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Health Insurance and Employment in Small and Large Firms

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HEALTH INSURANCE AND EMPLOYMENT IN SMALL AND LARGE FIRMS

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ABSTRACT

Small firms that offer health insurance to their employees may face variable premiums if the firm hires an employee with high-expected health costs. To avoid expensive premium variability, a small firm may attempt to maintain a workforce with low-expected health costs. In addition, workers with high-expected health costs may prefer employment in larger firms with health insurance rather than in smaller firms. This results in employment distortions. We examine the magnitude of these employment distortions in hiring, employment, and separations, using the Medical Expenditure Panel Survey from 1996 to 2001. Furthermore, we examine the effect of state small group health insurance reforms that restrict insurers' ability to deny coverage and restrict premium variability on employment distortions in small firms relative to large firms. We find that workers with high-expected health cost are less likely to be new hires in small firms that offer health insurance, and are less likely to be employed in insured small firms. However, we find no evidence that state small group health insurance reforms have reduced the extent of these distortions. Estimating the magnitude of employment distortions in insured small firms is essential in refining reforms to the small group health insurance market.

The difficulties that small firms face in obtaining and maintaining health insurance for their employees have been widely documented (Brown, Hamilton and Medoff, 1990; McLaughlin,1992; Fronstin and Helman, 2000). Only 45% of firms with fewer than 50 employees offer health insurance compared to 97% of firms with 50 or more employees (AHRQ, 2002). This low proportion has been attributed, in part, to the high administrative cost of health insurance for small firms, the low demand for insurance among workers in these firms, and the unwillingness of insurers to take on small firm risks (McLaughlin, 1992, Fronstin and Helman, 2000, Monheit and Vistnes, 1999).

In recent decades, small firms that provide health insurance to their employees were in a precarious position. Their premiums were calculated yearly, based on the expected value of their health care utilization. Hence, a single high cost employee could lead to a substantial surcharge on the premiums for the firm (Zellers, McLaughlin, and Frick, 1992). In a survey of small employers that did not offer health insurance, 75 percent claimed that an important reason for not offering insurance was high premium variability (Morrisey, Jensen and Morlock, 1994). Concerns about these problems fueled the passage of numerous state small group health insurance reforms in the 1990s that implemented premium rating reforms and restrictions on pre-existing condition exclusions. While a few states have implemented premium rating reform that has severely restricted small group insurers' ability to use health status to set premiums, in most states, these reforms have been moderate.

Assuming that firms are unable to perfectly tailor individual wages to individual health insurance costs, unexpectedly high premiums may impose a large burden on small firms. Paying high premiums, possibly financed by borrowing at high interest rates, may increase the risk of bankruptcy. If small firms choose not to pay high premiums, and instead drop insurance coverage, they renege on the implicit compensation contract with workers. Employers may opt to raise employee contributions to cover higher costs but large increases may lead to healthier employees dropping coverage. Faced with this predicament, small firms may choose to prevent expensive premium variability by maintaining a work force that has a low-expected utilization of health care services. Thus, the link between employment and health insurance in small firms may result in a welfare loss if it prevents individuals with high-expected health costs from being employed in small firm jobs in which they may have high match specific productivity.

Employers may obtain information about employees' medical conditions in several ways. Before the passage of the 1990 Americans with Disabilities Act (ADA), half of all employers conducted pre-employment medical examinations (U.S. Congress, 1988). Most small group employers required the completion of a family health questionnaire for insurance coverage (Zellers et al., 1992, Cutler 1994). While ADA now restricts employer inquiries on employee health, it does not apply to firms with under 15 employees. In addition, employer compliance with the ADA may be hindered because its stipulations about pre-employment health inquiries are vague. Medical inquires are allowed if they pertain to the applicant's ability to perform the job. In addition, medical information is explicitly allowed in the use of medical underwriting for insurance (Epstein, 1996). The media continues to report cases where employers easily obtain

employee medical records (Rubin, 1998), or employees have been laid-off because of high health costs (O'Connor, 1996), or employee premiums have been adjusted to reflect the employee's claims experience (Kolata, 1992).

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) includes a nondiscrimination provision that bars a group health plan or issuer from discriminating in eligibility or contributions on the basis of a health status-related factor. However, HIPAA allows medical underwriting and allows insurers to rate groups of employees based on health status as long as the premium rate for all employees is blended. This stipulation prevents employers from requiring higher cost employees to contribute a higher premium share, but does not shield employers from bearing the costs for a sick worker.

Economists have typically believed that health insurance is an attribute of "good jobs" and workers do not choose jobs based on whether or not the job provides health insurance. In fact, this precept is behind the notion that employment is a mechanism for minimizing adverse selection in the market for health insurance (see, for example, Gruber and Levitt, 2000). However, a number of recent studies have suggested that worker demand for health insurance may play an important role in employment decisions. Workers with high-expected family costs may prefer jobs that offer health insurance, and conversely, workers with low preferences for health insurance may sort into jobs that lack health insurance. (Monheit and Vistnes, 1999, Monheit and Vistnes, 2006, Royalty and Abraham, 2005, Bundorf and Pauly, 2004).

In this paper, we use the Medical Expenditure Panel Survey (MEPS) from 1996 to 2001 to examine the magnitude of employment distortions for workers with high-

expected health costs. Since health insurance and employment are linked, health insurance may be an important determinant of employment outcomes. High-expected health costs may reduce the probability that workers are employed in firms where they have the highest match specific productivity. We estimate the magnitude of distortions in hiring, employment, and separations. Furthermore, we examine the effect of state small group health insurance reforms that restrict insurers' ability to deny coverage and restrict premium variability on employment distortions in small firms relative to large firms. Estimating the magnitude of employment distortions in insured small firms and understanding the effect of small group regulation on these distortions is essential in deciding optimal public policy towards the small group health insurance market.

Literature Review

The first literature that is relevant to this paper relates to small firms and health insurance. Cutler (1994) finds evidence that small firms are subject to a higher degree of premium variability than large firms. Moreover, small firms with young workers, high turnover or low wages tend to have the highest premium variability. The possibility of employment screening as a result of the incentives created by the small group health insurance market has been previously noted in the literature (Aaron and Bosworth, 1994; Madrian, 1994). Monheit and Vistnes (1994) find that the risk selection practices of insurers segment the small-group market so that only persons who are favorable health risks obtain employment related insurance. They find that the employees and dependents with coverage from small firm policies are in better health than those with non-group polices (when firm coverage was not available) or those who had no coverage. While

these results may indicate the presence of employment distortions due to health insurance, it is also possible that we may see these results if individuals in good jobs that offer health insurance are in better health than those who are not offered health insurance. Olson (1993) finds that individuals who say that they are in bad health are far less likely to have health insurance in industries that have a high proportion of small firms than in industries that have a high proportion of large firms. Using the 1987 NMES data, Kapur (2004) finds evidence of employment distortions in small firms that is consistent with underwriting rules in the small group health insurance market. Extension of this analysis to the 1996 MEPS is limited by the relatively small sample sizes of insured workers with adverse health conditions. Although not focused on small firms, Buchmueller (1995) finds that men in worse health are less likely to be insured.

