

# Dental care use: does dental insurance truly make a difference in the US?

R. J. Manski<sup>1,2</sup> and P. F. Cooper<sup>2</sup>

<sup>1</sup>Division of Health Services Research, Department of Health Promotion and Policy, Dental School, University of Maryland, Baltimore, USA. <sup>2</sup>Center for Financing, Access and Cost Trends, Agency for Healthcare Research and Quality, Rockville, Maryland, USA

**Objective** Having medical insurance with or without coverage for dental care has been shown to be associated with an increase in dental use. The purpose of this study is to provide information that will help describe this behavior. **Method** We isolate the independent effect of health insurance on the likelihood of a dental visit by analyzing Medical Expenditure Panel Survey (MEPS) data. **Results** Data show that persons with private medical coverage, controlling for dental coverage and other socioeconomic and demographic factors, are more likely to have a dental visit than persons without private medical coverage. Having medical insurance with or without coverage for dental care is associated with an increased likelihood of having a dental visit. These data suggest a more complex role for dental insurance beyond that of traditional insurance motivation. **Conclusions** These data suggest that programmes designed to improve dental access with added dental coverage may not be sufficient to remedy access deficiencies and may offer only modest extra incentives to use dental services over and above medical insurance.

*Key words:* Coverage, dental, dentistry, insurance, utilization

## Introduction

For the working age population in the United States most dental insurance is associated with employment. This dental coverage exists either as a separate stand alone policy or can be bundled as one particular benefit of an overall health care plan, in the latter case usually as part of a health maintenance organization (HMO). Since coverage in the U.S. is associated with employment, workers and their dependents face relatively little choice in that the coverage options are decided by their employer. Still, dental insurance has been shown to be an important factor in the decision to seek and use dental care services. During 1996, approximately 43 percent of all US dental expenditures were paid by private dental insurance (Manski *et al.*, 2002). The number of enrollees with dental coverage has increased from about 4.5 million persons in 1967 to more than 138 million persons by 1996 (Manski *et al.*, 2002; National Association of Dental Plans, 2000; Health Insurance Association of America, 1987; 1990; American Dental Association, 1984). Previous studies have shown that persons with dental coverage are more likely to report a dental visit than persons without dental coverage (Manski *et al.*, 2002; Mueller and Monheit, 1988; Manning *et al.*, 1985). An analysis of 1977 US National Medical Care Expenditure Data (NMCES) shows that dental insurance is associated with increased dental care expenditures and facilitates access to care (Mueller and Monheit, 1988). Later, an analysis of 1974-1982 Rand Health Insurance Study data provides additional empirical information that the use of dental services is increased with lower coinsurance rates

(Manning *et al.*, 1985). More recently, analyses of 1996 US Medical Expenditure Panel Data (MEPS) show that persons with dental coverage at all income levels are more likely to report a dental visit than persons without dental coverage (Manski *et al.*, 2002).

Interestingly, having medical insurance with or without coverage for dental care may also be associated with an increased likelihood of having a dental visit. For instance, in 2000, people with private medical insurance were more likely to have at least one dental visit than people without any private medical coverage independent of dental benefit coverage (Brown and Manski, 2004). In the year 2000, among people under age 65, 47.8 percent of those with any private health coverage had at least one dental visit compared to 28.9 percent of those with public insurance and only 19.2 percent of those who were uninsured (Brown and Manski, 2004). A similar pattern was observed for people aged 65 and over, where 48.7 percent of the elderly with private medical insurance as well as Medicare had at least one dental visit, while 34.0 percent of those with Medicare only and 17.1 percent of those with public insurance in addition to Medicare received any dental care in 2000 (Brown and Manski, 2004). We hypothesize that the increase in rates of dental care use associated with medical benefits are the result of person specific unobserved behavior which is captured with the medical insurance variable. For example, if a person has a high regard for health they may also value medical insurance and dental insurance as well as medical and dental care. Without controlling for this unobserved behavior, the estimated effect of dental coverage may overstate the true effect

of dental insurance on dental care use. In this case, the unobserved behavior may represent how each person values health. The purpose of this study is to identify characteristics of this unobserved behavior.

## Methods

The Medical Expenditure Panel Survey (MEPS) is the third in a series of nationally representative health surveys of the U.S. community-based population that is co-sponsored by the Agency for Healthcare Research and Quality (AHRQ, formerly AHCPR and NCHSR) and the National Center for Health Statistics (NCHS). Data collected in MEPS include information on demographic characteristics, health conditions, health status, use of medical care services including dental services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment. Our analytical file was developed using the MEPS 2003 Household File and the Dental Event File (Harper *et al.*, 1991; Cohen, 1997).

The focus of this analysis was on dental insurance coverage, the effect of dental coverage on dental care use and the relationship between dental insurance coverage with medical insurance coverage. Specifically, national estimates were provided for dental insurance coverage status, medical insurance status, population percentage with a dental visit, number of visits per person for those with a visit and mean total expenditure for persons with a visit by coverage type for each of several socioeconomic and demographic categories during 2003.

