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Paid Sick Days and Health Care Use:

An Analysis of the 2007 National Health Interview Survey Data

Won Kim Cook, Ph.D., M.P.H.
Alcohol Research Group, Public Health Institute, 6475 Christie Avenue, Suite 400, Emeryville, CA 94608-1010, wcook@arg.org, Telephone: (510) 597-3440, Fax: (510) 985-6459

Abstract

Background—In identifying factors of health care use, past research has focused on individual-level characteristics or on the health care system itself. This study investigates whether access to paid sick days, an amenable environmental factor outside the health care system, is associated with primary and emergency care use.

Methods—A nationally representative sample of 14,302 U.S. working adults extracted from the 2007 National Health Interview Survey data was used. Multiple logistic regressions were performed, controlling for demographic variables, health conditions and status, and access to health care.

Results—Workers with lower socioeconomic status, poorer health status, or without health insurance or regular places for care were more likely to lack paid sick leave than higher-status workers. For all U.S. working adults, access to paid sick days benefits was significantly associated with increased use of outpatient care but not with reduced use of ER. For U.S. working adults with health insurance coverage, access to paid sick days benefits was significantly associated with increased use of outpatient care and reduced use of emergency care.

Conclusions—A public policy mandating paid sick days may help facilitate timely access to primary care, reduce avoidable emergency care use, and reduce health disparities among workers.

Keywords

paid sick days; health care use; worker health; primary care use; emergency care use

Introduction

The benefits of timely access to primary care are well established. Primary care brings appropriate attention to a wide range of health problems, guides patients through the health care system, and provides opportunities for disease prevention and health promotion, as well as early detection of health problems [Institute of Medicine 1996]. Good primary-care experience—enhanced accessibility and continuity—has been associated with better self-reported health [Shi, et al. 2002] and better control of chronic conditions [Shea, et al. 1992]. It may also reduce health care costs through improved prevention, better coordination of chronic disease care, and reduced hospitalization [Bodenheimer and Fernandez 2005, Gill and Mainous 1998].

Whether individuals can use primary care in a timely manner depends upon a host of factors. Research has found that increased access to health care—most prominently, health insurance coverage [e.g., Shi, et al. 2002] and a regular place of care [Bindman, et al. 1996, Starfield and Shi 2004]—may facilitate primary care use. Individual-level demographic and socioeconomic characteristics, such as age [Culica, et al. 2002, Preisser, et al. 1998], gender [Rosenberg and Hanlon 1996], race [Flocke, et al. 1998, Cromwell, et al. 2005], income

[Culica, et al. 2002, Shi and Stevens 2005], educational level [Sambamoorthi and McAlpine 2003], and immigration status [Callahan and Cooper 2006], have also been identified as predictors of primary care use. In addition, characteristics of the health care system such as the medical procedures employed or use of standard practices may affect health care use to the extent that they render it more or less conducive to patients [Contencin, et al. 2006, Scheppers, et al. 2006, Aronsson, et al. 2000].

What is missing in the current literature is research on the amenable environmental factors *outside* the health care system that affect one's life in an important manner and that can also affect the timely use of health care. Factors related to one's employment, such as access to paid sick days benefits, are among them. In exploring whether paid sick days benefits facilitate health care use, the present study is intended to shed some light on this little explored area.

Paid sick days may provide significant health benefits in that they allow workers to take the time off work to rest and recover from illnesses or to receive medical attention when ill. Recent research has found that going to work ill repeatedly is associated with long-term sickness [Hansen and Andersen 2008] and that paid leave for workers who experience a serious health condition such as myocardial infarction or angina are likely to help these workers return to their jobs [Earle and Heymann 2006]. Given the findings of a national survey that over 10% of American workers suffered from job loss or were otherwise penalized for taking time off for illness [Smith 2008], paid sick days may also help ensure job security of workers and reduce their stress. Still, the specific mechanisms in which paid sick days improve health outcomes are not clear in the current literature, which the present study is intended to explore.

Specifically, the present study examines whether access to paid sick days benefits is associated with the use of two types of health care services with very different health implications—primary care use and emergency care use. As discussed above, timely use of primary care offers numerous health benefits. Emergency care use in the United States has somewhat different implications, as it has been found that many visits to emergency rooms involve conditions that are not life threatening or otherwise do not require immediate medical attention [Cunningham and May 2003]. To the extent that emergency room (ER) use is an outcome of delayed ambulatory or preventive care, it may indicate, at least in part, an inability of the patient to use primary care in a timely manner [Billings, et al. 2000].