Another relevant literature examines the impact of health insurance costs on wages and employment. There is evidence to suggest that rising health insurance costs have led to firms increasing hours worked by employees rather than employing more workers (Cutler and Madrian, 1998). Other work shows that for certain groups, the wages and the probability of being hired are sensitive to health insurance costs (Gruber, 1995; Sheiner, 1995; Scott, Berger and Garen, 1995). However, several recent papers fail to find robust evidence of the expected relationship between wages and health insurance (Jensen and Morrisey, 2001; Levy and Feldman, 2001; Simon, 2001).

Using the 1987 NMES data and the 2000 MEPS data, Monheit and Vistnes (1999, 2004) provide evidence that worker preferences play a role in employer provided health insurance, showing that workers with low preferences for health insurance sort into firms that do not offer health insurance. Royalty and Abraham (2006) demonstrate that workers

with access to spouse health insurance sort into jobs that do not offer health insurance, again suggesting that worker demand for health insurance may play an important role in job choice. Bundorf and Pauly (2004) also find evidence that individuals who have high-expected health costs are more likely to obtain health insurance in the group market and in the individual health insurance market.

Research on the impact of state small group health insurance reform generally has shown a small effect or no effect on small firms' propensity to offer health insurance or on employees' insurance coverage (Sloan and Conover, 1998; Jensen and Morrissey, 1996; Zuckerman and Rajan, 1999; Monheit and Schone, 1998; Buchmueller and DiNardo, 2002; Hall, 1999; Marquis and Long, 2002). However, a few studies do find modest effects of the reforms on insurance (Uccello, 1996; Hing and Jensen, 1999; Simon, 2005; Buchmueller and Jensen, 1997). In addition, some work has demonstrated that stronger reforms increased insurance coverage for high risk workers relative to low risk workers (Monheit and Schone, 1998, Davidoff et al., 2005). Most of these studies exploit cross-sectional and time-series variation in the implementation of state reforms to identify the effect of the reform on insurance coverage and do not focus on analyzing employment and employment flows in small and large firms as a result of the reforms. Two existing studies examine the labor market effects of small group health insurance reform and find small or no effects; however, neither of these studies has access to detailed family health data (Simon and Kaestner, 2002; Kapur, 2003).

Theoretical Motivation

Employment Distortions

There are several reasons that the health insurance market may distort employment decisions in small firms. If providing health insurance for workers with high-expected health costs is more expensive for small firms, they may screen out high cost workers. Furthermore, small firms may be in a better position to screen out high cost employees compared to larger firms. On the other hand, workers with high-expected health costs are expected to prefer jobs that offer health insurance. The existence of employment distortions is predicated on the assumption that firms are unable to perfectly tailor individual compensation to health insurance costs. Minimum wage laws, HIPAA non-discrimination provisions, and notions of fairness and equity are likely to prevent adjustment of wages at the individual level. We consider several theoretical reasons why small firms may choose to screen out workers with high-expected health costs. We also consider the rationale behind sorting based on worker demand.

First, the health insurance market may lead to employment distortions in small firms by creating premium variability. If small firms hire randomly from an available pool of workers, they will face a more variable health insurance premium bill. Therefore, small firms are likely to be more sensitive to the presence of a high-cost worker because they are less able to diversify health insurance premium costs internally than larger firms.[1] Assuming that firms are unable to fully pass on the premium bill to workers, at least in the short run, unexpectedly high premiums may be expensive for firms since they

[1] Small firms should have a greater incentive to insure against inter-temporal premium changes; however, the market for inter-temporal insurance is inadequate (Cutler, 1994). Since the 1990s, small group health insurance reforms may have improved the availability of inter-temporal insurance.

may have to borrow to finance the high premiums. Employers may opt to raise employee contributions to cover higher costs but large increases may lead to healthier employees dropping coverage. To avoid the cost of high health insurance premiums, small firms may choose to screen out workers that are likely to cause their group health insurance premiums to be high.

Second, it is possible that the administrative cost of charging each employee his or her health insurance cost may be large. As a result, firms may elect to charge each employee the average health insurance cost of the employee pool. If the search costs of finding a new job are higher than the extra share of health insurance costs, healthy workers will not quit. This pooling strategy implies that large firms can spread the high health insurance costs of one worker over their entire employee pool. However, small firms are unlikely to be able to successfully employ this strategy since health insurance costs are spread over a much smaller number of workers. As a result, small firms may be compelled to charge each employee his or her own health insurance costs, or to screen out high cost employees.

Third, small firms are likely to have higher health insurance costs than large firms. Specifically, administrative costs decrease dramatically with firm size. Administrative costs are about 40 percent of claims paid in very small firms (under 5 employees), while they are only 5.5 percent of claims paid in the largest firms with 10,000 or more employees (Helms, Gauthier, and Campion, 1992). A worker with high health costs may be more expensive to insure in a small firm due to the fact that the

administrative costs of processing claims is relatively larger for small firms than for large firms.[2]

Fourth, small firms may have a lower cost of screening out sick employees. It is likely that employment decisions are centralized in the hands of a single entrepreneur in a small firm. In contrast, employment decisions are more likely to be decentralized in large firms. The single entrepreneur in a small firm may find it easier to screen out an individual with high-expected health costs.[3] Moreover, most small firms are required to provide data on the family health status of potential employees to their health insurance companies (U.S. Congress, 1988). This implies that the information required for employment screening is readily available to small firms, and that coupled with centralized decision making, results in individuals with high-expected health costs being more likely to be screened out of small firms than large firms.

Worker demand for health insurance may also affect employment outcomes. Workers with high-expected health costs value jobs that provide health insurance more than other workers. Bhattacharya and Vogt (2006) have developed a model for worker sorting due to health insurance demand. In this model, workers with poor health prefer jobs that offer health insurance, however job switching costs may prevent some from moving to insured jobs. In addition to simply preferring insured jobs, workers with high-

[2] The lower administrative costs in large firms may be due to the fact that large firms tend to have a benefits manager to coordinate health claims and complete paperwork and there are economies of scale in coordination. The benefits office in large firms acts as an intermediary between employees and insurers, reducing administrative burden for large firm insurers. Large firms are also less likely to drop insurance resulting in lower transition costs for insurance companies.

