

# Dental Care Coverage Transitions

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**L**ike other forms of health insurance in the United States, dental coverage is largely provided in an employment-based setting, and having dental coverage has been shown to be an important factor in the decision to seek care.<sup>1-3</sup> Furthermore, it has been shown that individuals are likely to delay dental care in anticipation of obtaining coverage and are similarly likely to “stock up” on dental care in anticipation of losing coverage.<sup>4</sup> Taken together, this evidence suggests that job changes may lead to distortions in the decision to obtain dental care, as well as in the timing of when such care is received.

Many people know well in advance the time or age at which they plan to retire. Although this change is anticipated, workers covered by a dental benefit program are faced with the loss of dental care coverage on retirement unless offered the opportunity to maintain coverage after employment as a postretirement health benefit (PRHB).<sup>5</sup> In recent years, access to a PRHB has declined significantly; 31% of employers offered a PRHB in 2008, down from 66% 20 years earlier.<sup>6</sup> Medicare, which provides health insurance coverage to virtually all Americans 65 years and older, generally does not cover dental care, and Medicaid provides only limited coverage in some states to eligible low-income older adults. Therefore, even individuals who have had consistent dental insurance throughout their working lives can maintain health insurance from a PRHB or face the possibility of lacking such coverage after retirement. This explains why approximately 70% of adults 65 years and older lacked private dental coverage in 2004 compared with only 40% of the adult population younger than 65 years.<sup>1</sup>

The objective of this article is to examine dental insurance transition dynamics in the context of changing employment status among a population nearing retirement. We use data from the Health and Retirement Study (HRS) to assess the characteristics of individuals 51 years and older based on whether they maintained or changed their dental coverage status between the 2004 and 2006 waves of the HRS. This analysis provides a better understanding of who is likely to gain or lose coverage and how that change in coverage relates to the timing of retirement and labor force status changes.

**Objective:** To examine dental insurance transition dynamics in the context of changing employment and retirement status.

**Study Design:** Data from the Health and Retirement Study (HRS) were analyzed for individuals 51 years and older between the 2004 and 2006 waves of the HRS.

**Methods:** The primary focus of the analysis is the relationship between retirement and transitions in dental care coverage. We calculate and present bivariate relationships between dental coverage and retirement status transitions over time and estimate a multivariable model of dental coverage controlling for retirement and other potentially confounding covariates.

**Results:** Older adults are likely to lose their dental coverage on entering retirement compared with those who remain in the labor force between waves of the HRS. While more than half of those persons in the youngest group (51-64 years) were covered over this entire period, two-thirds of those in the oldest group (≥75 years) were without coverage over the same period. We observe a high percentage of older persons flowing into and out of dental coverage over the period of our study, similar to flows into and out of poverty.

**Conclusions:** Dental insurance is an important factor in the decision to seek dental care. Yet, no dental coverage is provided by Medicare, which provides medical insurance for almost all Americans 65 years and older. This loss of coverage could lead to distortions in the timing of when to seek care, ultimately leading to worse oral and overall health.

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eAppendices A and B

## METHODS

### Data Source

The HRS, administered by the Institute for Social Research at the

**For author information and disclosures, see end of text.**

### Take-Away Points

Retirement results in a high likelihood of losing dental coverage and in a low likelihood of acquiring coverage.

- Twice as many older adults who were fully retired were completely without dental coverage compared with older adults who stayed in the labor force.
- A high percentage of older persons flowed into and out of dental coverage over the period of our study, similar to flows into and out of poverty.

understanding how coverage relates to retirement is important. With the increase in a generally healthier older population with a longer life span than previous generations, gradual transitions to retirement have become more common.<sup>8</sup> For this reason, we split retirement sta-

University of Michigan, Ann Arbor, and sponsored by the National Institute on Aging, is a longitudinal household survey useful for the study of aging, retirement, and health among older populations in the United States.<sup>7</sup> Response rates for the HRS are high; in 2004, the overall response rate for individuals interviewed in previous waves was 95%, while the overall response rate (including first-time sample members) was 88%.

