The Effects of Worker, Firm, and Market Characteristics on Access to Employer Sponsored Health Insurance

Draft: Please do not cite or quote without permission.

Jennifer Haas, MD, MSPH
Associate Professor of Medicine
Division of General Medicine & Primary Care
Brigham and Women's Hospital

Katherine Swartz, Ph.D.
Department of Health Policy and Management
Harvard School of Public Health

October 2004

Abstract

Objective. To analyze how individual characteristics, the characteristics of the local labor market, and the characteristics of the firm where an individual is employed are related to disparities in employer sponsored insurance (ESI).

Data and Methods. Data from the 1996 - 2000 Medical Expenditure Panel Survey Household Component, a nationally representative sample, merged with 2000 Census data about the characteristics of each individual's county of residence. County was used to represent the labor market faced by an individual searching for a job. Adults 18 to 64 years old who were employed at least part-time for some portion of the year and described their race/ ethnicity as white, African American or Latino were included in this analysis (n = 26,813). Two models were used to determine the relative effects of an individual's characteristics, market factors, and an employer's characteristics on disparities in ESI coverage. The first model is of workers sorting to jobs that do or do not offer ESI. The second reflects the full range of possible outcomes when a person takes a job ("the five outcomes" model): (1) ESI is offered and accepted, (2) ESI is offered and declined but person is insured elsewhere, (3) ESI is offered and declined and person is uninsured, (4) ESI is not offered but person is insured elsewhere, or (5) ESI is not offered and person is uninsured.

Results. Approximately two-thirds of workers were offered ESI. In multivariate models, race was not associated with being offered ESI. Both blacks and Latinos, however, were more likely than whites to be uninsured, either because they were not offered ESI or because they declined offered insurance. Although we do not know the amount a person would have to pay out-of-pocket to accept offered ESI, decisions to decline ESI and remain uninsured were less likely as level of education and household income increased, and among salaried employees and union members. Also, individuals in larger firms were less likely to decline offered ESI and be

uninsured – which is consistent with lower out-of-pocket expenses for offered coverage. Firm size and industry were significantly associated with all possible insurance outcomes. The percentage of residents who were foreign-born and the percent living below poverty were the only market characteristics associated with not being offered ESI and being uninsured.

Conclusions. Examining the full range of insurance options when a person takes a job furthers our understanding of disparities in ESI. Compared to factors that describe the labor market and the characteristics of the area in which a worker lives, a worker's own characteristics and the characteristics of his/ her firm are relatively more important in understanding whether a worker will have ESI.

Key Words. Health insurance, race, labor market, employers

Background

Health insurance is not part of the employment compensation package for many American workers. Sixty-five percent of uninsured adults work – a little over 23 million adults – and they account for 17 percent of the labor force. Among these uninsured workers, disproportionate shares are African-American, Latino, immigrants, less-educated, and workers in small firms and in specific types of occupations and industries, especially various service industries.[1-4] However, many of the observed simple relationships between employer-sponsored health insurance (ESI) and worker or firm characteristics undoubtedly work together, and many of the worker and firm characteristics may be influenced by the local labor market or other area characteristics that also may influence how workers or employers value health insurance. We know, for example, that in areas where the supply exceeds the demand for unskilled labor, few firms with unskilled workforces provide health insurance as part of worker compensation.[5, 6]

A simple economic model of job search implies that people who place a high value on health insurance will find a job with ESI – even if they have to move to do this. However, this interpretation of sorting behavior of workers to jobs ignores the short-run complicated relationships between "markets" and whether firms or people have expectations about ESI. The local labor market, especially for unskilled workers or workers with general skills, determines whether firms feel pressure to offer ESI. Over the past decade, many companies have shifted their hiring practices so as to avoid hiring permanent workers and thereby reduce their health coverage costs. Competition and pressures to reduce labor costs have made it increasingly acceptable for firms to hire people as temporary workers or contract workers – and avoid offering ESI to them. People in a variety of occupations that used to be part of companies' permanent workforce – including writers and editors, computer software and hardware

specialists, even nurses and physical therapists – now find demand for their skills is greatest as

temporary workers or contract workers – without ESI.[7] On the supply side of labor markets,

workers also differ in their weighting of wages and fringe benefits along with other

neighborhood attributes when they are deciding where to live and work. Some workers are more

willing than others to incur the costs of moving so they can find a job with ESI. But other

workers prefer to live near areas that they have known all their lives or where large proportions

of the residents are similar to them in terms of race or ethnicity or immigrant status.

Two different strands of research are relevant for our study. One consists of research on

the effects of the neighborhood, job and housing market where one lives and various outcomes.

The second consists of research on the link between health insurance and a person's place of

employment. A large body of research points to segregation in the housing market as a primary

cause of racial differences in socioeconomic status, which is turn is associated with racial/ethnic

differences in health and healthcare.[8] As a result, sociologists and economists have developed

hypotheses about how attributes of neighborhoods or markets and individual characteristics

affect health outcomes.[9-16] A second body of literature has emerged to explain who has ESI.

Among workers, family income is one of the most important characteristics associated with

health insurance coverage. In analyzing differences between workers with and without health

insurance, the number of employees where a person works (size of firm) is a significant predictor

of whether the firm offers ESI.[5, 6, 17, 18]

To develop policies that will reduce the disparities in ESI coverage, policymakers need to

understand the relative importance of a person's own characteristics, the characteristics of the

neighborhood where they live and the local labor market, and the characteristics of the firm

where they work on the probability of taking a job with ESI.   Surprisingly, there is little

information about the relative importance of each of these factors.

