
Health Insurance Coverage at Midlife: Characteristics, Costs, and Dynamics

Richard W. Johnson, Ph.D. and Stephen Crystal, Ph.D.

Recent data from the first two waves of the Health and Retirement Study are analyzed to evaluate prevalence of different types of health insurance, characteristics of different plan types, and changes in coverage as individuals approach retirement age. Although overall rates of coverage are quite high among the middle-aged, the risk of non-coverage is high within many disadvantaged groups, including Hispanics, low-wage earners, and the recently disabled. Sixty percent of individuals with health benefits are enrolled in health maintenance organizations (HMOs) or preferred provider organizations (PPOs). In addition, one-fourth of enrollees in fee-for-service (FFS) plans report restrictions in their access to specialists.

INTRODUCTION

As individuals reach middle age, their risk of experiencing major health problems increases dramatically. For example, 15 percent of males between 45 and 64 years of age suffer from chronic heart disease, compared with only 2.6 percent of males under 45 years of age, while 23 percent of individuals between 45 and 64 years of age report that chronic health problems limit their activities, compared with 9.9 percent of those 15-44 years of age (National Center for Health Statistics, 1994a, 1994b). As a result, health insurance, which

protects individuals from catastrophic medical expenses in the event of serious illness, becomes increasingly important as individuals age. Unlike the elderly, however, who receive health benefits through the Federal Medicare program, individuals under 65 years of age are not guaranteed health insurance. Thus, the availability and comprehensiveness of health insurance coverage is a crucial issue for individuals in their fifties and early sixties.

Recent studies indicate the proportion of individuals at midlife with some type of health coverage is higher than is the case for younger adults, with coverage rates higher among white persons, workers in large firms, and individuals with high incomes and many years of education (U.S. Bureau of the Census, 1995; Employee Benefit Research Institute, 1995; Swartz, 1993; U.S. Department of Labor, 1995; U.S. Department of Labor et al., 1994). However, given rapid ongoing changes in the delivery and financing of health care, these findings, which are based on data that are now a few years old, must be continually updated.¹ For example, health care costs continue to rise, with national health expenditures equaling 13.9 percent of gross domestic product in 1993 (Employee Benefit Research Institute, 1995). In part as a response to these escalating costs, there has been a dramatic shift away from traditional health plans and

The authors are with the Institute for Health, Health Care Policy, and Aging Research, Rutgers University. The views expressed are those of the authors and do not necessarily reflect those of Rutgers University or the Health Care Financing Administration.

¹These studies are based on data from the Current Population Survey through March 1994, the Survey of Income and Program Participation (SIPP) through September 1993, and the Employee Benefits Survey through 1993.

into managed care plans, such as HMOs and PPOs. These changes in the delivery and financing of health care may have profound effects on the prevalence and type of health insurance coverage within different subgroups of the population.

The specific provisions of health insurance plans vary widely, offering different levels of protection from the financial risks associated with health problems and varying degrees of choice in the selection of physicians. For example, plans differ in the level of deductibles and copayments that they require of participants. The types of medical procedures and services that are covered also vary across plans. As a result, when analyzing health benefits, it is important to look beyond whether or not an individual has any health insurance coverage and consider the degree of protection which the plan provides in the event of serious illness. A major focus of this research is an analysis of the characteristics of different health plans.

In this article, we analyze very recent data from the first two waves of the Health and Retirement Study (HRS) to investigate the prevalence, characteristics, and dynamics of health insurance coverage among individuals approaching retirement age. After describing the data on which our analysis is based, we present our results. We begin by tabulating the percent distribution of health insurance coverage within different subgroups of the population and then turn to multivariate analysis to explore the determinants of coverage. We devote particular attention to job-related health benefits received by full-time workers. We then focus on the characteristics of health plans, including plan type, the availability of alternative health plans from which workers can choose, the level of contributions required of employees to defray the cost of their health benefits, and the extent to which different types of health insurance

impose cost-sharing on participants. The final section of results analyzes changes in coverage during the 2-year period between the two waves of interviews, in terms of type of coverage and of plan characteristics. The concluding section discusses the policy implications of our findings.

DATA

The HRS provides very rich longitudinal information on health insurance coverage among middle-aged Americans. Baseline interviews included 7,702 households in 1992-93. A household was eligible for inclusion in the sample if one member was born between 1931 and 1941. Spouses of respondents were also surveyed, regardless of their ages, yielding a total of 12,652 interviewed individuals. African Americans, Hispanics, and Florida residents were oversampled. Respondents were re-interviewed 2 years later, in 1994-95; interviews were successfully completed with 11,602 respondents, for a followup rate of 92 percent. However, the preliminary version of the Wave 2 data that we are analyzing excludes households in which respondents divorced, separated, remarried, or married for the first time since Wave 1, reducing the sample size to 10,580 respondents.² Individuals were questioned about a wide variety of subjects, including their health, disability, income, assets, work history, marital history, family structure, and housing.

In each wave, respondents provided detailed information about their health insurance. They were asked whether they received any employment-based coverage, and, if so, the source of their coverage—a current or former employer or labor union, or the employer or union of a spouse.

² The exclusion of these cases may introduce some biases into our results if health insurance coverage differs between individuals who experience changes in marital status and those whose marital status remains stable.

Respondents were asked how the coverage was paid—entirely by employers, entirely by themselves, or shared between employers and themselves. They reported whether they purchased any basic or supplemental health insurance coverage directly from an insurance company or a membership organization and the amount they paid in premiums. Respondents were also asked whether they received any coverage through Federal programs such as Medicare, Medicaid, or health plans for members of the military.

Additional questions were asked during the second wave about type of health plans, the availability of alternative plans offered by employers, and changes in coverage since the initial wave of interviews. Individuals reported whether they belonged to an HMO, PPO, or traditional FFS plan as part of their employment-based coverage. They also provided the amount they paid per month for the health plan, and whether they had to pay extra in order to see a specialist without a referral from their primary physicians. Respondents were asked whether their employers offered any additional plans that would provide better coverage or more choice if respondents paid more, or that would provide less coverage or less choice if they paid less. Finally, respondents who belonged to the same plan in the two waves were asked how the cost or coverage of the plan had changed over the past 2 years, i.e., whether costs were higher or lower in Wave 2, whether more or fewer services were covered, and whether participants had more or less choice of physicians.

RESULTS

Prevalence of Coverage by Type of Insurance

Table 1 reports the percentage of respondents in Wave 2 with different types

of health insurance coverage.³ Among all respondents with valid health insurance coverage data, almost 91 percent had some type of coverage, as reported in the first row of the table.⁴ Most health insurance for persons in this age range is employment-based; three-fourths of respondents report that they receive coverage through the workplace—from a current employer or union, a former employer or union, or their spouse's current or former employer or union. Ten percent claim coverage through Medicare and 3.6 percent report Medicaid coverage.⁵ Slightly more than 6 percent receive coverage through another federally-supported program (primarily benefits provided to veterans and to retired military personnel and their spouses). About 12 percent of respondents purchased basic health insurance, and 6.6 percent purchased some type of supplemental coverage, such as a medigap policy or long-term care insurance. These categories are not mutually exclusive. In fact, 20 percent of respondents had more than one type of health insurance. Overall, middle-aged Americans and their spouses experience relatively high levels of health insurance coverage, particularly in comparison with younger age groups.⁶ Nonetheless, a substantial proportion (9 percent) of

³ As with all the tabulations in this article, the results have been weighted to account for the oversampling of African Americans, Hispanics, and Florida residents in the HRS.

⁴ Of the 10,580 respondents in the preliminary version of Wave 2, only 0.7 percent reported that they did not know whether they had the following types of health insurance: employer-provided, Federal programs such as Medicare, Medicaid, Veterans Administration benefits or CHAMPUS, or health insurance which was purchased privately; these respondents were eliminated from the analysis. Individuals were considered to have no coverage if they reported that they did not have any of these types of coverage.

⁵ Dual Medicare and Medicaid coverage is quite rare overall in this age range, and was reported by only 1.0 percent of the sample.