The HRS contains a large battery of questions at the individual and household levels, including information about the following: demographics; income and assets; physical and mental health; cognition, family structure, and social supports; healthcare utilization and costs; health insurance coverage; labor force status and job history; and retirement planning and expectations. The RAND Corporation, Santa Monica, California, has created an analytic file of key HRS variables that are consistent across waves of the HRS; those variables are used in this analysis when possible. The HRS identifier variables contained in that file ensure that our analysis across survey waves is based on the same individual in both periods.

### Dental Coverage

This analysis focuses on dental insurance coverage reported in the HRS for the 2-year periods before the 2004 and 2006 surveys. We did not include earlier waves of the HRS in our analysis because dental coverage was not measured consistently before the 2004 HRS. Dental coverage in the 2004 HRS and 2006 HRS was identified in 1 of 2 ways: (1) the respondent reported seeing a dentist for dental care during the 2-year period preceding the survey and having expenses at least partially covered by insurance or (2) the respondent reported that he or she did not see a dentist but expected any costs to be covered by insurance if he or she needed to see a dentist. Using the coverage data that were available, we calculated national estimates of the number of individuals 51 years and older covered by dental insurance in both survey periods and those gaining or losing dental coverage between survey periods by retirement status and other characteristics.

### Retirement

Because dental insurance is often tied to one's employer,

tus into 2 categories of fully retired or partly retired. Survey respondents are designated as fully retired or as partly retired based on employment, labor force, and self-reported retirement status variables in the HRS.<sup>7</sup> Individuals designated as fully retired in our study were screened to make certain that they were not self-employed or working for pay. Persons not identified as fully retired who reported being partly retired or who reported retirement and also reported working or looking for work are defined as partly retired. Individuals not classified as fully retired or partly retired are designated as in or not in the labor force. Those classified as in the labor force (1) reported working for pay or (2) had a labor force status of working full-time, working part-time, or unemployed. Those classified as not in the labor force reported being disabled, not in the labor force, or having never been in the labor force.

### Statistical Analysis

We estimate a multivariable model of dental coverage controlling for retirement and other potentially confounding covariates. Given the dichotomous dependent variables for dental coverage transitions, we use logistic regression analyses to measure the effect of retirement status between survey periods on dental coverage transitions, while controlling for potential demographic and other confounders.

Previous research<sup>2</sup> confirms the correlation of variables such as income and education with dental coverage and forms the basis for inclusion in our models. To omit them could potentially bias our variable estimates of the effect of labor force transitions on dental coverage.

Observations with any missing data were omitted from the regression analysis. The HRS core sample design is a multistage area probability sample of households, so all estimates and statistics were computed taking into account this design using the software packages SUDAAN (release 6.40; Research Triangle Institute, Research Triangle Park, NC) and STATA (release 7.0; StataCorp LP, College Station, TX). The 2006 respondent weights in the HRS were used for all estimates. Our study was reviewed by the University of Maryland, Baltimore, institutional review board, and it was determined that the protocol did not require review.

## RESULTS

### Sample

There were 16,408 total participants interviewed in both the 2004 HRS and 2006 HRS, representing 74,308,057 members of the community-based population 51 years and older at the time of the interview. Of these, 58% ( $n = 9442$ ) of the participants were women. Fourteen percent ( $n = 2275$ ) of the participants were black non-Hispanic, and 9% ( $n = 1479$ ) were Hispanic. Twenty-eight percent ( $n = 4553$ ) of the participants were 75 years or older, 36% ( $n = 5973$ ) were between 65 and 74 years, and 36% ( $n = 5882$ ) were between 51 and 64 years.

