750)	-2.1856*** (.6514)
<b>Income: Middle income</b>	-1.5189*** (.5313)	-1.1740** (.5517)	-1.3322** (.5242)
<b>Single Out-of-Pocket Premium</b>	-.0005 (.0014)	-.0007 (.0016)	-.0009 (.0015)
<b>Pseudo R-Squared</b>	.5043	.4929	.5037
<b>Number of Observations</b>	439	439	439

Source: MEPS-Household Component, 2000. \*, \*\*, \*\*\* Indicates significance at the 10%, 5% and 1% levels, respectively. Other variables in the models are described in Section III of the paper. To obtain approximations to the marginal effects for these equations, multiply by .11 for the offer equations and .06 for the take-up equations.

<b>Table 7: Selected Coefficients from the Logit Estimates for Two Worker Households</b>			
<b>Independent Variables</b>	<b>Healthy, Don't Need</b>	<b>Not Worth the Cost</b>	<b>Take Risk</b>
<b>Offer Equations</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Preferences: Both weak</b>	-.2954 (1.0106)	-.6959 (.4855)	-1.7215** (.7263)
<b>Preferences: Both uncertain</b>	-.2355 (1.4050)	-.0741 (.7834)	-.8583 (1.030)
<b>Preferences: Mixture of weak/uncertain</b>	–	-1.9357*** (.7301)	-1.3786* (.7671)
<b>Preferences: Mixture of weak/strong</b>	-1.4442** (.5732)	1.4578** (.7080)	-.4747 (.4935)
<b>Preferences: Mixture of strong/uncertain</b>	-1.0909* (.6431)	.7279 (.6795)	-1.346** (.5446)
<b>Education of Husband: &lt; 12 years</b>	-.1236 (.7079)	-.1382 (.7611)	.1776 (.7926)
<b>Education of Husband: 13-15 years</b>	.2439 (.4334)	.0651 (.4254)	.2298 (.4201)
<b>Education of Husband: 16 years</b>	.3393 (.7733)	.1989 (.7915)	.3904 (.8726)
<b>Education of Husband: &gt; 16 years</b>	-1.3370 (1.0106)	-1.6787* (.9191)	-1.2572 (.9464)
<b>Education of Wife: &lt; 12 years</b>	-.0321 (.4405)	-.3004 (.4002)	.0666 (.5188)
<b>Education of Wife: 13-15 years</b>	.5695 (.5002)	.4913 (.4492)	.6044 (.5217)
<b>Education of Wife: 16 years</b>	.4176 (.8721)	.5382 (.8579)	.3983 (.7949)
<b>Education of Wife: &gt; 16 years</b>	.2682 (1.076)	.4868 (.8629)	.0871 (.9227)
<b>Pseudo R-Squared</b>	.3469	.3695	.3554
<b>Number of Observations</b>	1073	1079	1079
<b>Take-Up Equations</b>			
<b>Preferences: Both weak</b>	-2.440** (.9741)	-1.516*** (.4726)	-1.4263** (.6478)
<b>Preferences: Both uncertain</b>	-.6208 (.9169)	-.7791 (.8728)	.7706 (1.6506)
<b>Table 7 (continued): Selected Coefficients from the Logit Estimates for Two Worker Households</b>			

Independent Variables	Healthy, Don't Need	Not Worth the Cost	Take Risk
<b>Take-Up Equations (continued)</b>			
<b>Preferences: Mixture of weak/uncertain</b>	–	1.5342 (2.4557)	-1.1309 (.8691)
<b>Preferences: Mixture of weak/strong</b>	-.0414 (.7280)	-.5294 (.4822)	.6034 (.4909)
<b>Preferences: Mixture of strong/uncertain</b>	-1.0987** (.5166)	1.9832** (.8776)	.1288 (.7072)
<b>Income: Poor/near poor</b>	-3.3247*** (.7607)	-3.8600*** (.7750)	-3.4156*** (.8058)
<b>Income: Low income</b>	-2.4187** (.9479)	-1.9239** (.8791)	-1.8506** (.9230)
<b>Income: Middle income</b>	-1.4320*** (.4234)	-1.2804*** (.4693)	-1.3608*** (.4110)
<b>Single Out-of-Pocket Premium</b>	-.0021 (.0014)	-.0031** (.0014)	-.0027** (.0013)
<b>Pseudo R-Squared</b>	.4125	.4243	.4135
<b>Number of Observations</b>	982	988	964

Source: MEPS-Household Component, 2000. \*, \*\*, \*\*\* Indicates significance at the 10%, 5% and 1% levels, respectively. Sample sizes differ between models with different preference measures since we had to exclude certain observations from each equation due to small sample sizes on certain preference variables (e.g. mixture of agree/uncertain, and missing values for the take-risk measure). Other variables in the models are described in Section III of the paper. To obtain approximations to the marginal effects for these equations, multiply by .03 for the offer equations and for the take-up equations.