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How Does Health Insurance Affect Workers' Compensation Filing?

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Abstract

Workers' compensation provides insurance against job-related injuries, but as many as half of injured workers choose not to file. A common explanation for this is the existence of private health insurance, an alternative source of health care that may discourage insured workers from taking the time to file a workers' compensation claim. However, data from the NLSY paint a surprising picture: uninsured and more vulnerable workers are actually less likely to file claims than the insured. We study this relationship and find that it emerges as the result of *employer* characteristics. In particular, whether or not employers offer health insurance to employees appears most important, much more important even than the insurance status of workers themselves. Indeed, even repeat injury-sufferers are more likely to file during episodes in which their employer offers health insurance, but not statistically more likely to file during episodes in which they themselves are insured. This suggests that the workplace environment and employer incentives may have a significant, or perhaps even the dominant, impact on workers' compensation filing.

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A. Introduction

Workers' compensation serves as a near universal health insurance system for workers who become sick or injured because of their job. Almost every private sector worker in the U.S. is covered by workers' compensation, which typically provides full reimbursement for medical expenditures and partial reimbursement for wage losses incurred as a result of a workplace injury or illness.[1] Given that employer-provided health insurance usually involves cost sharing for medical expenditures and offers no income replacement, one would expect workers to seek compensation for nearly all workplace health conditions.

However, it appears that many injured workers elect not to participate in workers' compensation. Using data from a survey of workers in Michigan, Biddle and Roberts (2003) found that just 55.1 percent of workers with lost time reported filing for some workers' compensation benefits, and just 39.1 percent reported filing for wage-replacement. This suggests that workers may not view workers' compensation filing as "free" and that there must be some set of implicit or explicit costs associated with filing. For example, workers might lack information about the availability, or even existence, of workers' compensation benefits. Employers might discourage participation, and there could be a stigma associated with filing for

[1] All 50 states and the federal government have a workers' compensation system, though it is optional in New Jersey and Texas. As of 2003, 14 states had numerical exemptions for firms employing a small (always 5 or less) number of employees. Additionally, 10 states do not cover agricultural workers. Almost all states provide full medical coverage with no cost sharing. Arkansas and Florida are the only exceptions, with the former limiting employer liability when no lost time results and the latter requiring a $10 co-pay after maximum medical improvement. Benefits vary by state, but most provide two-thirds income replacement subject to weekly benefit caps and floors. For more, see the U.S. Department of Labor, http://www.dol.gov/esa/regs/statutes/owcp/stwclaw/stwclaw.htm, accessed April 30, 2004.

benefits.[2] Additionally, a worker might be uncertain about his or her ability to prove that an injury or illness is work-related. As a result, pursuing a workers' compensation claim could require that a worker spend money on health care consultations up front, with uncertain prospects for reimbursement. While any of these costs could lead a worker not to file a claim, the magnitude of nonparticipation is surprising.

The existence of alternatives to workers' compensation, specifically health insurance, could exacerbate nonparticipation in the presence of filing costs. Workers with access to health insurance may be unwilling to bear the filing costs associated with workers' compensation benefits, because their insurance reduces the burden of medical costs. Moreover, the *absence* of health insurance could give rise to greater participation if uninsured workers try to fraudulently pass off nonoccupational injuries or illnesses as work-related, in order to cover the cost of treatment. The combination of these effects has given rise to the conventional wisdom in economics that workers with health insurance are less likely to file workers' compensation claims in the event of injury. If the high level of nonparticipation on average appeared driven, at least in part, by health insurance status, this would alleviate normative concerns that poor participation imperils the health of injured workers.

However, a look at the data, reported in Table 1, calls the conventional wisdom into question. The first two columns of the table demonstrate that injured workers without health insurance are eight percentage points (about fifteen percent) less likely to file a claim than injured workers with health coverage.[3] This is in spite of the fact that uninsured workers are

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[2] Biddle and Roberts (2003) report that about 15-24 percent of non-filers claimed the fear of retribution as a reason for not filing.

[3] In our data, about 55 percent of workers who suffer work-related injuries file a claim. This is consistent with the results of Biddle and Roberts (2003).

more likely to have lost wages and missed more days of work as a result of their injuries. This result is puzzling, given the argument above that the uninsured should be more likely to file.

The last two columns of the table add nuance to this picture, showing that the gap in filing widens substantially when we compare workers in firms that do and do not *offer* health insurance to workers. Workers in insuring firms are twenty-one percentage points more likely to file a claim, even though their injuries are still less severe in terms of lost wages and work-time (though the disparity is smaller). It would appear that the effects of health insurance on workers' compensation claiming are not as straightforward as they might appear, and may have more to do with the characteristics of employers that offer health insurance than with the incentives faced by workers. This table illustrates a result that we confirm in the paper; actual health insurance coverage itself is much less important than whether an employer offers health insurance.

Using a full set of controls, we demonstrate that workers reporting a workplace injury are more likely to file claims when they work for an employer who offers health insurance. This result holds even when we incorporate individual fixed effects, suggesting that the characteristics of the employer do not simply serve as proxies for unobserved worker characteristics. Rather, workplaces offering health insurance may be offering more information and/or encouraging injured workers to seek benefits. While we cannot determine whether the effect of health insurance offers on employers are causal or selective in nature, we do show that worker heterogeneity and incentives appear to be, at most, second-order relative to the effect of employer heterogeneity or incentives. The health insurance offer may causally diminish incentives for employers to fight workers' compensation filing, perhaps because they pay for injuries and illnesses regardless. Alternatively, employers who choose to offer health insurance

may have unobserved characteristics that also make them less likely to discourage workers' compensation filing.

Our findings also support the idea that the ease of filing and the availability of support for filing are crucial factors in an individual's decision to file.[4] We confirm the earlier finding that union membership makes an individual worker more likely to file. We also show that workers with conditions that are harder to document—specifically occupational illnesses—are less likely to file. If workplace environment and employer heterogeneity are dominant factors in the decision to file, this suggests the importance of targeting employers—rather than employees—in efforts to raise the utilization of the workers' compensation system.

B. Data and Methods

While we are interested in the general question of why workers do or do not file for workers' compensation in the event of an injury, the primary focus of our analysis is the role of health insurance. On the surface, Table 1 suggests that, contrary to the conventional wisdom, workers with health insurance are more likely to file for workers' compensation. In our analysis, we examine the extent to which health insurance matters for filing, and attempt to distinguish between actually possessing health insurance and being offered health insurance.