### Overview

Dental coverage status and transitions are reported by population characteristics and by retirement transitions in **eAppendix A** and **eAppendix B** (available at [www.ajmc.com](http://www.ajmc.com)). **Table 1** and **Table 2** give the unadjusted and adjusted odds ratio estimates of the probability of gaining or losing dental care coverage between the 2004 and 2006 survey periods. Unless otherwise stated, all reported results are significant at  $P \leq .05$ . As summarized in **eAppendix A** and **eAppendix B**, 40% of all older adults had dental coverage, and 44% were without dental coverage during both the 2004 and 2006 survey periods. Approximately 17% of 36.2 million older adults with dental coverage in the 2 years before the 2004 survey lost coverage by 2006. Fourteen percent of 38.1 million older adults without coverage during the 2004 survey period acquired coverage by 2006. Our estimate of older persons without dental coverage of slightly more than 50% over this period is lower than other published estimates close to 70% because we include the group aged 51 to 64 years in our sample and exclude persons not surviving both survey periods.<sup>1</sup>

### Coverage Loss

Table 1 gives the unadjusted and adjusted odds ratio estimates of the probability of losing dental care coverage between the 2004 and 2006 survey periods. Unadjusted odds ratios were estimated from logistic equations without controlling for other variables and provide a straightforward comparison with the adjusted logistic estimates incorporating controls. We focus on the adjusted estimates and point out that, unless otherwise noted, results for the unadjusted estimates did not differ from the adjusted estimates. Differences are typically caused by correlations between covariates present in the full regression models but omitted from the unadjusted models.

The odds of losing coverage were lower for the youngest group (aged 51-64 years) compared with the oldest group ( $\geq 75$  years). Ability to pay high premiums for private dental

coverage may cause adults 75 years and older to be more likely to drop coverage between periods compared with younger adults having potentially less expensive dental coverage often packaged into employer-sponsored group policies. Unlike the unadjusted estimate, which showed no sex effect, the adjusted estimate showed that women were less likely to lose coverage than men. The odds of losing dental coverage were higher for persons in the 3 lowest income groups compared with those in the highest income group, and the odds of losing coverage were higher for those older persons with a high school education or less compared with college graduates. Similarly, the likelihood of losing coverage was higher for persons missing their permanent teeth and for those in self-reported good health (although, unlike the unadjusted estimate, not for those in fair or poor health) compared with those in excellent or very good health. Household size, race/ethnicity, and marital status effects found in the unadjusted estimates became statistically insignificant after controlling for other explanatory variables in the logistic model.

Compared with older persons who remained in the labor force between 2004 and 2006, the odds of losing coverage were higher for those entering full retirement, partial retirement, or not in the labor force and not retired over that period. Contrary to the unadjusted estimates, persons remaining fully retired, partly retired, or not in the labor force and not retired between periods were as likely to lose coverage between periods as those remaining in the labor force in both periods.

### Coverage Gain

Table 2 gives the unadjusted and adjusted odds ratio estimates from logistic regression analyses for the probability of gaining dental care coverage for those without coverage in 2004. The odds of taking up dental coverage were higher for persons in the groups aged 51 to 64 years and 65 to 69 years compared with those 75 years and older. Black non-Hispanics without coverage in 2004 had higher odds of becoming covered by 2006 than white non-Hispanics, but unlike the unadjusted estimates, no similar effect was found for Hispanics. The income effect found in the unadjusted estimates was not supported by the logistic equation after adding control variables. The likelihood of becoming covered by 2006 was also higher for older persons in households of 3 or more without coverage in 2004 compared with single-person households and, surprisingly, for those in self-reported fair or poor health compared with those in excellent or very good health.

