

Who Is at Risk of Losing and Gaining Health Insurance?

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In this study, we examine annual transitions into and out of health insurance coverage using matched data from the 1996 to 2004 Current Population Survey (CPS). We find evidence of several characteristics that are strongly associated with the likelihood of losing or gaining health insurance including race, education, unemployment, part-time employment status, employment size, and self-employment.

Introduction

IN 2005, 46.6 MILLION PEOPLE, OR 16 PERCENT of the U.S. population, lacked health insurance. Trends indicate that both the number and rate of uninsurance have increased since the late 1980s (DeNasvas-Walt, Proctor, and Lee 2006). The literature on health insurance has focused on coverage at a point in time, which may greatly understate the problem of uninsurance in the United States. Estimates from longitudinal data indicate that health insurance coverage over time is volatile. For example, data from the Survey of Income and Program Participation (SIPP) indicate that among full-time workers in 1999, 16 percent experienced at least 1 month without health insurance (Bhandari and Mills 2003). Nearly 25 percent of individuals without a high school diploma were uninsured for at least 1 month in the same year. New estimates from the Current Population Survey (CPS) presented in this article indicate that 7.5 percent of working-age adults who report having health insurance in 1 year have no health insurance in the following year.

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Furthermore, less than one-half of adults who were not covered in 1 year gain health insurance coverage in the following year.

Intermittent health insurance appears to be much less beneficial than continuous coverage—especially for the most vulnerable populations—resulting in outcomes that more closely resemble the outcomes of the continuously uninsured (Baker et al. 2001). In particular, intermittent coverage has been shown to result in the use of fewer preventive health services (Sudano and Baker 2003) and increased problems in accessing medical care and following up on this care (Schoen and DesRoches 2000). Previously uninsured or intermittently insured adults who gain access to health insurance tend to show improvements in their use of medical services, although it may take several years for this to occur (McWilliams et al. 2003; Sudano and Baker 2003). Levy and Meltzer (2004) review the literature on whether health insurance affects health, and find evidence for a link in observational, experimental, and large quasi-experimental studies. The most vulnerable populations—infants, children, and low-income populations—have the largest health consequences of lack of insurance.

Although low rates of health insurance among certain demographic and employment groups, such as disadvantaged minorities, less-skilled workers, and the unemployed, have been well documented, we know relatively little about the dynamic patterns of health insurance coverage among these groups. Examining point-in-time insurance coverage may mask important differences in rates of health insurance transitions, which are the force behind differences in static rates. For example, the low rates of coverage among part-time and small-employer workers may be due to high rates of insurance loss, low rates of gaining insurance, or a combination of the two. A more serious problem is that some groups may have high rates of insurance coverage at a point in time, but also have high rates of volatility in coverage due to greater propensities to lose and gain health insurance.¹

An improved understanding of the dynamics of health insurance coverage may have important policy implications. Concerns about uninsured workers, particularly those working part time and for smaller employers, have prompted a number of policy proposals aimed at addressing gaps in employer-provided insurance. For instance, California's state legislature passed SB 2 in 2003, which included both a pay-or-play option—requiring most firms to pay for health insurance directly or pay into a public benefits

¹ Conditioning on the same level of health insurance coverage, more volatility is problematic for continual coverage and reducing disruptions in health care, but less volatility implies a lower likelihood of the uninsured being able to obtain health insurance.

system—and also an individual mandate that employees be covered by health insurance. SB 2 was put on the November 2004 ballot as a referendum for the California voters, who narrowly defeated the measure with a vote of 50.9 to 49.1. Opponents of the legislation argued that it would force employers who do not currently offer health insurance to lay off workers, leave the state, or reduce their workforce. Proponents countered that the majority of affected employers were in locally based service industries and that the legislation would level the playing field for firms that were already offering coverage.

These pay-or-play policies, or so-called Wal-Mart bills, have focused on very large employers that have relatively higher proportions of employees receiving government-sponsored, instead of employer-sponsored, health insurance (Dube and Jacobs 2004). Maryland, for instance, passed SB 790, the Fair Share Healthcare Bill, that requires employers with 10,000 or more employees to pay 8 percent of their payroll to provide health insurance for their employees, or pay the difference as a tax to the State (Council for Affordable Health Insurance 2006). This bill was vetoed by Maryland's governor but the veto was overridden by the legislature. Thirty states have proposed legislation that resembles California's SB 2 and Maryland's SB 790, including Rhode Island, Washington, New York, New Jersey, Connecticut, West Virginia, and Massachusetts (Baicker and Levy 2005; Council for Affordable Health Insurance 2006). Mandated employer sponsored insurance is an increasingly viable policy response to the problem of uninsurance in the United States.

Previous research does not address whether the additional employees targeted for health insurance coverage under employer mandate proposals align with those at highest risk of insurance loss and lowest risk of insurance gain. If individuals who are the most likely to experience health insurance losses from one year to the next are primarily the ones who change jobs, employer mandate programs such as California's SB 2 may have a large effect. For them, pay-or-play legislation would ensure continuous health insurance coverage without a need to rely on self-funded COBRA (Consolidated Omnibus Budget Reconciliation Act of 1985) insurance. However, if individuals lose insurance due to movement from a larger employer (that would be covered by SB 2) to a very small one (that would not be covered by SB 2), or other reasons, such as loss of spousal coverage, the effects of this type of insurance mandate could be much smaller. An analysis of transitions will reveal the extent to which volatility in health insurance coverage is primarily experienced by low-income or less-skilled workers, those whom SB 2 and other similar proposals most intend to assist.

In this study, we examine annual transitions into and out of health insurance coverage using matched data from the 1996 to 2004 Annual Demographic Files (ADF) of the Current Population Survey (CPS). Although the CPS ADFs have primarily been used as cross-sectional samples, we create a two-year panel by linking consecutive surveys. To our knowledge, the matched CPS data have not been previously used to explore the dynamics of health insurance coverage. We address several questions using these data. First, by examining patterns of health insurance coverage transitions, we identify the underlying dynamic components of low rates of health insurance among notable groups, such as minorities, less-educated workers, part-time workers, and workers at small employers. Are they due to high rates of health insurance loss, low rates of obtaining health insurance, or both? An analysis of insurance rates provides information on the relative magnitude of gain rates versus loss rates, but does not provide information on the separate transition rates. Second, we examine which groups have the highest probability of losing and lowest probability of gaining health insurance. The large sample sizes in the CPS allow us to examine very detailed demographic, employment and job characteristics, which is especially important for identifying the determinants of gaining health insurance among the relatively small population of uninsured individuals. Finally, we discuss the implications of these results for recently proposed employer-mandated health insurance policies.