⁶ Within the age group of 25-34 years, 34.5 percent of individuals lacked continuous health insurance coverage during a 32-month period between 1991 and 1993, according to SIPP data, whereas only 20 percent of those 45-64 years of age lacked continuous coverage during the same period (U.S. Bureau of the Census, 1995).

Table 1
Percent Distribution of Health Insurance Coverage in Wave 2, by Demographic Variables

Variable	N	Employment- Based	Medicare	Medicaid	Other Federal Programs	Purchased Basic Coverage	Purchased Supplemental Coverage	No Coverage
All	10,505	74.6	10.2	3.6	6.2	12.1	6.6	9.1
Sex								
Males	4,760	75.2	15.9	3.1	7.9	11.8	7.8	7.3
Females	5,745	74.1	5.4	4.1	4.8	12.3	5.7	10.6
Marital Status								
Currently Married	8,406	78.3	10.4	2.0	6.4	11.7	6.9	7.7
Divorced	1,082	59.9	8.1	11.3	4.5	11.2	5.3	15.7
Widowed	701	54.8	10.5	9.4	7.5	18.1	5.8	16.6
Never Married	316	57.3	11.3	13.6	4.1	12.3	6.0	11.7
Race								
White	7,801	78.0	9.7	2.2	6.2	12.8	7.4	7.0
African American	1,605	62.8	13.6	10.0	6.5	11.2	3.8	14.2
Hispanic	880	48.8	11.7	12.7	4.0	4.3	1.5	27.7
Other	219	66.9	9.6	5.2	9.9	9.2	5.4	15.7
Self-Reported Health Status								
Excellent	1,822	82.2	4.4	0.7	5.7	11.8	6.8	7.4
Very Good	2,991	83.0	5.8	0.8	5.7	11.8	6.9	6.0
Good	2,868	74.6	9.6	2.1	6.6	13.5	7.2	9.7
Fair	1,509	62.4	18.6	9.6	5.4	11.0	6.5	13.3
Poor	694	40.5	33.0	20.1	8.7	8.6	4.4	16.9
Medical Conditions								
No Heart Problems	8,857	75.6	8.1	2.8	5.9	12.3	6.4	9.5
Any Heart Problem	1,647	68.9	21.8	8.5	7.9	10.2	8.0	6.8
ADL Impairments								
No Difficulty Running or Jogging 1 Mile	2,904	78.6	5.6	2.0	6.3	10.3	6.0	9.6
Difficulty Running or Jogging 1 Mile	5,291	77.8	8.6	2.1	6.0	13.1	6.8	7.9
Difficulty Walking Several Blocks	987	57.6	20.6	10.1	7.1	11.2	5.5	15.1
Difficulty Walking 1 Block	360	55.9	28.7	14.6	7.2	9.4	9.5	9.4
Difficulty Walking Across the Room	303	45.5	36.0	18.3	10.2	11.2	6.7	9.2

See NOTES at end of table.

Table 1—Continued
Percent Distribution of Health Insurance Coverage in Wave 2, by Demographic Variables

Variable	N	Employment- Based	Medicare	Medicaid	Other Federal Programs	Purchased Basic Coverage	Purchased Supplemental Coverage	No Coverage
Disability								
Does Not Limit Work	7,912	80.6	5.5	1.1	5.5	11.8	6.5	8.3
Limits, But Does Not Prevent, Work	1,118	68.2	12.4	3.7	7.9	14.6	7.9	11.2
Prevents Work	1,333	42.9	39.1	19.9	8.7	10.8	6.5	11.7
Unable to Work for Fewer Than 30 Months	774	42.4	27.2	20.2	8.9	10.5	5.1	15.4
Unable to Work for More Than 30 Months	559	43.5	54.5	19.4	8.3	11.2	8.2	7.0
Education								
No High School	1,305	43.8	21.0	14.2	5.1	9.4	3.4	23.2
Some High School	1,637	63.2	13.1	6.4	5.2	12.4	4.5	14.5
High School Grad	3,710	78.4	9.3	2.3	5.8	12.2	6.9	7.3
Some College	1,950	80.0	7.1	1.4	7.9	12.6	7.9	6.3
4 Years of College	897	85.4	7.0	0.7	7.7	13.7	7.5	4.2
More Than 4 Years	1,006	88.2	6.7	0.8	5.8	11.1	8.9	3.5

NOTES: The sample is restricted to respondents with valid insurance coverage data. ADL is activity of daily living.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

Americans lack health insurance at midlife, when they are at increasing risk of experiencing serious and expensive health problems.

The other rows of Table 1 report coverage among different subgroups. The sex comparisons reveal that females are somewhat more likely than males to have no coverage at all; 10.6 percent of females report no coverage, compared with 7.3 percent of males. Males are much more likely to be covered by Medicare (15.9 percent versus 5.4 percent), which probably reflects their older age.⁷ Males are more likely than females to be covered through Federal programs other than Medicare and Medicaid, reflecting males' greater military experience within this age group. Sex differences in coverage appear to be driven largely by differences in marital status. A larger percentage of males in this sample (87.6 percent) are married than females (73.7 percent), and for both males and females, the likelihood of having some type of health insurance coverage is significantly higher among those currently married than among those who are divorced, separated, widowed, or never married. The risk of non-coverage is twice as high among the widowed as among those currently married (16.6 percent versus 7.7 percent). Differences in employment-based coverage account for most of the overall difference in coverage by marital status. Since most employer plans offer coverage to family members, married individuals may be able to receive coverage through their spouses' employers if health benefits are not provided by their own employers—an option that is not available to single individuals.

⁷ The sampling framework of the HRS, by which individuals born between 1931 and 1941 and their spouses (if any) were interviewed, generates a sample in which males are on average older than females, since males tend to marry younger females. The males in the sample average 58.3 years of age, whereas the females average 55.3 years of age.

Dramatic racial differences in health insurance are evident in the HRS. Rates of non-coverage are twice as high among African Americans as among white persons (14.2 percent versus 7.0 percent), while Hispanics, with a 27.7-percent rate of non-coverage, are almost four times as likely as white persons to lack health insurance.⁸ Purchases of private basic health insurance are especially rare among Hispanics; only 4.3 percent of Hispanics report purchases of basic health insurance, compared to 12.8 percent of white persons and 11.2 percent of African Americans. Racial differences in employment-based health insurance are also quite pronounced. Whereas 78 percent of white persons receive health benefits through the workplace, only 63 percent of African Americans and 49 percent of Hispanics do so. African Americans and Hispanics are both more likely to receive health benefits through Medicaid than are white persons, since these groups are more likely to be impoverished than are white persons.

Health insurance coverage varies systematically with health status. We consider several alternative measures of health: self-rated health status, the presence of particular medical conditions, any impairments in certain activities of daily living, and the existence of any work-related disabilities. Across all of these measures, we find that workers in better health report higher rates of employment-based coverage and lower rates of federally provided health insurance coverage (Medicare, Medicaid, and veterans benefits) than workers in relatively poor health. For example, almost one-half of respondents (48.7 percent) rated their health as either excellent or very good

⁸ Several other recently published studies have also found quite high rates of non-insurance among Hispanics (Valdez et al., 1993; Berk, Albuers, and Schur, 1996; de la Torre et al., 1996).

during the second wave of the HRS. Of this group, 83 percent received health benefits from an employer, but only 5 percent received Medicare benefits. In contrast, of the 22.3 percent of respondents who rated their health as fair or poor, only 56 percent had employment-based health insurance, but 23 percent reported Medicare benefits. Similarly, the prevalence of Medicaid coverage is 18 times greater among individuals who claim that health problems prevent them from working (who comprise about 13 percent of our sample) than among individuals who report no work disability, and more than 2.5 times greater among respondents with a history of heart problems than among individuals who never had heart problems.⁹

Similar patterns of health insurance coverage are evident across different levels of impairment in activities of daily living. Table 1 reports coverage for a hierarchy of degrees of difficulty in walking. Among respondents with valid data, 53.7 percent reported at least some difficulty running or jogging 1 mile (but not more severe mobility limitations), 10 percent reported at least some difficulty walking several blocks, 3.7 percent reported at least some difficulty walking one block, and 3.1 percent reported at least some difficulty walking across a room.¹⁰ Rates of employment-based coverage decline monotonically as the level of impairment increases, and rates of coverage by Medicare, Medicaid, and other Federal programs increase monotonically with the level of impairment. For instance, as the level of impairment increases from no difficulty running 1 mile to at least some difficulty crossing a room, employment-

based coverage falls from 79 percent to 46 percent, while the rate of Medicare coverage increases from 6 percent to 36 percent and the rate of Medicaid coverage increases from 2 percent to 18 percent.