Multivariate analyses were also conducted to determine if the bivariate relationships found would persist in a multivariate statistical model and to assess the relative impact of the socioeconomic and demographic variables and medical and dental coverage status on utilization. Specifically, using probit models we investigated the effect of dental insurance and private or public health insurance on the probability of a dental visit. Initially, we examined the effect of dental insurance on the likelihood of a dental visit controlling for various socio-demographic measures that are likely to be associated with a dental visit including gender, age, marital status, education, race ethnicity, family income, employment status and region. Subsequently, we omitted dental coverage and investigate the effect of private medical insurance and any health (private or public) insurance on the likelihood of a dental visit. Finally, we attempted to isolate the independent effect of health insurance on the likelihood of a dental visit by including dental coverage and medical coverage. Since our goal is to study the decision to use a dental provider, we limit our analyses to the population of adults aged nineteen to sixty-four. We did not include in our probit analysis children, since parents are most likely to make decisions regarding the use of dental care. We also did not include adults older than sixty-four in our probit analysis, since Medicare does not include dental benefits and relatively few adults in this age group have dental coverage (Manski *et al.*, 2002).

In order to assure sufficient numbers to produce reliable national estimates, variable categories were combined when necessary. All estimates and statistics reported were computed taking into account the complex

sampling design of MEPS with the use of the software packages SUDAAN and STATA. (Research Triangle Institute, 1995; Statacorp, 2001)

## Results

There were 32,681 total participants in the 2003 MEPS representing about 290,604,436 non-institutionalized United States civilians. Of these, approximately half (53%,  $n=17,268$ ) of the unweighted participants were female. Sixteen percent ( $n=5,094$ ) of the participants were non-Hispanic black and 27 percent ( $n=8,866$ ) were Hispanic. Twenty-nine percent ( $n=10,533$ ) of the participants were age 18 or less, 35 percent ( $n=11,409$ ) were between the ages of 19 and 44, 22 percent ( $n=7,028$ ) of the participants were between the ages of 45 and 64 and 11 percent ( $n=3,711$ ) were 65 years old or older. Overall, forty-five percent of all persons had private dental coverage during 2003. While roughly eighty-eight percent of all persons had some type of medical coverage (public or private) and sixty-nine percent had private medical coverage in 2003, virtually all persons with dental coverage also had medical coverage. Approximately 12% of all persons had no coverage (public or private medical or dental) and 31% had no private coverage (private dental or medical).

Table 1 shows % of population with a dental visit by insurance coverage status and by selected population characteristics. Overall, 43.8% of the population had a dental visit during 2003. Dental visit use varied by coverage status and was more likely ( $p<0.05$ ) among persons with dental coverage (54.3%) or among persons with dental coverage and medical coverage (54.5%) than for persons with medical coverage only (45.9%) or for persons without any coverage (26.9%). On the other hand, 39.9% of persons with public or private medical coverage (no private dental coverage) had at least one dental visit during 2003.

For each demographic and socioeconomic category, persons with dental coverage were more likely ( $p<0.05$ ) to have a dental visit than persons without dental coverage. Additionally, persons with medical coverage only (no dental coverage) were more likely to have a dental visit than persons having no medical or dental coverage.

Table 2 shows probit estimates for each of five models. Probits models are used to estimate relationships in which the outcome variable is not continuous but assumed to be normally distributed. However, since the outcome variable is not continuous, is useful to concentrate on the direction of the significance of the estimates rather than the exact magnitude. For example the coefficient of .375118 and the standard error of .030010 for the dental coverage variable in column one indicate a highly significant positive effect of dental coverage on the probability of having a dental visit relative to not having dental coverage.

Columns one, four and five of Table 2 show that persons with dental coverage are more ( $p<0.05$ ) likely to have a dental visit than persons without dental coverage. In addition, persons age 19 to 44, Hispanics, non-Hispanic blacks and persons with limited formal education (less than college graduate) are less ( $p>0.05$ ) likely to have a dental visit than persons age 45 to 64, non-Hispanic whites or college graduates. Women and

**Table 1.** Percent population with a dental visit for total population and for persons with dental coverage, medical coverage, medical coverage and dental coverage or no coverage for persons with private coverage only and for persons with private or public coverage by selected population characteristics, United States, 2003