Previous Studies

The literature on health insurance dynamics emphasizes that a dynamic approach to studying health insurance coverage represents an improvement over point-in-time analyses. If spells of uninsurance are short and end with regained insurance coverage, we might be less concerned about uninsurance. If, however, those who are uninsured remain so for long periods, or repeatedly gain and lose insurance, we might be more concerned about their well-being.

Studies of health insurance dynamics have mostly focused on the duration of uninsurance spells and the characteristics of individuals with longer spells.² One of the pioneering studies in this area found that half of uninsurance spells end within 4 months, and 15 percent last more than 2 years (Swartz and McBride 1990). More recent data published by the Congressional

² A large related literature examines the relationship between health insurance and job turnover or “job lock” with mixed findings (see, e.g., Gilleskie and Lutz 2002; Gruber and Madrian 1994, 2001; Kapur 1998; and Madrian 1994).

Budget Office indicate an increase in the share with longer spells—41 percent of uninsurance spells lasted less than 4 months and 18 percent lasted more than 2 years (Congressional Budget Office 2003). The CBO study also documents that poor, less educated, and Latino families are more likely than others to have uninsurance spells that last more than 2 years. Zuckerman and Haley (2004) also find a marked difference in the characteristics of adults with shorter and longer spells of uninsurance. Using data from the National Survey of America's Families, they find that those with spells of a year or more are far more likely to have not completed high school and are more likely to be from minority backgrounds. Furthermore, compared to those with shorter uninsurance spells and those who have full-year insurance, individuals without insurance are less likely to have visited a doctor's office in the previous year and have a usual source of care.

Certain factors lead to higher probabilities of exit from spells of uninsurance, including higher educational attainment, nonpoverty family income, and prior employment in various industries (for instance, manufacturing, trade, utilities, finance/insurance/real estate, and business and professional services) (Swartz, Marcotte, and McBride 1993). Focusing on poverty and uninsurance, McBride (1997) finds that 42 percent of the uninsured have incomes less than 150 percent of the federal poverty line and have been uninsured for more than a year.

Taking a slightly longer time perspective, Short and Graefe (2003) identify that the majority of individuals who were uninsured lacked insurance for more than 12 months over a 4-year period. During this 4-year period, one out of three working-age adults had a lapse in coverage of some duration. They identify several patterns of insurance coverage associated with these lapses, including one-time coverage gaps as well as repeated gaps in coverage.

Although much of the literature on health insurance transitions relies on monthly data, Monheit, Vistnes, and Zuvekas (2001) provide estimates of annual transitions in health insurance from using the 1996 MEPS. They find that 30 percent of individuals who were uninsured in one month gained insurance in the subsequent year. Conversely, among those with private insurance, 8 percent lost coverage during the subsequent year (19 percent for those with public insurance). The insurance loss rate among publicly insured children is even higher; 13 percent of children enrolled in Medicaid or the State Children's Health Insurance Program left the program within 12 months and remained uninsured despite their continued program eligibility (Sommers 2005).

These estimates point to the importance of studying health insurance dynamics; however, to our knowledge, the independent effects of both detailed

demographic and employment characteristics on health insurance gain and loss have not been examined in the previous literature. Congressional Budget Office (2003) reports estimates of spell duration for those in different firm sizes, but is purely descriptive. This article contributes to the literature by identifying the groups most at-risk of losing and gaining health insurance from one year to the next. Sample sizes in the CPS are large enough to examine transitions between very detailed demographic groups and employment characteristics. We also model both sides of the transition: entry into insurance and exit from insurance. The large sample sizes available in the CPS are especially important for identifying factors associated with gaining health insurance because the analysis relies on the uninsured sample in the first survey year.

Measuring Health Insurance Transitions in the CPS

We use data from the 1996 to 2004 Annual Demographic and Income Surveys (March) of the Current Population Survey (CPS). The survey, conducted by the U.S. Census Bureau and the Bureau of Labor Statistics, is representative of the entire U.S. population and interviews approximately 50,000 households and more than 130,000 people. It contains detailed information on health insurance coverage, employment, demographic characteristics, and income sources. We limit the sample to working age adults, ages 25–55, to avoid problems associated with including young adults who are in school and older adults who retire—groups that we expect to have a weaker attachment to the labor force.

Although the CPS is primarily used as a cross-sectional data set, it is becoming increasingly common to follow individuals for two consecutive years by linking surveys. Households in the CPS are interviewed each month over a 4-month period. Eight months later they are re-interviewed in each month of a second 4-month period. The rotation pattern of the CPS makes it possible to match half of all respondents in March of 1 year to information from March of the following year. The other half of the sample is in their second rotation and cannot be matched. We use the same criteria as Madrian and Lefgren (2000) for matching the CPS March files from 1996 to 2000, but use modified criteria for the 2001 to 2004 data.³ Across the 1996–2004 CPS surveys, we find that roughly 75 percent of CPS respondents whom we expect to match in one survey can be identified in the subsequent

³ Prior to matching years we remove the supplemental samples to the 2001 to 2004 ADFs, which include respondents who are generally not re-interviewed in the following March.

year's survey.⁴ For these individuals, we can identify changes in health insurance coverage between the two survey years.

For most of the analyses in this article, we define health insurance coverage as any type, including public insurance, employer-provided insurance, or other private insurance purchased by the respondent. Where we look at private and public insurance coverage separately, we follow the convention in the literature of assigning private health insurance status to respondents who have only private coverage or a mix of private and public coverage. Respondents are categorized as having public health insurance if that is their only source of insurance.