Prior research on who has ESI has separated the issue into two parts – an employer's decision to offer ESI and then an employee decision to accept conditional on being offered ESI.[2-4, 17, 19-32] While this approach is useful for understanding the conditions under which employers offer ESI, this type of model cannot address the endogeneity of workers sorting themselves to jobs with and without health insurance. Why workers sort to firms that do and do not offer ESI may be related to the labor market in which firms and workers are located.

In this paper, we examine the relative importance of a person's own characteristics, the characteristics of the labor market where they live, and the characteristics of the firm where they work on the probability of taking a job with ESI and of having health insurance.

Conceptual Framework

Whether a worker will search for and take a job that includes ESI depends on demand and supply factors that we propose to treat in a reduced form model. This will enable us to determine empirically the relative importance of personal characteristics, market effects, and firm characteristics on finding a job that offers ESI. We take this reduced-form approach because the corresponding structural model raises serious issues of interpretation. In the structural model, a firm does or does not offer ESI, and if ESI is offered, a worker accepts or rejects the offer. From a worker's perspective, however, the decision is choosing a firm that offers ESI in the first place. Very few people who are offered ESI turn it down and remain uninsured.[19, 22] Modeling this as an accept/reject decision conditional on ESI being offered obscures the real behavior. If we believe that workers who have a preference for health insurance try to sort themselves to firms that offer ESI, then what do we make of someone who does not accept the offered ESI? A person who does not accept ESI because the employee cost-sharing is high relative to their income is not evidence of bad job sorting. Hammermesh showed

that firms that offer higher wages are also more likely to offer better non-pecuniary amenities.[33] Thus, a low-skilled worker would be smart to sort to a firm that offers ESI even if he/she foregoes enrolling in it since such a firm is more likely to pay higher wages.

Instead, we start with a conceptual framework where three sets of factors – personal characteristics, firm characteristics, and market characteristics – all affect the probability that a worker will find a job with ESI. Personal characteristics may reflect an individual's needs and tastes for health care, as well as expectations regarding what is in a wage-compensation package. For example, a person's income is a factor in his/her demand for ESI. Economic theory indicates that employees pay the full amount of the premium because they are paid lower wages than they would if they did not have ESI.[29, 34] The common wisdom is that lower-wage workers may prefer jobs that pay them higher cash wages rather than ESI and lower wages. However, Hamermesh's finding that employers that pay higher wages for the same occupations also are more likely to offer better amenities calls into question the ESI-wage tradeoff.[33] In addition, people in some occupations that are in high demand earn higher incomes – and ESI is the norm in terms of the compensation package. Given this, we expect that a person with a higher income is more likely to seek and be offered ESI.

The second set of factors that affect a worker's search for a job with ESI are supply factors that affect a firm's decision to offer ESI. We expect that the two most important supply factors are the size and industry of the firm.[18, 35, 36] Lastly, we believe that area factors affect a worker's search for a job with ESI as well as a firm's need to offer ESI to compete for the workers it wants in its labor force. Previous research has shown that rates of ESI vary substantially by region and state, as well as industry.[37, 38] Counties with higher rates of ESI are characterized by stronger economic conditions (e.g., lower rates of unemployment).[37] We hypothesize that geographic differences in ESI imply that ESI varies by the norms of the local

labor market. For example, a firm in a given industry may be less likely to offer ESI if it is in an area where there is more unemployment.

We also hypothesize that the observed geographic differences in ESI reflect different norms in individuals' expectations about being able to obtain ESI and the need for ESI. Such norms may be different particularly for Latinos and African Americans. Areas with greater residential segregation often offer fewer economic opportunities, and economic hardship has been shown to adversely affect both access to care and health status.[39] Among working Latino males, for example, there are substantial regional differences in private health insurance coverage.[26, 40] Similarly, with respect to immigrants, who tend to settle in areas with others from their place of origin (areas that are sometimes referred to as "ethnic enclaves"), there is evidence that both how concentrated the ethnic population is and the quality of the area matter for earnings.[41, 42] We expect that whether or not someone obtains a job with ESI will also be affected by how concentrated the racial/ethnic area is and the availability of "safety net" resources in the area.[43]

Methods

Data

This analysis is based on data from the 1996 - 2000 Medical Expenditure Panel Survey Household Component (MEPS-HC), a nationally representative sample of the US civilian, non-institutionalized population.[44] The MEPS-HC contains extensive data on the demographic characteristics, health insurance coverage, health status and chronic conditions of individuals and their family members, and their employer (i.e., firm size and industry). The MEPS over-sampled African-American and Latino households. The MEPS data were merged with 2000 Census data

7

about the characteristics of each individual's county of residence. We expect that for job

searches the appropriate market size for a labor market is a geographic area akin to a county.

Sample

Adults 18 to 64 years old who were employed at least part-time for some portion of the

year and described their race/ ethnicity as white, African American or Latino were included in

this analysis. We excluded adults between the ages of 18 and 25 who were full-time students,

individuals who were self-employed, and individuals who were insured outside of the reporting

unit. We also excluded individuals whose occupation was described as "active military." Our

sample consists of 26,813 adults for which we have data on all of the individual characteristics.