With 1 exception, older persons retired in either period were less likely to become covered between periods compared with those older persons remaining in the labor force between periods. Unlike the unadjusted estimate, persons be-

■ **Table 1.** Logistic Estimates of the Likelihood of Losing Dental Coverage From the 2004 and 2006 Health and Retirement Study (HRS)<sup>a</sup>

Population Characteristic	Unadjusted Odds Ratios <sup>b</sup> (95% Confidence Interval) <sup>c</sup>	Adjusted Odds Ratios <sup>b</sup> (95% Confidence Interval) <sup>c</sup>
<b>Age</b>		
51-64	0.432 (0.357-0.522) <sup>d</sup>	0.640 (0.507-0.809) <sup>d</sup>
65-69	0.933 (0.749-1.163)	1.113 (0.877-1.412)
70-74	0.938 (0.743-1.184)	1.061 (0.843-1.335)
≥75	(1.0) —	(1.0) —
<b>Sex</b>		
Female	1.012 (0.889-1.150)	0.803 <sup>d</sup> (0.680-0.949)
Male	(1.0) —	(1.0) —
<b>Race/ethnicity</b>		
Black non-Hispanic	1.225 (0.988-1.519)	0.823 (0.645-1.049)
Hispanic	1.637 <sup>d</sup> (1.279-2.096)	1.085 (0.801-1.470)
Other non-Hispanic	0.950 (0.581-1.552)	0.890 (0.511-1.549)
White non-Hispanic	(1.0) —	(1.0) —
<b>Family income<sup>e</sup></b>		
Poor	3.472 (2.648-4.553) <sup>d</sup>	2.341 (1.616-3.392) <sup>d</sup>
Low income	3.281 (2.559-4.207) <sup>d</sup>	2.054 (1.566-2.695) <sup>d</sup>
Middle income	2.245 (1.858-2.714) <sup>d</sup>	1.694 (1.392-2.062) <sup>d</sup>
High income	(1.0) —	(1.0) —
<b>Education</b>		
Some or no school	3.434 (2.729-4.322) <sup>d</sup>	1.476 (1.087-2.003) <sup>f</sup>
High school graduate	1.760 (1.464-2.117) <sup>d</sup>	1.304 (1.071-1.588) <sup>d</sup>
College graduate	(1.0) —	(1.0) —
<b>Marital status</b>		
Widowed or divorced	1.621 (1.381-1.903) <sup>d</sup>	1.294 (0.972-1.722)
Never married	1.073 (0.694-1.660)	0.994 (0.574-1.724)
Married	(1.0) —	(1.0) —
<b>Household size</b>		
2	0.781 (0.654-0.932) <sup>d</sup>	1.250 (0.909-1.719)
≥3	0.765 (0.615-0.952) <sup>f</sup>	1.267 (0.895-1.792)
1	(1.0) —	(1.0) —
<b>Loss of permanent teeth</b>		
All missing	3.001 (2.499-3.603) <sup>d</sup>	1.873 (1.491-2.353) <sup>d</sup>
None missing	(1.0) —	(1.0) —
<b>Health status</b>		
Good	1.559 (1.279-1.900) <sup>d</sup>	1.295 (1.059-1.583) <sup>f</sup>
Fair or poor	2.056 (1.640-2.577) <sup>d</sup>	1.113 (0.859-1.442)
Excellent or very good	(1.0) —	(1.0) —
<b>Retirement or labor force status in 2004-2006</b>		
Entered full retirement in 2006	2.831 (2.176-3.682) <sup>d</sup>	1.859 (1.423-2.428) <sup>d</sup>
Entered partial retirement in 2006	3.103 (2.426-3.970) <sup>d</sup>	2.460 (1.832-3.304) <sup>d</sup>
Entered labor force in 2006	1.767 (0.925-3.376)	1.548 (0.853-2.807)
Entered not in the labor force and not retired in 2006	4.585 (3.057-6.876) <sup>d</sup>	2.813 (1.863-4.248) <sup>d</sup>
Always fully retired in 2004-2006	2.365 (1.969-2.841) <sup>d</sup>	1.196 (0.948-1.509)
Always partly retired in 2004-2006	1.548 (1.106-2.165) <sup>f</sup>	1.127 (0.792-1.604)
Always not in the labor force and not retired in 2004-2006	2.416 (1.612-3.621) <sup>d</sup>	1.362 (0.890-2.084)
Always in the labor force in 2004-2006	(1.0) —	(1.0) —

<sup>a</sup>From *RAND HRS Data*.<sup>7</sup> Pseudo  $R^2 = 0.083$  in adjusted regression. The sample consists of 15,819 observations, 6960 in the coverage loss equation and 8859 in the coverage gain equation. An original sample of 18,469 persons was reduced by 1514 persons with zero weights, 547 persons with positive weights but not present in both the 2004 and 2006 survey periods, and 589 persons with missing values for any of the variables. Logistic estimates incorporated adjustments for the sample weights and the sample design.