There has been relatively little empirical study by economists on the link between health insurance and a worker's claiming behavior. Most past work has focused on the importance of expected benefits and of information in the workers' compensation filing decision. Numerous studies all show a positive relationship between workers' compensation benefit levels and the

[4] There are a variety of possible mechanisms by which a firm can alter the ease of filing: supervisors can discourage workers from pursuing claims, can deny time off for obtaining medical or legal advice, or simply harass workers who appear willing to file claims (cf, Azaroff, Levenstein, and Wegman, 2002)

receipt of benefits (cf, Chelius, 1982; Ruser, 1985; Chelius and Kavanaugh, 1988; Krueger, 1990; Butler and Worrall, 1991; Butler, 1994; Ruser, 1995; Neuhauser and Raphael, 2004). In principle, this could either come from a higher propensity to file a claim or from increased risk-taking by workers, though the evidence suggests that an effect on claim filing is the predominant cause of the relationship (Butler, 1994). Hirsch, Macpherson, and DuMond (1997) examine the effect of union membership on the receipt of workers' compensation benefits, and find that it is positive. They interpret this result as suggesting that unionized workers are both better informed and better-protected from employer retribution.

The other extant work has focused primarily on whether or not workers without health insurance fraudulently pursue workers' compensation benefits for nonoccupational injuries. Smith (1989) documented what is commonly referred to as the "Monday effect," the observation that sprains and strains were more likely to occur on Mondays but more visible injuries with clearer causation were no more likely to occur on Mondays than on other days of the week. This evidence suggests that workers might suffer strains or sprains during the weekend but report them on Mondays in order to receive workers' compensation benefits. Card and McCall (1996) raise some doubts about this issue, however, finding that workers who are more likely to have health insurance are no less likely to file a Monday claim. A key limitation of their study, however, is the absence of direct information on whether or not individual claimants actually possess health insurance. Instead, they were forced to impute the likelihood that an individual possessed health insurance based on observable characteristics.

Using the NLSY, we estimate the impact of health insurance on filing behavior more directly. The NLSY is a rich, nationally representative data source with individual-level information on demographics, health insurance status, unionization status, and detailed

information on whether a worker suffered a work-related health condition, whether she filed a claim as a result, and whether she received compensation for that claim. Its true panel aspect is also of value, because we can show how individuals behave when their health insurance coverage changes.

B.1 Data

The NLSY is a longitudinal survey containing a representative sample of people who were between the ages of 14 and 22 in 1979. This initial cohort is re-surveyed every year until 1994, after which point they are surveyed every other year. In addition to basic demographic information, such as age, sex, race, and marital status, questions are asked about wages, unionization status, and health insurance status. The NLSY also contains some information on employers, including the size of the establishment, whether health insurance is offered, and whether paid vacation or sick leave are offered.[5] In addition, from 1988 onwards, there is a substantial amount of data on workers' compensation claims.

First, the NLSY collects data on whether the worker reports a workplace injury or illness. They also collect data on whether a workers' compensation claim was filed for any of those injuries or illnesses, as well as data on whether the worker received a settlement. In addition, they report the ICD-9 code for the illness or injury. We use this to classify a health condition as an injury or an illness. This breakdown is made strictly according to the ICD-9 codes; if the code is for an "illness" or "disease," we classify the health condition as such. Otherwise, the condition is called an injury. Finally, every year, the NLSY reports the total amount of workers' compensation benefits received by each individual. Table 2 summarizes the workers'

[5] Note that the NLSY reports establishment size, but we shall use firm size and establishment size interchangeably.

compensation data contained in the NLSY. Eight years of data contain 4,663 observations in which individuals suffer workplace health conditions.

Occupational injuries and illnesses are self-reported in the NLSY, as is filing behavior. The survey begins by asking respondents: "During the past 12 months, have you had an incident at any job we previously discussed that resulted in an injury or illness to you?" It then goes on to ask whether this resulted in an injury or an illness, and "What part of the body was hurt or affected?" Then, "For each part of the body listed [previously], what kind of [injury/illness] was it?" The answer to the latter question is used by the survey to assign an ICD-9 code to the condition. After ascertaining the type of injury, the survey asks a battery of questions about the consequences of the injury, "Did the injury/illness cause you to miss one or more scheduled days of work, not counting the day of the injury/illness?" A similar question is asked about wage loss.

Another important question for our purposes is: "Did you or your employer fill out a worker's compensation form for this (injury/illness)?" This we take to be our measure of claim filing. We would prefer an objective measure of injury or illness, combined with an administrative record of a claim, but our self-reported data seem reliable, as far as can be ascertained. In one of the few existing studies attempting to quantify workers' compensation claiming behavior using objectively measured data, Biddle and Roberts (2003) study a sample of Michigan workers whose job-related injury status is verified by physicians, and whose workers' compensation claims are verified by administrative data. They find that, on average, 55% of injured workers file claims. This is identical to the overall mean claiming rate in our nationally representative sample that uses self-reported data. Other studies of self-reported data come to conclusions similar to ours. An Oregon state-sponsored study of the 2002 Oregon Population

Survey suggests that 54% of workers reporting a workplace injury in the past 12 months filed a claim (Maier and Reinke, 2004).

Table 3 presents the characteristics of the NLSY sample, and Table 4 presents the average population characteristics of the US cohort born between 1957 and 1964 (i.e., the NLSY cohort). The sample averages are unweighted, while the cohort averages use the NLSY sampling weights to construct averages that are representative of the NLSY cohort at large. In other words, Table 3 presents the characteristics of the average sample member, while Table 4 presents the characteristics of the average member of the cohort. Note that in both tables, a column to the right of another one is a proper subset of the latter. We begin by presenting statistics for the whole population, proceed to those who were employed in the last year, then to those who were employed in the past year and injured in the past year, then to the injured people who filed, and finally to the filers who received benefits.

The Tables demonstrate that injured workers—both in the sample and in the cohort—are slightly less educated than the average worker; filing workers are less educated still than injured ones; and those receiving compensation are the least educated of all. Similar patterns are evident for earnings. The Tables support the results of Hirsch, Macpherson, and DuMond (1997), showing that filing workers are more likely than non-filing workers to belong to unions. Injured workers appear to work at somewhat smaller firms than average. The raw means also demonstrate that, surprisingly, filing status is positively correlated with whether an employer offers health insurance.