Independent Variables

The independent variables consist of three sets of characteristics: those for the workers,

those for the employer, and those that describe the county where the worker resides. Individual

characteristics included age, sex, education (coded as high school or less, some college, college

graduate or beyond), marital status (married, other), self-reported health status (poor or fair

versus good, very good or excellent), race (white, African American, Latino), time of residence

in the US (native born, more than 10 years, 6 – 10 years, $\leq$ 5 years), whether there was another

wage earner in the household, whether there were children in the household, household income

(continuous), whether the individual was a salaried employee, union membership, full versus

part-time employment, full versus part-year employment, and occupation (managerial and

administrative, sales workers, clerical workers, craftsmen and foremen, operatives, transport

operatives, service workers, laborers (not farming), farm owners, farm laborers, professional and

technical, and unknown).   County characteristics included: the index of dissimilarity, a measure

of residential segregation, for both African Americans and Latinos compared with whites (an index of dissimilarity greater than 0.6 was considered to be highly segregated for African Americans, and an index greater than 0.5 was considered to be highly segregated for Latinos),[45] and the percentage of residents who were foreign-born, unemployed, had a household income less than the federal poverty level, and had not graduated from high school. We also controlled for whether the county of residences was in a metropolitan area, and region. Employer characteristics included firm size (0 – 9 people, 10 – 39, 40 – 99, 100 – 249, 250 – 499, and $\geq$500), and industry (agriculture and construction; mining and manufacturing; transportation, communication and utilities; sales; finance, insurance and real estate, repair, personal and entertainment; public administration; professional services; other).

Empirical Models

Two models were used to determine the relative effects of an individual's characteristics, market factors, and an employer's characteristics that may explain disparities in ESI coverage. The first model is a reduced form model of workers sorting to firms and taking jobs that do or do not offer ESI. The model will be estimated as a binary logit model, with the dependent variable being the worker has a job at a firm that offers ESI. This model was estimated with a generalized estimating equation. The model's independent variables will include the three sets of characteristics described earlier: the individual; the worker's county of residence, and the firm where the person works. The second model reflects the full range of possible outcomes when a person takes a job (i.e., "the five outcomes" model): (1) ESI is offered and accepted, (2) ESI is offered and declined but person is insured elsewhere, (3) ESI is offered and declined and person is uninsured, (4) ESI is not offered but person is insured elsewhere, or (5) ESI is not offered and person is uninsured. This model was estimated as an n-chotomous (or unordered) multinomial

logit model run in Stata. The same sets of independent variables to describe workers, markets,

and firms are used as in the first model. Both models incorporate weights to account for the

multistage cluster sampling design with disproportionate stratification. Our estimation

procedures also accounted for the clustering of individuals within households. For both

dependent variables, we built three sets of models: one accounting for just individual

characteristics, the second reflecting the characteristics of the individual and the county where

they reside, and the final model also accounting for the characteristics of the firm where the

individual resides.

Findings

Characteristics of the sample

      Approximately two-thirds of workers were offered ESI (Table 1).   Of individuals who

were not offered ESI, 49.5% were uninsured and were insured through another source. Of those

who were offered ESI, 84.2% accepted the offered ESI, 5.0% declined the ESI and were

uninsured, and the remainder declined the ESI and obtained insurance from another source. The

median age of the sample was 40 years. The majority of individuals in the sample were white,

had a high school education, were native-born, and married. Most of these workers were not

salaried and were not members of a union. The majority lived in a metropolitan areas that were

not segregated. Firms were varied in size and industry.

Factors Associated with Being Offered Employer Sponsored Insurance

      Several individual characteristics were associated with an increased likelihood of being

offered ESI including: older age, greater educational attainment, African American race, being

native born, not having children in the household, and being a salaried employee (Table 2).

Latinos were less likely to be offered ESI. There was also variation by occupation. In general,

the significance of these individual characteristics did not change after the addition of market

characteristics. Individuals who lived in a county with more foreign-born and poor residents

were less likely to be offered ESI. Individuals in metropolitan areas were more likely than

residents of rural areas to be offered ESI. Individuals who lived in the Midwest were more likely

to be offered ESI than individuals who lived in other regions of the country.   Firm

characteristics were strongly associated with the likelihood of being offered ESI.   Individuals

who worked in the smallest firms were the least likely to be offered health coverage.

Employment in agriculture, construction, or repair services, personal services, or entertainment

services companies significantly reduced a person's likelihood of being offered coverage relative

to working in a professional services firm. By contrast, employment in a firm involved in

mining, manufacturing or public administration significantly raised the likelihood that a person

was offered ESI.   The addition of both market and firm characteristics significantly improved

the model fit ($p < 0.001$).

Factors Associated with Decision to Accept ESI and Resulting Insurance Status

Table 3 presents the results for the "five outcomes model." The reference outcome for

this model is having a job that offers ESI and accepting this coverage. With increasing age,

individuals were more likely to be offered and accept ESI than to not be offered insurance or to

decline insurance and have insurance available from another source. Relative to accepting ESI

offered at a job, men were less likely than women to be in jobs and have insurance available

from another source. Compared to individuals with a high school education or less, individuals

with more education were less likely to have jobs where ESI was not offered or to decline

offered coverage and be uninsured. Relative to whites, both blacks and Latinos were more likely

11

to be uninsured, either because they had not been offered ESI or because they declined offered coverage. Immigrant workers were more likely not to be offered ESI and to be uninsured than native-born workers, but otherwise there was no significant difference between immigrants and native-born workers in terms of having a job that did or did not offer ESI. Individuals who were married were more likely than those who were not married to be insured – either through another source or by accepting offered ESI. Individuals were less likely to be uninsured as household income increased. Not surprisingly, in households where there was another wage earner, workers were more likely to have jobs where ESI was not offered or where they could decline offered coverage compared to households without another wage earner. Workers who were salaried or who were members of a union were most likely to have a job with ESI and to accept it rather than be in any of the other four insurance outcomes. There was variation by occupation in jobs that offered ESI, but not in the decision to accept or decline insurance. Given what the shifts in the workforce towards service occupations and the fact that the typical service firm is small rather than large, it is perhaps not surprising that the service workers were most likely to have jobs where ESI was not offered.