[3] It is also possible that small firms may have a relative advantage in wage adjustment compared to large firms. However, there are several reasons that a small firm employer may find it as hard as a large firm to adjust wages. First, both small and large firms are subject to minimum wage laws that impede their ability to adjust wages beyond a point. Given that health expenditures can be very high, this may be a binding constraint even for higher wage workers. Second, jobs are often advertised with wage ranges making it problematic to adjust wages after a position is advertised. Third, different wages for similar jobs within a firm may result in employee dissatisfaction and so, may be less preferred as an adjustment strategy.

expected health costs may prefer insured large firm jobs to small firm jobs. The greater stability of large firm jobs and the increased plan choice in large firms may play a role in worker sorting. In addition, even though health insurance policy quality is similar across small and large firms along many important dimensions, small firm policies tend to have higher deductibles, and this feature may discourage workers with high expected expenses from seeking insured small firm jobs.[4] Health insurance policy quality may also be viewed as a tool for small firms to discourage workers with high expected health costs from seeking employment, and therefore act as an implicit employer screening mechanism.

State Small Group Health Insurance Reform

During the 1990s, most states implemented small group health insurance reform. These reforms tended to include the following components: guaranteed issue/renewal laws that mandated that insurance companies issue/renew some or all health insurance policies for small firms; portability and pre-existing condition limitation reforms that limited the time that insurers could exclude coverage for certain medical conditions; and premium rating reforms that restricted the factors that could be used to set health insurance premiums and restricted premium variability. Detailed descriptions of these reforms are in Kapur (2003). In 1996, the federal Health Insurance Portability and Accountability Act (HIPAA) mandated guaranteed issue of health insurance for small

[4] The Kaiser-HRET employer surveys on health insurance benefits have showed that there are no statistically significant differences among small firm plans and large firm plans in their offerings of prescription drugs, adult physicals, outpatient mental, inpatient mental, annual OB/GYN visit, oral contraceptives, and well-baby care. Only the propensity to offer prenatal care and chiropractic care differed significantly. Small firm policies were more likely to have no policy limit (60% in small firms and 45% in large firms) and more likely to have a limit on out of pocket spending than large firm policies (87% in small firms and 77% in large firms), and more likely to have higher deductibles ($559 in large firms and $280 in small firms for single coverage) (Kaiser-HRET, 2004).

firms starting in 1997. For many states, the existing state small group reform was equivalent to HIPAA's provisions; however, for others HIPAA's mandates changed the guarantee issue requirements.

Theoretically, the effect of state small group health insurance reforms and HIPAA on employment outcomes for workers with high-expected health costs is ambiguous. Firm screening and worker demand may exert opposing effects on employment outcomes. Pre-existing condition limitations may increase insured small firms' screening of individuals with adverse family health conditions since these health conditions must be covered by health insurance. On the other hand, since pre-existing condition limitation reforms lead to more extensive small firm health insurance coverage, these reforms may increase worker demand for small firm health insurance. However, ultimately, the worker response depends on workers' valuation of the additional health benefit relative to the cost in terms of reduced wages and/or higher health insurance premiums. Rating reforms that regulate premium variability and use of health factors in setting premiums can be expected to reduce the higher premiums associated with adverse health. Therefore, these reforms should increase insured small firm employment of workers with high-expected health costs. However, if low risk workers and/or firms leave the market in response to the higher premiums, average market premiums may increase and discourage some high risk workers from seeking insured small firm employment. Guaranteed issue reforms are important in their interaction with rating reforms, since they mandate that insurers must continue to offer health insurance to small firms even at the newly regulated premiums. Without guarantee issue reform, rating reforms are toothless since insurers can cherry-pick low cost firms. Reforms were passed in packages in all states -- the theoretical effect

of these reform packages on the employment distortions for individuals with adverse health is ambiguous.

Data

We use the Household Component of the 1996 – 2001 Medical Expenditure Panel Survey (MEPS) conducted by the Agency for Health Care Research and Quality. The MEPS has an overlapping panel design, in which the sample selected in any given year is followed for two calendar years (Cohen 2000). Each family in the Household Component participated in five rounds of data collection over a two-year period. During each round, information on all family members' employment (including size of employer) and health insurance coverage (including whether employer-provided health insurance was offered) was collected. In addition, a detailed set of variables on health, demographics, and health utilization was collected.

We also use a state small group reform database constructed using the information in Simon (2005), Kapur (2003), and Marquis and Long (2002). Our primary reform measure is a three category variable: no/weak reform, moderate reform or full reform. States with guaranteed issue reform and rating reform that restricted premium variability using rate bands were classified as having moderate reform. States with guaranteed issue and rating reform that included community rating or modified community rating were coded has having full reform. All other states were classified as having no reform or weak reform. We experimented with a host of other specifications for the reforms. We

coded individual components of the reforms such as guaranteed issue reform, rating and portability/pre-existing condition exclusion reforms (Kapur, 2003, Marquis and Long 2002). We also used a measure of premium variability allowed by the rating reforms. We developed several alternative measures of the package of reforms based on the extent of allowable premium variability, guaranteed issue and renewal reforms. After the implementation of HIPAA, all states were coded as having guaranteed issue reforms.

The public use MEPS data do not include an identifier for state of residence; therefore, we conducted the state reform analysis at the AHRQ Data Center in Rockville, MD., where we had access to a database that merged our reform variables to the MEPS-HC analysis files.

Econometric Framework: Employment Distortions

We estimate the magnitude of three types of employment distortions: (a) Hiring Distortions: Are small firms that offer health insurance less likely to hire workers with sick families?, (b) Employment Stock Distortions: Are small firms that offer health insurance less likely to employ workers with sick families?, (c) Separation Distortions: Are small firm more likely to layoff insured workers with sick families?

To estimate the magnitude of the employment distortion, employees in small firms with health insurance should be compared to employees who have similar observable job and demographic characteristics but work in larger firms. The means presented in table 1 show the characteristics of employees in four groups -- those employed in small firms that offer health insurance, large firms that offer health insurance, small firms that do not offer health insurance and large firms that do not offer

health insurance. For most demographic and job characteristics, such as age, sex, marital status, education, and wage, employees in small firms with health insurance are more similar to employees in large firms with health insurance than to employees without health insurance. Therefore, the preferred comparison group for insured small firm workers is insured large firm workers. However, there are several statistically significant differences in job and demographic attributes between insured small firm workers and insured large firm workers. The model estimation controls for these differences.

