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Declining Health Insurance Access Among US Hispanic Workers: Not All Jobs are Created Equal

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Introduction *Approximately 18% of the U.S. population are uninsured, a proportion that may continue to rise, particularly among Hispanics, as the cost of medical care increases faster than the growth in wages.*

Methods *Health insurance trends were analyzed by race–ethnic category, and among Hispanic workers by occupation type and industrial sector, using data on employed respondents ≥18 years from 1997 to 2007 National Health Interview Survey (NHIS) (mean annual n = 17,392, representing 123 million US workers on average over this 11 year period).*

Results *From 1997 to 2007, the relative decline in health insurance coverage for US workers was greatest among Hispanics (7.0%). Hispanic workers in the Construction and Services industries had the greatest overall decline in coverage (24.9% and 14.7%), as well as Hispanic blue collar workers (14.0%).*

Conclusion *Hispanic workers in general, and those employed in blue collar, construction, and services sectors in particular, are at greater risk for poor access to health care due to a lack of health insurance coverage.* Am. J. Ind. Med. 53:163–170, 2010.

KEY WORDS: health insurance; Hispanic workers; health disparities; healthcare utilization; occupation

INTRODUCTION

Recent 2007 estimates of health insurance coverage report that nearly 54 million Americans were uninsured for at least part of the previous year [Cohen et al., 2008]. The largest affected group is working-age adults (18–64 years), of which 23.7% lacked coverage for at least part of the year prior to being interviewed [Cohen et al., 2008]. Within this group, Hispanic workers appear to be particularly at risk for losing coverage [Alegría et al., 2006]. On a national level, the proportion of workers offered health insurance through their employer has also declined over the past few years [Gabel et al., 2005]. Moreover, the average worker-paid health plan premium (inflation-adjusted) has increased 42%, resulting in an increasing number of workers declining coverage due to costs [Reschovsky et al., 2006].

The high cost of health insurance coupled with employment-related circumstances (such as changed/lost job, self-employment, and lack of access to employer-offered health insurance) are by far the two most common factors cited when Americans are asked why they lack health insurance [Reschovsky et al., 2006].

Other evidence suggests that language barriers for Spanish-speaking workers may also play an important role

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in the lack of employer-sponsored health insurance [Reschovsky et al., 2007].

The current study examined an 11-year trend in health insurance coverage by occupation type, industrial sector, and race–ethnic category. We sought to determine if declining health insurance coverage among United States (US) Hispanic workers varied according to the type of occupation and by industrial sector using recent data from the National Health Interview Survey (NHIS) [Fowler, 1996].

MATERIALS AND METHODS

Health insurance trends were analyzed using data from 1997 to 2007 NHIS, an annual population-based survey of the resident non-institutionalized US civilian population conducted by the National Center for Health Statistics (NCHS) [Fowler, 1996]. The NHIS data are cross-sectional, therefore we could not look at changes in health insurance coverage over time at the individual level, but we could examine changes over time and trends on national and occupation/industry levels utilizing annually representative surveys. Because our goal was to examine health insurance trends by occupation and race/ethnicity, the analyses focused on a subset of NHIS participants that reported being employed (full- or part-time) at the time of interview.

Being insured was defined as having any coverage (private, Medicare, Medicaid, other government-sponsored, or military) at the time of interview. Of the participants who reported having health insurance coverage in the 2007 NHIS, 89% of adults 18–64 years of age had private coverage (95% of non-Hispanic whites, 83% of non-Hispanic blacks, and 84% of Hispanics). Six percent of non-Hispanic whites and 14% of both non-Hispanic blacks and Hispanics had some form of public insurance. The remaining proportion of each race/ethnic group had a combination of private and government health insurance. Employment in the 1997–2007 NHIS is defined as all subjects aged 18 years and older who reported having paid or unpaid jobs during the week prior to survey administration [Botman and Jack, 1995]. Occupation and industry were defined from the list of Standardized Occupational and Industrial Codes that were provided in the NHIS database [NCHS, 1989, 2001, 2007; Lee et al., 2004; Fleming et al., 2007].