While occupational and environmental health research and practice have traditionally focused almost exclusively on prevention of exposure to toxic substances and hazardous conditions at work, a new paradigm that calls for an integrated approach in improving overall health of American workers has emerged, stressing how worker health is influenced by factors both inside and outside the workplace [Cherniack, et al. 2011, Punnett, et al. 2009]. In investigating the associations between a workplace policy concerning paid sick days and workers' health care use outside the workplace (that has direct implications for workers' health), this study contributes to advancing this new paradigm. A long-standing separation between the broader public health community focused on health promotion outside the workplace and occupational health practitioners who are mainly interested in the control of health risks from work is an obstacle to taking a multi-faceted approach geared towards improving workers' health effectively [Institute of Medicine 2005], and this study suggests a way in which it may be bridged in a way that has not been attempted previously.

Using a nationally representative sample of U.S. working adults, two research questions are addressed in this study: 1) Is access to paid sick days benefits associated with primary care use?; and 2) Is access to paid sick days benefits associated with emergency care use? It is

hypothesized that access to paid sick days benefits is associated with increased use of primary care and with reduced use of emergency care. Other known predictors of health care use, such as health insurance coverage, a regular place of care, self-rated heath status, chronic conditions, as well as demographic characteristics and socioeconomic status (SES), were also included in the multivariate models as covariates.

Materials and Methods

Data

A subset of the 2007 National Health Interview Survey (NHIS) data was used in this study. The NHIS is a cross-sectional household interview survey conducted annually by the Centers for Disease Control and Prevention (CDC) to monitor the health of the United States population across a broad range of health topics. NHIS uses a multistage area probability sampling design to select samples representative of the civilian and non-institutional population living in the United States at the time of the survey. The NHIS data files have a nested structure, with the Household file as the base file from which all other files are built. The Family-Level file, which also serves as a sampling frame for individual-level samples, contains variables that describe characteristics of the 29,915 families living in households. From each family in NHIS, one sample adult and one sample child (if any children under age 18 are present) were randomly selected; the *Sample Adult* file had data collected on adults (N=23,393), and the *Person* file on all individuals, both adults and children (N=75,764). Blacks, Hispanics, and Asians were over-sampled in the 2007 NHIS.

The sample used in the present study consisted of 14,302 U.S. working adults aged 18 or older who were employed for pay at a job or business in the previous week, excluding those who were self-employed, those working without pay at a family-owned job or business, and those who were not working. Variables were selected from three linked data files, *Sample Adult, Person,* and *Family*.

Measures

The outcome variables used in this study are: *outpatient care use* and *ER use*. As a proxy of primary care use, *outpatient care use* is a composite of responses to five questions: four on whether the respondent had seen medical practitioners in the previous 12 months (including a nurse practitioner, physician's assistant, or a midwife; a general doctor; a specialist; or an obstetrician or a gynecologist if the respondent was female) and a question on the number of office visits which was recoded into a binary variable to indicate whether or not these visits were office visits (as opposed to ER visits). *Outpatient care use* thus indicates any office visit to any of those medical practitioners. *ER use* indicates any ER visit in the past 12 months.

The predictors used include: *access to paid sick days* indicating that the respondent had paid sick days benefits at the main job or interest, or at the job held the longest or most recently; *health insurance coverage* indicating that the respondent had any type of coverage, public or private; and a *regular source of care* indicating that the respondent had one or more places that was not an ER where they usually went when sick. Health conditions and status may also affect health care use; research has found that those who report their health to be poor or fair were more likely to use outpatient care than those with better self-rated health [Culica, et al. 2002, Jang, et al. 2005] and that having chronic conditions was significantly associated with the use of routine medical care [Preisser, et al. 1998]. Therefore, two binary variables on the respondent's health were included: *self-rated health status* of excellent, very good, or good health *versus* fair or poor health; and physician-diagnosed *chronic conditions* indicating whether the respondent had any of the five common chronic conditions—asthma,

coronary heart disease, chronic bronchitis, diabetes, and hypertension—which, according to an analysis of the 2007 NHIS data conducted in the course of this study, affect almost two-fifths (38.4%) of the U.S. population. Since occupational status may affect both access to paid sick days and health care use [Smith 2008], three indicator variables for occupational status were used with managerial/professional positions as baseline: 1) *health, education, or social service occupations*; 2) *sales, service, or administrative support occupations*; and 3) *agricultural, construction, or manufacturing occupations*. Demographic variables also included as covariates were age, gender, race, education level (a binary variable of college or more advanced degree versus less education), and family income (a binary variable of $75,000 or more *versus* less).