Hiring Distortions

To test whether hiring distortions exist, we estimate a multinomial logit model with a four-level dependent variable, Y_i, with different values for each of the following employment outcomes: small firm worker and offered health insurance, large firm worker and offered health insurance, small firm worker and not offered health insurance, and large firm worker and not offered health insurance. [5]

$$\Pr(Y_i = j) = f(\alpha_j + \beta_j * HC_i + Z_i'\gamma_j)$$

HC denotes the expected health costs. The sample consists of all workers who had tenure of less than one year at the interview date.[6] We construct three measures of expected health costs. These include a count of medical conditions in the family, an indicator for the presence of any family medical conditions, and an index of expected health costs (log

[5] The health insurance offer question asks if the person was offered health insurance through the employer. The employment size question asks the number of employees at the person's establishment of employment. Since health insurance decisions are likely to be made on the basis of firm size rather than establishment size, we also used a question that asked if the firm had multiple locations to restrict the sample to single location firms where the categorization of small vs. large employer based on firm size is identical to the categorization based on establishment size. The results were similar to those including all establishments.

[6] Our models of hiring distortions would not capture the form of employment distortion in which an individual is potentially unemployed due to higher expected health costs.

transformed) based on family medical conditions. We focused on medical conditions that were chronic, persistent measures of health, since temporary shocks to health are likely to have a much smaller effect on employment outcomes.[7] The matrix Z consists of control variables. Demographic controls include schooling, sex, age, age squared, marital status, race, family size, and spouse work status. We also included job controls – industry indicators, occupation indicators, wage and union status, and region, MSA and year indicators. Since job controls are possibly endogenous to the employment outcome, we also ran these models excluding the job controls and found very similar results.[8]

We estimated the model on three samples – the full sample, single workers, and married workers. Models for married workers included an additional set of control variables that captured the characteristics of the worker's spouse. These included spouse education and spouse employment characteristics (wage, union, industry and occupation) if employed. Married workers may have a muted worker sorting response, since their sorting behavior is affected by their own characteristics and by spouse characteristics. Furthermore, the health effects for married workers hinge on both own and dependent health, whereas for single workers, the health effects depend solely on own health. Therefore, separate models for single and married workers may be informative. For married workers, we also estimated an additional model that disaggregated family health into worker and dependent health. Poor worker health may result in a stronger

7 We used the following adult medical conditions: angina, MI, cancer, diabetes, arthritis, stroke, chronic obstructive pulmonary disease, asthma, obesity, liver disease, depression, HIV, renal disease, CHF, hypertension, hyperlipidemia, anxiety, psychological disorder, irritable bowel disease, epilepsy, thyroid disease, ulcers, migraine. We used the following child conditions: asthma, diabetes, sinusitis, upper respiratory infections, seizures, cerebral palsy, mental retardation, cancer, appendicitis, hemanemia, congenital heart disease, renal disease, UTI, depression, ADHD, otitis media, and acne.

8 One concern is that health may be important due to the physical demands of the job. As a check, we included interactions of the occupation and industry indicators with worker health, and found that the results on family health were robust.

employment distortion than poor dependent health since the former is likely to be more readily observable.

We constructed the index of expected health costs by estimating separate models for adult and child medical expenditures on the sub-sample of individuals with private health insurance using a one-part generalized least squares model with a gamma distribution and a square root link.[9] This model provided the best fit for health costs (Manning and Mullahy, 2001). The health cost models included a full set of medical condition indicators and controls for demographic variables. Coefficients on medical conditions from these models provided the weights used to construct the predicted cost index. [10] A concern with this model is that health insurance could be endogenously determined. Given that we have no suitable instrumental variables in our data set, we are unable to adjust for selection formally. However, we use multiple measures of health, and only one of them is subject to an endogeneity concern. Comparing results across the various health measures provides a natural robustness check.

The multinomial logit model treats both small firm employment and health insurance as endogenous variables that are jointly incorporated into the four-level dependent variable. A Hausman test shows that assumption of the Independence of Irrelevant Alternatives cannot be rejected in this application. We correct the standard errors for clustering within family.

We use the estimates from the multinomial logit model to compare the effect of HC on insured small firm new hires to its effect on insured large firm new hires by

[9] We found virtually identical results when we used expected health plan payments as an alternative dependent variable in the models.

10 To reduce the possible endogeneity of medical conditions with respect to policy quality and job change, we re-specify the health measures to include only those conditions that are discovered before the survey year. We find no qualitative change in the results.

reporting relative risk ratios (RRR) for insured small firm employment with insured large firm employment as the base category. As discussed earlier, this strategy enables us to compare groups that are comparable in demographic and job characteristics. The RRR based on β, the coefficient of interest, is the effect of the expected health cost of a worker on the probability that he or she is employed in an insured small firm relative to an insured large firm. We would expect this RRR to be less than 1 and significant if individuals with high-expected health costs are less likely to be employed at small firms with health insurance.

Even if employees in small firms with health insurance are found to have lower expected health costs than those in large firms with health insurance, this result could be attributed to all small firms being less likely to employ sick workers. For example, if small firms have only a single worker experienced in a certain task, absenteeism due to sickness could be a bigger problem for a small firm and they may prefer to employ healthier workers, irrespective of health insurance. Alternatively, a worker demand story may suggest that workers with high-expected health costs prefer insured large firm jobs to insured small firm jobs because they are more stable and have greater health plan choice. Therefore, we compare the effect of health on the probability of being in a small firm with health insurance with the effect of health on the probability of being in a small firm without health insurance using estimates from the multinomial logit model.

We also use the estimates from the multinomial logit model to demonstrate the effect of health on the probability of being employed in a large firm that offers health insurance compared to the probability of being hired in a large firm that does not offer health insurance. These results can be compared to those that contrast small firms with

health insurance to small firms without health insurance to show that effects of health on being hired into a small firm with health insurance are not generalizable to large firms.