The health insurance variables used for this analysis refer to the respondent's health insurance in the year prior to the March survey. An individual has health insurance if they report having health insurance at any time during the survey year. The transition identifies changes in coverage people experience over the course of 1 year to what they experience over the course of the next year. The transitions can therefore be thought of as covering two full years, the 12 months prior to the first survey year and the 12 months prior to the second survey year.⁵ Thus, in our health insurance loss analysis, we examine movement between having insurance for any part of the first survey year and not having insurance for the entire second survey year.

Comparisons of estimates of health insurance coverage using the CPS and other data sets that include a point-in-time measure of health insurance reveal similar numbers of uninsured individuals. Estimates from the Survey of Income and Program Participation (SIPP), Medical Expenditure Panel Survey (MEPS), and National Health Interview Survey (NHIS) indicate that roughly 40 million individuals are uninsured at the time of the survey in 1998 (Congressional Budget Office 2003). Estimates from the CPS for the

⁴ Individuals who move are not followed in the CPS. Although movers create problems with attrition in all panel data sets, the CPS does not attempt to follow them. Examining the average characteristics of individuals in the cross-sectional CPS from the first rotation and the average characteristics in the matched data, we find similar estimates for almost all variables (see Appendix). The one exception is that home ownership is 8 percentage points higher in the matched sample. On the other hand, health insurance coverage is only slightly higher in the matched sample (85.6 percent compared to 82.7 percent). Overall, the matched CPS sample does not differ substantially from the full CPS sample, but it could be the case that the health insurance transition rates are slightly understated because people who move might be more likely to change coverage.

⁵ Assuming that respondents answer the question correctly, uninsurance spells of a least 1 or 2 years can be measured by the percent of individuals who report not having health insurance at any time during the survey year(s). Estimates from our matched CPS sample indicate that 15 and 8 percent of adults are currently experiencing an uninsured spell of at least 1 and 2 years, respectively, compared to estimates from the SIPP indicating that 13 percent of individuals are currently experiencing an uninsured spell of more than 12 months (Congressional Budget Office 2003).

number of individuals with no insurance for the entire year are also roughly 40 million, suggesting that the CPS overstates the number of individuals who are uninsured over the entire year. Indeed, estimates from SIPP and MEPS, which also include multiple observations over the year, indicate that 21.1 and 31.1 million people are uninsured for the entire year, respectively. Bhandari (2004) finds similar estimates of insurance coverage rates in the CPS and point-in-time estimates from the SIPP even within several demographic groups. Thus, CPS respondents may be underreporting health insurance coverage over the previous calendar year because of recall bias or because they simply report their current coverage (see Bennefield 1996; Congressional Budget Office 2003; Swartz 1986; and Bhandari 2004 for further discussion). Even if the CPS estimates capture a point-in-time measure of health insurance coverage, the measure of health insurance status does not change from year to year and thus allows for an analysis of transitions in status. However, this would alter the interpretation of our results. For our interpretation, we assume that respondents correctly respond to the question asked, which measures insurance over the entire previous year. We therefore view the analysis as examining transitions between relatively long spells of no insurance coverage (at least 1 year) and any length spell of coverage, which are the spells that are the most likely to result in adverse health or financial outcomes.

Health Insurance Transitions

Table 1 reports health insurance coverage and transition rates using the CPS sample. The coverage rates measure health insurance at any time in the calendar year prior to the survey date (which we refer to as the survey year), and capture all types of health insurance coverage. In total, 85.6 percent of adults ages 25–55 in the CPS sample have health insurance in the reference year, which we refer to as the first survey year or year t . Among the 14.4 percent of individuals without insurance in the first survey year, column 2 shows that 46.2 percent gain insurance in the subsequent year.⁶ For those who are insured in year t , column 3 reports that 7.5 percent lose coverage in the subsequent year.⁷

⁶ Similar to most other annual data sets the CPS cannot shed light on the probability that the average uninsurance spell ends. Instead, the gain rate captures the probability that the average uninsured person become insured in the following year implying that longer spells are overrepresented in the data relative to shorter spells.

⁷ Health insurance coverage gain and loss rates are steady over the sample period (1996–2004). We find that the insurance rates do not change appreciably from the beginning of the sample period to the end of the sample period.

TABLE 1
HEALTH INSURANCE TRANSITION RATES FOR SELECTED DEMOGRAPHIC GROUPS CURRENT
POPULATION SURVEY, MATCHED ANNUAL DEMOGRAPHIC SURVEYS (1996–2004)

	Health insurance coverage		Health insurance gain (among uninsured)		Health insurance loss (among insured)	
	%	N	%	N	%	N
Total	85.6	166,123	46.2	23,093	7.5	143,030
Men	84.7	79,111	43.4	11,684	7.4	67,427
Women	86.5	87,012	49.1	11,409	7.6	75,603
White	89.2	129,230	50.4	14,171	5.8	115,059
Black	80.5	14,826	49.2	2,824	11.7	12,002
Latino	66.9	13,552	33.3	4,450	16.3	9,102
Asian	81.5	6,178	50.0	1,055	10.5	5,123
High school dropout	65.6	16,807	34.4	5,614	17.1	11,193
High school graduate	83.2	54,538	46.2	9,014	9.1	45,524
Some college	88.0	46,066	52.1	5,417	6.7	40,649
College graduate	93.6	48,712	59.5	3,048	4.0	45,664
Age 25–34	80.5	43,595	44.3	8,194	9.6	35,401
Age 35–44	86.5	61,541	45.7	8,152	7.1	53,389
Age 45–55	88.6	60,987	49.3	6,747	6.5	54,240
East	87.3	36,928	50.0	4,463	7.1	32,465
Midwest	89.7	41,336	52.5	4,211	5.9	37,125
South	83.4	48,688	43.6	7,847	8.5	40,841
West	83.0	39,171	43.3	6,572	8.2	32,599

NOTES: The sample consists of individuals (ages 25–55) in the first year surveyed. Health insurance is measured in the first survey year, and health insurance transitions are measured from the first to second survey years. All estimates are calculated using sample weights provided by the CPS.