Statistical Analysis

Analyses were conducted using STATA (version 10.0) and its survey estimation procedure. With the exception of univariate analyses to obtain the numbers of respondents in the sample by demographic subgroup, all analyses were conducted with a weighted sample using NHIS's *Final Sample Adult Weight* that includes all design, ratio, non-response and post-stratification adjustments. Using the weighted data, univariate analyses were conducted to estimate the characteristics of U.S. working adults; bivariate χ^2 tests were performed to assess the associations between individual characteristics and paid sick days, as well as health care use (Table 1). Four multiple logistic regression models were then fitted to examine the associations between paid sick days and health care use, controlling for demographic variables, SES, and health conditions and status, and access to health care (Table 2). The entire sample was used in the first two logistic regression models (Models 1 and 2). Given that the passage of the 2010 Health Care Reform Act is likely to provide coverage for virtually all Americans, a subset of the sample including only those with health insurance coverage was used in the other two models (Models 3 and 4) to evaluate potential effects of paid sick days in such a system.

Results

Characteristics of U.S. Working Adults by Paid Sick Days and Health Care Use

About 56.4% of U.S. adults who were employed for pay (excluding those who were self-employed)—referred to henceforth as "working adults"—were likely to have paid sick days. About 68.1% of working adults were likely to have used outpatient care in the past year and 17.2% emergency care. While the vast majority (93.8%) of working adults self-rated their health as excellent, very good, or good, about 30.7% indicated that they had one of the five common chronic conditions listed above. Over four-fifths had health insurance coverage (83.4%) and regular places for care (81.4%). (See Table 1.)

Results of a series of bivariate analyses (also see Table 1) indicate that U.S. working adults who were older (with the exception of those over 60 years) were more likely to have paid sick days than the younger. So were those who had higher level of education than those with lower level of education, those with higher household incomes than those with lower incomes, those with higher status occupations—such as those who held managerial or professional positions (72.7%) and those with health, education, or social service occupations (71.4%)—than those with sales, service, or administrative supportive jobs (47.4%) and those with agricultural, construction, or manufacturing occupations (42.3%); and those with excellent, very good or good health (57.1%) than those with fair or poor health (46.1%). Therefore, more vulnerable workers—i.e. those with lower SES or poorer self-rated health—were likely to lack paid sick days. Such disparities were also present in the bivariate relationships between health care access and paid sick days. That is to say, working adults who had health insurance coverage (64.0%) were much more likely to have

paid sick days than those without health insurance (18.2%); so were those with regular places of care (60.8%) than those without them (37.5%).

As for health care use, those with higher SES—i.e. those with higher education, those who hold white-collar occupations, and those with higher family incomes—were more likely to use outpatient care and less likely to use ER than those with lower SES. Those with health insurance or a regular place for care than those without them were more likely to use outpatient care. Whites (72.5%) had the highest rate of outpatient care use among all the racial groups and Hispanics (50.0%) the lowest. Not surprisingly, those who had fair or poor self-rated health (79.2%) were more likely to use outpatient care than those with excellent, very good, or good health (67.4%). Overall, those who were less likely to use outpatient care —i.e. the younger or those with less education or household incomes—were more likely to use ERs. However, there were some exceptions: females than males were more likely to use both outpatient care and ERs; so were the older than the younger. Also, those with fair or poor self-rated health were more likely to use outpatient care or ERs than those with excellent, very good, or good health; similarly, those with chronic conditions were more likely to use outpatient care or ERs. With the exception of "other," blacks (22.3%) had the highest rate of ER use among all the racial groups. Health insurance coverage and regular place for care were not significantly associated with ER use.