Table 2 presents the results from the multinomial logit models. The models vary in their definition of firm size (less than 25 employees vs. less than 50 employees), in their family health measures (number of family conditions, whether there are any family conditions, and predicted medical expenditures), and in their estimation sample (full sample, single workers, and married workers). The first two columns contain the results for insured small firm workers relative to the base category of insured large firm workers. The third and fourth columns contain results for insured small firm workers relative to uninsured small firm workers, and the last two columns contain results for insured large firm workers relative to uninsured large firm workers. Significance tests for RRRs test the difference of the RRR from 1.[11]

For the full sample, the results in columns 1 and 2 show that workers with adverse family health are significantly less likely to be employed in insured small firms relative to insured large firms. This result is statistically significant for five of the six full sample models in columns 1 and 2. For the indicator for "any conditions" in the model where small firms are defined as those that employ less than 25, the relative risk of being an insured small firm worker relative to an insured large firm worker is 86% as a result of having a family medical condition. The RRRs in columns 3 and 4 show that workers with sick families are less likely to be new hires in small firms that offer health insurance relative to small firms that do not offer health insurance. This comparison shows that hiring workers with healthy families is not simply a characteristic of all small firms. For

11 The relative risk ratio for insured small firm employment relative to insured large firm employment for the number of conditions measures the effect of a one-unit increase in conditions on Prob(Insured Small Firm Worker)/Prob(Insured Large Firm Worker).

the full sample, columns 5 and 6 show that there is no effect of family health on whether workers are new hires in large firms that offer health insurance. However, for the married sample, there is some evidence that families with poor dependent health are more likely to be insured new hires in large firms compared to uninsured new hires in large firms. In summary, the results from table 2 show that workers with adverse family health are less likely to be hired into small firms that offer health insurance compared to any other type of firm. The full results from the multinomial logit models reported in the paper are available on request.[12]

We cannot reject the hypothesis that the effect of health is the same for the single and married samples, and in several cases, the results become more imprecise after disaggregating the sample.[13] However, the results appear stronger for single individuals who are not likely to have access to alternative sources of employment-based coverage. For small firms under 50, disaggregating the health measures into worker and family components shows that worker health appears to have a statistically significant effect whereas dependent health tends to have a statistically insignificant effect, consistent with the notion that worker health is more readily observable to employers. However, in most cases, we are unable to reject the possibility that worker health has a statistically different effect from dependent health.

[12] In general, the effect of age on employment distortions is quite different from the effect of health, even though age and health are correlated. Age is correlated with seniority, experience, and human capital accumulation. Therefore, even though age is correlated with health, we cannot make clear predictions about how insured small firms will value older workers compared to younger workers.

[13] We found some evidence that workers with spouses who were employed and those who had spouses belonging to unions were more likely to be new hires in insured small firm jobs compared to insured large firm jobs. However, most of the spousal variables were statistically insignificant. Furthermore, controlling for spousal characteristics does not change the effect of health on employment among married individuals.

Stock Distortions

We estimate multinomial logit models to test employment distortions in the stock of employees, following the same structure as the models for new hires.[14] For the full sample, the results in table 3 show that workers with unhealthy families are less likely to be employed in small firms that offer health insurance compared to large firms that offer health insurance. For the full sample, this result is statistically significant for five of the six models presented in columns 1 and 2. For the indicator for "any conditions" in the model where small firms are defined as those that employ less than 25, the relative risk of being an insured small firm worker relative to an insured large firm worker is 91% as a result of a having a family medical condition.

Even though the point estimates for the full sample suggest that workers with sick families are less likely to be employed in small firms that offer health insurance compared to small firms that do not, these estimates are not statistically significant. For the full sample, the results that compare workers in large firms that offer health insurance to workers in large firms that do not offer health insurance show no consistent pattern on the employment of workers with sick families. We expect that the largest effect of health would occur at the time of hiring; therefore, it is not surprising that the effects for all employees are slightly weaker than those for new hires.

As with the new hire analysis, the results in columns 1 and 2 appear stronger for single individuals than for married individuals, although in most cases the effects are not statistically different. In columns 3 and 4, sicker single workers appear to be significantly less likely to be employed in insured small firms compared to uninsured small firms (for

[14] The sample used in estimating models for the stock of all workers includes workers who have tenure of less than one year (the new hire sample).

the under 50 definition). In several models that contrast insured small firms with uninsured small firms and insured large firms with uninsured large firms, we find that poor dependent health increases the likelihood of being in an insured firm, consistent with the notion that families with poor health have a higher demand for insured jobs.

Separation Distortion

Ex ante, we do not expect separation distortions to be large since separations are costly in terms of lost on-the-job training and unemployment insurance taxes. Firms should prefer to screen at the time of the hiring decision, and workers should prefer to make decisions on their preferred jobs at the time of hiring. However, given that expected health costs at the time of hiring could be lower than the expected costs at a later date due to imperfect information about future health costs, separation distortions could be present.

To test the importance of layoff and quit distortions, we determine if workers with high family health costs employed in small firms with health insurance are more likely to be laid-off or more likely to quit than workers in small firms without health insurance and workers in large firms. Unlike the hiring distortion estimation, here the desired insurance variable is whether or not a worker holds employer provided health insurance. It is not an indicator of whether a worker was offered health insurance, since only individuals who hold health insurance contribute to employers' health insurance costs.

We estimate a multinomial logit model where Y, the job transition, can take any of three values denoted by j – stay, layoff, or quit.[15] The sample consists of individuals employed at any time during the sample period.

$$\Pr(Y = j) = f(\alpha_j + \beta_{1j} * HC + \beta_{2j} * SmallFirm + \beta_{3j} * HI + \gamma_{1j} * HC * SmallFirm + \gamma_{2j} * HC * HI + \gamma_{3j} * HI * SmallFirm + \delta_j * HC * HI * SmallFirm + Z'\eta_j)$$

where Z is the vector of controls. HC is a vector of expected health costs, and HI denotes employer provided health insurance. If small firms screen high cost workers, the coefficient on the interaction of expected health cost, small firm and health insurance, δj, would be positive when j denotes a layoff, assuming that wages are relatively inflexible. Alternatively, if wages are flexible, we expect that β_{3j} would depend on worker valuation of health insurance relative to wages when j denotes a quit.[16]

Since insured small firm workers are most similar to insured large firm workers, we determine the sensitivity of our results to this specification by re-estimating this model on only insured workers, and estimating the effect of interest with an interaction term between small firm employment and adverse health. We also re-estimate the model only on small firm workers, and examine the interaction between adverse health and health insurance to determine if sickness has a differential effect on insured small firm workers compared to uninsured small firm workers.

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15 Using a Hausman test, we determined that this model did not violate the Independence of Irrelevant Alternatives assumption of the multinomial logit model.

[16] The separation analysis bears some similarity to the job lock literature. Like the job lock literature, our models focus on workers with a high demand for health care in insured firms; however, unlike the job lock literature, we contrast small and large firms. If individuals in insured small firms have worse policies and are less likely to be subject to job lock than individuals in insured large firms, we may expect the results in the separation models to be affected by job lock. However, evidence from the Kaiser-HRET survey suggests that policies in small and large firms are quite similar. Furthermore, the literature on job lock is quite mixed, and several studies suggest that job lock may be quite small (Kapur 1998, Gilleskie and Lutz, 2002).