Table 5 displays the characteristics of the injured population (i.e., the third column of data in Tables 3 and 4) broken down by employer health insurance offers and filing decisions. There appear to be few demographic (age, sex, or race) differences between those working at

employers that do or do not offer health insurance, though workers at insuring firms are more likely to be married, more likely to be employed in the past two weeks and slightly more educated. Not surprisingly, being at an insuring firm is associated with significantly higher earnings, a greater likelihood of having health insurance and being unionized. Interestingly, there is relatively little difference between the two in whether or not any time was missed due to injury, but workers at employers that do not offer health insurance remain out of work for a substantially longer period of time and are more likely to have lost wages.

The table reveals complex relationships among health insurance, filing and employer size.[6] Employers that offer health insurance to workers appear to be larger on average than those that do not. However, within health insurance group, there are conflicting relationships between filing tendencies and establishment size. Within the group of firms offering health insurance, filing workers are at smaller establishments, but the opposite is true within firms not offering health insurance. This suggests a nonlinear relationship between filing and firm size: among larger firms, filing is negatively correlated with firm size, but the opposite is true among smaller firms. We find some evidence of this later, although the relationship between firm size and filing tends not to be robust.

We merged into the NLSY two measures of job-related strenuousness, to investigate whether these affected rates of reported injuries or filing. These measures were job-related exercise, and job-related strength requirements. The first measures the number of fitness-related demands (e.g., crawling, reaching, stooping, and climbing), and the second measures the

[6] The employer size as reported in the summary statistics reflects top coding at 10,000 to reduce the influence of a few instances where individuals report very large establishment size (over 100,000). Over 98 percent of observations report establishments less than 10,000. The top coding is not relevant for the regression analysis because the largest category we report is 3,000 or more employers.

strength-related demands (e.g., lifting) of a job. Both these variables are constructed by the Department of Labor in the *Dictionary of Occupational Titles*. Each 3-digit level occupation is rated on a scale of 1 to 4 for its job-related exercise, and on a scale of 1 to 5 for its strength requirements.

In order to analyze the impact of workers compensation generosity, we include information on the before-tax replacement rate of lost wages by state temporary disability (TD) benefit levels. Workers' compensation TD benefits are paid weekly and typically set equal to two-thirds of weekly pre-injury wages subject to a maximum weekly benefit. The maximum varies across states and over time; the US Chamber of Commerce's annual *Analysis of Workers' Compensation Trends* reports that in 1999 it was approximately $592.92 a week, or about $29,646 annually. A higher benefit maximum is associated with a higher replacement rate for workers earning wages over the benefit cap, whereas the variation in replacement rates is minimal for workers under the cap.

B.2 Empirical Framework

An injured worker will file for workers' compensation benefits if the expected benefits of doing so are at least as great as the expected costs. While we do not directly observe the costs and benefits of filing, which are functions of unobservable characteristics such as individual utility functions, we do observe many variables that should be correlated with the expected benefits, expected costs or both. Empirically, we model the workers' compensation filing decision of injured worker i in firm j at time t as:

$$F_{ijt} = \beta_0 + \beta_1 H_{ijt} + \beta_2 S_{it} + \beta_3 X_{it} + \beta_4 B_{it} + \alpha_t + \theta_i + \lambda_j + \mu_{ij} + \varepsilon_{it} \quad (1)$$

F_{it} is a binary variable indicating whether or not individual *i* filed at time *t*.[7] In some specifications, the variable *H* measures whether or not an individual has health insurance; in others, it measures whether he/she is offered it by her employer. Distinguishing between these two variables turns out to be interesting and important. S_{it} represents the severity of the condition, which we model using the number of days the individual is absent from work. The vector X_{it} contains demographic characteristics, such as age, sex, race, and education, as well as other observable job characteristics such as the amount of physical stress involved, that might affect the likelihood of filing a claim. The replacement rate offered by workers' compensation benefits is given by B_{it}; these vary for different individuals over time and across states. Year-specific fixed-effects are represented by the term α_t.

We expect that heterogeneity at the individual and employer level likely plays an important role in the propensity to file for workers' compensation. The term θ_i represents individual heterogeneity; individuals with higher values of θ_i are more likely to file a claim than others. The terms λ_j and μ_{ij} represent firm-level heterogeneity and match-specific heterogeneity, respectively. The firm-specific term would lead to increased filing if, say, firm *j* were less likely to challenge claims by any of their workers. The match-specific term would lead to increased filing if firm *j* were less likely to challenge claims filed by individual *i* but not (necessarily) any other employee.

Because the NLSY is a true panel, it contains repeated observations on individuals. This allows us to control directly for time-invariant individual heterogeneity. Unfortunately, since the

[7] Equation 1 is specified as a linear probability model, although it could easily be written as a latent variable model estimable via a probit or logit specification. Throughout the paper, we will report results from linear probability models, as marginal effects from probit and logit models were quite similar in magnitude and statistical significance.

NLSY does not identify employers (and since the sample is too small, in any event, to share many common employers), we are unable to identify employer-specific fixed-effects. Therefore, our estimated coefficients may reflect either the causal effects of the regressors or the correlation between the regressor and the employer-specific (or match-specific) fixed-effects.

In the NLSY, there are three health insurance variables that are of interest to us: whether or not the employer offers health insurance, whether an individual has health insurance, and an individual's source(s) of health insurance. Clearly, whether or not the employer offers health insurance is likely to be related to employer heterogeneity. There are seven potential sources of health insurance: the current employer, a previous employer, the spouse's current employer, the spouse's previous employer, the retail market, Medicaid or other public assistance, and any other source. Of these, the one that should be most directly correlated with employer heterogeneity is health insurance provided by the current employer; the others may, if anything, be correlated with individual heterogeneity.[8] Comparing the effect of employer-provided and other types of health insurance provides some insight into the potential importance of employer heterogeneity, although we are also unable to reject a causal effect of health insurance.

Identifying the coefficients in this model while controlling for individual heterogeneity depends crucially on the properties of θ_i. If θ_i is uncorrelated with the other covariates, a random effects model is the most efficient choice among consistent estimators. If it is correlated, however, a fixed-effects model will yield consistent estimates, up to the employer fixed-effects.

[8] Health insurance provided by the previous employer could be correlated, if individuals tend to move to similar employers or if the injured worker switched jobs after being injured and before the survey time, and listed the at-injury employer as the previous employer.

In our empirical work we report the results of both fixed-effects and random effects models, and test for the correlation between θ_i and other covariates using a Hausman specification test.