Results of Multivariate Analysis: Predictors of Health care use

Results of multiple logistic regression analyses with outpatient care use and ER use as outcomes are presented in Tables 2 and 3. In Models 1 and 2 using the sample of all U.S. working adults, access to paid sick days was significantly associated with outpatient care use (OR=1.164; 95% CI=1.027–1.318) but not with ER use (OR=0.810; 95% CI=0.801–1.034), with demographic, healthcare access, and health status and conditions variables controlled (Table 2). Not surprisingly, those who rated their health as excellent, very good, or good were less likely to use outpatient (OR=0.526; 95% CI=0.413–0.669) or emergency care (OR=0.470; 95% CI=0.385–0.573) than those with fair or poor health. Similarly, those with chronic conditions were more likely to use outpatient care (OR=2.256; 95% CI=2.003–2.540) or an ER (OR=1.499; 95% CI=1.340–1.677). While not a significant predictor of outpatient care use, occupational status was significantly associated with ER use, with those with sales, service, and administrative support positions (OR=1.374; 95% CI=1.162–1.625) and those with agricultural, construction, and manufacturing occupations (OR=1.339; 95% CI=1.114–1.609) being more likely to use ER than those with managerial or professional occupations. Health insurance coverage (OR=2.076; 95% CI=1.794–2.402) was predictive of outpatient care use but not significantly associated with ER use. Those with a regular place of care were more likely to use outpatient care (OR=4.131; 95% CI=3.551–4.805) or ER (OR=1.300; 95% CI=1.079–1.555).

In models including only those who had health insurance (Table 3), access to paid sick days was significantly associated with both outpatient care and ER use, with covariates controlled. That is to say, among working adults with health insurance coverage, those with paid sick days were more likely to use outpatient care (OR=1.148; 95% CI=1.001–1.317) and less likely to use ERs (OR=0.837; 95% CI=0.732–0.956). Overall, the relationships between other covariates and health care use for working adults with health care coverage were consistent with those for all working adults discussed above, albeit with some exceptions. For example, among working adults who had health insurance coverage, those who had with health, education, and social service occupations were slightly more likely to use outpatient care than managers or professionals (OR=1.184; 95% CI=1.001–1.402), a relationship that was not observed for all working adults.

Discussion

For all U.S. working adults, access to paid sick days benefits was significantly associated with increased use of outpatient care but not with reduced use of ER. However, as hypothesized, access to paid sick days was significantly associated with increased use of outpatient care and with reduced use of ER for those who were insured. Findings of the present study also reveal that more vulnerable workers—i.e. those with lower income, education level, or occupational status, those with poorer health status, and those without health insurance or regular places for care—are more likely to lack paid sick days than higher-status workers. Given that persons with lower SES and without health insurance are more likely to suffer from poor health [Yen and Syme 1999, Chittleborough, et al. 2009, Institute of Medicine 1996], these findings suggest that the differential access to paid sick days may exacerbate already-existing health disparities, negatively affecting those who are poorer and sicker. Perhaps due at least in part to their inability to use primary care in a timely manner, working adults with lower occupational status were more likely to use emergency care. Since education level is positively correlated both with access to paid sick days and primary care use and negatively correlated with ER use, one may suspect that access to paid sick days may be a mere intervening variable between education level and health care use. However, access to paid sick days was significantly associated with primary care and ER use (for those insured) with education controlled for, suggesting a potential effect of paid sick days on health care use, independent of that of education.

Internationally, employers are mandated to provide paid sick days in 145 countries [Heymann, et al. 2007]. The United States is one of the few industrialized nations with no national policy requiring employers to provide paid sick days for workers who need to miss a few days of work to recover from the flu [Heymann, et al. 2010]. With the exceptions of three U.S cities—San Francisco, California; Washington, D.C.; and Milwaukee, Wisconsin—and Connecticut State, which became the first U.S. state in June 2011 to mandate service-sector employers with more than 50 employees to provide paid sick days benefits, paid sick days are offered voluntarily by employers. The findings of this study suggest that a public policy mandating paid sick days benefits may offer health benefits by allowing workers to use primary care in a timely manner. The finding that access to paid sick days is significantly associated with reduced use of ER for the insured working adults is particularly important. The lack of health insurance is the most consistent predictor of unmet heath care needs including medical checkups, screening, and other ambulatory care [Culica, et al. 2002, Buchmueller, et al. 2005, DeVoe, et al. 2008]. Potential benefits paid sick days may provide in helping to use health care in a timely manner and in thus reducing avoidable emergency care use may more pronounced for the insured without such critical barriers, which may be most of Americans under the virtual universal coverage provided by the Affordable Care Act. In addition, given the findings of this study that lower-status workers are more likely to lack paid sick days than higher-status workers, a public policy that provides paid sick days to all workers may help reduce health disparities.