Table 4 presents the results from the multinomial logit models for separations. We present results for the full sample, single workers, and married workers. Our results for the sample of all workers (insured and uninsured), in the first set of columns, show that workers with families with adverse health who are employed in small firms with health insurance are less likely to quit their jobs and are also less likely to be laid off. The three rows following the full sample RRRs show predictions for the marginal effects at the 25th, 50th, and 75th percentiles of the distribution.[17] The marginal effects show small and negative effects on separations. For the insured sub-sample, these results are only statistically significant when small firms are defined as employing less than 50 workers. However, results from the small firm sample show no statistically different effects of sickness for insured small firm workers compared to uninsured small firm workers.

The results are somewhat mixed across the various samples. The results from the small firm sample that show no effect of health on separations appear to be more plausible that the results that show that insured small firm workers are less likely to separate than workers in insured large firms. If small firms were screening out workers with high health costs, we would expect these workers to be more likely to be laid off. If, on the other hand, the separation distortions were due to worker demand for health insurance, we would not expect workers in small firms with health insurance to be less likely to separate from their jobs than workers in large firms with health insurance. Some models show that poor worker health is associated with the expected increase in separation in insured small firms. However, given the mixed pattern of results and their

[17] The RRRs and coefficients of interaction terms in non-linear models can be misleading; therefore we have calculated predictions of the marginal effects and their distribution (Ai and Norton, 2003). We have also estimated linear probability models instead of multinomial logit models and found very similar results.

small magnitude in marginal effects, our findings regarding separation distortions remain ambiguous.

Supply Side versus Demand Side

An intriguing question is whether employment distortions are driven by firms screening out sick workers (a demand side effect), or by sick workers choosing not to work in small firm (a supply side effect). In a market-clearing model with fully adjusting wages, it is impossible to distinguish between a demand and a supply side effect. However, if we assume that wages are somewhat rigid, then the distinction between demand and supply side effects becomes meaningful. Determining whether employment distortions are driven by demand or supply side considerations is important for designing economic policy. For instance, strengthening anti-discrimination legislation would reduce distortions if firm screening were a main factor, whereas improving small firm health insurance quality would be more effective if worker sorting was responsible for employment distortions.

Our results have not provided any definitive evidence of either a firm side or worker side story; most likely both play some role. We have found that workers with adverse family health are less likely to be hired into small firms that offer health insurance compared to any other type of firm. If worker demand were responsible for our results, we would expect to see workers with high-expected costs flock to jobs that offer health insurance in large and small firms. However, we find that workers with adverse health are no more likely to be new hires in large firm jobs that offer health insurance than in large firm jobs with no health insurance. They are also less likely to be in small

firm insured jobs than in small firm uninsured jobs. This evidence suggests that firm screening plays a role in employment distortions. On the other hand, we do find some evidence for a worker demand story from the results on dependent health – we find that workers with dependents in poor health are more likely to be employed in insured small firms compared to uninsured small firms and they are more likely to be employed in insured large firms compared to uninsured large firms. However, the results from the separation models did not shed any light on the role of firm-side versus worker-side effects. Most likely, both firm and worker effects play a role in determining the distribution of employment between small and large firms.

We also empirically check if wages for insured and sick small firm employees are lower than wages for insured and sick large firm employees. If we assume that sick workers employed in insured small firms are no more productive than sick workers employed in insured large firms, then similar wages by firm size would again suggest that small firms would have an incentive not to employ workers with high-expected health costs. We find no difference in the wages between insured workers with high-expected health costs in large and small firms.

Effect of State Reform on Employment Distortions

We re-estimated the multinomial logit models for new hires, the stock of workers, and for separations, after including measures of state small group health insurance reform and interactions of the reforms with the family health measures. We find no evidence that reforms changed employment patterns. The results on the interaction between reform and

health are statistically insignificant for all models. Results from the multinomial logit models described in this section are available on request.

We also found small and statistically insignificant effects for state reforms on each type of employment distortion using alternative measures of state reforms, such as individual indicators for portability, type of rating reform, guaranteed issue reforms; for alternative definitions of the package of reforms; and for measures of the allowable premium variability.

Conclusion

This paper determines if the link between employment and health insurance leads to distortions in small firm employment. The estimation results show that workers with high-expected health costs are less likely to be new hires in small firms that offer health insurance than any other type of firm. These workers are also less likely to be employed in small firms that offer health insurance. The magnitude of these findings suggest that the employment effects are relatively small – workers with high-expected health costs are 86% as likely to be new hires in insured small firms and 91% as likely to be employed in insured small firms relative to insured large firms.

Our results suggest that both firm screening and worker sorting play a role in the observed employment outcomes. Small firms may be using explicit and implicit mechanisms to screen out workers with high expected health costs. Workers with high-expected health costs are likely to prefer jobs with high quality health insurance policies. But our results can be only partially explained by worker sorting. We find that workers with high-expected health costs are less likely to be new hires in small firms that offer

health insurance than in small firms that do not offer health insurance, contrary to the predictions of a worker sorting framework. However, we also find some evidence that workers with sick dependents are more likely to be employed in insured small firm jobs than in uninsured small firm jobs, and are more likely to be employed in insured large firm jobs than uninsured large firm jobs. Most likely, a combination of firm screening and worker sorting factors are responsible for the employment outcomes that we observe.

A pertinent question in evaluating our results is whether firms can legally screen workers with high-expected health costs from employment. ADA prohibits employment screening for workers with qualifying disabilities; however, ADA does not apply to firms with fewer than 15 employees, leaving these firms open to employment screening. Furthermore, we observe the strongest evidence for firm screening during the hiring process, when screening may be hard to detect or prove.

State small group health insurance reforms coupled with federal HIPAA regulation appear to have had little effect on the pattern of employment distortions for workers with high-expected health costs. Employment distortions appear to have persisted in small firms, despite the wide implementation of these insurance reforms. Premium rating regulations, an important component of the state small group reforms, were quite weak in most states, and could explain the muted effects we find of reforms on small firm employment patterns.