The net impact of health on the level of non-insurance depends on the particular measure of health status under consideration. For self-reported health status, the decrease in job-related health benefits associated with worsening health exceeds the increase in Medicare and Medicaid coverage; as a result, the level of non-insurance is more than twice as high for respondents reporting poor health as for respondents reporting excellent health.¹¹ Rates of non-insurance are also somewhat higher among individuals who report disabilities that interfere with work than individuals who report no disabilities. However, workers with a history of heart problems are slightly more likely to have some type of coverage than workers with no heart ailments. For walking ability, a U-shaped pattern is evident, with rates of non-insurance highest among respondents who report difficulty walking several blocks, and lower among respondents who either have no limitations or are most severely impaired. In summary, Medicare and Medicaid appear to provide important health benefits for individuals in poor health, who otherwise would have extremely limited access to health care, for all measures of health status analyzed here. However, despite the existence of these social safety nets, we still observe fairly high rates of noninsurance among middle-aged individuals in ill health who are in great need of health services. For example, 7 percent of individuals in our sample with a history of heart problems, 9 percent of individuals who have difficulty

⁹ Differentials in coverage by health status are similar for other medical conditions, such as diabetes, cancer, and hypertension.

¹⁰ These categories are defined to be mutually exclusive, so that individuals who report difficulty walking one block are not included in the category reporting difficulty walking several blocks.

¹¹ Franks et al. (1993) also find that uninsured individuals reported lower levels of subjective health status than did individuals with health insurance.

walking across a room, 12 percent of individuals whose health problems are so severe that they claim they are unable to work, and 17 percent of individuals who rate their health as being poor lack any health insurance coverage.

Because they arguably represent the most vulnerable subgroup in our sample, we analyze in more detail health insurance coverage among respondents whose health prevents them from working. Table 1 compares the percent distribution of coverage for individuals whose disability has prevented them from working for at least 30 months and for individuals whose disability has lasted for fewer than 30 months (but is expected to last—or has already lasted—at least 3 months). Rates of non-insurance are more than twice as high among individuals who have been recently disabled as for the long-term disabled (15 percent versus 7 percent). This difference is driven by the tremendous disparity in Medicare benefits between the two groups. Individuals must wait 29 months after the onset of their disability before they can begin to receive Social Security disability payments or Medicare benefits. Consequently, more than one-half of the long-term disabled in our sample are covered by Medicare, compared with only 27 percent of the recently disabled.¹² During the waiting period, some individuals may be able to compensate for the lack of Medicare benefits with employer-provided coverage; that is, disabled individuals who received health benefits while working are entitled to continuation benefits—Consolidated Omnibus Budget Reconciliation Act (COBRA) benefits—for 29 months after they leave their employer, provided that they pay the cost of the insurance premiums. However, rates of employment-based coverage are almost identical for recently

disabled individuals and for individuals whose period of disability exceeds the COBRA entitlement period, suggesting that few disabled utilize the continuation benefits, perhaps because of the cost of the associated premium payments.

Finally, rates of non-coverage decrease sharply and monotonically with educational attainment. Only 3.5 percent of individuals with more than 4 years of college lack health insurance, whereas 23.2 percent of those who never attended high school lack coverage. A high school diploma appears to be particularly important for health insurance; only 7.3 percent of those who completed 4 years of high school but did not attend college lack coverage, compared with 14.5 percent of those who did not graduate from high school. Not surprisingly, individuals with more education are more likely to receive health benefits from an employer. Medicare and Medicaid coverage are both more prevalent among those with fewer years of education.

To explore further the determinants of health insurance coverage among individuals approaching retirement age, we estimate multinomial logit models of insurance coverage. The dependent variable is constructed to assume one of five mutually exclusive values: no health insurance at all, non-group insurance purchased in the marketplace without other coverage, Medicaid coverage (with or without other individually purchased coverage), other Federal insurance (with or without Medicaid coverage or individually purchased insurance), and any employment-based coverage. Since virtually all elderly individuals are covered by Medicare, and relatively few elderly were surveyed by the HRS, respondents 65 years of age or over are excluded from the sample analyzed in this table. Parameter estimates are reported in Table 2. The base

¹² In addition, about 7 percent of the long-term disabled receive both Medicare and Medicaid benefits.

Table 2
Multinomial Logit Estimates of Health Insurance Coverage

Variable	Purchased Insurance Only	Medicaid	Other Federal Insurance	Employment-Based
Female	0.118 (.113)	0.067 (.159)	***-0.779 (.109)	-0.023 (.075)
Marital Status¹				
Divorced or Separated	***-0.633 (.168)	***1.479 (.179)	0.154 (.144)	***-0.961 (.102)
Widowed	-0.204 (.177)	***0.851 (.213)	**0.383 (.163)	***-0.960 (.122)
Never Married	-0.029 (.273)	***1.787 (.271)	***0.631 (.234)	***-0.774 (.192)
Race²				
African American	***-0.803 (.159)	***0.472 (.173)	-0.030 (.132)	***-0.339 (.093)
Hispanic	***-1.605 (.230)	0.039 (.197)	***-0.850 (.168)	***-1.083 (.105)
Other Race	***-1.338 (.398)	-0.162 (.427)	-0.220 (.287)	***-1.086 (.205)
Poor Health	***-0.531 (.138)	***0.860 (.159)	***0.629 (.114)	***-0.281 (.082)
Education³				
No High School	***-0.894 (.182)	0.285 (.200)	***-0.472 (.152)	***-1.407 (.105)
Some High School	**0.340 (.147)	0.142 (.199)	**0.329 (.146)	***-0.708 (.096)
Some College	0.166 (.155)	-0.427 (.309)	***0.429 (.161)	*0.184 (.110)
College Graduate	***0.488 (.181)	-0.312 (.407)	0.329 (.204)	***0.789 (.135)
Age⁴				
49 Years of Age or Under	**0.474 (.213)	**0.703 (.274)	-0.183 (.231)	***-0.357 (.128)
60 Years of Age or Over	***0.573 (.119)	-0.081 (.158)	*0.203 (.115)	***0.341 (.083)
Employed	*0.195 (.113)	***-1.948 (.202)	***-1.326 (.120)	***0.640 (.075)
Intercept	-0.199 (.151)	***-2.171 (.233)	0.213 (.144)	***2.141 (.102)

* Significant at the 10-percent level.

** Significant at the 5-percent level.

*** Significant at the 1-percent level.

¹ Reference category is "currently married."

² Reference category is "white persons."

³ Reference category is "high school graduate."

⁴ Reference category is "50-59 years."

NOTES: Standard errors are in parentheses. The values of the dependent variable correspond to inclusion in one of the following mutually exclusive categories: no coverage ($N = 1,123$), which is the base category; coverage by purchased non-group insurance only ($N = 609$); Medicaid coverage only ($N = 305$); other federally provided health insurance, such as Medicare or CHAMPUS, plus non-group insurance and/or Medicaid ($N = 650$); and any employment-based coverage ($N = 7,177$). The sample is restricted to respondents under 65 years of age with valid insurance data.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

category consists of respondents who lack any type of coverage, so that the reported coefficients indicate the impact of a given characteristic on the log-odds of having a given type of coverage relative to no coverage, holding other characteristics constant. The predictors included in the model consist of sex, marital status, race, health status, educational attainment, age, and employment status.