Little research has been reported on the effects on health care use of the amenable environmental factors that are outside the health system. Workplace policies such as those concerning paid leave are among such factors. A limited number of U.S. studies have examined the associations of paid family leave with the availability of parents to care for children [Chung, et al. 2007, Heymann, et al. 1996, Clemans-Cope, et al. 2008] or the health of disabled children and their parents [Schuster, et al. 2009]. No research has been reported to date on the associations of paid sick days benefits with workers' health or health care use. In shedding light on this underexplored area, the findings of the present study constitute an important contribution to the literature.

The findings that paid sick days may serve as a protective factor from ER use have other important policy implications. The extensive use of ERs for non-urgent conditions has been a major concern in the U.S. Fees for ER visits are much higher than for visits to office-based practitioners [Baker, et al. 1994], reflecting more intensive use of staff and equipment and higher price markups for inpatient care [Carey 1994]. Shifting much of the non-urgent care provided in hospital ERs to outpatient settings could thus result in substantial cost savings to the health care system [Cunningham, et al. 1995]. While some studies have found that persons without insurance or a usual source of care are disproportionately represented among patients visiting ERs [Jones, et al. 1999, Newton, et al. 2008], others have found that the uninsured are no more likely to use ERs than the insured [Irvin, et al. 2003, Weber, et al. 2005]. The findings of the present study are consistent with the latter. In a way, reducing healthcare costs through reduced use of avoidable hospital use may be more critical for a system that provides universal health coverage than one that does not and thus limits access to health care. The extent to which avoidable ER use can be reduced may depend on sick workers' ability to take time off work to rest and recover from illnesses or to receive timely medical care without losing pay, which may be enhanced by the provision of paid sick days. Therefore, not only do paid sick days enhance the quality of life for workers, they may also help reduce costs for the entire health care system.

Also importantly, this study goes beyond the conventional scope of environmental and occupational health research that tends to focus on specific workplace health hazards, addressing an important workplace issue that has broad implications for many workers in the United States. In suggesting how such an issue may be addressed by a public policy, this study points to a means by which worker health may be advanced in a way that is different from what is commonly prescribed by the current paradigm (i.e. by reducing exposure to specific health hazards) and how a multi-pronged approach may be deployed to help improve workers' health and well-being.

There are several limitations of the present study. First, due to the cross-sectional design of the NHIS, causal relations between the predictors and outcomes cannot be established with confidence. Also due to the difficulties inherent in this design, complex causal pathways among paid sick days, health status, and health care use were by and large unexplored. In addition, due to the lack of variables in the NHIS, the extent to which paid sick days were actually utilized by workers is unknown; some working adults may have not taken time off even with access to paid sick days; others may have taken paid sick days to care for family members who were sick—a legitimate use of paid sick days in most countries where paid sick days are mandated [Heymann, et al. 2010]—or for other personal reasons unrelated to their own health, especially when they are not likely to risk job or income loss by doing so [Askildsen, et al. 2005]. Additionally, a potential misclassification bias may have been present in using outpatient care use as a proxy of primary care use, as some office visits may have been made outside primary care, which could not be teased out in this study.

Yet another limitation of the present study highlights questions future research on paid sick days in the U.S. might address. As reported in Europe where paid sick days are mandated, sickness presenteeism—defined as going to work despite ill health that should prompt rest and absence from work [Aronsson, et al. 2000]—is a function of the combination of formal rules and informal social pressures [Dew and Taupo 2009], which indicates that the existence of a paid sick days policy may not guarantee the worker's ability to take paid sick time off when sick. Power relations, work demands, and workplace culture [Bockerman and Laukkanen 2009, Aronsson and Gustafsson 2005] as well as personal factors [Hansen and Andersen 2008] may come into play, but such intricate workplace dynamics that may undercut the effects of a formal workplace policy were unexplored in this study due to the lack of data. Future research might need to address questions including the following: 1) do

workers use paid sick days when sick?; 2) what are the personal factors (such as personal attitudes toward sickness absence) that may influence workers' ability or willingness to use paid sick days?; and 3) what are the workplace factors—such as job security, work demands (including work hours, shift, and the availability of replacement), the worker's status or decision latitude, supervisor's willingness to approve paid sick time off, general workplace or industry culture that may render paid sick time off common place or a rarity, and other informal workplace norms that may make paid sick time off acceptable or unacceptable—that may influence workers' ability to take paid sick time off?