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TABLE 1: MEANS IN THE MEDICAL EXPENDITURE PANEL SURVEY (1996-2001)

	Small Firms		Large Firms	
	Offer HI	Don't Offer HI	Offer HI	Don't Offer HI
Demographics				
Age	38.93	34.57	40.11	32.97
Female	0.49	0.53	0.47	0.57
Married	0.48	0.38	0.51	0.33
White	0.80	0.71	0.76	0.66
Black	0.09	0.09	0.12	0.15
Hispanic	0.09	0.16	0.08	0.15
Other race	0.03	0.04	0.04	0.05
Family size	2.83	3.09	2.82	3.13
Less than high school	0.07	0.22	0.07	0.19
High School	0.57	0.60	0.50	0.58
College	0.19	0.09	0.23	0.13
More than College	0.07	0.03	0.11	0.04
Other degree	0.10	0.06	0.08	0.06
Health				
Number of Medical Conditions	1.96	2.04	2.02	2.00
Any Medical Conditions	0.55	0.55	0.57	0.55
Predicted Medical Expenses	1437.85	1559.82	1460.56	1501.52
Job Characteristics				
Wage	14.42	8.90	16.95	9.47
Union	0.09	0.01	0.21	0.06
Dual worker family	0.66	0.68	0.67	0.68
Other Characteristics				
Region: Northeast	0.17	0.16	0.19	0.19
Region: Midwest	0.25	0.22	0.25	0.23
Region: South	0.36	0.37	0.35	0.33
Region: West	0.22	0.25	0.21	0.25
MSA	0.80	0.78	0.84	0.83
Number of Observations	9010	9018	28989	6446

TABLE 2: MULTINOMIAL LOGIT MODELS OF NEW HIRES (1996-2001)

Categories: Small firm HI, Large firm HI, Small firm no HI, Large firm no HI
Alternative definitions of health and firm size

	Small Firm HI vs. Large Firm HI		Small Firm HI vs. Small Firm no HI		Large Firm HI vs. Large Firm no HI	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Small Firm: Less than 25						
Number of conditions						
Full Sample	0.942	0.026 **	0.946	0.026 **	1.012	0.022
Single Workers	0.936	0.038 *	0.936	0.036 *	0.989	0.027
Married Workers	0.937	0.035 *	0.946	0.037	1.051	0.034
Worker Health	0.892	0.070	0.829	0.068 **	0.951	0.064
Dependent Health	0.955	0.044	0.995	0.048	1.094	0.044 **
Any conditions						
Full Sample	0.860	0.062 **	0.861	0.065 **	1.073	0.067
Single Workers	0.818	0.080 **	0.809	0.079 **	1.008	0.080
Married Workers	0.908	0.097	0.909	0.105	1.173	0.113 **
Worker Health	0.856	0.101	0.822	0.104	0.994	0.107
Dependent Health	0.905	0.095	0.911	0.102	1.071	0.101
Predicted expenditures						
Full Sample	0.981	0.010 *	0.978	0.010 **	1.006	0.008
Single Workers	0.979	0.013	0.973	0.013 **	0.996	0.010
Married Workers	0.981	0.014	0.981	0.015	1.023	0.013 *
Worker Health	0.980	0.016	0.972	0.017 *	0.996	0.015
Dependent Health	0.981	0.014	0.984	0.015	1.016	0.013
Small Firm: Less than 50						
Number of conditions						
Full Sample	0.952	0.023 **	0.957	0.022 *	1.024	0.025
Single Workers	0.938	0.033 *	0.947	0.030 *	0.993	0.031
Married Workers	0.959	0.032	0.960	0.032	1.084	0.042 **
Worker Health	0.881	0.063 *	0.828	0.059 **	1.003	0.076
Dependent Health	0.989	0.040	1.015	0.040	1.120	0.053 **
Any conditions						
Full Sample	0.901	0.061	0.891	0.058 *	1.120	0.078
Single Workers	0.877	0.079	0.858	0.072 *	1.027	0.091
Married Workers	0.939	0.092	0.915	0.092	1.287	0.140 **
Worker Health	0.796	0.086 **	0.783	0.087 **	1.125	0.136
Dependent Health	0.988	0.095	0.945	0.091	1.114	0.119
Predicted expenditures						
Full Sample	0.985	0.009 *	0.982	0.009 **	1.012	0.010
Single Workers	0.984	0.012	0.978	0.011 **	0.999	0.012
Married Workers	0.986	0.013	0.983	0.013	1.036	0.015 **
Worker Health	0.970	0.014 **	0.966	0.015 **	1.013	0.017
Dependent Health	0.996	0.013	0.993	0.013	1.019	0.015
Number of observations	12059					

Note: All models include worker education, sex, age, marital status, race, family size, wage, union, industry, occupation, spouse work status, MSA, region and year dummies.
Models for married workers also include spousal variables (education and job variables)

** denotes significance at the 5% level. * denotes significance at the 10% level.

TABLE 3: MULTINOMIAL LOGIT MODELS OF STOCK (1996-2001)

Categories: Small firm HI, Large firm HI, Small firm no HI, Large firm no HI
Alternative definitions of health and firm size

	Small Firm HI vs. Large Firm HI		Small Firm HI vs. Small Firm no HI		Large Firm HI vs. Large Firm no HI	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Small Firm: Less than 25						
Number of conditions						
Full Sample	0.985	0.012	0.989	0.014	0.983	0.015
Single Workers	0.985	0.018	0.970	0.020	0.980	0.017
Married Workers	0.986	0.015	1.011	0.020	1.012	0.018
Worker Health	0.983	0.028	0.997	0.038	0.952	0.035
Dependent Health	0.993	0.023	1.056	0.034 *	1.084	0.033 **
Any conditions						
Full Sample	0.909	0.030 **	0.966	0.039	1.027	0.040
Single Workers	0.903	0.041 **	0.940	0.051	0.963	0.047
Married Workers	0.916	0.042 *	0.993	0.058	1.092	0.063
Worker Health	0.956	0.046	1.025	0.065	0.949	0.058
Dependent Health	0.943	0.043	1.069	0.066	1.223	0.073 **
Predicted expenditures						
Full Sample	0.988	0.004 **	0.993	0.005	1.001	0.005
Single Workers	0.988	0.006 *	0.989	0.007	0.992	0.007
Married Workers	0.988	0.006 *	0.999	0.008	1.011	0.008
Worker Health	0.995	0.007	1.003	0.009	0.992	0.008
Dependent Health	0.987	0.006 **	0.995	0.008	1.014	0.008 *
Small Firm: Less than 50						
Number of conditions						
Full Sample	0.983	0.010 *	0.986	0.013	0.989	0.016
Single Workers	0.979	0.015	0.965	0.017 **	0.970	0.020
Married Workers	0.987	0.013	1.009	0.017	1.019	0.022
Worker Health	0.963	0.025	0.979	0.034	0.959	0.039
Dependent Health	0.995	0.021	1.059	0.030 **	1.088	0.038 **
Any conditions						
Full Sample	0.923	0.028 **	0.963	0.035	1.075	0.047 *
Single Workers	0.904	0.037 **	0.923	0.045 *	1.014	0.056
Married Workers	0.946	0.039	1.004	0.052	1.140	0.075 **
Worker Health	0.925	0.039 *	0.988	0.056	0.972	0.068
Dependent Health	0.971	0.039	1.104	0.060 *	1.227	0.085 **
Predicted expenditures						
Full Sample	0.989	0.004 **	0.992	0.005	1.007	0.006
Single Workers	0.986	0.005 **	0.986	0.006 **	0.999	0.007
Married Workers	0.992	0.005	1.000	0.007	1.016	0.009 *
Worker Health	0.989	0.006 *	0.998	0.008	0.995	0.010
Dependent Health	0.996	0.005	1.000	0.007	1.016	0.009 *
Number of observations	52437					