Few market characteristics were associated with whether an individual was offered ESI. Workers who lived in markets with more foreign-born residents were more likely not to be offered ESI than workers who lived in markets with fewer immigrants. Workers who lived in poorer markets were more likely to be uninsured because they were not offered ESI. Residential segregation, unemployment, and the level of education in the county did not significantly differentiate between the five outcomes.

Firm characteristics were strongly associated with the five different insurance outcomes. As firm size increased, workers were less likely to not be offered insurance. Workers in larger firms were also less likely to decline offered ESI and be uninsured. These findings are consistent

with larger firms having lower premiums than smaller firms. The industry of the firm where the individual worked was also associated with whether an individual was offered ESI and then accepted or declined it.   As we saw in the simple two-outcome, offer-not offer model, workers in agriculture, construction, and repair services, personal services, and entertainment services were more likely to not be offered ESI than workers in professional services. Workers in mining and manufacturing were more likely than those in professional services to have jobs that offered ESI and to accept the coverage than to be in the other outcomes. The addition of both market and firm characteristics significantly improved the model fit (p < 0.001).

Discussion

In a nationally representative sample of American workers, both individual and firm characteristics are strongly associated with whether an individual was offered ESI and their ultimate insurance status. Market characteristics were less important, although a higher prevalence of immigrants and of individuals living below the poverty level were both associated with the likelihood of not being offered ESI and being uninsured.

These results indicate that compared to factors that describe the labor market and the characteristics of the area in which a worker lives, a worker's own characteristics and the characteristics of his/ her firm are relatively more important in understanding whether a worker will have ESI. We found that with age, workers are more likely to work for an employer that offers insurance, and are less likely to decline ESI. More educated workers were less likely to be uninsured, whether or not they were offered ESI. Both African Americans and Latinos were more likely to be uninsured than whites, either because they had not been offered ESI or because they declined coverage. Whether a worker was US-born and duration of residence of immigrants was strongly related to decisions about ESI.   Married workers were more likely to have

insurance from another source if they were not offered ESI or declined ESI. Salaried employees and union members were more likely to be offered and accept ESI. Occupation was strongly associated with insurance status. Of the market characteristics, only the percent of individuals were foreign-born and the poverty level were associated with insurance status. Firm characteristics, specifically size and industry, were strongly associated with insurance status.

The "5-outcomes model" extends our understanding of how workers sort themselves into jobs that do or do not offer ESI and their ultimate insurance status. By examining the 5-outcomes, we can model the effect of workers who are interested in insurance looking for employers who offer this benefit. Prior work has separated the problem of why workers lack ESI into two parts – an employer's decision to offer ESI and then an employee decision to accept conditional on being offered ESI.[2-4, 17, 19-32] However, thinking of the problem as a simultaneous equations, two-part model (does the employer offer coverage, and if so, does an employee accept it) diverts attention from the first-order problem of what causes workers to sort to firms that do and do not offer coverage. In reality, the worker's decision is choosing a firm that offers ESI in the first place. Cunningham et al.[22] found that only 14% of non-elderly people with access to ESI do not enroll in it – and of these, only a third (5%) are uninsured. Cooper and Schone [19] found in their analysis of the 1996 MEPS that 20% of all workers offered ESI did not accept it – but again, 9% of these had ESI from another family member. A person who does not accept ESI because the employee cost-sharing is high relative to their income is not evidence of bad job sorting. Hammermesh[33] has shown that firms that offer higher wages are also more likely to offer better non-pecuniary amenities. Thus, a low-skilled worker would be smart to sort to a firm that offers ESI even if he/she foregoes enrolling in it since such a firm is more likely to pay higher wages.

This approach also provides insight into why African-Americans and Latino workers are more likely to be uninsured. For both African-Americans and Latinos, the higher prevalence of uninsurance is related to being more likely to work for a firm that does not offer ESI or declining ESI that is offered. Immigrants were also more likely to not be offered insurance and remain uninsured. Our findings are similar to the literature that suggests that firm size, and industry are associated with the decision to offer ESI (e.g., agriculture, construction, retail sales, and many of the service industries are less likely to offer health coverage).[3, 17, 19-21, 31]

Although prior research has found that counties with higher rates of ESI are characterized by stronger economic conditions (e.g., lower rates of unemployment),[37] our results suggest that individual and firm characteristics are more strongly associated with the receipt of ESI than the characteristics of the local market. The only market characteristics that were associated with the receipt of ESI were the percentage of residents who were foreign-born and the percent of residents living below poverty. The findings for immigrants are supported by the literature that suggests that the concentration of immigrants in an area is associated with earnings.[41, 42] Contrary to our expectations, we did not find that residential segregation was associated with ESI.

Reducing racial and ethnic disparities in ESI may be one of the most direct ways of reducing disparities in health coverage. Our finding that African Americans and Latinos are more likely to be uninsured because they work for a firm that does not offer ESI or they decline ESI when it is offered does not provide a causal mechanism. Although this finding remains after controlling for firm size and occupation and education of the workers, it is not clear why the firms where they work do not offer ESI.

These analyses have several limitations. Because of the cross-sectional nature of these data, we cannot assume causality for any observed associations. We also do not have data about

how long someone has lived in a market or whether they moved to seek employment. We could

not measure some market characteristics that may influence an individual's decision about ESI,

like the "safety net" resources that may be available. County of residence was used as the

geographic unit for these analyses. Counties have been used as the geographic unit in other

research examining market level influences.[46, 47] For employers, geographic influences

probably operate through the influence of the local labor market. Similarly, individuals may

seek employment in areas that approximate the size of a county. Peer influences, however, may

operate at smaller areas that are not available in these data.