Despite these limitations, the present study has a number of important strengths. Its weighted representativeness enables findings to be generalizable to the segment of the U.S. population appropriate for the research question posed. The sizable sample is another strength which likely enhanced the ability to detect significant effects of health care access predictors of heavy drinking. Above all, findings of the present study may have important policy implications in that they point to the ways in which a policy outside the domain of health care can help facilitate timely and appropriate use of primary health to improve worker health and reduce costly and avoidable emergency care use.

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Table I

Characteristics of U.S. Working Adults by Access to Paid Sick Days & Health Care Use

	n (%; 95% CI)	Paid Sick Days		Primary Care Use		Emergency Care Use	
		%	p	%	p	%	p
All	N=14302	56.4		68.1		17.2	
Gender							
Female	7171 (45.7; 44.7–46.6)	58.9	p <.0001	78.9	p <.0001	18.8	p < .001
Male	7131 (54.3; 53.3–55.4)	54.3		59.0		15.8	
Age							
18–30	3533 (26.7; 25.6–27.8)	46.4	p <.0001	58.6	p <.0001	20.4	p <.0001
31–40	3463 (22.9; 22.1–23.7)	60.6		65.5		16.7	
41–50	3458 (24.7; 23.8–25.5)	61.1		70.4		16.0	
51–60	2688 (18.7; 17.9–19.4)	63.4		76.7		15.3	
61 or older	1160 (7.1; 6.7–7.6)	45.8		82.1		15.5	
Race							
Hispanic	2695 (14.1; 13.1–15.0)	44.8	p <.0001	50.0	p <.0001	14.0	p <.0001
Non-Hispanic White	8502 (69.0; 67.8–70.2)	58.1		72.5		17.4	
Non-Hispanic Black	2213 (11.4; 10.7–12.2)	58.2		67.3		22.3	
Asian	775 (4.7; 4.3–5.1)	64.1		62.6		9.7	
Other	117 (0.9 (0.7–1.1)	46.0		64.9		23.5	
Educational level							
Did not graduate HS	1782 (11.0; 10.3–11.8)	31.6	p <.0001	49.4	p <.0001	19.8	p <.0001
HS graduate/GED	3702 (26.7; 25.7–27.7)	48.1		63.0		17.6	
Some college	4280 (30.2; 29.2–31.2)	55.5		71.3		19.6	
College degree	2910 (21.3; 20.2–22.3)	72.1		74.9		13.9	
Advanced degree	1496 (10.8; 10.2–11.5)	74.0		79.3		13.4	
Household income							
$0 – $34,999	4297 (24.8; 23.8–25.9)	35.7	p <.0001	58.2	p <.0001	21.6	p <.0001
$35,000 – $74,999	4749 (37.1; 35.9–38.2)	56.9		66.1		17.3	
$75,000 – $99,999	1606 (14.6; 13.8–15.4)	67.9		74.3		15.5	
$100,000 or higher	2383 (23.5; 22.4–24.7)	69.2		78.9		14.5	