<sup>b</sup>Unadjusted estimates do not control for other characteristics of the individual. Adjusted estimates include controls for other explanatory variables in the logistic equation.

<sup>c</sup>Odds Ratio Point Estimate = Estimate of [Probability of Losing Coverage / Probability of Always Covered] for persons with row characteristic divided by [Probability of Losing Coverage / Probability of Always Covered] for omitted category. Unadjusted point estimates computed directly from eAppendix A and eAppendix B differ slightly from the unadjusted logistic estimates in this table because of the smaller sample size for the logistic estimates.

<sup>d</sup>Significant at  $P \leq .01$ .

<sup>e</sup>Low income refers to persons in families with incomes 101% to 200% of the poverty line; middle income, 201% to 400% of the poverty line; and high income, greater than 400% of the poverty line. Poor persons are at or below 100% of the poverty line, including persons in families with negative income.

<sup>f</sup>Significant at  $P \leq .05$ .

## Dental Care Coverage Transitions

**Table 2.** Logistic Estimates of the Likelihood of Gaining Dental Coverage From the 2004 and 2006 Health and Retirement Study (HRS)<sup>a</sup>

Population Characteristic	Unadjusted Odds Ratios <sup>b</sup> (95% Confidence Interval) <sup>c</sup>	Adjusted Odds Ratios <sup>b</sup> (95% Confidence Interval) <sup>c</sup>
<b>Age, y</b>		
51-64	2.562 (2.174-3.020) <sup>d</sup>	2.006 (1.614-2.494) <sup>d</sup>
65-69	1.460 (1.197-1.781) <sup>d</sup>	1.440 (1.176-1.762) <sup>d</sup>
70-74	1.145 (0.936-1.402)	1.156 (0.933-1.431)
≥75	(1.0) —	(1.0) —
<b>Sex</b>		
Female	0.880 (0.766-1.010)	0.910 (0.786-1.053)
Male	(1.0) —	(1.0) —
<b>Race/ethnicity</b>		
Black non-Hispanic	2.778 (2.280-3.384) <sup>d</sup>	2.326 (1.912-2.830) <sup>d</sup>
Hispanic	1.593 (1.193-2.127) <sup>d</sup>	1.162 (0.811-1.665)
Other non-Hispanic	1.442 (0.915-2.273)	1.127 (0.703-1.806)
White non-Hispanic	(1.0) —	(1.0) —
<b>Family income<sup>e</sup></b>		
Poor	1.269 (0.982-1.641)	1.031 (0.753-1.411)
Low income	0.860 (0.697-1.060)	0.858 (0.694-1.060)
Middle income	0.809 (0.667-0.982) <sup>f</sup>	0.851 (0.684-1.058)
High income	(1.0) —	(1.0) —
<b>Education</b>		
Some or no school	1.057 (0.824-1.355)	0.975 (0.733-1.297)
High school graduate	0.914 (0.741-1.128)	0.937 (0.748-1.173)
College graduate	(1.0) —	(1.0) —
<b>Marital status</b>		
Widowed or divorced	1.046 (0.893-1.227)	1.266 (0.985-1.628)
Never married	1.180 (0.817-1.704)	0.981 (0.647-1.487)
Married	(1.0) —	(1.0) —
<b>Household size</b>		
2	1.005 (0.859-1.176)	1.098 (0.862-1.398)
≥3	1.662 (1.385-1.995) <sup>d</sup>	1.385 (1.104-1.737) <sup>d</sup>
1	(1.0) —	(1.0) —
<b>Loss of permanent teeth</b>		
All missing	0.960 (0.800-1.153)	1.074 (0.877-1.315)
None missing	(1.0) —	(1.0) —
<b>Health status</b>		
Good	0.966 (0.816-1.143)	1.055 (0.872-1.276)
Fair or poor	1.226 (1.039-1.447) <sup>f</sup>	1.268 (1.046-1.537) <sup>f</sup>
Excellent or very good	(1.0) —	(1.0) —
<b>Retirement or labor force status in 2004-2006</b>		
Entered full retirement in 2006	0.519 (0.386-0.699) <sup>d</sup>	0.622 (0.454-0.853) <sup>d</sup>
Entered partial retirement in 2006	0.633 (0.434-0.922) <sup>f</sup>	0.777 (0.532-1.137)
Entered labor force in 2006	0.608 (0.381-0.968) <sup>f</sup>	0.597 (0.366-0.974) <sup>f</sup>
Entered not in the labor force and not retired in 2006	0.575 (0.397-0.833) <sup>d</sup>	0.586 (0.397-0.864) <sup>d</sup>
Always fully retired in 2004-2006	0.433 (0.359-0.521) <sup>d</sup>	0.666 (0.521-0.850) <sup>d</sup>
Always partly retired in 2004-2006	0.363 (0.243-0.541) <sup>d</sup>	0.523 (0.350-0.780) <sup>d</sup>
Always not in the labor force and not retired in 2004-2006	0.448 (0.338-0.592) <sup>d</sup>	0.521 (0.380-0.715) <sup>d</sup>
Always in the labor force in 2004-2006	(1.0) —	(1.0) —