Examining the full range of insurance options when a person takes a job furthers our

understanding of disparities in ESI. Policies to reduce racial and ethnic disparities in ESI should

assist the disproportionate number of African Americans and Latinos who are not being offered

ESI at their jobs, and encourage all workers to enroll in ESI.

Table 1: Characteristics of the Sample (n = 26,813).

	N	Offered		Not Offered	
Total	26,813	63.7%		36.3%	
Individual Characteristics:					
Median age (range):	26,813	41 (18 – 64)		37 (18 – 64)	
Sex:					
Female	13,061	61.7%		38.4%	
Male	13,752	65.5%		34.5%	
Education:					
High school	13,428	56.3%		43.7%	
Some college	6,449	66.0%		34.0%	
College graduate	6,936	73.1%		26.9%	
Race:					
Black	3,435	64.6%		35.4%	
Latino	5,387	50.7%		49.4%	
White	17,991	65.2%		34.8%	
Time in US					
<= 5 years	475	41.0%		59.0%	
5 – 10 years	648	40.3%		59.7%	
> 10 years	2,538	56.3%		43.7%	
Native born	23,152	64.8%		35.2%	
Marital status:					
Married	16,990	66.3%		33.7%	
Not married	9,823	59.5%		40.5%	
Other wage earner:					
Yes	8,375	67.6%		32.4%	
No	18,438	62.0%		38.0%	
Children in household:					
Yes	12,661	62.4%		37.6%	
No	14,152	64.5%		35.5%	
Median household income:	26,828	$53,484		$39,963	
Salaried employee:					
Yes	6,571	86.1%		13.9%	
No	20,242	55.4%		44.6%	
Member of a union:					
Yes	3,446	88.8%		11.2%	
No	23,367	60.0%		40.0%	
Chronic illness:					
Yes	1,999	67.4%		32.6%	
No	24,814	63.4%		36.7%	
Occupation:					
Managerial/ administrative	3,881	73.0%		27.0%	
Sales workers	2,745	53.1%		46.9%	
Clerical	3,890	70.2%		29.8%	

	N	Offered	Not Offered	
Craftsmen	3,049	64.3%	35.7%	
Operatives	1,742	71.0%	29.0%	
Transport operatives	1,248	60.8%	39.2%	
Service workers	3,608	46.3%	53.8%	
Laborers, not farming	1,158	48.7%	51.3%	
Farm owners and managers	120	21.3%	78.7%	
Farm laborers and foreman	493	28.3%	71.7%	
Unknown/ other	136	34.4%	65.6%	
Professional and technical	4,743	72.7%	27.3%	
Market Characteristics:				
MSA:				
Yes	21,431	64.4%	35.6%	
No	5,301	60.5%	39.5%	
Midwest				
Yes	6,028	67.3%	32.7%	
No	20,784	62.5%	37.5%	
Segregated for African Americans:				
Yes	8,390	64.3%	35.7%	
No	18,423	63.4%	36.6%	
Segregated for Latinos:				
Yes	7,771	64.1%	73.43%	
No	19,042	63.5%	36.5%	
Median percent foreign-born	26,783	6.5%	6.7%	
Median percent unemployed	26,783	3.4%	3.5%	
Median percent below poverty	26,783	10.6%	11.5%	
Median percent without high school diploma	26,783	17.4%	18.2%	
Firm Characteristics:				
Number of employees				
0 – 9	6,244	32.7%	67.3%	
10 – 39	5,832	61.9%	38.1%	
40 – 99	3,615	73.8%	26.2%	
100 – 249	3,135	79.8%	20.2%	
250 – 499	2,204	81.6%	18.4%	
>= 500	4,199	85.4%	14.6%	
Industry:				
Agriculture, construction	2,469	42.6%	57.4%	
Mining, manufacturing	4,499	79.8%	20.2%	
Transportation, communication, utilities	2,010	73.3%	26.7%	
Sales	4,750	52.1%	47.9%	
Finance, insurance, real estate	1,696	71.4%	28.6%	
Repair, personal services, entertainment	3,121	44.2%	55.8%	
Public administration	1,424	88.8%	11.2%	
Professional services	6,828	67.1%	32.9%	

Table 2: Factors associated with being offered health insurance.

	Individual			Individual + Market			Individual + Market + Firm		
	ß	SE		ß	SE		ß	SE	
Individual Characteristics:									
Age:	0.108	.011	**	0.101	.011	**	0.112	.013	**
Sex (reference: female):									
Male	-0.017	0.040		-0.016	0.040		0.075	0.044	
Education (reference: high school):									
Some college	0.201	0.044	**	0.209	0.045	**	0.173	0.053	**
College graduate	0.153	0.050	**	0.177	0.052	**	0.056	0.056	
Race (reference: white):									
Black	0.146	0.057	*	0.194	0.061	**	0.028	0.073	
Latino	-0.153	0.066	*	-0.061	0.072		0.127	0.074	
Time in US (reference: US-born):									
<= 5 years	-0.560	.166	**	-0.489	.167	**	-0.390	.192	*
5 – 10 years	-0.605	.163	**	-0.546	.160	**	-0.390	.183	*
> 10 years	-0.236	.074	**	-0.199	.070	**	-0.209	.080	*
Marital status (reference: not married):									
Married	0.088	.045		0.082	.046		-0.032	.052	
Children in household (reference: none):									
Yes	-0.138	.042	**	-0.143	.042	**	-0.125	.047	**
Household income:	0.014	.010		0.015	.010		0.016	.011	