Controlling for marital status, we find that the variable sex generally does not have significant effects on health insurance coverage. Although females are significantly less likely than males to have federally provided coverage other than Medicaid, which again probably reflects sex differences in military service, there are no statistically significant differences between males and females on the likelihood of having purchased insurance, Medicaid coverage, or employment-based coverage. Differences by marital status, however, are quite large and significant ($p < 0.01$). Respondents who are not currently married, either because of divorce, widowhood, or having never been married, are significantly less likely to have employment-based benefits and significantly more likely to have Medicaid coverage than currently married individuals. Divorced and separated individuals are less likely to purchase non-group insurance, and widowed and never-married individuals are more likely to have non-Medicaid Federal insurance, than currently married individuals.

Race continues to have a pronounced impact on health insurance coverage, even after controlling for many other demographic characteristics. Both African Americans and Hispanics are significantly less likely to have employment-based coverage or to purchase non-group insurance than are white persons. African Americans are also more likely to have Medicaid coverage than white persons, whereas Hispanics are less likely to have

non-Medicaid Federal insurance, perhaps because a disproportionate number of Hispanics are recent arrivals to the United States who have not served in the military.

Health, education, age, and employment status are also significant predictors of health insurance coverage. Controlling for all the other variables in the model, individuals who report poor health are less likely to have health benefits from an employer or union and are less likely to purchase insurance than individuals reporting better health.¹³ The likelihood of employment-based coverage and of private, non-group insurance increases monotonically with educational attainment. Respondents between the ages of 60 and 65 are more likely to receive health benefits from an employer and to purchase insurance than are younger respondents. As expected, employed individuals are also more likely to have employment-based benefits or to purchase insurance than are individuals who are not working. Medicaid coverage is also more prevalent in this sample among individuals who are not employed, in poor health, and under 50 years of age.

Many of the differentials in employment-based coverage observed across subgroups in Tables 1 and 2 may result from differences in employment status among different groups, and not from differences in the provision of health benefits by employers across segments of the working population. To distinguish the impact of employment from the provision of health benefits by employers on the likelihood of health insurance, we analyze health insurance coverage among employed individuals. Table 3 reports the percentage of full-time wage and salary workers, under 65 years of age, who receive health benefits from an employer or

¹³ We find similar results if we measure poor health by disability status, instead of using self-reported health status.

Table 3
Employment-Based Coverage Among Full-Time Wage and Salary Workers

Variable	N	Percent With Employment- Based Coverage	Logit Estimates of Coverage	
			(1)	(2)
Sex				
Male	1,895	80.0	N/A	N/A
Female	1,959	62.2	***-1.004 (.082)	***-0.876 (.109)
Marital Status				
Currently Married	3,073	67.7	N/A	N/A
Divorced or Separated	465	86.2	***1.249 (.142)	*** 1.580 (.160)
Widowed	214	79.6	***1.023 (.179)	***1.368 (.198)
Never Married	102	92.9	***1.761 (.358)	***2.004 (.394)
Race				
White	2,899	71.7	N/A	N/A
African American	576	71.0	-0.015 (.109)	-0.102 (.124)
Hispanic	289	62.1	-0.191 (.147)	-0.108 (.164)
Other Race	90	70.9	-0.194 (.241)	-0.073 (.256)
Education				
No High School	324	55.5	***-1.023 (.145)	***-0.522 (.171)
Some High School	499	66.1	***-0.414 (.118)	*-0.261 (.137)
High School Graduate	1,392	71.9	N/A	N/A
Some College	799	72.1	-0.010 (.103)	-0.186 (.116)
College Graduate	840	76.2	0.165 (.106)	***-0.428 (.146)
Health				
Excellent or Very Good	2,184	72.1	N/A	N/A
Good or Fair	1,611	69.7	N/A	N/A
Poor	58	71.8	0.158 (.118)	*0.236 (.132)
Age				
49 Years or Under	408	52.1	***-0.366 (.116)	***-0.330 (.127)
50-59 Years	2,771	72.9	N/A	N/A
60-64 Years	675	74.9	0.041 (.103)	0.031 (.113)
Hourly Wage				
\$6 and Under	400	34.8	—	***-1.422 (.163)
\$6.01-\$10	1,088	62.6	—	***-0.378 (.110)
\$10.01-\$15	1,063	74.2	N/A	N/A
Over \$15	1,303	84.0	—	***0.423 (.122)
Union				
Member	1,019	81.8	—	**0.255 (.103)
Non-Member	2,629	67.3	N/A	N/A

See NOTES at end of table.

Table 3—Continued
Employment-Based Coverage Among Full-Time Wage and Salary Workers

Variable	N	Percent With Employment- Based Coverage	Logit Estimates of Coverage	
			(1)	(2)
Firm Size				
1-4 Employees	123	31.4	—	***-1.157 (.261)
5-14	255	47.9	—	***-0.589 (.176)
15-24	133	56.6	—	*-0.377 (.222)
25-99	450	64.5	N/A	N/A
100-499	673	75.4	—	***0.514 (.141)
500 and Over	2,142	78.0	—	***0.523 (.120)
Job Tenure				
1 Year or Less	305	45.2	—	***-0.852 (.142)
More Than 1 Year	3,543	73.2	N/A	N/A
Occupation and Industry Controls				
Intercept	—	—	No ***1.356 (.083)	Yes ***1.585 (.256)

* Significant at the 10-percent level.

** Significant at the 5-percent level.

*** Significant at the 1-percent level.

NOTES: Numbers in parentheses are standard errors. The sample is restricted to full-time wage and salary workers, under 65 years of age. N/A is not applicable because variable represents reference category for selected indicator. Covariates in the third column are restricted to demographic and health characteristics of the worker, while covariates in the fourth column also include job characteristics.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

union.¹⁴ The table also presents estimated coefficients from two logit models of health insurance coverage; covariates in the first model are restricted to demographic and health characteristics of the worker, whereas covariates in the second model also include job characteristics.

Among full-time wage and salary workers, the prevalence of employment-based health benefits is significantly higher among males than females; 80 percent of males receive benefits from an employer or union, whereas only 62 percent of females receive benefits. The logit model estimates indicate that working females are less likely than males to receive health benefits from their employers or unions, holding other factors constant. Part, but not all, of this gender

difference can be attributed to differences in the types of jobs held by men and women; the inclusion of job characteristics in the logit model reduces the magnitude of the female coefficient, although it remains significant. In contrast to our findings for all respondents, the sex difference in health insurance among workers cannot be explained by the impact of marital status. Among full-time workers, currently married individuals are significantly less likely to receive employment-based health benefits than are unmarried individuals, perhaps because married workers may receive health benefits through a spouse's employer and may decline coverage from their own employer if contributions are required.

Although much less pronounced among workers than among all respondents, racial differences in health insurance nonetheless exist among full-time workers. Only 62 percent of Hispanics working full-time

¹⁴ In a few cases, respondents may not have earned these health benefits on the current job, since the survey does not always distinguish respondents whose benefits are provided by a former employer or union from those whose benefits are derived from current employment.

report health benefits from an employer or union, compared with 72 percent of white workers and 71 percent of African American workers. However, racial differences become insignificant once other factors are controlled in the logit model. Educational disparities appear to account for most of the shortfall in health benefits among Hispanic workers. In a logit model of health benefits with race as the only regressor (not reported in Table 3), the Hispanic coefficient is negative and significant ($p < .001$), but this coefficient is reduced to one-third its original size and becomes insignificant when educational controls are added to the model. Hispanics have significantly less schooling than other racial groups, and health insurance is closely correlated with education.¹⁵ As reported in Table 3, rates of health insurance coverage among full-time workers increase monotonically with years of schooling; 56 percent of workers who never attended college have job-related health benefits, compared to 76 percent of college graduates. The logit models indicate that a high school diploma is an important predictor of job-related health benefits, but that additional schooling beyond high school does not significantly increase the likelihood of health insurance.¹⁶

Among workers, health does not have a major effect on the likelihood of job-related insurance coverage. Rates of coverage are similar across different levels of self-reported health status. Although poor health reduces the likelihood of employment-based insurance among all respondents (Table 2), among workers the

¹⁵ Among full-time wage and salary workers under 65 years of age in the HRS, mean years of schooling for white persons, African Americans, and Hispanics are 13.1, 11.9, and 9.3, respectively. Hispanics are also much less likely to have attended high school; 42 percent of Hispanic workers never attended high school, compared with only 13 percent of African American workers and 4 percent of white workers.