<sup>a</sup>From *RAND HRS Data*.<sup>7</sup> Pseudo  $R^2 = 0.049$  in adjusted regression. The sample consists of 15,819 observations, 6960 in the coverage loss equation and 8859 in the coverage gain equation. An original sample of 18,469 persons was reduced by 1514 persons with zero weights, 547 persons with positive weights but not present in both the 2004 and 2006 survey periods, and 589 persons with missing values for any of the variables. Logistic estimates incorporated adjustments for the sample weights and the sample design.

<sup>b</sup>Unadjusted estimates do not control for other characteristics of the individual. Adjusted estimates include controls for other explanatory variables in the logistic equation.

<sup>c</sup>Odds Ratio Point Estimate = Estimate of [Probability of Losing Coverage / Probability of Always Covered] for persons with row characteristic divided by [Probability of Losing Coverage / Probability of Always Covered] for omitted category. Unadjusted point estimates computed directly from eAppendix A and eAppendix B differ slightly from the unadjusted logistic estimates in this table because of the smaller sample size for the logistic estimates.

<sup>d</sup>Significant at  $P \leq .01$ .

<sup>e</sup>Low income refers to persons in families with incomes 101% to 200% of the poverty line; middle income, 201% to 400% of the poverty line; and high income, greater than 400% of the poverty line. Poor persons are at or below 100% of the poverty line, including persons in families with negative income.

<sup>f</sup>Significant at  $P \leq .05$ .

coming partly retired from any other status were as likely to gain coverage as those remaining in the labor force between periods.

## DISCUSSION

### Coverage Transitions and Trends

The focus of our study is transitions in dental coverage among an older population over a 4-year period between 2002 and 2006. Of 74.3 million persons 51 years and older in the community population, we found that slightly more were without coverage (32.7 million) than had coverage (30.0 million) over this entire period. A troubling finding underlying these estimates is that, while more than half of those persons in the youngest group (51-64 years) were covered over this entire period, two-thirds of those in the oldest group ( $\geq 75$  years) were without coverage over the same period. In a population that on average is becoming older over time, this suggests a slight but steady downward future trend in dental coverage for older persons if all else remained equal.