Finally, note that our results may be influenced by the way we define and measure injuries. Our ultimate object of interest is $Pr(Filing \mid Injury)$, the probability that an injured worker files. To estimate this, we calculate the probability of filing for the NLSY respondents who report an injury. If the set of people reporting an injury is a random sample of the injured population, this strategy is straightforward. The results might not be generalizable, however, if those likely to report an injury have different characteristics than the average injured worker. Unfortunately, while we can bear this *caveat* in mind, this limitation cannot be overcome without objective (i.e., not self-reported) injury data confirmed by a neutral third-party.

C. Results

C.1 Determinants of Injuries

Table 6 provides a first look at the characteristics of the injured population by regressing, for the entire NLSY population, a binary variable for whether the individual reported a workplace injury to the NLSY, on a host of covariates. The columns of the table differ in the complexity of their fixed-effects structure: the first column includes a year fixed-effect, the second adds a 3-digit SIC industry fixed-effect, and the last adds an individual-specific fixed effect. Regardless of the fixed-effect structure, we find that individuals in employers that offer health insurance are more likely to self-report having suffered a work-related condition. The fact that these results survive individual fixed-effects is particularly important: a given individual is more likely to self-report an injury when he finds himself in an insuring employer.

Not surprisingly, more educated people are less likely to self-report an injury.[9] People in jobs that require more strength are more likely to self-report injuries, but interestingly, people in jobs demanding more fitness are less likely to do so. This could be related to the finding that people in fitness-demanding jobs maintain a healthier weight than others (Lakdawalla and Philipson, 2002).

Confirming past studies, we find that workplace injuries are positively related to both the individual replacement rate of lost earnings and union status. With just the year fixed-effects, a 10 percent increase in the replacement rate is associated with approximately a 3.6 percent increase in the likelihood of suffering an injury, and this falls to 2.5 percent if the industry effects are included. However, when we include individual fixed-effects the effect of replacement rates becomes statistically insignificant. Workers in unions are about 2.5 to 4.6 percentage points more likely to report an injury, and this effect is significant regardless of the fixed-effects structure.

Since the injury data are self-reported, it is not clear whether these workers experience objective increases in injury rates, or whether they are simply more disposed toward perceiving a condition as work-related or as a health limitation. Without objective data on health conditions, it is impossible to disentangle these two interpretations. One thing that is clear, however, is that individual heterogeneity in injury occurrence or reporting cannot explain the effect of health insurance. Adding the individual fixed-effect actually increases the estimated effect of insurance on the likelihood of reporting a workplace injury or illness. This suggests that the work environment contributes to reporting (and/or injury) propensity, even conditioning on individual proclivities.

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[9]This does not survive individual fixed-effects, but this is probably because relatively few people switch educational attainment over the time-frame we are investigating in the NLSY (when the sample is between the ages of 23 and 35).

C.2 Filing Determinants

Table 7 presents our key results about the determinants of filing behavior conditional on reporting an injury or illness. In the table, the sample is the set of respondents reporting a work-related health condition within the last year, and reporting employment (i.e., nonzero employment earnings) within the past year. For this sample, filing is regressed on health insurance, a union status variable, whether the condition was an injury or illness, and a host of other demographic characteristics listed in the table. The first four columns list the results obtained when health insurance is measured as whether or not the individual's current or last employer offers health insurance to its employees. The second four columns use the individual's actual source of health insurance, broken down by various health insurance types.

The columns in Table 7 differ according to the way individual heterogeneity is measured; they all incorporate different fixed-effects and random-effects structures. The first column shows the results with a year fixed-effect. The second adds a three-digit SIC industry fixed-effect. The third adds a state fixed-effect and an individual fixed-effect. The fourth is identical to the third, except it considers the individual effect as a random effect rather than a fixed-effect.

As stated above, the random-effects model makes the identifying assumption that the random individual heterogeneity effect is independent of the covariates. We tested this assumption using a Hausman specification test. The Hausman test relies on the fact that the individual fixed-effects model is always consistent, regardless of whether θ_i is correlated with covariates, but that the random-effects model is only consistent if the assumption holds. If the hypothesis is false, the difference between the two estimates will be nonzero asymptotically.

The Hausman test fails to reject the null hypothesis that θ_i is uncorrelated with the covariates.[10] The p-value in the models using the employer-offered insurance variables is 0.7699 and for the models using health insurance by source it is 0.4098, obviously much higher than the conventional levels of significance.

C.2.1 *The Effect of Health Insurance on Filing*

The first four columns show that the effect of employer's offering health insurance is remarkably stable. Injured workers in firms where health insurance is offered are about 15 to 18 percentage points more likely to file a claim. Repeat injury sufferers are more likely to file a claim when they find themselves in a firm that offers health insurance, and this effect is of a statistically similar magnitude to the other models. Since the individual fixed-effect model is quite similar to the others, it suggests that the positive relationship between employer offers of health insurance and filing cannot be explained simply as a spurious correlation with individual heterogeneity.

In another regression (not shown here), we found that replacing the "employer offers health insurance" variable with one that measures whether a respondent has health insurance produces uniformly insignificant coefficients. It is difficult if not impossible to isolate a significant effect of health insurance *possession*.

Motivated by this finding, we put the importance of employer offers to the test, in the second four columns, by breaking down an individual's health insurance status by source of coverage. We code whether the individual has health insurance from an employer, a previous

[10] The test statistic confirms that the random-effects model is more efficient than the fixed-effects modes; this is a condition for the validity of the test.

employer, a spouse's employer, a spouse's previous employer, the retail market, Medicaid or welfare, or some other source. The excluded group is the set of uninsured respondents.

With this specification, the only positive and significant effect comes from health insurance obtained through an individual's current employer. It is particularly interesting that having insurance through a spouse's employer has no effect, even though the standard errors are roughly the same size. The data seem evenly powered to pick up effects of own employer or spouse's employer, but insurance through a spouse's employer does not matter. It is also interesting that pooling the receipt of insurance from the current or a previous employer attenuates the effect of health insurance. This is consistent with the interpretation that having insurance from a previous employer is less correlated with filing status.