¹⁶ In fact, when job characteristics, including the hourly wage, are included in the model, college graduates are less likely to receive health benefits than otherwise identical workers who completed 4 years of high school but did not attend college.

coefficient on the variable indicating poor health is actually positive with marginal (.10) significance in the full model which includes job controls. Thus, the impact of health on employment-based insurance among workers appears to be driven primarily by differences in labor-force attachment. Respondents in poor health are less likely to be employed, but when they are employed they may disproportionately seek out jobs with health coverage and accept offered coverage for which employee cost-sharing is required.

The impact of job characteristics on employment-based health insurance is consistent with findings from previous studies (e.g., U.S. Bureau of the Census, 1995; Employee Benefit Research Institute, 1995). As reported in Table 3, rates of coverage increase monotonically with both hourly wage and firm size. In addition, union members are significantly more likely to receive benefits than non-members (82 percent versus 67 percent). Finally, workers who have been with their current employer for 1 year or less are significantly less likely to have coverage than workers with longer tenure, suggesting that many employers impose waiting periods before workers are eligible for benefits. All of these job characteristics also have significant effects in the logit model.

Even if they work full-time, poorly-educated individuals, those employed by small firms, and those working at or near the minimum wage are at high risk of lacking health benefits. The availability of health insurance among the working poor is analyzed more closely in Table 4, which reports, according to wage level, the percent of full-time wage and salary workers in our sample under 65 years of age who receive coverage from their own job, the percent of covered workers who make regular contributions to their employers for health benefits, the mean monthly

Table 4
Insurance Coverage and Employee Payments, by Wage¹

Hourly Wage	N	Percent With Coverage From Own Employer	Percent Contributing Toward Cost of Coverage ²	Mean Monthly Payments ³	Percent With No Coverage From Any Source
\$6 and Under	400	34.8	55.7	\$97	27.5
\$6.01-\$10.00	1,088	62.6	59.0	\$76	5.8
\$10.01-\$15.00	1,063	74.2	55.1	\$97	2.6
\$15.01-\$20.00	640	83.6	50.3	\$97	1.3
Over \$20	663	84.4	62.6	\$113	0.7

¹ The sample is restricted to full-time wage and salary workers under 65 years of age.

² The sample is further restricted to those with employer-provided coverage.

³ The sample is further restricted to those who make payments to offset the cost of insurance coverage.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

payment, and the percent with no health insurance from any source. Only 35 percent of the bottom decile of wage earners—those making no more than \$6 per hour—receive health benefits from their employers. In contrast, the coverage rate is more than twice as high (74 percent) among workers earning \$10 to \$15 per hour.

About 57 percent of full-time workers receiving health benefits on the job must make payments to their employers to defray the cost of coverage. The fraction making contributions does not vary much across wage groups. Among those contributing, the mean monthly payment ranges from \$97 for workers earning \$6 and less per hour, to \$113 for those earning more than \$20 per hour. Thus, on average, those in the lowest wage group who contribute to their health plan are paying roughly 10 percent of their before-tax earnings toward health insurance premiums. Coverage rates may be low among low-wage workers because they cannot afford the premiums required for coverage, not because health plans are not offered.¹⁷ In fact, 27.5 percent of workers earning \$6 or less per hour have no health insurance of any kind, as reported in the last column of Table 4. These working

poor, who are not protected by the public safety net provided by Medicare and Medicaid benefits, are exposed to the risk of catastrophic medical costs should they suffer serious health problems.¹⁸ Full-time workers earning between \$6 and \$10 per hour are more than four times as likely to have some form of health insurance; only 5.8 percent of these workers have no coverage at all. Fewer than 1 percent of workers earning more than \$20 per hour lack any health insurance coverage.

Characteristics of Different Types of Insurance

To this point, we have been focusing on the question of whether or not an individual has health insurance. However, since plans differ in the level of coverage they provide for medical services and the degree of cost-sharing they impose on participants, we now analyze particular characteristics of health plans among individuals with coverage. We begin by investigating the distribution of plan type. Plans can be grouped into three broad categories: traditional FFS, which generally permit open-ended choice of providers, subject to deductibles and copayments; HMOs, which restrict participants to

¹⁷ Unfortunately, the HRS does not ask whether workers with no benefits declined coverage that was offered.

¹⁸ They may become eligible for Medicaid in the event of serious illness which leaves them impoverished, however.

particular health care providers, but which typically feature lower deductibles and copayments; and PPOs, which allow members to receive services from out-of-network providers if they are willing to pay a higher proportion of the provider's fee than is required for in-network providers.

Table 5 reports the percent distribution of plan type, among full-time wage and salary workers under 65 years of age with job-related health benefits.¹⁹ Only 40

¹⁹ Respondents in the HRS whose health insurance is not job-related are not asked to report plan type.

percent of workers with health benefits report that they belong to traditional FFS plans, whereas 57 percent report participation in managed care plans, evenly divided between HMOs and PPOs.²⁰ Thus, our 1994-95 data indicate that the recent trend toward managed care that has been documented by successive years of data from the Employee Benefits Survey (EBS)

²⁰ Only 3 percent of full-time covered workers do not know their plan type or decline to provide the information.

Table 5
Percent Distribution of Plan Type Among Full-Time Wage and Salary Workers

Demographic Variable	N	HMO	PPO	FFS	Unknown Plan Type
All	2,705	28.8	28.4	39.6	3.1
Race					
White	2,066	27.1	28.9	41.3	2.6
African American	405	37.6	26.5	29.8	5.4
Hispanic	173	34.8	21.4	37.1	6.7
Other	61	42.0	30.5	23.5	4.0
Region					
Northeast	472	35.3	21.5	40.1	3.1
Midwest	698	22.1	27.0	48.5	2.1
South	1,122	23.6	32.4	39.5	4.4
West	413	43.8	30.5	23.6	2.1
Health Status					
Excellent	571	27.4	29.8	40.6	2.1
Very Good	990	28.0	27.0	41.9	2.8
Good	810	31.0	29.2	36.1	3.7
Fair	294	28.7	28.4	38.9	4.0
Poor	40	27.1	28.0	37.4	7.5
Union					
Yes	834	32.1	26.4	37.9	3.7
No	1,867	27.4	29.3	40.2	2.9
Hourly Wage					
\$6 and Under	134	20.6	21.4	52.5	5.0
\$6.01-\$10	686	26.3	24.6	43.3	5.5
\$10.01-\$15	793	30.5	30.3	36.7	2.5
\$15.01-\$20	533	30.4	30.2	36.5	2.9
Over \$20	559	29.3	29.3	39.6	1.2
Firm Size					
1-4 Employees	35	24.3	15.7	54.8	3.5
5-14	113	21.9	16.4	58.6	3.1
15-24	73	23.7	23.3	48.7	3.4
25-99	283	31.2	26.1	41.2	1.1
100-499	496	27.3	29.9	40.2	2.6
More Than 500	1,668	29.6	29.9	36.7	3.6

NOTES: The sample is restricted to full-time wage and salary workers, under 65 years of age, with employer-provided health insurance. HMO is health maintenance organization. PPO is preferred provider organization. FFS is fee-for-service.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

is continuing.²¹ White persons with coverage are significantly more likely to participate in FFS plans than African Americans with coverage, whereas insured African Americans are significantly more likely than white persons to belong to HMOs. HMO penetration is particularly high in the West, where 44 percent of insured workers are members of HMOs. Although it has been suggested that individuals in poor health may tend to avoid managed care plans, because they generally limit choice of primary-care physicians and restrict access to specialists, this pattern is not evident in Table 5; 37 percent of covered workers in poor health belong to traditional FFS plans, compared with 36 percent reporting good health and 41 percent reporting excellent health. Finally, FFS plans are more prevalent among low-wage workers and employees in small firms. For example, 53 percent of insured workers earning no more than \$6 per hour and 58 percent of insured workers in firms with fewer than 15 employees belong to traditional FFS health plans; managed care plans are more prevalent among better-paid employees in large plans and, to a lesser extent, among union members.