The “great” recession may exacerbate this downward trend as struggling employers reduce the generosity of benefits, unions agree to reduced retiree benefit packages, individuals lose employer-based coverage after becoming unemployed, household wealth portfolios decline, and state budgets become more strained. Together, these factors imply that an otherwise slow decline in dental coverage among an older population may become rapid as employer-based coverage decreases significantly and households are unable to afford nongroup coverage and are unable to obtain coverage via Medicaid.

Previous research has demonstrated that regular dental checkups and good oral healthcare are highly correlated with holding dental insurance coverage.<sup>1,2,9</sup> In addition, correlation has been established between oral healthcare and general health status.<sup>9</sup> Therefore, if trends continue, more older adults could be faced with problems associated with poor oral health. Future waves of the HRS can track this trend and the influence of the current recession on dental coverage for working and retired older persons.

We were also struck by the high percentage of older persons flowing into and out of dental coverage over the period of our study. Similar to flows into and out of poverty, it is clear that dental coverage among the older population is in considerable flux over short periods.<sup>10</sup> For the overall older population, we found that flows out of coverage (6.2 million) exceeded those into coverage (5.4 million) over this period. More disturbing is the fact that those 65 years and older lost coverage at almost twice the rate as those younger than 65 years. This compounds the problem of a likely downward fu-

ture trend in dental coverage for a population that on average is becoming older over time.

### Retirement Effect

As one might expect, a key finding from our study is the high likelihood of losing dental coverage and the low likelihood of acquiring coverage for those becoming fully retired or partly retired even after controlling for other important personal characteristics such as income and education. Most likely, the transition from the labor force into retirement is accompanied by a loss of employment-based group coverage, including dental coverage, and an unwillingness to acquire costly nongroup dental coverage or an inability to substitute spousal coverage. As a consequence, we find that more than twice as many older adults who were fully retired over this entire period were completely without dental coverage compared with older adults who stayed in the labor force for the full period. By remaining in the labor force, a healthy aging population could help moderate an otherwise expected downward future trend in dental coverage.<sup>11</sup>

We also note that older persons who are not retired but remain out of the labor force are similar to retired persons with regard to losing dental coverage or lacking coverage altogether over this period. Also, partial retirement can serve as a limited hedge against the effect of full retirement on dental coverage, but it is not a perfect substitute for 100% attachment to the labor force.

### Unexpected Findings

There were unexpected results in our study. In some instances, asymmetries were observed between gaining and losing coverage. For example, racial/ethnic minorities were more likely to lose dental coverage than white non-Hispanics but unexpectedly were more likely than white non-Hispanics to gain coverage over this period. Similarly, older persons in poor or fair health were more likely to lose coverage and gain coverage over this period than older persons in very good or excellent health. This may simply indicate more movement into and out of Medicaid coverage for minorities and low-income individuals as their incomes fluctuate; however, a limitation of our study is that coverage is self-reported and is not confirmed by administrative records. It would be relevant to examine the types of coverage acquired by minority groups or by those in fair or poor health if these data are added to future waves of the HRS to perhaps shed some light on these counterintuitive findings. Finally, we had expected married persons to be less likely to lose coverage in their retirement years than unmarried persons because of spousal coverage, but this result was not confirmed by the logistic model results in Table 1.

### Policy Implications

An obvious solution to the lack of dental coverage and transitions in dental coverage for those 65 years and older is to add a comprehensive dental benefit to Medicare. Whether that change will occur is unclear; some in Congress have suggested that dental benefits should be added to Medicare, but as Medicare faces other budgetary constraints, this may not be likely on a large scale, nor would it address dental uninsurance among those younger than 65 years, which may increase if those who otherwise would have been covered by Medicaid cannot obtain coverage because of state budget cuts. Nonetheless, the strong and persistent effects of income and education on the likelihood of having dental coverage suggest that expansions to public programs should be targeted toward the neediest in our population to most effectively offset a potential downward future trend in dental coverage and oral health among our aging population.

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