	Individual			Individual + Market			Individual + Market + Firm		
	ß	SE		ß	SE		ß	SE	
Salaried employee (reference: no):									
Yes	1.244	.051	**	1.261	.051	**	1.093	.056	**
Chronic illness (reference: none):									
Yes	0.109	.065		0.107	.065		0.063	.069	
Occupation (reference: professional and technical):									
Managerial/ administrative	-0.209	.066	**	-0.210	.066	**	0.067	.073	
Sales workers	-0.455	.070	**	-0.463	.071	**	-0.196	.087	*
Clerical	0.250	.068	**	0.250	.068	**	0.178	.079	*
Craftsmen	-0.309	.077	**	-0.325	.077	**	0.032	.095	
Operatives	0.257	.091	**	0.211	.092	*	-0.119	.118	
Transport operatives	-0.341	.105	*	-0.337	.105	*	-0.316	.124	*
Service workers	-0.474	.077	**	-0.486	.077	**	-0.375	.085	**
Laborers, not farming	-0.450	.104	**	-0.469	.104	**	-0.461	.131	**
Farm owners and managers	-2.017	.263	**	-2.040	.266	**	-0.464	.290	
Farm laborers and foreman	-1.363	.204	**	-1.367	.206	**	-0.585	.219	**
Unknown	-0.737	.298	*	-0.718	.296	*	-0.951	.348	**
Market Characteristics:									
MSA (reference: non-MSA):				0.132	.066	*	0.065	.070	
Midwest (reference: other regions):				0.119	.052	*	0.083	.055	

	Individual		Individual + Market		Individual + Market + Firm	
	ß	**SE**	**ß**	**SE**	**ß**	**SE**
Segregated (reference: not segregated):						
For blacks			0.020	.046	0.028	.051
For Hispanics			0.112	.049 *	0.064	.057
Percent foreign-born			-1.470	.250 **	-1.243	.300 **
Percent unemployed			-1.028	2.678	-0.707	2.832
Percent below poverty			-0.014	.008 *	-0.010	.008
Percent not graduated high school			0.707	.432	0.258	.469
Firm Characteristics:						
Number of employees (reference: ≥ 500):						
0 – 9					-2.080	.069 **
10 – 39					-0.853	.067 **
40 – 99					-0.472	.076 **
100 – 249					-0.256	.086 **
250 – 499					-0.193	.087 *
Industry (reference: professional services):						
Agriculture, construction					-0.650	.084 **
Mining, manufacturing					0.249	.083 **
Transportation, communication, utilities					0.073	.090

	Individual		Individual + Market		Individual + Market + Firm		
	ß	SE	ß	SE	ß	SE	
Sales					-0.078	.072	
Finance, insurance, real estate					0.098	.089	
Repair, personal services, entertainment					-0.485	.069	**
Public administration					0.765	.116	**

NOTE: Models also adjusted for age, age-squared. Coefficient for household income for change in $20,000.
  * $p \leq 0.05$ ** $p \leq 0.005$.

Table 3: Five outcomes model (n = 25,107).

	Not Offered				Offered			
	Uninsured		Insured		Declined Uninsured		Declined Insured	
	ß	SE	ß	SE	ß	SE	ß	SE
Individual Characteristics:								
Age:	-0.050	.017 *	-0.176	.016 **	-0.036	.030	-0.111	.024 **
Sex (reference: female):								
Male	0.019	.064	-0.350	.053 **	-0.034	.114	-0.827	.079 **
Education (reference: high school):								
Some college	-0.414	.069 **	-0.059	.060	-0.362	.129 **	-0.035	.077
College graduate	-0.515	.098 **	0.055	.062	-0.902	.174 **	-0.188	.099
Race/ ethnicity (reference: white):								
Black	0.234	.101 *	-0.135	.084 *	0.385	.134 **	-0.136	.106
Latino	0.468	.095 **	-.210	.086	0.453	.154 **	-0.209	.125
Time in US (reference: US=born):								
<= 5 years	0.695	.230 **	0.172	.220	-0.128	.325	0.405	.336
5 – 10 years	0.727	.228 **	0.001	.222	0.462	.248	-0.299	.374
> 10 years	0.375	.115 **	0.012	.100	-0.116	.162	-0.197	.144

	Not Offered				Offered			
	Uninsured		Insured		Declined Uninsured		Declined Insured	
	ß	SE	ß	SE	ß	SE	ß	SE
Marital status (reference: not married):								
Married	-0.441	.073 **	0.601	.064 **	0.110	.134	1.760	.107 **
Other wage earner (reference: none):								
Yes	0.093	.065	0.133	.056 *	0.049	.124	0.264	.068 **
Children in household (reference: none):								
Yes	0.029	.064	0.229	.055 **	-0.007	.113	0.159	.069 *
Household income:	-0.250	.030 **	0.046	.012 **	-0.285	.051 **	0.088	.014 **
Salaried employee (reference: no):								
Yes	-1.215	.087 **	-1.153	.067 **	-0.590	.137 **	-0.310	.071 **
Union (reference: no):								
Yes	-1.819	.125 **	-1.031	.092 **	-0.892	.222 **	-0.865	.111 **
Chronic illness (reference: no):								
Yes	-0.251	.110 *	-0.040	.077	-0.382	.206	-0.117	.111