The only type of insurance that seems to be associated with less filing is public insurance, primarily Medicaid. This could be consistent with employee heterogeneity, as workers with insurance through public assistance are likely to have less human capital and less information about filing procedures. They may also have less bargaining power: employers may try harder to discourage filing a workers' compensation claim, because they have less incentive to be accommodating and retain injured workers. However, we should note that this interpretation cannot be distinguished from a causal one in which Medicaid makes employers more likely to discourage claims. These competing explanations can only be resolved with matched employer-employee data.[11] It is worth noting that if we include the offer of health insurance with the

[11] The effect of Medicaid would be troubling if, rather than proxying for employer heterogeneity, it represented some other effect such as employment status. The problem here originates with the timing of the health insurance variable. The workers' compensation variables cover the worker's experience last year, while the health insurance variable refers to contemporaneous coverage at the time of the interview. If, say, workers who left employment were less likely to file (perhaps because they had less information about the program), insurance status could proxy for current employment. We tested for this by running a regression that includes current employment status, and found no quantitative or qualitative change in our

actual possession of health insurance by insurance source, most of the coefficients on the possession of health insurance fall. The simple possession of health insurance does not appear to have a significant effect, though the offer of health insurance does, if we include both in a model with individual fixed-effects. Again, this supports the notion that the mere possession of health insurance is not as relevant for filing a workers' compensation claim as whether the current employer is offering it.

The most straightforward interpretation of the importance of employer-offered health insurance is that it proxies for the workplace environment, and is correlated with the employer fixed-effect λ_j (or the match effect). There are two equally plausible interpretations of this result. The first—causal interpretation—is that offering health insurance makes employers less likely to discourage workers' compensation claims, because it gives them less incentive to pass injuries off onto health insurers. The second—selective interpretation—is that employers who offer health insurance are likely to be of a "friendlier" type, and that this also encourages workers' compensation claims. Either or both of these effects may be operating, but it seems clear that heterogeneity across workers is not the sole reason for differences in filing behavior.

A "selective" type of interpretation is aided by the fact that other types of fringe benefits—like paid vacation days—also seem to be associated with higher filing rates. For example, when both health insurance offers and paid vacation offers are included in a random effects specification, both variables are significant (at the 95% level) and both have coefficients around 0.10. This suggests that workers who switch to "good employers" are more likely to file

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results. While current employment status is correlated with health insurance status, it appears uncorrelated with filing for workers' compensation. We also note that the timing problem for current health insurance status does not affect our results for whether or not employers offer health insurance, because that question refers to the employer with which you had the longest tenure over the past year.

claims, and that being a good employer is not entirely encapsulated by the health insurance offer. It cannot simply be the case that health insurance alone makes an employer less concerned with discouraging workers' compensation claims.

C.2.2 *Other Determinants of Filing Behavior*

The only other direct measure of employer heterogeneity in our sample is the size of the establishment at which an individual works. It is not clear, in principle, whether large firms should be more or less receptive to claim filing. Larger firms tend to have higher wage earners and thus might be more willing and able to accommodate injured workers, which could indicate a more positive workplace environment, just as the offer of health insurance might. On the other hand, larger firms are also more likely to be experience-rated and thus could suffer more from a successful workers' compensation claim, making them less receptive to claims.

Figure 1 illustrates the estimated coefficients and 90% confidence intervals of the employer size categories on filing in the industry fixed-effect and individual fixed-effects regressions that include the employer offer of health insurance variable (i.e., the second and fourth columns of Table 7). The omitted category is the set of firms with 1-4 employees. In general, the figure suggests that the effect of establishment size on filing behavior is limited. When we consider the model with just industry fixed-effects, there appears to be a positive effect on filing for some of the smaller and middle sized firms, and a negative (though insignificant) effect at the largest firms. When we control for individual fixed-effects, however, the coefficient essentially disappears in statistical significance. This suggests that the effect of establishment size on filing is more closely related to unobserved heterogeneity among workers than among employers. This is consistent with the findings of Abowd, Kramarz and Margolis (1999), who noted the substantial role played by employees in heterogeneity among firms of different sizes.

Though not reported in the tables, we find similar results for the other specifications, as well as in the analysis of injury rates reported in Table 6.

Belonging to a union or employee association raises the probability of filing by about 5 to 7 percentage points. This is consistent with the findings of Hirsch, Macpherson, and DuMond (1997), who found that workers were more likely to file in union workplaces than nonunion workplaces. Their argument, which seems plausible here, is that unions provide more information about filing and lower the costs of filing for their members.

The effect of unionization is not as robust once we control for individual heterogeneity. One explanation for this is simply that individuals do not change union status very often. This is illustrated in Table 8, which shows the number of transitions between health insurance status, union status, and injury or illness status among repeat injury sufferers. It is these transitions that identify the fixed-effects, and to a lesser extent the random-effects, model. Almost half of repeat injury sufferers switch health insurance status across injuries, but about half that proportion (25%) switch injury/illness status, and just 14% switch union status. Thus, the union coefficient in the fixed-effects model is identified off approximately 430 observations. The random-effects model suggests that union status has a positive effect on filing of about 5 percentage points, but it is only weakly significant in the fourth column and not significant in the eighth.

Workers with occupational illnesses are about 14 to 17 percentage points less likely to file claims than workers with injuries. Table 9 provides some insight into the composition of injuries and illnesses in the NLSY. Just over 20% of work-related conditions in the NLSY are classified as illnesses. Just as in the union case, the coefficient on illness is insignificant in the individual fixed-effects model, probably because there are relatively few observations

identifying it (according to Table 8). However, the random-effects model, which we are unable to reject, produces an estimate that is significant and similar to the simpler specifications.

Interestingly, we found no statistically significant effect of the replacement rate of lost wages on the decision to file for workers' compensation benefits, contrary to past findings. This is surprising, since one might expect workers' compensation benefits to have a larger effect on the decision to file than on injury reports. We find that the estimated coefficients for the replacement rate are indeed larger in Table 7 than in Table 6, but they are insignificant. It is not clear that this result can be easily explained by a lack of statistical power, as the coefficient values are as large as others that are significant in our model. It is also not clear that there is a plausible selection bias that would explain this result (if anything, most such biases would overstate the impact of the replacement rate). Perhaps the most plausible explanation is measurement error. Workers base their behavior on the after-tax replacement rate, but we measure the before-tax replacement rate. This could bias our estimates towards zero.

People who miss more workdays are also more likely to file. One way to interpret this is to argue that people with more severe injuries that keep them out longer are more likely to file, but some caution is warranted here. People who file are intrinsically more likely to receive benefits, and this may induce them to stay out of the workforce longer than people who do not file. This is unlikely to affect the estimated effect of short (1-2 days) stays out of work, since nearly all states employ worker's compensation waiting periods of 3 days or more. The comparison between people who missed no work and those who missed 1-2 days of work thus is likely to reflect differences in severity, but the longer stays may also incorporate simultaneity bias, since benefit receipt can affect incentives to return to work.

Finally, we find that college graduates are less likely to file than other educational groups. This could be because less educated workers end up with more severe injuries, or that they receive higher effective replacement rates. A less direct interpretation is that college graduates are healthier than others, and healthier people file less often. We explore this issue further in the next section.