By examining transitions into and out of coverage, we are able to better understand the reasons that some groups have higher and lower rates of uninsurance. In fact, the steady-state health insurance coverage rate is simply equal to $G/(G + L)$, where G is the rate of gaining health insurance (among the uninsured) and L is the rate of losing health insurance (among the insured).⁸ Although the formula is typically used for a point-in-time measure of an economic outcome, it can also be used for health insurance coverage at any time during the survey year because the gain and loss rates are similarly measured. For example, the loss rate is defined here as the percent of individuals who have health insurance at any time during survey

⁸ To see this, note that the current health insurance coverage rate can be expressed as a function of last year's health insurance coverage, gain and loss rates, $H_t = H_{t-1} * (1 - L_{t-1}) + (1 - H_{t-1}) * G_{t-1}$. Assuming that we are in steady state where last year's rate and this year's rate are the same, we find that $H = G/(G + X)$. The use of this formula is common in the unemployment and self-employment literatures (see, e.g., Abraham and Shimer 2001 and Fairlie 1999).

year 1 and make the transition to not having health insurance any time in survey year 2. Men and women have coverage rates that differ by approximately 2 percentage points. The rates of health insurance loss for men and women are nearly identical, but the rates of gain among the uninsured are not. Men have a lower propensity to gain insurance than women; 43 percent of uninsured men gain insurance in the subsequent year compared to 49 percent of women. Thus, the low rate of health insurance coverage for men relative to women is due entirely to the lower rate of gaining insurance among uninsured men. Apparently, the delayed timing in becoming reinsured or lower likelihood of becoming insured among men lowers their overall rate of coverage relative to women. Another possibility is that men experience longer spells of uninsurance, which show up as a lower annual rate of gaining insurance among the uninsured.

Examining health insurance patterns by race and ethnicity, we find that the health insurance coverage rate for African Americans is 80.5 percent, compared to 89.2 percent for white, non-Latinos. This difference is due almost entirely to higher rates of insurance loss, which are nearly double for African Americans than for whites. Latinos have an even lower rate of coverage at 66.9 percent. Unlike African Americans, the lower rate is due both to a lower rate of health insurance gain (33.3 percent compared to 50.4 percent for whites) and a higher rate of health insurance loss (16.3 percent compared to 5.8 percent for whites). Asians also have a lower rate of health insurance coverage than whites at 81.5 percent. Similar to African Americans, the difference is due entirely to higher rates of insurance loss.

Large differences in health insurance coverage and transition rates can be seen by education level as well. High school dropouts are 28 percentage points less likely to be covered than college graduates and 18 percentage points less likely to be covered than high school graduates. More than one-third of all high school dropouts are uninsured. This low rate is caused by a health insurance loss rate of 17.4 percent and a health insurance gain rate of 34.4 percent. For each added level of education we find a higher insurance rate, higher gain rate, and lower loss rate. Clearly, the strong relationship between education and health insurance coverage is driven by both higher likelihoods of losing health insurance and lower likelihoods of gaining health insurance.

Health insurance coverage increases with age. Older age groups have higher coverage and rates and lower loss rates. Finally, health insurance coverage varies by region of the country. Residents of the South and West have lower rates of coverage overall, compared to those in the East and Midwest. These lower rates stem from both higher rates of insurance loss among the insured and lower rates of insurance gain among the uninsured.

TABLE 2

HEALTH INSURANCE TRANSITION RATES FOR SELECTED EMPLOYMENT AND JOB CHARACTERISTICS
CURRENT POPULATION SURVEY, MATCHED ANNUAL DEMOGRAPHIC SURVEYS (1996–2004)

	Health insurance coverage		Health insurance gain (among uninsured)		Health insurance loss (among insured)	
	%	N	%	N	%	N
No job—all	77.5	22,148	42.2	4,865	10.6	17,283
No job—NILF	78.5	20,870	43.1	4,385	10.2	16,485
No job—unemployed	61.7	1,278	34.4	480	17.7	798
Has job—all	86.9	143,975	47.2	18,228	7.1	125,747
Part-year—no unemployment	82.2	15,939	43.7	2,736	9.3	13,203
Part-year—unemployed	72.4	9,987	42.4	2,681	14.0	7,306
Full-year—part time	81.8	10,529	43.5	1,843	8.2	8,686
Full-year—full time	89.4	107,520	49.9	10,968	6.2	96,552
Employer size: 1–9	73.8	28,993	39.4	7,299	10.7	21,694
Employer size: 10–24	79.5	12,285	44.6	2,377	9.3	9,908
Employer size: 25–99	85.6	18,111	47.7	2,430	8.4	15,681
Employer size: 100–499	90.1	20,586	55.0	1,914	6.3	18,672
Employer size: 500+	93.2	64,000	57.9	4,208	5.4	59,792
Private employer	86.5	103,703	47.4	13,497	7.5	90,206
Government employer	95.0	23,947	62.6	1,220	4.0	22,727
Self-employed	77.8	16,325	41.7	3,511	9.3	12,814

NOTES: The sample consists of individuals (ages 25–55) in the first year surveyed. Health insurance is measured in the first survey year, and health insurance transitions are measured from the first to second survey years. All estimates are calculated using sample weights provided by the CPS.

Health Insurance Transition Rates by Employment Characteristics. Table 2 reports health insurance coverage and transition rates by labor force and employment characteristics. Labor force and job characteristics are measured in the first survey year and refer to the longest job held in the year prior to the survey, which is the same reference period as the health insurance questions.

In total, 77.5 percent of those without a job during the full year had health insurance. Of the 22.5 percent who were not insured, 42 percent gained insurance in the subsequent year and among those with insurance, 10.6 percent lost coverage during the following year. Unemployed individuals fare far worse than those who are not in the labor force in both their static and dynamic measures of health insurance coverage. Those who spend all of the first survey year unemployed have an insurance coverage rate of 61.7 percent. Just 34.4 percent gain health insurance during the subsequent year, a percentage far lower than those who are not in the labor force. Among the insured, 17.7 percent lose it during the subsequent year. Individuals who

are not in the labor force retain coverage at higher rates than those who are unemployed, possibly because they are covered on another policy, such as a spouse or government program.