Note: All models include worker education, sex, age, marital status, race, family size, wage, union, industry, occupation, spouse work status, MSA, region and year dummies.
Models for married workers also include spousal variables (education and job variables)

** denotes significance at the 5% level. * denotes significance at the 10% level.

TABLE 4: MULTINOMIAL LOGIT MODELS OF SEPARATIONS (1996-2001)

Categories: Quit, Layoff, Stay. Alternative definitions of health and firm size

	All Workers				Insured Sample				Sm
	Quit/Stay		Layoff/Stay		Quit/Stay		Layoff/Stay		Quit/St
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio
Small Firm: Less than 25									
Number of conditions*HI*Small Firm									
Full Sample	0.938	0.030 **	0.928	0.038 *	0.963	0.025	0.956	0.032	1.001
Prediction: 25th pct	-0.008	0.002 *	-0.004	0.001	-0.004	0.001	-0.001	0.001	0.000
Prediction: 50th pct	-0.006	0.004 *	-0.003	0.002	-0.003	0.002	-0.001	0.001	0.000
Prediction: 75th pct	-0.004	0.005	-0.002	0.003	-0.002	0.003	-0.001	0.002	0.000
Single Workers	0.946	0.042	0.932	0.054	0.987	0.036	0.975	0.048	1.014
Married Workers	0.929	0.046	0.919	0.054	0.931	0.037	0.929	0.043	0.964
Worker Health	1.077	0.155	0.798	0.142	0.941	0.104	0.911	0.134	1.214
Dependent Health	0.841	0.104	0.901	0.125	0.925	0.088	0.894	0.092	0.873
Any conditions*HI*Small Firm									
Full Sample	0.859	0.084	0.786	0.114 *	0.956	0.085	0.818	0.115	1.006
Single Workers	0.906	0.163	0.884	0.234	1.101	0.152	0.975	0.215	1.084
Married Workers	0.815	0.181	0.739	0.238	0.801	0.136	0.787	0.206	0.833
Worker Health	1.241	0.298	0.725	0.233	0.883	0.160	0.991	0.246	1.412
Dependent Health	0.721	0.172	0.818	0.257	0.862	0.161	0.826	0.200	0.797
Predicted expenditures*HI*Small Firm									
Full Sample	0.975	0.015 *	0.948	0.021 **	0.991	0.012	0.972	0.018	0.998
Single Workers	0.982	0.023	0.988	0.035	1.012	0.019	0.997	0.029	1.007
Married Workers	0.963	0.029	0.953	0.041	0.964	0.022	0.962	0.033	0.975
Worker Health	1.027	0.033	0.943	0.041	0.982	0.024	0.987	0.033	1.048
Dependent Health	0.934	0.028 **	1.013	0.042	0.956	0.022 *	0.983	0.032	0.946

Small Firm: Less than 50

Number of conditions*HI*Small Firm										
Full Sample	0.927	0.029 **	0.926	0.037 *	0.947	0.019 **	0.963	0.028	0.998	0.023
Prediction: 25th pct	-0.009	0.002 *	-0.004	0.001	-0.005	0.001 *	-0.001	0.001	-0.001	0.002
Prediction: 50th pct	-0.007	0.004 *	-0.003	0.002	-0.004	0.002 *	-0.001	0.001	0.000	0.003
Prediction: 75th pct	-0.004	0.005 *	-0.002	0.003	-0.002	0.003 *	0.000	0.001	0.000	0.004
Single Workers	0.892	0.038 **	0.939	0.053	0.951	0.031	0.968	0.043	0.992	0.030
Married Workers	0.984	0.047	0.870	0.048 **	0.951	0.034	0.934	0.037 *	0.994	0.036
Worker Health	1.229	0.165	0.802	0.135	0.953	0.094	0.987	0.127	1.255	0.128 *
Dependent Health	0.919	0.107	0.812	0.112	0.973	0.083	0.863	0.080	0.926	0.081
Any conditions*HI*Small Firm										
Full Sample	0.811	0.068 **	0.830	0.102	0.863	0.069 *	0.834	0.105	0.984	0.093
Single Workers	0.790	0.137	0.883	0.223	1.010	0.127	0.964	0.194	1.011	0.123
Married Workers	0.952	0.207	0.644	0.194	0.753	0.117 *	0.787	0.183	0.872	0.132
Worker Health	1.510	0.346 *	0.594	0.179 *	0.947	0.154	0.896	0.198	1.473	0.241 *
Dependent Health	0.912	0.206	0.750	0.227	0.923	0.151	0.899	0.193	0.905	0.146
Predicted expenditures*HI*Small Firm										
Full Sample	0.961	0.014 **	0.945	0.020 **	0.978	0.011 **	0.975	0.016	0.997	0.013
Single Workers	0.960	0.022 *	0.982	0.033	0.998	0.017	0.995	0.027	0.997	0.016
Married Workers	0.994	0.029	0.934	0.038 *	0.963	0.020 *	0.962	0.030	0.987	0.020
Worker Health	1.056	0.033 *	0.922	0.038 **	0.990	0.022	0.980	0.029	1.055	0.023 *
Dependent Health	0.960	0.028	0.984	0.039	0.961	0.020 *	0.982	0.028	0.963	0.020 *

Note: All models include the reported health measure, firm size, health insurance, and all two-way interactions between the th
Models also include worker education, sex, age, marital status, race, family size, wage, tenure union, industry, occupation, spouse work status, MSA, region and year dummies. Married worker models also include spousal controls.
For the insured sample, the HI control and interactions are redundant and not included in the model
For the small firm sample, the small firm control and interactions are redundant and not included in the model
** denotes significance at the 5% level. * denotes significance at the 10% level.