	n (%; 95% CI)	Paid Sick Days		Primary Care Use		Emergency Care Use	
		%	p	%	p	%	p
Occupational status							
Managerial & professional	2,582 (19.7; 18.8–20.6)	72.7	p <.0001	75.8	p <.0001	13.9	p <.0001
Health, education & social service	2,980 (21.2; 20.3–22.0)	71.5		78.5		16.8	
Sales, services & administrative support	5,017 (35.3; 34.3–36.3)	47.4		68.2		19.4	
Agriculture, construction & manufactuiring	3,106 (23.8; 22.8–24.7)	42.3		56.1		17.9	
Health status							
Excellent/very good/good	13355 (93.8; 93.3–94.3)	57.1	p <.0001	67.4	p <.0001	16.1	p <.0001
Fair/poor	942 (6.2; 5.7–6.7)	46.1		79.2		32.7	
Chronic conditions							
Yes	4,426 ((30.7; 29.8–31.7)	56.8	p >.05	80.5	p <.0001	22.1	p <.0001
No	9,876 (69.3; 68.3–70.2)	56.3		62.6		15.0	
Health insurance coverage							
Yes	11641 (83.4; 82.6–84.1)	64.0	p <.0001	74.1	p <.0001	16.9	p >.05
No	2620 (16.6; 15.9–17.4)	18.2		38.7		18.6	
Regular place for care							
Yes	11315 (81.4; 80.4–82.2)	60.8	p <.0001	77.5	p <.0001	17.4	p >.05
No	2781 (18.7; 17.8–19.6)	37.5		32.1		16.1	

Note. Ns/ns are unweighted, and the percentage of this nationally representative sample is weighted

Table II

Health care use Among All U.S. Working Adults

	Outpatient Care Use **Odds Ratio (95% CI)**	**Emergency Care Use** **Odds Ratio (95% CI)**
	Model 1 (N=13806)	**Model 2** (N=13764)
Paid Sick Days	1.164* (1.027–1.318)	0.910 (0.801–1.034)
Male	0.391*** (0.350–0.437)	0.838** (0.749–0.938)
Age over 50	1.234**(1.094–1.392)	0.717*** (0.626–0.821)
Hispanic	0.671*** (0.571–0.790)	0.729*** (0.611–0.870)
Black	0.824* (0.701–0.968)	1.226** (1.061–1.415)
Asian	0.584*** (0.466–0.731)	0.514*** (0.368–0.717)
College or higher degree	1.366*** (1.213–1.537)	1.036 (0.909–1.181)
Family income ($75K+)	1.333*** (1.167–1.522)	0.863* (0.751–0.992)
Health, education & social service occupations	1.117 (0.956–1.304)	1.166 (0.987–1.378)
Sales, services & administrative support occupations	0.958 (0.819–1.121)	1.374*** (1.162–1.625)
Agriculture, construction & manufacturing occupations	1.004 (0.843–1.196)	1.339** (1.114–1.609)
Self-rated health status	0.526*** (0.413–0.669)	0.470*** (0.385–0.573)
Chronic condition	2.256*** (2.003–2.540)	1.499*** (1.340–1.677)
Health insurance	2.076*** (1.794–2.402)	0.886 (0.743–1.056)
Regular place for care	4.131*** (3.551–4.805)	1.300** (1.079–1.555)

* p <.05;

** p <.01;

*** p <.001

CI: Confidence Interval

Table III

Health care use Among U.S. Working Adults with Health Insurance

	Outpatient Care Use Odds Ratio (95% CI)	Emergency Care Use Odds Ratio (95% CI)
	Model 3 (N=11275)	**Model 4** (N=11242)
Paid Sick Days	1.148* (1.001–1.317)	0.866* (0.758–0.989)
Male	0.403*** (0.356–0.457)	0.840** (0.740–0.954)
Age over 50	1.272** (1.105–1.464)	0.738*** (0.635–0.857)
Hispanic	0.643*** (0.527–0.786)	0.865 (0.707–1.058)
Black	0.869 (0.724–1.057)	1.191* (1.010–1.406)
Asian	0.571*** (0.449–0.726)	0.562** (0.402–0.786)
College or higher degree	1.334*** (1.161–1.532)	1.097 (0.948–1.269)
Family income ($75K+)	1.358*** (1.178–1.565)	0.828* (0.718–0.955)
Health, education & social service occupations	1.184* (1.001–1.402)	1.150 (0.967–1.367)
Sales, services & administrative support occupations	0.948 (0.797–1.126)	1.230** (1.090–1.551)
Agriculture, construction & manufacturing occupations	0.964 (0.799–0.164)	1.246* (1.015–1.530)
Self-rated health status	0.451*** (0.322–0.631)	0.448*** (0.364–0.552)
Chronic condition	2.287*** (1.991–2.628)	1.496*** (1.325–1.670)
Regular place for care	4.014*** (3.314–4.862)	1.265* (1.001–1.599)

* p <.05;

** p <.01;

*** p <.001

CI: Confidence Interval