Some of the challenges in coding industry and occupation must be clarified. Between 1997 and 2004, the NHIS used the 1990 Census codes for occupation. In 2004, the NHIS switched to the 2000 Census codes for occupation, which were somewhat different. To overcome these coding differences as well as to maintain relatively large groupings within occupational category and industry, we categorized the sample into occupations/industries using the eight National Institute of Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA) Industry Sector groupings (i.e., Agriculture/forest/fishery, Construction, Health/social, Manufacturing, Services, Transport/warehouse/utility, Wholesale/retail, and Mining[1]) and the four NCHS occupational groupings (white collar, blue collar, farmers, and service workers) [Krieger et al., 2005; Sorerholm, 2006]. Specifically, from 1997 to 2004, the four NCHS groupings were assigned using the NHIS 13 and 41 occupation grouped codes: white collar (1–5; 1–21), service (6–8; 22–28), farmers (9; 29–31), and blue collar (10–13; 32–41); from 2005 to 2007, we used the revised NHIS 23 occupation grouped codes: white collar (1–5, 7–10, 16, 17), service (6, 11–15), farmers (18), and blue collar (19–22) [Krieger et al., 2005]. Further details and a detailed diagram showing the grouping of Census codes by NIOSH-NORA sector are available at:http://www.rsmas.miami.edu/groups/niehs/niosh/studydoc/nora_nhis_industry_crosswalk.pdf.

Annual response rates to the 1997–2007 adult core interview ranged from 68% to 81% [Blackwell et al., 2002; Pleis and Coles, 2002, 2003; Pleis et al., 2003; Lethbridge-Cejku et al., 2004, 2006; Lucas et al., 2004; Lethbridge-Cejku and Vickerie, 2005; Pleis and Lethbridge-Cejku, 2006, 2007; Pleis and Lucas, 2008]. The prevalence and standard error of having health insurance were computed for each year for non-Hispanic whites, non-Hispanic blacks, and Hispanics. For Hispanics only, we also examined trends in health insurance coverage for each survey year by gender, NIOSH-NORA industrial sectors, and NCHS occupational categories.

The prevalence of health insurance was computed for each subgroup separately for each year. The SAS survey frequency procedure (SURVEYFREQ) was used to apply the appropriate weights and adjustments for the complex sampling design of the NHIS [SAS, 2003]. In 2006, the NHIS was redesigned to better measure the changing US population and to meet new survey objectives. The revised sampling scheme over-sampled Asians in addition to Hispanics and blacks, as well as reduced the overall sample size [Pleis and Lethbridge-Cejku, 2007]. However, for the purposes of our study, the data were analyzed on a yearly basis to estimate the prevalence of having health insurance; therefore, the change in design did not affect the regression analyses presented in Table I or Figures 1–3. The SAS general linear model procedure (GLM) was used to fit a separate slopes and intercepts linear regression of health insurance prevalence on year for each subgroup (i.e., race/ethnicity, gender, etc.). The regression was weighted by the inverse of the variance of the prevalence. Contrasts were used to compare the slope parameters within each subgroup. Statistical significance was established at the 0.05 probability level.

[1] Mining was not included in this study due to very small sample sizes for this group.

TABLE I. Annual Prevalence of Health Insurance, Percent Decrease, and Regression Slope for US Workers