C.3 The Relationship Between Health and Health Insurance

Recent research by Biddle and Roberts (2003) suggests that workers who are healthier are less likely to file workers' compensation claims than workers who are less healthy. If working for an employer offering health insurance is simply an indicator of poor health, our results might simply be an indirect special case of this result. To check this, it is important to investigate whether our findings for employer-based health insurance could in principle be explained entirely by a correlation between health and filing status. The 1998 NLSY asks questions about health to all respondents over age 40. While this is not enough data to allow us to incorporate health directly into our analysis of filing behavior, we can gain some insight into the relationship between health and health insurance.

Table 10 suggests that our previous analysis identifies something other than a correlation between health insurance and individual health status. The Table shows results of an analysis performed for the NLSY population over age 40 in 1998. These are results from an ordered probit of self-reported health status—where an individual is asked whether his health is excellent (=1), very good (=2), good (=3), fair (=4) or poor (=5)—on several covariates, including employer-based health insurance. A lower number implies better health. We find no relationship between employer-based health insurance and health, although we find that people who have health insurance are actually in better health than those who lack it. This suggests that

adverse selection in health insurance may be less relevant than heterogeneity; people who are more risk-averse or forward-looking might both invest more in their health and be more likely to purchase (or choose an employer who offers) health coverage. In any event, there is no evidence that people in employers offering health insurance are sicker. Indeed, employers have incentives to avoid such a situation; they would not want to offer health insurance if it would simply attract sicker (and presumably less productive) workers.

While self-reported general health status is used widely as a comprehensive measure of general health (cf, Idler and Benyamini, 1997), we also experimented with other measures of health and found exactly the same patterns. These alternative measures included: whether the respondent has difficulty climbing stairs, and whether the respondent finds it difficult to engage in moderate levels of activities because of his/her health.

D. Conclusions

We have found that the propensity of injured workers to file workers' compensation claims is affected by certain worker characteristics—like union membership or type of injury—in a predictable fashion, but is also independently affected by a worker's health insurance status in ways that are surprising and nuanced. Health insurance is positively related to the probability of filing. What appears more important than simply the possession of health insurance, however, is whether or not it is offered by the employer. This suggests that health insurance acts primarily through the incentives of employers (or perhaps indicates heterogeneity among employers) and has relatively little, if any effect, on the incentives of individuals.

From a policy perspective, these results suggest that efforts to encourage filing should be targeted in part—and perhaps even primarily—at employers. We cannot say for sure whether offering health insurance has a causal effect on employers, but it is clear that employer

characteristics and behavior are key determinants of worker filing. It also appears that concerns about workers' compensation being used to cover nonoccupational conditions are probably overstated; if anything, it seems likely that employer-provided health insurance is providing coverage for a number of occupational conditions.

Future research on the effects of employer characteristics on workers' compensation filing also seems warranted. Such a research agenda would benefit from matched employer-employee databases; these would allow researchers to identify both employer and employee fixed-effects in a single empirical framework. It would also benefit from objective data on workplace health conditions. While it would be costly to compile a nationally representative database with objectively verified data on workplace health conditions, a more affordable and attractive alternative would be to validate injury reports for a randomly chosen subsample of workers. This would provide insight into what it is that "reported" injury rates measure and would allow researchers to refine their interpretation and analysis of variation in reported injury rates.

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Table 1: Health Insurance and Workers' Compensation Claiming

	Worker Has Health Insurance		Employer Offers Health Insurance	
	Yes	No	Yes	No
Proportion Filing	0.58	0.51	0.60	0.39
Proportion Losing Wages	0.24	0.42	0.25	0.36
Average Work-Days Lost	19.0	41.5	19.7	23.1

Table 2: Occupational Illnesses and Injuries in the NLSY

	Number of Workers With			Proportion of Injured With	
Year	Injuries/Illnesses	Claims	Benefits	Claims	Benefits
1988	844	401	187	0.48	0.22
1989	610	334	148	0.55	0.24
1990	606	343	168	0.57	0.28
1992	556	338	173	0.61	0.31
1993	452	248	115	0.55	0.25
1994	469	251	113	0.54	0.24
1996	577	347	151	0.60	0.26
1998	549	324	146	0.59	0.27
TOTAL	4663	2586	1201	0.55	0.26

Table 3: Characteristics of NLSY Sample, 1988-1998

Table 2. Characteristics of the NLSY Sample.

Variable	Overall	Employed In Past Year	Injured	Filing	Compensated
Age	31.20	31.21	31.12	31.30	31.23
	(3.87)	(3.88)	(4.00)	(4.00)	(3.94)
Female	0.42	0.39	0.37	0.36	0.34
	(0.49)	(0.49)	(0.48)	(0.48)	(0.47)
Black	0.25	0.23	0.23	0.24	0.24
	(0.43)	(0.42)	(0.42)	(0.42)	(0.42)
Married	0.40	0.38	0.52	0.54	0.55
	(0.49)	(0.49)	(0.50)	(0.50)	(0.50)
Employed w/in Last 2 Weeks	0.57	0.62	0.87	0.87	0.82
	(0.50)	(0.49)	(0.34)	(0.34)	(0.39)
Highest Grade Attained	12.89	13.08	12.33	12.15	12.00
	(2.55)	(2.52)	(2.26)	(2.12)	(2.11)
Annual Wage Income ($)	$19,919	$24,461	$20,211	$20,418	$19,457
	($93,335)	($102,891)	($14,969)	($14,534)	($15,189)
Employer Offers Health Insurance	0.65	0.69	0.73	0.79	0.80
	(0.48)	(0.46)	(0.44)	(0.40)	(0.40)
Any Health Insurance	0.79	0.81	0.78	0.80	0.79
	(0.40)	(0.40)	(0.41)	(0.40)	(0.41)
Unionized	0.10	0.12	0.19	0.23	0.23
	(0.31)	(0.33)	(0.39)	(0.42)	(0.42)
Number of Employees	557.08	560.86	501.19	478.36	521.84
	(1744.17)	(1736.85)	(1617.22)	(1563.02)	(1680.94)
Missed Work due to an Injury	0.04	0.04	0.58	0.68	0.89
	(0.19)	(0.20)	(0.49)	(0.47)	(0.32)
Number of Work-Days Missed due to Injury	1.44	1.50	23.10	34.42	63.17
	(21.44)	(19.99)	(83.27)	(100.49)	(132.10)