Employed workers are more likely to be insured than those without employment. A total of 86.9 percent of those who had any employment in year t were insured. Among those without insurance who were employed, 47.2 percent gained insurance during the subsequent year. Among those with insurance, 7.1 percent lost it during the subsequent year. Those working full time (35 or more hours per week) and full-year (50 or more weeks per year) have the highest rates of insurance coverage and health insurance gain, and the lowest rate of health insurance loss among the employment groups. Working full-year even if it is in a part-time job protects against health insurance losses, but does not necessarily improve health insurance gains over part-year employment. Those working part-year, particularly when accompanied by unemployment in the remainder of the year, have the lowest rates of insurance coverage and the highest rates of health insurance loss. As was shown in the statistics for those who are not working, being unemployed is far more damaging to health insurance status and the probability of health insurance loss than being out of the labor force.

Overall, unemployment, especially over the entire year, and part-time status are associated with lower rates of health insurance coverage. Our estimates of transition rates from the CPS clearly indicate that these differences are driven by both higher probabilities of losing health insurance and lower probabilities of gaining health insurance for these groups.

As noted above, the previous literature has shown that employees in smaller firms are less likely to be covered by health insurance. The estimates from the CPS for very detailed employment sizes reported in Table 2 support this finding, indicating that health insurance coverage increases almost monotonically with employer size. Our findings also show that as employer size increases, the probability of moving from no insurance into insurance increases as well. And, as employer size increases, the probability of losing health insurance declines. Working at a very small firm is particularly damaging to health insurance coverage, which may be due to more volatility in the offering of health plans. Those working at very small firms of less than 10 employees have a health insurance loss rate that is the same as those who do not work during the year. In contrast, working at a firm that has 100 or more employees results in health insurance loss rates that are much lower than the U.S. average. Finally, less than 7 percent of workers at firms with 500 or more employees are uninsured, and only 5.4 percent of these workers lose health insurance over the following year.

TABLE 3

TYPE OF HEALTH INSURANCE TRANSITION MATRICES CURRENT POPULATION SURVEY, MATCHED ANNUAL DEMOGRAPHIC SURVEYS (1996–2004)

First survey year (<i>t</i>)	Second Survey Year (<i>t</i> + 1)				<i>N</i>
	No insurance (%)	Public insurance (%)	Private insurance (%)	Share of year <i>t</i> total (%)	
No insurance	53.8	7.1	39.1	14.4	23,093
Public insurance	15.8	64.1	20.1	5.9	9736
Private insurance	6.9	1.5	91.6	79.7	133,294

NOTES: The sample consists of individuals (ages 25–55) in the first year surveyed. Health insurance coverage is defined as coverage at any time during the calendar year prior to the survey date (survey year). All estimates are calculated using sample weights provided by the CPS.

As one might expect, government employees are far more likely to be covered than those working for a private employer. Self-employed individuals are found to have relatively low rates of health insurance, which is similar to previous findings (see Kronick and Olsen 2006, for example). The rate of health insurance gain for government employees is very high, and the rate of insurance loss is quite low—the extremes we see in the table. Those working for private employers and in self-employed jobs have higher rates of loss and lower rates of gain. Self-employed workers are at a high risk of losing health insurance from one year to the next (9.3 percent) and if uninsured have a low probability of regaining insurance (41.7 percent).

Health Insurance Transition Rates Between Types of Coverage. The CPS also provides detailed information on types of health insurance coverage. Because people can report multiple sources of coverage in the CPS, we create the following mutually exclusive categories: no insurance, public insurance only, and any private insurance. Table 3 provides estimates of health insurance coverage and transition rates by type of coverage using the CPS sample. Of all insured adults, the most common type of coverage is private insurance, representing 93.1 percent in year *t*. Just 5.9 percent of individuals have only public health insurance coverage, representing only 6.9 percent of all insured adults.

Examining transitions between types of coverage reveals some interesting patterns. First, for individuals who do not have health insurance in year *t*, 39.1 percent gain private insurance in the following year. The percent of uninsured individuals who gain public insurance is much lower, at 7.1 percent. Most movement from uninsurance to insurance among working-age adults appears to be largely to and from private insurance coverage. This pattern also holds when we focus on specific demographic groups.

However, individuals who have public insurance are at a higher risk of losing health insurance than are individuals who have private insurance. The percent of publicly insured individuals losing health insurance is 15.8 percent compared to 6.9 percent of privately insured individuals.

The estimates reported in Table 3 also indicate that very few individuals switch from private to public coverage on an annual basis. Only 1.5 percent of individuals with private coverage in the year t switch to public coverage in the following year. The likelihood of individuals moving from public to private insurance, however, is much higher. Twenty percent of all individuals who are only covered by public health insurance in year 1 switch to private health insurance in the subsequent year.

Identifying Factors Associated with Risk of Health Insurance Loss and Gain

The estimates reported in Tables 1 and 2 point to the importance of examining transition rates in understanding the reasons that some groups face higher and lower rates of health insurance coverage. It is likely, however, that many of the characteristics associated with high rates of insurance loss and low rates of insurance gain are correlated. For example, less-educated workers are more likely to be unemployed, both of which are associated with higher rates of insurance loss. To identify the independent relationships with these characteristics, we estimate probit regressions for health insurance transitions. We first examine the factors associated with the probability of losing any type of health insurance from the first to second survey years, which are reported in the first column of Table 4. The means for all independent variables are reported in the Appendix. We are reluctant to identify these as causal factors, and instead view them as characteristics that are associated with a higher risk of health insurance loss or gain. We also note the possibility of omitted variables, such as demand for health care or risk aversion, affecting the results as is the case in any regression analysis of health insurance coverage. The CPS has very detailed information on demographic and job characteristics which should minimize this problem.