	Yearly average[a]		Percent with health insurance											%	Regression	
	Observed	Population	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Decrease	Slope ± SE	*P*
Race/ethnicity																
NH white	11,818	93,522,000	88.3	89.5	89.5	88.5	88.8	88.6	88.0	87.6	87.5	86.4	87.0	1.5	−0.23 ± 0.05	<0.001
NH black	2,449	13,885,000	81.9	81.2	82.3	80.4	81.6	82.5	80.8	80.0	78.7	79.0	80.5	1.7	−0.24 ± 0.12	0.059
Hispanic	3,125	15,275,000	66.0	65.8	66.0	61.7	63.2	62.9	60.3	58.7	59.0	58.1	61.4	7.0	−0.80 ± 0.15	<0.001
Hispanic gender																
Male	1,691	9,314,000	62.1	62.0	61.6	56.4	57.9	58.2	56.2	54.5	54.2	51.7	58.6	5.6	−0.82 ± 0.17	<0.001
Female	1,434	5,962,000	72.2	71.6	72.6	69.4	70.7	69.5	67.0	65.7	66.9	68.1	66.1	8.5	−0.69 ± 0.17	0.001
Hispanic NCHS occupational group[b]																
White collar	1,214	5,711,000	79.5	81.5	82.7	78.4	79.6	80.2	76.9	79.1	79.1	76.0	79.1	0.6	−0.36 ± 0.14	0.016
Service groups	684	3,230,000	55.2	53.2	51.1	48.9	53.0	51.7	50.8	49.8	49.3	52.5	53.3	3.4	−0.21 ±0.25	0.421
Farm workers	142	685,000	32.1	42.5	30.0	30.4	38.6	29.9	31.0	38.8	37.6	23.5	27.4	14.7	−0.46 ± 0.52	0.382
Blue collar	1,049	5,427,000	60.9	57.2	59.9	55.1	54.4	54.9	53.8	47.6	48.8	47.1	52.3	14.0	−1.30 ± 0.21	<0.001
Hispanic NIOSH-NORA Industrial Sector[b,c]																
Agriculture, forest, fishery	139	677,000	32.2	39.1	30.9	29.9	39.0	28.7	33.9	38.9	33.7	24.1	30.8	4.6	−0.29 ± 0.56	0.611
Construction	315	1,765,000	47.9	39.6	43.2	37.6	42.7	37.0	37.3	32.3	30.6	29.5	35.9	24.9	−1.52 ± 0.38	<0.001
Health and social	325	1,376,000	79.0	74.4	78.4	77.9	80.5	78.5	74.5	76.6	71.8	77.9	77.5	1.9	−0.28 ± 0.32	0.385
Manufacturing	451	2,213,000	69.2	70.4	75.7	72.4	67.7	70.4	69.3	67.3	72.0	64.0	74.3	−7.5	−0.18 ± 0.30	0.562
Services	1,075	5,197,000	74.3	73.8	72.0	67.4	71.0	70.1	69.5	66.6	61.6	63.4	63.3	14.7	−1.22 ± 0.19	<0.001
Transport, warehouse, utility	175	882,000	80.9	75.7	77.3	80.1	73.7	78.6	78.4	75.4	69.9	70.7	80.3	0.8	−0.47 ± 0.40	0.241
Wholesale-retail	579	2,792,000	56.3	56.6	57.3	52.1	53.9	57.0	49.8	51.9	62.6	57.5	63.5	−12.8	0.28 ± 0.30	0.362
Total all workers	17,392	122,683,000	85.4	86.1	86.2	84.6	85.1	84.9	83.5	82.8	82.4	81.3	82.3	3.6	−0.44 ± 0.07	<0.001

[a]Population specified down to the nearest hundred for samples <1,000 or thousand for samples >1,000.
[b]The average yearly observed and population estimates may not be accurate for the NCHS occupational and NIOSH-NORA industrial groups because the sample was not stratified on these categories.
[c]Too few observations in Mining sector.

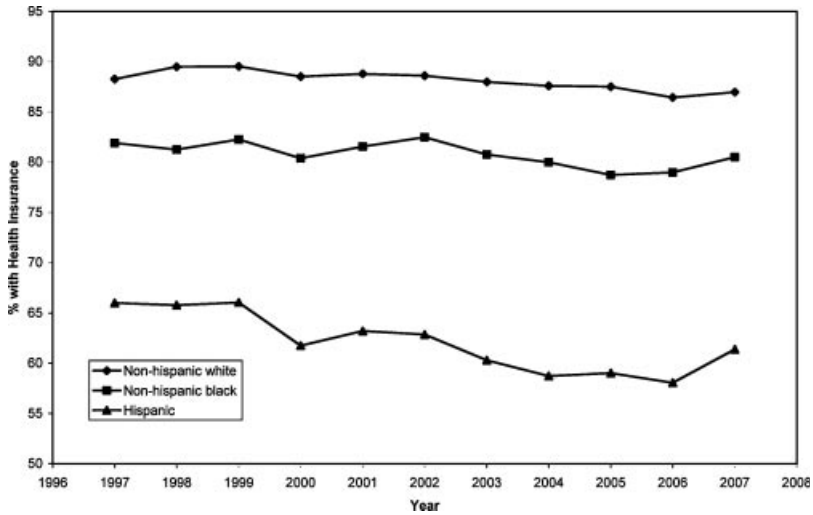

FIGURE 1. Annual prevalence of health insurance for all US workers by race/ethnic categories.