Table 6, which reports the percentage of full-time workers under 65 years of age with job-related health benefits whose employer or union offers multiple health plans from which they can choose, suggests the extent to which the distribution of plan types reflects the preferences of participants. Most workers do not have any choice in the selection of their employee health benefits; only 42 percent of insured workers were offered more than

Table 6
Availability of Alternative Health Plan
Among Insured Workers

Characteristic	Percent Offered Alternate Plan by Employer
All	42.0
Hourly Wage	
\$6 or Under	17.4
\$6.01-\$10.00	25.8
\$10.01-\$15.00	39.0
\$15.01-\$20.00	50.7
Over \$20	59.7
Firm Size	
1-4 Employees	13.9
5-14	9.9
15-24	26.3
25-99	22.5
100-499	33.2
More Than 500	52.2
Plan Type	
Health Maintenance Organization	56.5
Preferred Provider Organization	40.8
Fee-for-Service	33.9
Union	
Member	49.2
Non-Member	39.0

NOTE: The sample is restricted to full-time wage and salary workers, under 65 years of age, with employer-provided health insurance ($n = 2,705$).

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

one health plan by their employer or union, and it is not clear whether these individuals were able to choose from among different types of plans, or simply from among alternative plans of the same general type. Jobs that are most likely to offer health insurance are also most likely to offer some choice among plans (conditional on coverage); the prevalence of plan choice increases with wages, firm size, and union membership. For instance, only 17 percent of insured workers earning \$6 per hour or less could have chosen an alternative health plan, compared to 60 percent of insured workers earning more than \$20 per hour; more than 52 percent of insured workers in firms with more than 500 employees had some choice in the selection of their plan, compared to 14 percent of insured workers in firms with fewer than 5 employees. Workers partici-

²¹ According to tabulations from the EBS, the proportion of full-time employees in traditional FFS plans decreased from 74 percent in 1989 to 50 percent in 1993, whereas the proportion in HMOs increased from 14 percent to 17 percent and the proportion in PPOs rose from 4 percent to 16 percent over the same period (Employee Benefit Research Institute, 1995).

pating in HMOs were also significantly more likely than workers in FFS plans to have at least some choice over the employment-based health plan to which they belong.

One way in which plan types may differ is in the level of payments required of participants. In addition to copayments and deductibles, individuals with employment-based health benefits may be required by employers or unions to make regular payments to help defray the cost of their coverage. Many plans—particularly managed care plans—also impose additional costs on members who seek medical care from specialists without being referred by their primary physicians, or require participants to cover 100 percent of such services out-of-pocket. These issues are explored in Table 7. Individuals in HMO and PPO plans are somewhat more likely than those in FFS plans to make payments toward the cost of their plans: 59 percent of HMO members and 61 percent of PPO members contribute, compared to 54 percent for FFS plan members. This finding tends to contradict the accepted wisdom that workers typically pay a premium for FFS coverage over HMOs or PPOs, in exchange for the greater freedom of choice generally associated with FFS plans. However, mean monthly payments, among those who contribute, are somewhat higher within FFS plans (\$103) than in HMOs (\$91) or PPOs (\$88).²²

Access to specialists is restricted for many individuals with health benefits. Not surprisingly, the majority of those in HMOs

²² These results should be interpreted cautiously, since approximately 1 in 10 recipients does not know whether or not they contribute to their health plan. However, the results are generally consistent with findings reported from the 1993 EBS of medium and large private establishments. Overall, in the EBS 61 percent of employees with health benefits made contributions for their own coverage, and 76 percent contributed for family coverage. The mean monthly contribution (among contributors) was \$32 for individuals and \$107 for families (Employee Benefit Research Institute, 1995).

(73 percent) and PPOs (61 percent) report that they would have to pay extra to see a specialist on their own, without being referred by their regular participating doctors. In fact, it is somewhat surprising that these percentages are not higher, since one of the hallmarks of managed care is restricted access to expensive specialists. On the other hand, 24 percent of participants in FFS plans report having to pay extra to visit a specialist without a referral, suggesting that many traditional health plans may have incorporated features of managed care. This finding suggests that the distinctions among standard plan types are blurring, and that to understand trends and variations in health coverage, analysts need to move beyond traditional labels to the collection of specific and detailed information on plan characteristics.

Another dimension over which types of insurance vary is the extent to which they impose cost-sharing on recipients. Although the HRS does not directly ask respondents about the copayments and deductibles associated with their insurance coverage, the survey does solicit information about the source of payments of medical expenses. During the second wave of interviews, respondents were asked whether they had been hospitalized since Wave 1, and whether the expenses were paid entirely by insurance, entirely out-of-pocket, or shared between themselves and insurance. They were also asked to indicate the number of doctor visits they made since Wave 1, and to identify who paid for those visits. Table 8 reports the distribution of these payment sources, by type of coverage, among all respondents with medical expenses. The question on utilization refers to all hospital stays or doctor visits since Wave 1, during which time insurance coverage for any given individual may have changed. In order to minimize this potentially confounding effect, the sample is further restricted to

Table 7
Employee Payments for Employer-Provided Health Insurance, by Plan Type

Type of Employee Payment	HMO	PPO	FFS	Unknown Plan Type
Employee Contributions to Health Plan				
Percent Who Contribute	58.9	60.9	54.3	31.7
Percent Who Do Not Know Whether They Contribute	9.0	9.5	8.4	14.6
Mean Monthly Payment Among Contributors	\$91.24	\$87.86	\$103.39	\$146.26
Additional Payments to Consult Specialist Without Referral				
Percent Who Must Pay Extra	73.0	60.8	24.0	36.2
Percent Who Do Not Know Whether They Pay Extra	3.7	5.6	6.6	16.2
<i>N</i>	779	768	1,071	87

NOTES: The sample is restricted to full-time wage and salary workers, under 65 years of age, with employer-provided health insurance. HMO is health maintenance organization. PPO is preferred provider organization. FFS is fee-for-service.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

individuals who report the same coverage in Wave 1 as in Wave 2. (Of course, this solution does not entirely eliminate the problem, since in some cases an individual's coverage changes more than once over the course of a 2-year period.) An additional restriction is placed on individuals who report employment-based coverage in both waves: to be included in the sample, we required that they were on the same job in both waves, in order to increase the likelihood that workers participate in the same type of employer plan in Wave 1 as reported in Wave 2.²³ These restrictions reduce the number of cases with hospitalizations to 568 and with doctor visits to 3,520.

The results reported in Table 8 indicate that very few respondents pay for the entire cost of hospitalization. Among those with employment-based coverage, for example, less than 1 percent of respondents paid their entire hospital bill alone. Even among those who report no insurance at either wave of interviews, only 29 percent pay the entire cost out of pocket, perhaps because they received charity care or moved onto Medicaid at the time of hospitalization.

²³ Even when workers remain on the same job, plan type will still change if employers change the health plans they offer employees.

Respondents are much more likely to pay the entire cost of their doctor visits. Almost 60 percent of those who purchase private insurance and 73 percent of those with no insurance at the time they were interviewed in Waves 1 and 2 paid the entire cost of their doctor visits out-of-pocket.

First-dollar coverage of medical expenses is also rare. Regardless of plan type, most individuals with employment-based insurance shared in the costs of doctor visits: Only 13 percent of FFS enrollees, 15 percent of PPO enrollees, and 35 percent of HMO enrollees report that their insurance paid the entire cost of such visits. Even for hospitalization, cost-sharing is common: Only 37 percent of FFS and PPO enrollees, and 61 percent of HMO enrollees, report that their insurance pays all the cost of hospitalizations, among those with hospitalizations.²⁴ Privately purchased insurance appears generally to

²⁴ Data from the 1989 EBS also indicate that most full-time employees with health benefits at medium and large establishments were required to pay a portion of the cost of their hospitalizations (Kramer, 1993). Only 34 percent of these employees had benefits that would pay the total cost of in-hospital surgery, and only 28 percent had benefits that covered the entire cost of hospital room and board. Most employee health plans paid only a fixed percentage of the costs (generally 80 percent).