Estimates from a probit regression shown in column 1 of Table 4 indicate that women are slightly less likely than men to lose health insurance, all else equal. The estimates also indicate that being a minority is associated with a higher probability of health insurance loss. African Americans are 2.7 percentage points more likely to lose insurance than whites, Latinos are 3.8 percentage points more likely, and Asians are 1.8 percentage points more

TABLE 4
 PROBIT REGRESSIONS FOR PROBABILITY OF HEALTH INSURANCE LOSS AND GAIN CURRENT POPULATION SURVEY, MATCHED ANNUAL
 DEMOGRAPHIC SURVEYS (1996–2004)

Explanatory variables	Health insurance loss among those with insurance in T1		Health insurance gain among those without insurance in T1	
	All insurance types (1)	Private insurance (2)	All insurance types (3)	Private insurance (4)
Female	-0.0050 ** (0.0017)	-0.0051 ** (0.0017)	0.0478 ** (0.0092)	0.0374 ** (0.0096)
Black	0.0272 ** (0.0030)	0.0269 ** (0.0031)	0.0278 * (0.0131)	0.0178 (0.0138)
Latino	0.0382 ** (0.0037)	0.0385 ** (0.0038)	-0.0832 ** (0.0136)	-0.0939 ** (0.0139)
Asian	0.0182 ** (0.0048)	0.0217 ** (0.0050)	0.0287 (0.0212)	0.0133 (0.0221)
Immigrant	0.0391 ** (0.0034)	0.0303 ** (0.0033)	-0.0882 ** (0.0130)	-0.0761 ** (0.0135)
High school dropout	0.0628 ** (0.0045)	0.0736 ** (0.0051)	-0.1323 ** (0.0142)	-0.1657 ** (0.0140)
High school graduate	0.0345 ** (0.0024)	0.0334 ** (0.0023)	-0.0774 ** (0.0129)	-0.0927 ** (0.0129)
Some college	0.0193 ** (0.0023)	0.0177 ** (0.0022)	-0.0356 ** (0.0136)	-0.0447 ** (0.0137)
Age	-0.0043 ** (0.0008)	-0.0035 ** (0.0008)	-0.0115 * (0.0045)	-0.0086 (0.0047)
Age ² /100	0.0043 ** (0.0010)	0.0037 ** (0.0010)	0.0149 ** (0.0057)	0.0109 (0.0059)
Log family income	-0.0255 * (0.0105)	-0.0561 ** (0.0113)	-0.2818 ** (0.0416)	-0.2525 ** (0.0448)

TABLE 4 (cont.)

Explanatory variables	Health insurance loss among those with insurance in T1		Health insurance gain among those without insurance in T1	
	All insurance types (1)	Private insurance (2)	All insurance types (3)	Private insurance (4)
Log family income squared	0.0008 (0.0005)	0.0022 ** (0.0005)	0.0152 ** (0.0022)	0.0144 ** (0.0023)
Log hourly wage	-0.0429 ** (0.0054)	-0.0380 ** (0.0053)	0.1175 ** (0.0285)	0.1289 ** (0.0300)
Log hourly wage squared	0.0049 ** (0.0010)	0.0045 ** (0.0009)	-0.0155 ** (0.0053)	-0.0183 ** (0.0056)
Home owner	-0.0104 ** (0.0019)	-0.0128 ** (0.0020)	0.0471 ** (0.0087)	0.0666 ** (0.0091)
Not in the labor force—full year	-0.0340 ** (0.0051)	-0.0260 ** (0.0054)	-0.0300 (0.0417)	-0.0824 (0.0421)
Unemployed—full year	-0.0182 * (0.0078)	-0.0108 (0.0096)	-0.0973 * (0.0461)	-0.1095 * (0.0463)
Employed—part year	0.0262 ** (0.0032)	0.0228 ** (0.0031)	-0.0733 ** (0.0131)	-0.0890 ** (0.0131)
Employed—part year and unemployed	0.0401 ** (0.0042)	0.0393 ** (0.0042)	-0.0778 ** (0.0133)	-0.0890 ** (0.0134)
Employed—full year, part time	0.0158 ** (0.0036)	0.0146 ** (0.0036)	-0.0846 ** (0.0150)	-0.0980 ** (0.0149)
Multiple jobs	0.0048 * (0.0024)	0.0039 (0.0023)	0.0144 (0.0126) **	0.0244 (0.0129) **
Government job	-0.0132 ** (0.0022)	-0.0128 ** (0.0021)	0.0031 (0.0202)	0.0014 (0.0205)
Self-employed	0.0118 ** (0.0034)	0.0128 ** (0.0033)	-0.0469 ** (0.0139)	-0.0461 ** (0.0141)

Employer size: 1–9	0.0311 ** (0.0033)	0.0284 ** (0.0033)	–0.1335 ** (0.0133)	–0.1407 ** (0.0134)
Employer size: 10–24	0.0197 ** (0.0034)	0.0187 ** (0.0033)	–0.0841 ** (0.0150)	–0.0868 ** (0.0150)
Employer size: 25–99	0.0153 ** (0.0027)	0.0148 ** (0.0026)	–0.0677 ** (0.0148)	–0.0726 ** (0.0149)
Employer size: 100–499	0.0018 (0.0024)	0.0015 (0.0022)	–0.0105 (0.0165)	–0.0113 (0.0169)
Industry controls	Yes	Yes	Yes	Yes
Mean of dependent	0.0744	0.0684	0.4631	0.4223
Log likelihood value	–33,705	–29,539	–14,195	–12,583
Sample size	141,122	131,638	22,326	20,749

NOTES: The sample consists of individuals (ages 25–55) who have health insurance (S1), private health insurance (S2), no insurance (S3), and no private insurance (S4) in the first year surveyed. All independent variables are measured in the first year surveyed. Marginal effects and their standard errors are reported. Marginal effects are for discrete change of binary independent variables from 0 to 1. All specifications include constant dummy variables for marital status, native American, multiple race, disability, veteran status, census divisions, central city status and year effects, and number of children and its square. All estimates are calculated using sample weights provided by the CPS.

likely to lose health insurance.⁹ Being an immigrant increases the probability of losing insurance by 3.9 percentage points net of race and ethnicity. As was shown in the raw statistics, being less educated is associated with higher rates of insurance loss at all reported levels relative to college graduates. Being a high school dropout is associated with the largest probability of health insurance loss at 6.3 percentage points, relative to college graduates. As expected, the independent effects of these characteristics on health insurance loss are smaller in this multivariate analysis. For example, the raw difference in health insurance loss rates between blacks and whites is 5.7 percentage points compared to the 2.7 percentage point difference after controlling for other characteristics, such as education.