RESULTS

The mean annual sample size for the combined population of the three race/ethnicity subgroups (non-Hispanic white, non-Hispanic black, and Hispanic) was 17,392, representing an estimated annual average of 122.6 million US workers from 1997 to 2007. For Hispanics, the annual average sample was 3,125, which represented an estimated population of 15.3 million US Hispanic workers for the full survey period 1997–2007. Table I and Figures 1–3 present the health insurance prevalence statistics categorized by race/ethnicity and within the Hispanic worker subgroup by gender, occupational group, and NORA industrial sector.

Health Insurance Prevalence Rates

Table I shows that rates of health insurance coverage significantly declined for 8 of 16 population/occupation/industry subgroups over the period 1997–2007. The percent decrease is a summary measure of the decline from 1997 to 2007 in the proportion of people with health insurance. Based on the average population, the 1.5% decline for non-Hispanic whites represents an estimated total of 1.4 million people who lost their health insurance coverage. The decline for non-Hispanic blacks and Hispanics was 1.7% (0.2 million people) and 7.0% (1.1 million people), respectively. For the non-Hispanic black subgroup, the 1.7% decline was not statistically significant. Notable is the relatively greater

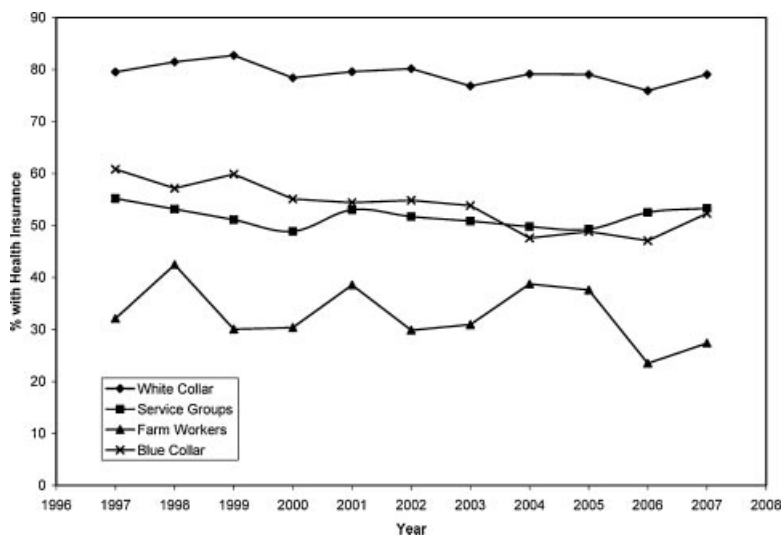

FIGURE 2. Annual prevalence of health insurance for Hispanic workers by National Center for Health Statistics (NCHS) occupational group.