	Not Offered				Offered			
	Uninsured		Insured		Declined Uninsured		Declined Insured	
	ß	SE	ß	SE	ß	SE	ß	SE
Occupation (reference: professional/ technical):								
Managerial/ administrative	-0.123	.127	-0.043	.083	-0.099	.237	0.007	.109
Sales workers	0.083	.132	0.276	.097 **	-0.161	.281	0.135	.155
Clerical	-0.398	.136 **	-0.050	.083	-0.058	.249	0.128	.112
Craftsmen	0.008	.130	-0.102	.112 *	0.080	.270	-0.101	.142
Operatives, farm laborers and foreman, unknown	0.335	.145	0.132	.129	0.053	.294	-0.145	.182
Transport operatives	0.413	.160 *	0.210	.144	0.363	.311	-0.318	.240
Service workers	0.559	.132 **	0.368	.096 **	0.423	.215 *	0.121	.133
Laborers, not farming	0.443	.170 *	0.409	.160 *	-0.106	.316	0.253	.253
Farm owners and managers	-0.472	.385	0.601	.345	-28.137	.389 **	-1.114	.780
Market Characteristics:								
MSA (reference: non-MSA):	-0.114	.100	0	.074	-0.104	.151	0.208	.086 *
Segregated (reference: not segregated):								
For blacks	-0.011	.078	-0.009	.057	0.052	.134	0.054	.083
For Hispanics	-0.104	.081	-0.001	.065	-0.058	.145	0.132	.077

	Not Offered				Offered			
	Uninsured		Insured		Declined Uninsured		Declined Insured	
	ß	SE	ß	SE	ß	SE	ß	SE
Percent foreign-born	1.369	.367 **	1.165	.360 **	0.518	.656	-0.473	.422
Percent unemployed	-4.221	3.995	4.165	3.287	0.306	6.5799	0.869	4.442
Percent below poverty	0.033	.011 **	-0.001	.010	0.034	.017	-0.013	.013
Percent not graduated high school	0.076	.689	-.771	.538	-1.388	1.027	-0.468	.761
Firm Characteristics:								
Number of employees (reference: 0 - 9)								
10 - 39	-1.255	.073 **	-1.214	.065 **	-0.330	.146 *	0.149	.101
40 – 99	-1.895	.092 **	-1.555	.076 **	-0.504	.172 **	-0.086	.112
100 – 249	-2.196	.123 **	-1.819	.090 **	-1.114	1.184 **	-0.280	.120
250 – 499	-2.193	.113 **	-1.947	.098 **	-0.945	.213 **	-0.501	.144
≥ 500	-2.274	.116 **	-2.167	.077 **	-0.913	.172 **	-0.443	.114

	Not Offered				Offered			
	Uninsured		Insured		Declined Uninsured		Declined Insured	
	ß	SE	ß	SE	ß	SE	ß	SE
Industry (reference: professional services):								
Agriculture, construction	1.127	.119 **	0.506	.101 **	0.3370	.243	0.023	.169
Mining, manufacturing	-0.179	.116	-0.326	.095 **	-0.384	.219 *	-0.317	.124 *
Transportation, communication, utilities	0.216	.134	-0.210	.102 *	-0.004	.238	-0.299	.155 *
Sales	0.424	.104 **	0.076	.079	0.577	.184 **	0.221	.110
Finance, insurance, real estate	-0.141	.146	-0.089	.104	-0.430	.251 *	0.015	.128
Repair, personal services, entertainment	0.898	.099 **	0.426	.084 **	0.446	.185 *	0.273	.126 *
Public administration	-0.719	.209 **	-0.827	.130 **	-0.364	.281	-0.441	.152 **

NOTE: Coefficient for household income for change in $20,000.

References:

1. **Hoffman C, Pohl MB.** (Kaiser Family Foundation). Health Insurance Coverage in America: 2000 Data Update. 2002.

2. **Schur CL, Feldman J.** (The Commonwealth Fund). Running in place: How job characteristics, immigrant status, and family structure keep Hispanics uninsured. 2001.

3. **Gabel JR, Ginsburg PB, Hunt KA.** Small employers and their health benefits, 1988-1996: an awkward adolescence. *Health Aff (Millwood)*. 1997;16(5):103-10.

4. **Hadley J, Reschovsky JD.** "Small firms" demand for health insurance: the decision to offer insurance. *Inquiry*. 2002;39(2):118-137.

5. (Kaiser Family Foundation and Health Research and Educational Trust). Employer Health Benefits: 2002 Annual Survey. 2002.

6. (Henry J. Kaiser Family Foundation). Employer Health Benefits 2004 Annual Survey. 2004.

7. **Swartz K.** *Reinsuring Health*; draft, 2004.

8. **Williams DR, Collins C.** Racial residential segregation: a fundamental cause of racial disparities in health. *Public Health Rep*. 2001;116(5):404-16.

9. **Diez Roux AV, Merkin SS, Arnett D, et al.** Neighborhood of residence and incidence of coronary heart disease. *N Engl J Med*. 2001;345(2):99-106.

10. **Haas JS, Phillips KA, Sonneborn D, et al.** Variation in access to health care for different racial/ ethnic groups by the racial/ ethnic composition of an individual's county of residence. *Med Care*. 2004;42(7):707-714.

11. **Kawachi I.** Social capital and community effects on population and individual health. *Ann N Y Acad Sci*. 1999;896:120-30.

12. **Cutler DM, Glaeser EL, Vigdor JL.** Are ghettos good or bad? *Q J Econ*. 1997;112:827-72.

13. **LaVeist TA, Wallace JM, Jr.** Health risk and inequitable distribution of liquor stores in African American neighborhood. *Soc Sci Med*. 2000;51(4):613-7.

14. **Yen IH, Kaplan GA.** Neighborhood social environment and risk of death: multilevel evidence from the Alameda County Study. *Am J Epidemiol*. 1999;149(10):898-907.