We also examine measures of income and wealth, including the log hourly wage, the log family income, and a measure of whether the respondent owned a home in year t . More advantaged individuals and families are at lower risk of health insurance loss. Higher family incomes and wages, and home ownership are associated with lower rates of health insurance loss. Owning a home is associated with a reduction in health insurance loss of 1 percentage points. These findings corroborate point-in-time estimates indicating that higher-income families are at a lower risk of lacking health insurance. Our results pinpoint one reason for this lower risk is their lower probabilities of health insurance loss, which might be because they are better able to afford health insurance in response to rising premiums or lost employer-provided coverage.

We also include a set of explanatory variables that control for different employment statuses, such as unemployment, out of the labor force (NILF) and part-time work, and working multiple jobs during the year. As was seen in Table 2, being unemployed for part of the year places people at a high risk of health insurance loss (4.0 percentage points) relative to working full time, full year. Working part time relative to full time is also associated with increased risk of health insurance loss of 1.6 percentage points. Working at multiple jobs during the year (at different points in time) is also associated with a small increase in the probability of health insurance loss.

Finally, we include class of worker (government or self-employed relative to privately employed) and employer size variables. Government employment is associated with a decrease in the risk of health insurance loss relative to private employment, and self-employment is associated with a 1.2 percentage

⁹ These demographic differences do not appear to be driven by differences in employer changes. We impute employer changes from employment type, employer size, industry changes, and multiple jobs and find similar coefficient estimates for race and a somewhat larger coefficient for women for individuals who do not appear to experience an employer change across survey years.

point increase in loss. Employer size is also important; workers at firms with one to nine employees are 3.1 percentage points more likely to lose health insurance than those at firms with five hundred or more employees.

In summary, we find that demographic characteristics, wealth and income, and employment characteristics all contribute to the probability of health insurance loss. At highest risk of loss of health insurance are: high school dropouts, Latinos, immigrants, those working part-year with unemployment, and those working at very small employers of one to nine employees. Many of the variables included in the analysis are statistically significant, in part due to the large sample sizes of the CPS.

Estimates from Table 3 indicate that most cases of health insurance loss are from private health insurance. It is possible, however, that the dynamic factors associated with losing private coverage differ somewhat from the dynamic factors associated with losing health insurance coverage in general. The second column of Table 4 reports estimates for probit regressions for the probability of losing private health insurance. We find similar results to those for transitions out of any health insurance coverage. Minorities, immigrants, the less-educated, younger adults, and low-income individuals are at a higher risk of losing private health insurance. Government workers and employees of large firms are at a lower risk of private health insurance, and the self-employed and employees of smaller firms are at higher risk of losing private health insurance. The similarity in estimates suggests that the results for any type of health insurance loss are driven primarily by changes between private insurance and no insurance.¹⁰

Factors Associated with Risk of Gaining Health Insurance. The third column of Table 4 reports estimates for a comparable probit estimating the probability of gaining any health insurance from the first survey year to the following survey year. The sample includes individuals who do not have health insurance in the first survey year. The results are somewhat different than those for health insurance loss. First, we find a striking pattern among the demographic characteristics. Uninsured African Americans are more likely than uninsured whites to gain insurance between year t and year $t + 1$. Controlling for education and other individual characteristics, African Americans have a 2.8 percentage point higher likelihood of gaining health insurance than whites. The raw

¹⁰ Estimates from multinomial logit models for the three types of coverage indicate similar estimates for private to no insurance movements. There are some differences for movements between private and public insurance. For example, women and minorities are more likely to move from private to public insurance after controlling for other factors. For transitions from public insurance to no insurance the coefficients on demographic characteristics are roughly similar to the loss regressions, but the job characteristics coefficients are weaker. Racial differences in movements from public to private insurance are also weaker. Estimates are available by request from the authors.

difference was essentially zero. In contrast, Latinos are 8.3 percentage points less likely to gain insurance than whites, and immigrants are 8.8 percentage points less likely than natives to gain insurance. Similar to the models for health insurance loss, having lower levels of education disadvantages individuals in terms of health insurance gain. Those without a high school diploma are 13.2 percentage points less likely to gain health insurance than those with a college degree. High school graduates have a 7.7 percentage point lower probability of gaining insurance than college graduates.

The variables denoting economic status show, not surprisingly, that those who own homes, have higher family incomes, and larger hourly wages are more likely to gain insurance. Being unemployed for a full year, relative to a full-year full-time job, is associated with the lowest probability of becoming insured—a 9.7 percentage point decline in the probability of insurance in year $t + 1$. Being uninsured in a full-year part-time job is also a strong risk factor for continued uninsurance with an 8.5 percentage point decline in the probability of insurance gain.

Finally, employer size variables are large and significant in the health insurance gain models. Working at a very small firm of nine or fewer employees is associated with a 13.4 percentage point lower probability of health insurance gain among the uninsured. Employment with a firm of ten to twenty-four employees is associated with an 8.4 percentage point lower probability of becoming insured. These results strongly suggest that coming from a small firm is a serious disadvantage in gaining insurance among the uninsured.

We also estimate probit regressions for the probability of gaining private health insurance, which are reported in the fourth column of Table 4. We find similar estimates for most variables implying that transitions from no insurance to private insurance are largely responsible for the main results.¹¹

Conclusions and Policy Implications

The new estimates of the detailed individual, employment, and job characteristics associated with health insurance loss and gain from the matched CPS have important policy implications. New policies should consider not just how to cover the uninsured, but how to retain coverage for those who have the least health insurance security. One of the most important of these groups is workers at very small employers. Most employer-focused insurance reforms do not address health insurance coverage for this population, but our research

¹¹ Estimates from multinomial logit models indicate similar results for movements from no insurance to private insurance. For movements from no insurance, women are more likely to make this transition, but the results are mixed for minorities. As expected, the employment characteristics coefficients are weaker.

shows that it is precisely these very small firms that are associated with the highest rates of insurance loss and the lowest rates of gain. Workers at firms with less than ten employees, who are not typically covered by most employer mandates, represent 19 percent of the workforce in the 25 to 55 years age group. Those working at very small employers have a 3 percentage point higher probability of losing insurance than workers in very large firms, but a 13 percentage point lower probability of gaining insurance. In other words, workers at these small firms are more than four times less likely to gain insurance than they are to lose insurance relative to workers in large firms. The low rates of insurance coverage and insurance gain for this group are partly, but not entirely, due to the correlation between employment in very small firms and self-employment. Nearly half of those who are employed in firms of less than 10 employees are self-employed, placing them at a high risk of uninsurance. These findings suggest that alternatives to traditional approaches to employer-mandated insurance are warranted. Health insurance reforms that aim to create purchasing pools or reinsurance programs for small employers and the self-employed in order to reduce risk are one example (Custer 2004; Ideman 2004).