Table 8
Percent Distribution of Medical Payment Source, by Type of Coverage

Insurance Source	Hospitalizations ¹					Doctor Visits ²				
	N	Insurance Pays All	Respondent Pays All	Cost is Shared	Other	N	Insurance Pays All	Respondent Pays All	Cost is Shared	Other
Employment-Based										
HMO	102	61.3	0.5	35.2	2.0	781	34.9	3.7	58.8	2.6
PPO	103	37.3	0.0	59.3	3.4	715	15.0	7.4	76.2	1.6
FFS	159	36.7	0.0	58.9	4.4	1,080	12.8	15.3	69.5	2.3
Unknown Type	13	57.7	7.7	34.6	15.4	94	22.7	12.3	61.2	3.7
Medicare Only	20	22.8	2.5	63.3	11.4	60	12.5	4.2	66.3	16.3
Medicare and										
Purchased Insurance	22	39.5	0.0	55.8	4.7	65	42.2	6.9	48.7	2.3
Medicaid Only	33	69.5	1.5	6.1	22.9	89	64.7	4.0	14.1	17.2
Other Federal										
Insurance	25	40.8	0.0	38.8	20.4	59	34.2	8.4	31.2	26.2
Purchased Only	32	9.4	7.8	80.0	3.1	195	4.1	59.1	35.3	1.5
No Insurance	59	22.4	29.1	18.6	29.9	382	7.7	73.0	7.3	12.2

¹ Restricted to respondents with at least 1 hospitalization between Waves 1 and 2.

² Restricted to respondents with at least 1 doctor visit between Waves 1 and 2.

NOTES: The sample is restricted to respondents who report the same insurance coverage in Waves 1 and 2. Workers who report employer-provided coverage in each wave are further restricted to be on the same job in each wave. HMO is health maintenance organization, PPO is preferred provider organization, FFS is fee-for-service.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

be limited to coverage of hospitalizations; 90 percent of purchasers report that private insurance paid at least part of their hospital costs, but only 40 percent report that private insurance paid for at least part of their doctor bills. Finally, as expected, Medicare recipients who also purchase private insurance are more likely to report that insurance paid the entire cost of their medical expenses than are individuals with Medicare coverage alone.

Changes in Health Insurance Coverage

The longitudinal design of the HRS enables us to look at within-cohort trends in health insurance coverage over the past 2 years, offering insights into how coverage changes as individuals in this cohort age and providing a more complete picture of individuals' exposure to financial risk in the event of serious illness or injury. Table 9 reports the percent distribution of health insurance coverage in Wave 1 and Wave 2 for white persons and for African Americans and Hispanics.²⁵ The sample is restricted to individuals with valid insurance data in both waves.²⁶

Coverage rates for almost all types of health insurance increased from Wave 1 to Wave 2, both for white persons and for African Americans and Hispanics. The rate of non-insurance among white persons fell from 9.8 percent to 7.0 percent, while the rate of non-insurance for African Americans and Hispanics fell from 24.5 percent to 19.2 percent. Both groups experienced fairly large increases in rates of Medicare and Medicaid coverage, of up

to 4 percentage points, as individuals aged into eligibility or became disabled. Somewhat more surprising is the small increase in employment-based health benefits and the larger increase in the purchase of basic insurance coverage evident among both groups of respondents.²⁷ Increases in these two types of coverage may reflect heightened risk aversion among individuals as they age and become more concerned over the possibility of developing serious health problems. Thus, individuals may become more likely to purchase insurance, and workers may become more likely to seek out jobs offering health benefits or more willing to pay the required contributions for job-related coverage as they age.

Although these findings suggest that health insurance coverage increased within our sample between 1993 and 1995, they do not necessarily imply that health benefits improved for the entire population of middle-aged Americans. Since we are tracking individuals over time, our analysis is restricted to respondents who do not drop out of the panel and who provide valid health insurance information at both interviews. If respondents who drop out of the survey are also less likely to have health benefits, then our findings will overstate the level of insurance coverage. This selectivity problem is exacerbated by the fact that the preliminary data we are using exclude cases with changes in household composition, as noted earlier. If individuals who become widowed or divorced are more likely to lose health benefits than individuals who do not experience any changes in marital status, then our results will again overstate the improvement in coverage between the two waves. This may

²⁵ Since respondents may be covered by more than one type of insurance at any given time, the column entries do not sum to one.

²⁶ Because this sample is somewhat more restrictive than the sample analyzed in Table 1, the distribution of Wave 2 insurance coverage in Table 9 differs slightly from the results reported in Table 1.

²⁷ Although some workers in our sample lose coverage when they retire, others maintain their insurance through employer-provided retiree health benefits, which is included in our definition of employment-based coverage.

Table 9
Health Insurance Coverage in Waves 1 and 2, Among Persons Responding in Both Waves

Insurance Source	White Persons		African Americans and Hispanics	
	Percent With Coverage in Wave 1	Percent With Coverage in Wave 2	Percent With Coverage in Wave 1	Percent With Coverage in Wave 2
Employment-Based	77.3	78.1	55.8	57.7
Medicare	6.1	9.7	8.7	13.0
Medicaid	1.7	2.2	9.0	11.1
Other Federal	5.3	6.3	5.0	5.7
Purchased Basic Insurance	8.9	12.7	5.1	8.6
Purchased Supplemental Insurance	6.8	7.4	3.6	3.0
No Coverage	9.8	7.0	24.5	19.2
Coverage in Both Waves	87.7		70.8	
No Coverage in Either Wave	4.5		14.5	
<i>N</i>	7,712		2,441	

NOTE: The sample is restricted to respondents with valid insurance coverage data in both waves.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

explain why our findings are inconsistent with other recent studies based on repeated cross-sections which have documented continued deterioration in health insurance coverage through the early years of the 1990s (Acs, 1995; Employee Benefit Research Institute, 1995; Long and Rodgers, 1995; Olson, 1995; U.S. Department of Labor et al., 1994.). Moreover, Table 9 does not address the issue of the quality of coverage that insured individuals receive. Thus, an observed increase in coverage levels does not necessarily imply that individuals have adequate financial protection in the event of catastrophic illness.²⁸

Despite the overall improvement in coverage that we observe over time in our sample, we also find evidence that fairly large groups of African Americans and Hispanics experience spells of non-insurance or lack coverage for extended periods of time. About 15 percent of African Americans and Hispanics lacked health insurance coverage at both interviews, compared with only about 5 percent of white persons. Only 71 percent of African Americans and Hispanics

reported some coverage at both waves, indicating that almost 3 out of 10 middle-aged African Americans and Hispanics experienced a spell of non-insurance between 1993 and 1995 (this is a minimum estimate since spells which began and ended in the interwave period are not captured). In contrast, only about 12 percent of white persons lacked coverage at either of the two interviews.

Although there has been much recent discussion by policymakers about the loss of health benefits following employment changes, we find little evidence that job switching at midlife is a major cause of non-coverage. Our sample includes 4,609 respondents interviewed at Wave 2 who were working at Wave 1 and had employment-based coverage at Wave 1. When interviewed at Wave 2, 21 percent of these respondents were no longer working for the Wave 1 employer.²⁹ Among these individuals who left their employer, 15 percent reported no employment-based coverage at Wave 2. In other words, the proportion of workers with employment-based coverage at Wave 1 who (a) left their job between the two waves, and (b) were

²⁸ Short and Banthin (1995) estimate that 18.5 percent of Americans under 65 years of age were underinsured in 1994, and thus exposed to the risk of large out-of-pocket expenditures in the event of expensive illness.

²⁹ Eight percent were employed elsewhere and 13 percent were not working at Wave 2.