Table 4: Characteristics of NLSY Cohort

Variable	Overall	Employed In Past Year	Injured In Past Year	Filed In Past Year	Compensated In Past Year
Age	31.62	31.63	31.50	31.70	31.61
	(3.93)	(3.95)	(4.07)	(4.04)	(3.95)
Female	0.47	0.44	0.35	0.34	0.33
	(0.50)	(0.50)	(0.48)	(0.48)	(0.47)
Black	0.14	0.13	0.11	0.11	0.13
	(0.35)	(0.34)	(0.32)	(0.32)	(0.33)
Married	0.59	0.59	0.55	0.57	0.58
	(0.49)	(0.49)	(0.50)	(0.49)	(0.49)
Employed w/in	0.79	0.90	0.89	0.89	0.84
Last 2 Weeks	(0.41)	(0.31)	(0.31)	(0.31)	(0.36)
Highest Grade	13.25	13.39	12.55	12.31	12.17
Attained	(2.55)	(2.52)	(2.25)	(2.12)	(2.08)
Annual Wage	$23,700	$28,276	$21,829	$21,631	$20,654
Income ($)	($115,936)	($126,124)	($15,671)	($13,751)	($13,468)
Employer Offers	0.67	0.70	0.72	0.79	0.79
Health Insurance	(0.47)	(0.46)	(0.45)	(0.41)	(0.41)
Any Health Insurance	0.82	0.83	0.80	0.82	0.80
	(0.38)	(0.37)	(0.40)	(0.38)	(0.40)
Unionized	0.10	0.12	0.19	0.23	0.22
	(0.30)	(0.32)	(0.39)	(0.42)	(0.42)
Number of Employees	533.61	536.66	471.33	442.75	463.74
	(1694.29)	(1685.88)	(1551.32)	(1498.38)	(1594.67)
Missed Work	0.04	0.04	0.54	0.63	0.86
due to an Injury	(0.19)	(0.20)	(0.50)	(0.48)	(0.35)
Number of Work-Days	1.38	1.39	18.68	27.51	52.42
Missed due to Injury	(21.13)	(18.95)	(67.45)	(81.90)	(109.65)

Table 5: Characteristics of the injured NLSY population, by health insurance

	Employer Offers Health Ins.		Employer Does Not Offer Health Ins.	
Variable	Filed	Didn't File	Filed	Didn't File
Age	31.36	30.76	30.83	31.06
	(4.04)	(4.00)	(3.71)	(4.07)
Female	0.33	0.37	0.36	0.35
	(0.47)	(0.48)	(0.48)	(0.48)
Black	0.11	0.12	0.12	0.10
	(0.32)	(0.32)	(0.33)	(0.30)
Married	0.59	0.53	0.48	0.49
	(0.49)	(0.50)	(0.50)	(0.50)
Employed w/in	0.91	0.93	0.82	0.82
Last 2 Weeks	(0.28)	(0.26)	(0.38)	(0.38)
Highest Grade	12.43	13.06	12.06	12.38
Attained	(2.14)	(2.36)	(2.11)	(2.28)
Annual Wage	$22,556	$24,222	$14,718	$15,263
Income ($)	($13,233)	($16,785)	($11,622)	($14,678)
Any Health Insurance	0.90	0.90	0.47	0.53
	(0.30)	(0.30)	(0.50)	(0.50)
Unionized	0.27	0.20	0.07	0.03
	(0.44)	(0.40)	(0.25)	(0.18)
Number of Employees	524.4	670.6	291.9	259.7
	(1596)	(1785)	(1492)	(1441)
Missed Work	0.63	0.41	0.67	0.46
due to an Injury	(0.48)	(0.49)	(0.47)	(0.50)
Number of Work-Days	23.06	6.78	40.42	9.50
Missed due to Injury	(61.48)	(31.00)	(121.08)	(54.37)

Table 6: Determinants of Self-Reported Workplace Injuries and Illnesses in the NLSY

Dependent Variable:	Experienced Workplace Injury/Illness		
Employer Offers Health Insurance	0.007**	0.008**	0.013**
	(0.003)	(0.004)	(0.005)
In Union or Employee Association	0.046***	0.039***	0.025***
	(0.006)	(0.006)	(0.009)
Obese	0.008*	0.006	0.01
	(0.004)	(0.004)	(0.008)
HS	-0.018***	-0.014**	0.019
	(0.006)	(0.006)	(0.029)
SC	-0.042***	-0.036***	0.011
	(0.006)	(0.006)	(0.031)
COL	-0.068***	-0.056***	0.006
	(0.006)	(0.007)	(0.032)
black	-0.023***	-0.022***	.
	(0.004)	(0.004)	.
female	-0.023***	-0.017***	.
	(0.003)	(0.003)	.
State TD max ($1000's)	0.005	0.003	0.007
	(0.015)	(0.015)	(0.035)
Physical Demands	-0.010***	-0.012***	-0.011**
	(0.003)	(0.003)	(0.004)
Strength Rating	0.016***	0.015***	0.013***
	(0.003)	(0.003)	(0.004)
Fixed-Effects	Year	Year Industry	Year Industry Individual
Other Controls[a]	AFQT, age, establishment size		
Observations	43241	43241	43241
R-squared	0.02	0.04	0.31

Robust standard errors in parentheses

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

[a]All were statistically insignificant, with coefficients close to zero.