A second implication of our findings is that transitions to and from unemployment need attention. Part- or full-year unemployment is significantly related to the probability of health insurance loss even after controlling for other factors. Being unemployed part-year, for instance, is associated with a 4 percentage point increase in the probability of insurance loss in the next year and an 8 percentage point decrease in the probability of health insurance gain. In other words, those who combine employment and involuntary unemployment during a year are two times less likely to gain insurance in the next year than they were to lose it initially. As mentioned previously, COBRA is available to many workers during periods of unemployment, but only 20 percent of unemployed workers qualifying for COBRA elected to use the program (Madrian 1998). Although not reported in the tables, our data indicate that among those who spend all or part of both survey years unemployed, roughly 20 percent lose insurance. It may be that these individuals have exhausted their COBRA benefits. Current state legislation and pending legislative bills do not address the issue of lack of insurance among the unemployed and it may be that employer-mandated insurance proposals are not the right place to look for coverage for the unemployed. However, our research indicates that the unemployed are one of the groups at highest risk of health insurance loss. Given a history of both employment and insurance coverage among this group, it may be that they warrant additional research or policy attention.

Part-time workers are another group that has been identified as needing insurance protection. Our estimates indicate that part-time workers, when they

work year-round and consistently over the two years examined, are at relatively low risk of health insurance loss. They have a less than 2 percentage point probability of losing insurance relative to those who work full time. In contrast, uninsured part-time workers are 8 percentage points less likely to gain insurance in the following year. Part-time workers are the worst off group we examine in terms of loss to gain ratio, being at least five times less likely to gain insurance than to lose it. This is a group that might benefit from employer-mandated insurance policies and most policies do have provisions for this group.

Finally, our work underscores the link between low-wage work and lack of health insurance. Lower-wage jobs are associated with a higher risk of insurance loss and lower probability of insurance gain. A 10 percent decrease in wages, for instance, is associated with roughly a 0.2 percentage point increase in the probability of insurance loss and a 0.6 percentage point decrease in the probability of insurance gain. Even with employer-sponsored insurance, it may be that for low-wage workers, rising insurance costs have led to lower rates of take-up because of the lack of protections for this group. California's SB 2 had a provision to protect low-wage workers, capping the employee contribution at 5 percent of wages for those earning less than 200 percent of the federal poverty line. These types of protections for low-wage workers in employer-mandated insurance proposals may be important for reducing volatility in coverage for this group.

In conclusion, our analysis indicates that health insurance volatility is a problem for several vulnerable employment groups. The lower rates of insurance gain and higher rates of insurance loss that put a number of working families at risk may be especially damaging for consistency in health care. The provisions of many state legislative bills, including California's SB 2 and Maryland's SB 790, exempted or excluded some of the most at-risk groups. It may be that mandated insurance policies are not adequate to respond to the needs of all of those who are attached to the labor market but uninsured. Debates at the national level indicate that we may be moving away from a focus on the labor market as the primary provider of insurance to systems that combine employer and public coverage.

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APPENDIX

MEANS OF ANALYSIS VARIABLES USED IN PROBIT REGRESSIONS CURRENT POPULATION SURVEY,
MATCHED ANNUAL DEMOGRAPHIC SURVEYS (1996–2004)

Explanatory variables	CPS full sample	Matched sample	Insurance loss	Insurance gain
Health insurance coverage, loss or gain	0.8274	0.8561	0.0750	0.4617
Female	0.5092	0.5150	0.5202	0.4843
Black	0.1234	0.1113	0.1046	0.1509
Latino	0.1079	0.0984	0.0770	0.2258
Asian	0.0427	0.0395	0.0376	0.0507
Immigrant	0.1386	0.1266	0.1035	0.2636
High school dropout	0.1216	0.1105	0.0847	0.2640
High school graduate	0.3238	0.3249	0.3158	0.3785
Some college	0.2708	0.2736	0.2814	0.2273
Age	39.6305	40.5486	40.8676	38.6509
Log family income	10.7256	10.8208	10.9385	10.1205
Log hourly wage	2.3077	2.3523	2.4413	1.8123
Home owner	0.6880	0.7697	0.7979	0.6022
Not in the labor force—full year	0.1339	0.1284	0.1177	0.1919
Unemployed—full year	0.0094	0.0081	0.0059	0.0217
Employed—part year	0.0962	0.0931	0.0895	0.1149
Employed—part year and unemployed	0.0679	0.0609	0.0515	0.1168
Employed—full year, part time	0.0576	0.0606	0.0580	0.0765
Multiple jobs	0.1160	0.1063	0.1031	0.1252
Government job	0.1300	0.1389	0.1541	0.0483
Self-employed	0.0870	0.0933	0.0847	0.1442
Employer size: 1–9	0.1653	0.1675	0.1445	0.3047
Employer size: 10–24	0.0758	0.0733	0.0681	0.1044
Employer size: 25–99	0.1086	0.1073	0.1073	0.1077
Employer size: 100–499	0.1212	0.1228	0.1293	0.0841
Sample size	221,814	166,123	143,030	23,093

NOTES: All samples consist of individuals (ages 25–55). The full CPS sample consists of all individuals who can possibly be matched to the following year. All independent variables are measured in the first year surveyed. All estimates are calculated using sample weights provided by the CPS.