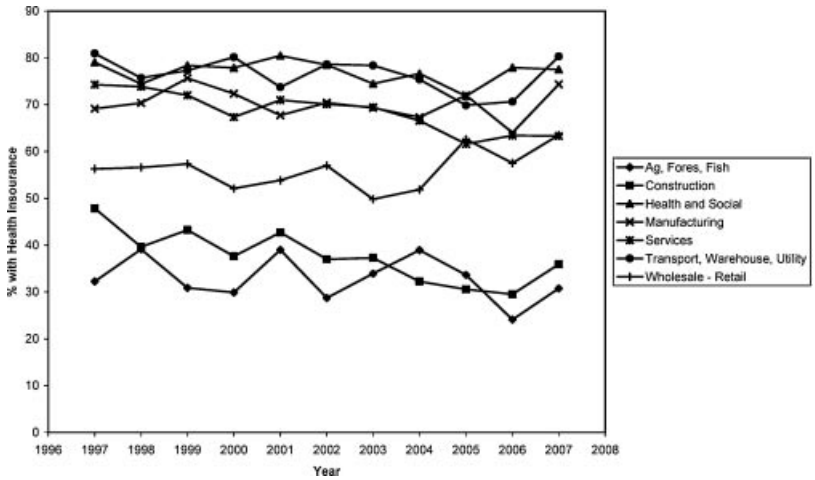

FIGURE 3. Annual prevalence of health insurance for Hispanic workers by National Institute for Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA) industrial sector.

decline in health insurance coverage among Hispanics. The decline in the proportion of Hispanics with health insurance was 4.7 times that of non-Hispanic whites and 4.1 times that of non-Hispanic blacks. Within the Hispanic subgroup, the average prevalence of health insurance for female workers was significantly higher than that for males (69% vs. 57%; $P < 0.001$).

Figure 1 illustrates the annual health insurance prevalence from 1997 to 2007 for non-Hispanic whites, non-Hispanic blacks, and Hispanics. On average, non-Hispanic white and black workers reported having more than 80% coverage (88% for whites; 81% for blacks) compared to only 62% of Hispanic workers ($P < 0.001$ for both comparisons). These health insurance coverage rates leave an average of approximately 11.2 million non-Hispanic whites, 2.6 million non-Hispanic blacks, and 5.8 million Hispanics uninsured annually.

Within the NCHS occupational categories, the average prevalence of health insurance for Hispanic white collar workers (79%) was significantly higher than for blue collar (54%), service workers (52%), and farm workers (33%) ($P < 0.001$ for all comparisons); the average prevalence for blue collar and service workers was significantly higher than for farm workers ($P < 0.001$ for both comparisons). Over the full survey period (1997–2007), blue collar workers had approximately 24 times the decrease in coverage relative to workers in the white collar group and about 4 times the decrease compared with workers in the service group. The observed decrease in coverage for service groups and farm workers was not statistically significant. Figure 2 provides a graphical representation of the annual prevalence of health insurance for Hispanic workers by NCHS occupational group. Note the significant difference in coverage for farm workers relative to other groups.

Within the NIOSH-NORA Industrial Sectors, there were marked differences across some groups in the average prevalence of health insurance. Hispanic workers in the Health and social sector (77%) and workers in the Transportation, warehouse, and utility sector (77%) had significantly higher rates of coverage than other industrial sector groups ($P < 0.001$ for all comparisons). The prevalence of health insurance for workers in the Manufacturing and Services sectors was 70% and 69%, respectively, and was significantly greater than in the remaining sectors ($P < 0.001$ for all comparisons). Workers in the Wholesale-retail sector had a higher average annual rate of health insurance (55%) in comparison to workers in the Construction (38%) and Agriculture (34%) sectors ($P < 0.001$ for all comparisons). The difference in average annual health insurance rates between Construction and Agriculture workers was significant ($P = 0.04$). Although it appears as if there was an increase in health insurance coverage for the Wholesale-retail and Manufacturing categories, these increases were not statistically significant. See Figure 3 for a graphical representation of the prevalence of health insurance for Hispanic workers by NORA industry sector.

Insurance Trends

An examination of the insurance trends from 1997 to 2007 for all subgroups revealed that coverage declined in all but two sectors (Wholesale-retail and Manufacturing sectors). Half (8 out of 16) of the declines were statistically significant, indicating that the proportion of uninsured US Hispanic workers increased during that period. As seen in Table I, the slope (i.e., the rate of decline in health insurance coverage over the 11-year period) for non-Hispanic whites was −0.23, indicating that an estimated average of 216,000 workers lost

their health insurance each year. For non-Hispanic blacks and Hispanics (slopes = −0.24 and −0.80), the number of workers losing health insurance every year was approximately 34,000 and 1,22,000, respectively. Notable in these analyses is that the slopes for non-Hispanic whites and blacks were significantly lower (i.e., smaller) than the slope for Hispanics ($P < 0.001$ for both comparisons). This confirms that the rate of decline in coverage was more dramatic for Hispanics than for any other worker group.