Table 7: Determinants of Filing Behavior among injured NLSY workers

Dependent Variable:	Filed a Workers' Compensation Claim							
Employer Offers Health Ins.	0.189***	0.180***	0.157*	0.151***				
	(0.024)	(0.027)	(0.095)	(0.023)				
Has Health Insurance From:								
Employer					0.124***	0.135***	0.031	0.111***
					(0.027)	(0.031)	(0.113)	(0.027)
Previous Employer					0.051	-0.026	-0.158	0.021
					(0.093)	(0.103)	(0.298)	(0.085)
Spouse's Employer					0.035	0.052	0.042	0.02
					(0.035)	(0.038)	(0.164)	(0.033)
Spouse's Prev. Employer					-0.039	-0.015	-0.12	0.187
					(0.223)	(0.230)	(0.248)	(0.170)
Retail Market					-0.047	-0.032	0.117	-0.029
					(0.061)	(0.066)	(0.300)	(0.059)
Medicaid/Welfare					-0.194***	-0.193***	0.159	-0.207***
					(0.062)	(0.069)	(0.262)	(0.057)
Other Source					-0.008	-0.039	-0.145	-0.073
					(0.073)	(0.091)	(0.282)	(0.076)
In Union or Employee Assoc.	0.069***	0.052*	0.006	0.046*	0.074***	0.061*	-0.045	0.044
	(0.026)	(0.029)	(0.138)	(0.026)	(0.027)	(0.033)	(0.175)	(0.030)
State TD Max ($1000's)	-0.038	0.043	0.412	-0.224	-0.038	0.073	0.492	-0.28
	(0.100)	(0.105)	(0.975)	(0.298)	(0.108)	(0.123)	(1.318)	(0.366)
Occupational Illness	-0.176***	-0.171***	-0.078	-0.148***	-0.156***	-0.162***	-0.145	-0.148***
	(0.024)	(0.026)	(0.076)	(0.022)	(0.026)	(0.029)	(0.112)	(0.025)
Missed Work-Days:								
1-2	0.058*	0.053	0.047	0.089***	0.053	0.03	0.13	0.055*
	(0.031)	(0.033)	(0.103)	0.026	(0.035)	(0.039)	(0.151)	(0.031)
3-9	0.180***	0.174***	0.178	0.195***	0.153***	0.150***	0.222	0.164***
	(0.031)	(0.032)	(0.108)	0.027	(0.033)	(0.036)	(0.149)	(0.030)
10-29	0.281***	0.296***	0.256**	0.309***	0.277***	0.289***	0.320**	0.307***
	(0.033)	(0.036)	(0.123)	0.033	(0.035)	(0.041)	(0.160)	(0.037)
30-129	0.330***	0.319***	0.149	0.388***	0.298***	0.275***	0.184	0.336***
	(0.036)	(0.039)	(0.128)	0.034	(0.038)	(0.044)	(0.164)	(0.038)
130+	0.485***	0.487***	0.429**	0.476***	0.456***	0.500***	0.419**	0.487***
	(0.038)	(0.042)	(0.167)	0.052	(0.044)	(0.047)	(0.210)	(0.057)
High School Graduate	-0.018	-0.005	-0.232	-(0.011)	-0.001	0.009	-0.443	-0.009
	(0.027)	(0.028)	(0.454)	0.025	(0.029)	(0.031)	(0.535)	(0.028)
College Attendee	-0.045	-0.04	-0.518	-(0.037)	-0.045	-0.045	-0.743	-0.057
	(0.034)	(0.036)	(0.444)	0.031	(0.036)	(0.042)	(0.555)	(0.035)
College Graduate	-0.124***	-0.081*	-0.224	-0.108***	-0.135***	-0.097*	-0.265	-0.128***
	(0.042)	(0.047)	(0.545)	0.041	(0.046)	(0.053)	(0.750)	(0.046)
Fixed-Effects	Year	Year Industry	Year Industry State Individual	Year Industry State	Year	Year Industry	Year Industry State Individual	Year Industry State
Random-Effects				Individual				Individual
Other Controls	Weeks of Job Tenure, AFQT score, Obese, Female, age, black, job physical demands, job strength rating, wage loss, employer size							
Observations	3103	3103	3103	3103	2687	2477	2477	2477
R-squared	0.14	0.26	0.85	0.26	0.12	0.28	0.89	0.28

Notes: Robust standard errors in parentheses; time-invariant controls are excluded from fixed-effects models.
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8: Changes in Health Insurance, Union, and Injury/Illness Status Among Repeat Sufferers

		Number of Injuries							
		2	3	4	5	6	7	8	Total
Insurance Switches	0	417	102	24	7	2	0	0	552
	1	297	81	28	6	1	0	0	413
	2	0	58	28	7	3	3	1	100
	3	0	0	3	6	0	0	0	9
	4	0	0	0	0	1	0	0	1
	Total	714	241	83	26	7	3	1	1075
Union Switches	0	634	204	66	21	1	2	0	928
	1	80	28	6	4	2	0	0	120
	2	0	9	10	1	3	1	1	25
	3	0	0	1	0	1	0	0	2
	Total	714	241	83	26	7	3	1	1075
Disease Switches	0	573	160	57	16	4	1	1	812
	1	141	56	17	3	1	1	0	219
	2	0	25	8	7	1	1	0	42
	3	0	0	1	0	1	0	0	2
	Total	714	241	83	26	7	3	1	1075

Table 9: Composition of Injuries and Illnesses in NLSY

		YEAR							
	Condition	1988	1989	1990	1992	1993	1994	1996	1998
Injury	Open Wound	171	148	102	84	71	62	92	61
	Burn	38	25	24	12	17	10	17	13
	Other Visible Injury	115	59	85	52	48	45	42	46
	Upper Extremity Sprain	32	28	22	27	20	26	36	26
	Back Sprain	85	91	81	69	51	61	57	49
	Other Sprain	54	50	52	49	45	41	48	41
	Fracture	52	38	32	42	37	44	43	40
Illness	Back Musculoskeletal Disease	32	25	25	15	15	22	20	22
	Upper Extremity Musculoskeletal Disease	3	11	13	5	20	10	10	14
	Other Musculoskeletal Disease	9	9	13	5	6	9	10	8
	Mental Illness	6	6	8	6	7	5	5	8
	Other Disease	119	65	65	67	52	57	95	122
	Not Elsewhere Classified	128	55	84	123	63	77	102	99
	TOTAL	844	610	606	556	452	469	577	549

Table 10: Health Status and Health Insurance

Ordered Probit on Self-Reported General Health Status[a]		
Employer Offers Health Insurance	0.05	
	(0.111)	
Has Health Insurance		-0.218*
		(0.132)
In Union or Employee Association	0.014	-0.018
	(0.128)	(0.119)
High School Graduate	-0.335**	-0.307**
	(0.149)	(0.130)
College Attendee	-0.532***	-0.408***
	(0.169)	(0.147)
College Graduate	-0.780***	-0.708***
	(0.189)	(0.166)
Age	(0.023)	(0.022)
	(0.098)	(0.089)
Black	-(0.096)	-(0.107)
	(0.114)	(0.104)
Female	0.177*	0.149*
	(0.091)	(0.083)
AFQT Score	-0.005**	-0.005**
	(0.002)	(0.002)
Observations	758	912
Pseudo R-Squared	0.04	0.04

Robust standard errors in parentheses, below probit coefficients.
* significant at 10%; ** significant at 5%; *** significant at 1%
[a]General health status takes on values of Excellent, Very Good, Good, Fair, or Poor, where "Excellent" takes on a value of 1, and "Poor" takes on a value of 5.

Figure 1. The Effect of Establishment Size on the Likelihood of Filing a Workers' Compensation Claim