Table 10
Changes in Coverage Between Waves 1 and 2, Among Full-Time Wage and Salary Workers in the Same Plan

Type of Plan	N	Any Change in Coverage Since Wave 1	Type of Change Since Wave 1 ¹						
			Cost Increased	Cost Decreased	Services Increased	Services Decreased	Choice Increased	Choice Decreased	Other Change
All	3,097	52.5	79.8	6.3	5.7	10.7	2.6	5.6	12.1
HMO	899	52.9	78.4	10.1	6.3	6.6	2.3	6.6	8.5
PPO	837	59.4	76.2	5.9	6.4	12.6	4.6	11.2	14.2
FFS	1,245	48.9	83.4	4.1	4.7	12.3	1.2	0.7	13.7
Don't Know	116	40.2	84.6	3.1	6.2	12.3	3.1	4.6	4.6

¹ Expressed as a percentage of respondents reporting any change.

NOTES: HMO is health maintenance organization. PPO is preferred provider organization. FFS is fee for service.

SOURCE: Authors' tabulations from Health and Retirement Study data collected in 1992-93 and 1994-95.

uninsured at Wave 2 was only about 3 percent (.21 times .15). These results do not imply that health benefits do not lock workers into jobs or that legislation to increase the portability of health benefits would not improve labor-market efficiency.³⁰ They do suggest, however, that this type of legislation would have little impact on the overall level of non-insurance among individuals approaching retirement age.

To this point, we have examined changes in insurance by documenting transitions in type of insurance coverage between Wave 1 and Wave 2. However, health benefits can change even among individuals who continue to receive the same type of insurance over time. For example, health plans may change the number of services provided, alter their fee structure, or change the degree of freedom participants have in choosing physicians or hospitals. In Wave 2, respondents who remained in the same employment-based health plan as in Wave 1 were asked whether, and if so how, their plan had changed. Responses to these questions are presented in Table 10, by plan type. Fifty-three percent reported some change in their health plan since Wave 1. Of these, four-fifths reported that the cost of their plan has increased during the past 2 years, and 11 percent reported that services have decreased. Cost increases appear to be somewhat more prevalent within FFS plans; 83 percent of respondents in FFS plans reported that costs have risen since Wave 1, whereas 10 percent of HMO participants reported that their costs have decreased. Virtually no FFS participants reported that choice decreased; however, 7 percent of HMO members and 11 percent of PPO members claimed their ability to choose certain aspects of their care had been reduced since Wave 1.

CONCLUSIONS

Most middle-class, middle-aged Americans had some form of health coverage in 1994-95. Only 9 percent of respondents in the HRS reported no health benefits at Wave 2, and more than 83 percent reported health insurance coverage both times they were interviewed (in 1992-93 and in 1994-95). Moreover, perhaps in contrast to the experience of younger cohorts, the prevalence of health benefits seems to have increased within this cohort, as overall rates of non-coverage fell almost 70 percent between the waves (from 15 percent at Wave 1 to 9.1 percent at Wave 2). However, the data also point to a persistently uninsured underclass. Rates of non-coverage are quite high among Hispanics (28 percent), individuals without a high school diploma (18 percent), individuals in fair or poor health (14 percent), and individuals who have recently become disabled (15 percent). Even among full-time wage and salary workers, more than one out of four minimum-wage earners lacked health insurance from any source.

Although the great majority of middle-aged Americans have some form of health benefits, this coverage does not imply cost-free health care or even protection from catastrophic health care costs. Except for individuals on Medicaid, for which eligibility is restricted to the poor, the great majority of individuals (even among HMO participants) paid at least part of the costs of their doctor visits over the past 2 years out-of-pocket, and most paid for at least part of their hospitalizations out-of-pocket. In addition, among full-time workers with employer-provided benefits, more than one-half made payments to their employers to offset the cost of their health benefits. The average monthly payment was \$97. Almost

³⁰ For evidence on job lock, see Madrian (1994).

80 percent of workers in the same health plan in Waves 1 and 2 reported that the costs of their plan have increased. The high cost to workers of employee benefits, not just the reluctance of employers to offer benefits, may lead to the low coverage rates we observe among low-wage workers.

The rise of managed care is also evident in our analysis. Only 38 percent of respondents with employment-based health benefits belonged to what they described as traditional FFS plans; the remainder were evenly split between HMOs and PPOs. Moreover, aspects of managed care seem to be appearing within "traditional" plans; almost one-fourth of respondents with FFS plans claimed that they could not visit a specialist without paying a surcharge, unless they had been referred by their primary physician.

One clear conclusion that emerges from the results reported in Table 3 is the gap in availability of health benefits to the working poor and to less-advantaged workers generally. The effects of less-frequent provision of health insurance to low-income workers are magnified by the more limited accessibility of privately purchased insurance to these individuals, resulting in very large socioeconomic gaps in the probability of being entirely non-insured. As Table 4 indicates, more than one-fourth of full-time workers who earned at or near the minimum wage had no coverage from any source, as compared with fewer than 1 percent of high-income workers. Disadvantaged individuals in middle age are, of course, even more likely to be entirely non-insured if they are unemployed or have retired for health or other reasons. Medicaid picks up only part of this gap, and Medicare and COBRA benefits help for some but also fall short of filling the gap. The 29-month waiting period limits Medicare's role, contributing to a rate of non-insurance (from any

source) of 15 percent among those who are disabled but whose disability has lasted less than 29 months, while the limited role of COBRA is suggested by the similarity in rates of employment-related coverage for the recently disabled versus those with disability of longer duration.

Our findings indicate clearly that at midlife, total non-insurance is a problem which is heavily concentrated among those in poor health, among minorities and the poorly educated, and among those with limited job skills. This is even more true for persistent non-insurance (coverage at neither wave) than it is for more episodic patterns of non-insurance (coverage at one of the two waves). Even among those with insurance, there are wide variations in the quality and cost of coverage.

The patterns of non-insurance observed in this analysis suggest the need for closer attention to the details of the employment-health insurance link, including such features as waiting periods, pre-existing condition exclusions, patterns of access to continuation benefits (COBRA benefits), and issues of affordability, and regulations concerning discrimination in coverage within a firm's work force. Full-time low-income workers, who may be among those in greatest need of employer-based health coverage, disproportionately lack such health coverage. Increasingly, many employers offer self-insured plans rather than purchasing traditional group health insurance products; such plans are exempt from State regulation under the Employee Retirement Income Security Act. If access to health insurance for full-time employees can be further improved, a significant contribution to reduction of the non-insurance problem for the most vulnerable in the work force could be achieved. The results also indicate the important role of Medicaid in moderating what might otherwise be even larger socioeconomic gaps in

coverage, a role which may be at risk under future financial constraints associated with proposed block-granting and elimination of "entitlement" features of this program. Finally, the results indicate the importance of collecting specific information about the coverage provided by a respondent's plan, as opposed to reliance on conventional FFS, HMO, or PPO labels.

At midlife, African Americans experienced more than double, and Hispanics almost four times, the rate of non-insurance from any source experienced by middle-aged white persons, and non-insurance was more persistent among these groups. Individuals who become disabled at midlife are at significant risk of lacking any coverage unless and until they can establish Social Security disability status and the 29-month waiting period has passed. Those who are working full-time but earn at or near the minimum wage are likely to lack employer coverage but to be ineligible for safety-net programs such as Medicaid, and more than one-fourth of these lack coverage from any source. Thus, despite the relatively high overall rates of coverage for most groups at midlife, there remain important gaps in the "safety net," particularly for four groups: those who become disabled before normal retirement age, those who report their overall health status as poor, minorities, and low-wage workers. Addressing these problems will require attention to gaps both in private and in public health insurance systems.

ACKNOWLEDGMENT

We gratefully acknowledge financial support from the American Association of Retired Persons Andrus Foundation, the National Institute on Aging, and the Institute for Social Research at the University of Michigan.

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Reprint Requests: Richard W. Johnson, Ph.D., Institute for Health, Rutgers University, 30 College Avenue, New Brunswick, New Jersey 08903. E-mail: rjohn@rci.rutgers.edu