15. **Hackbarth DP, Silvestri B, Cosper W.** Tobacco and alcohol billboards in 50 Chicago neighborhoods: market segmentation to sell dangerous products to the poor. *J Public Health Policy*. 1995;16(2):213-30.

16. **LaVeist TA.** Segregation, poverty, and empowerment: health consequences for African Americans. *Milbank Q*. 1993;71(1):41-64.

17. **Blumberg LJ, Nichols LM.** Why are so many Americans uninsured? A conceptual framework, summary of the evidence, and delineation of the gaps in our knowledge. *ERIU Working Paper*. Ann Arbor, MI; 2001.

18. **Nichols LM, L.J. B, Acs GP, Uccelllo CE, Marsteller JA.** (The Urban Institute). Small Employers: Their Diversity and Health Insurance. 1997.

19. **Cooper PF, Schone BS.** More offers, fewer takers for employment-based health insurance: 1987 and 1996. *Health Aff (Millwood)*. 1997;16:142 - 149.

20. **Cantor JC, Long SH, Marquis MS.** Private employment-based health insurance in ten states. *Health Aff (Millwood)*. 1995;14(2):199-211.

21. **Swartz K, Marcotte J, McBride TD.** Personal characteristics and spells without health insurance. *Inquiry*. 1993;30(1):64-76.

22.   **Cunningham PJ.** (Center for Studying Health Insurance Change). Choosing to be uninsured: Determinants and consequences of the decision to decline employer-sponsored health insurance. 1999.

23.   **Thorpe KE, Florence CS.** Why are workers uninsured? Employer-sponsored health insurance in 1997. *Health Aff (Millwood)*. 1999;18(2):213-8.

24.   **Monheit AC, Vistnes JP.** Race/ethnicity and health insurance status: 1987 and 1996. *Med Care Res Rev*. 2000;57(Suppl 1):11-35.

25.   **Shore-Sheppard L, Buchmueller TC, Jensen GA.** Medicaid and crowding out of private insurance: a re-examination using firm level data. *Journal of Health Economics*. 2000;19(1):61-91.

26.   **Monheit AC, Vistnes JP.** Health insurance availability at the workplace: how important are worker preferences? *Journal of Human Resources*. 2000;34(4):771-785.

27.   **Marquis MS, Long SH.** Recent trends in self-insured employer health plans. *Health Aff (Millwood)*. 1999;18(3):161-6.

28.   **Gruber J.** The impact of the tax system on health insurance coverage. *International Journal of Health Care Finance and Economics*. 2001;1:293-304.

29.   **Gruber J, Lettau M.** (NBER). How elastic is the firm's demand for health insurance?" 2000. Report No.: 8021.

30.   **McLaughlin CG.** Health care consumers: choices and constraints. *Medical Care Research and Review*. 1999;56(Supp 1):24-59.

31.   **McLaughlin CG.** *Small businesses and health care reform: understanding the barriers to employee coverage and implications for workable solutions* Ann Arbor, MI: University of Michigan Press; 1994.

32. **Feldman R, Dowd B, Leitz S, Blewett LA.** The effect of premium on the small firm's decision to offer health insurance. *Journal of Human Resources*. 1997;34(4):635-658.

33. **Hammermesh DS.** Changing inequality in markets for workplace amenities. *Quarterly Journal of Economics*. 1999;114(4):1085-1123.

34. **Krueger AB, Reinhardt UE.** The economics of employer versus individual mandates. *Health Aff (Millwood)*. 1994;13(2):34-53.

35. **Swartz K.** (The Urban Institute). The Medically Uninsured: Special Focus on Workers,. 1989.

36. **Swartz K.** Characteristics of Workers without Employer-Group Health Insurance. In: Bellar D, Wiatrowski W, Turner J, eds. *Trends in Health Benefits*. Washington, DC: U.S. Department of Labor, Government Printing Office; 1992.

37. **Brown ER, Wyn R, Teleki S.** (University of California). Disparities in health insurance and access to care for residents across US cities. 2000.

38. **Coburn AF, Kilbreth EH, Long SH, Marquis MS.** Urban-rural differences in employer-based health insurance coverage of workers. *Med Care Res Rev*. 1998;55(4):484-96.

39. **Wilson WJ.** *The truly disadvantaged: the inner city, the underclass, and public policy* Chicago, IL: University of Chicago Press; 1987.

40. **Fronstin P, Goldberg LG, Robins PK.** Differences in private health insurance coverage for working male Hispanics. *Inquiry*. 1997;34(2):171-80.

41. **Borjas G.** Ethnicity, neighborhoods, and human capital externalities. *American Economic Review*. 1995;85(3):365-390.

42.   **Edin P, Fredriksson P, Aslund O.** Ethic enclaves and the economic success of
       immigrants: evidence from a natural experiment. *Quarterly Journal of Economics*.
       2003;118(1):329-57.

43.   **Cunningham PJ.** Pressures on safety net access: the level of managed care penetration
       and uninsurance rate in a community. *Access to Care*. 1999;34(1 Pt 2):255-70.

44.   **Cohen JW, Monheit AC, Beauregard KM, et al.** The Medical Expenditure Panel
       Survey: a national health information resource. *Inquiry*. 1996;33(4):373-89.

45.   **Massey DS, Denton NA.** The dimensions of residential segregation. *Social Forces*.
       1988;67(2):281 (35 pages).

46.   **Baker LC.** The effect of HMOs on fee-for-service health care expenditures: evidence
       from Medicare. *Journal of Health Economics*. 1997;16(4):453-81.

47.   **Baker LC.** Association of managed care market share and health expenditures for fee-
       for-service Medicare patients. *Jama*. 1999;281(5):432-7.