Hispanic blue collar workers had the largest aggregate number that lost their health insurance annually (approximately 7,000); in fact, the decline in insurance rates for blue collar workers was significantly greater than that for white collar ($P = 0.001$) and Service occupational groups ($P = 0.002$). When comparing among NIOSH-NORA Industrial sectors, Hispanic workers in the Construction sector had a significantly greater rate of decline in coverage than workers in the Health and Social services, Manufacturing, and Wholesale-retail sectors ($P < 0.016$ for all comparisons). Workers in the Service sector had a significantly greater rate of decline than workers in the Health and social services, Manufacturing, and Wholesale-retail sectors ($P < 0.014$ for all comparisons). Workers in the Service sector also had the largest aggregate number that reportedly lost their health insurance annually (approximately 63,000).

DISCUSSION

This nationally representative sample of all U.S. workers illustrates the significant recent decrease in US worker health insurance coverage. While the absolute number of workers annually dropping or losing health insurance was also significant even among traditionally unionized and highly skilled workers (e.g., precision production; data not shown), the rate of decrease was most pronounced in Hispanic workers overall, and particularly among blue collar and typically non-unionized professions (e.g., construction). These findings are of great public health significance given the relationship between health insurance, access to care, and health status. Furthermore, loss of health insurance has serious implications not only for the individual U.S. worker, but also for their families. For example, lack of health insurance has been shown to reduce the use of preventive health care services in adults and in their children [Ayanian et al., 2000; McWilliams et al., 2003; Sudano and Baker, 2003; Olson et al., 2005; Vidal et al., 2009]. A lack of health insurance may be especially taxing for the Hispanic population, given the relatively greater incidence of certain chronic illnesses among Hispanics compared with non-Hispanic whites or non-Hispanic blacks [Callahan et al., 2006; Chowdhury et al., 2006].

One major goal of Healthy People 2010 (www.healthypeople.gov) is the reduction of health disparities in the U.S. population. The equalization of access to health insurance has been identified as an important means to reduce such disparities [Lillie-Blanton and Hoffman, 2005; U.S. Department of Health and Human Services, 2008]. Unfortunately, the present analysis indicates that being Hispanic and working in certain occupations and industrial sectors may have a profound influence on whether the worker and their families are insured. The only exception is for Hispanic white collar workers, who had similar rates of insurance as their non-Hispanic white and black counterparts.

A few limitations must be noted. First, our measure of health insurance coverage is somewhat general. Respondents reporting any type of coverage at the time of interview (private, Medicaid, Medicare, government-sponsored, military) were coded as having insurance, thus we did not consider differences in coverage by source of insurance. Second, the NHIS data are cross-sectional and we were not able to examine health insurance trends at the individual level over time. In addition, among Hispanic workers, both immigration status and the fact that the Hispanic population tends to be younger may have influenced insurance prevalence. Finally, our analysis includes individuals who are potentially working in multiple jobs and part-time workers, both of whom may not be eligible for employer-based health insurance.

While some have called for a national health insurance system such as those provided in Europe and Canada [Himmelstein and Woolhandler, 2003; Woolhandler et al., 2003], other health policy experts have called for incremental changes to increase health insurance coverage (such as the use of tax credits and the expansion of successful public insurance programs) [Tooker, 2003; Palmisano et al., 2004]. Massachusetts has passed legislation mandating that all citizens obtain health insurance and that employers with more than 10 employees offer health insurance or pay an annual tax of US $295 annually for each of their employees [The Henry J. Kaiser Family Foundation, 2007]. Other recent studies have suggested that English language training and access to a variety of vocational training opportunities may improve rates of employer-sponsored insurance among Hispanics [Reschovsky et al., 2007]. Future studies should examine how these innovative national and state programs may stop and reverse the increasing number of Hispanic and other workers and their families living without health insurance. In order to be effective, programs that promote health insurance coverage ideally should target the differential needs of workers in different occupations and race/ethnic subgroups.

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