<i>Population Characteristics</i>	<i>Total Population</i>	<i>Overall</i>	<i>Population with Private Dental Coverage</i>	<i>Population with Dental and Medical Coverage</i>	<i>Population with Medical Coverage Only</i>	<i>Population with No Coverage</i>	<i>Population with Dental and Medical Coverage</i>	<i>Population with Medical Coverage Only</i>	<i>Population with No Coverage</i>
Total	290,604 (6,117)	43.8 (0.6)	54.3 (0.9)	54.5 (0.9)	45.9 (0.9)	26.9 (0.7)	54.4 (0.9)	39.9 (0.7)	18.5 (1.0)
<i>Age in years</i>									
Under 6	23,157 (790)	23.5 (1.1)	26.5 (1.7)	26.6 (1.7)	28.8 (2.8)	18.3 (1.3)	26.7 (1.7)	22.9 (1.4)	8.46 (2.4)
6-17	54,130 (1,540)	55.4 (1.0)	64.9 (1.5)	64.9 (1.5)	59.4 (2.2)	40.4 (1.5)	64.9 (1.5)	49.8 (1.4)	32.1 (3.2)
19-44	106,850 (2,642)	39.2 (0.8)	50.4 (1.1)	50.6 (1.1)	40.3 (1.4)	19.4 (0.9)	50.6 (1.1)	36.0 (1.1)	16.0 (1.1)
45-64	69,768 (1,688)	49.2 (0.9)	59.6 (1.1)	59.8 (1.1)	48.7 (1.6)	25.2 (1.4)	59.8 (1.1)	44.3 (1.3)	20.0 (1.5)
65 or over	36,699 (1,254)	42.2 (1.3)	56.0 (2.3)	55.9 (2.4)	46.5 (2.0)	32.5 (1.7)	56.0 (2.3)	39.5 (1.5)	
<i>Gender</i>									
Male	142,265 (3,138)	40.1 (0.6)	50.2 (1.0)	50.3 (1.0)	41.8 (1.1)	23.7 (0.9)	50.3 (1.0)	37.6 (0.8)	14.2 (1.2)
Female	148,340 (3,146)	47.3 (0.7)	58.3 (1.0)	58.5 (1.0)	49.8 (1.1)	29.9 (0.9)	58.5 (1.0)	41.9 (0.8)	24.1 (1.4)
<i>Race/ethnicity</i>									
Hispanic	40,696 (2,089)	26.8 (0.9)	40.0 (1.8)	40.1 (1.8)	29.0 (2.4)	19.0 (0.9)	40.2 (1.8)	27.2 (1.2)	11.2 (1.0)
Black	35,278 (1,726)	28.9 (1.1)	36.6 (2.0)	37.0 (2.1)	24.3 (2.6)	23.4 (1.3)	36.9 (2.0)	26.5 (1.4)	12.6 (1.5)
White	196,273 (4,599)	50.4 (0.7)	59.2 (1.0)	59.3 (1.0)	49.9 (1.1)	32.5 (1.2)	59.3 (1.0)	45.6 (0.9)	25.2 (1.8)
Other	18,358 (1,172)	39.4 (1.6)	50.2 (2.5)	50.4 (2.5)	41.0 (3.0)	24.1 (2.4)	50.5 (2.5)	35.2 (2.1)	14.8 (3.3)

Table 1. Continued overleaf...

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Population Characteristics	Total Population	Overall	Population with Private Dental Coverage	Population with Dental and Medical Coverage	Population with Medical Coverage Only	Population with No Coverage	Population with Dental Coverage	Population with Medical Coverage Only	Population with No Coverage
<i>Income<sup>a</sup></i>									
Poor	38,077 (1,360)	26.6 (0.8)	40.2 (3.1)	40.2 (3.1)	32.4 (2.5)	23.5 (0.9)	40.2 (3.1)	28.5 (1.0)	12.0 (1.3)
Near poor	13,249 (717)	28.1 (1.7)	35.5 (3.8)	34.6 (4.0)	28.3 (4.6)	26.1 (1.9)	35.1 (3.9)	29.5 (2.1)	17.5 (3.1)
Low income	41,674 (1,477)	30.9 (1.0)	39.5 (2.4)	39.8 (2.4)	33.3 (2.1)	24.9 (1.2)	39.9 (2.4)	32.2 (1.3)	15.8 (1.6)
Middle income	92,319 (2,674)	42.4 (0.9)	48.5 (1.2)	48.6 (1.2)	43.5 (1.6)	28.0 (1.5)	48.6 (1.2)	41.2 (1.4)	19.6 (1.8)
High income	105,285 (2,906)	58.3 (0.9)	62.5 (1.1)	62.6 (1.1)	55.9 (1.3)	38.7 (2.3)	62.6 (1.1)	54.8 (1.2)	30.2 (3.2)
<i>Employment Status</i>									
Employed	151,694 (3,460)	44.9 (0.7)	53.6 (0.9)	53.9 (0.9)	44.3 (1.2)	22.2 (1.0)	53.8 (0.9)	42.0 (1.0)	18.1 (1.1)
Not employed	74,500 (1,775)	40.6 (0.9)	60.7 (1.4)	60.6 (1.4)	45.3 (1.6)	27.0 (1.0)	60.7 (1.4)	37.2 (1.0)	15.0 (1.5)
<i>Census region</i>									
North East	54,065 (2,141)	48.2 (1.4)	57.3 (2.1)	57.2 (2.1)	51.3 (1.8)	29.2 (2.2)	57.2 (2.1)	44.1 (1.6)	18.7 (3.0)
Midwest	65,374 (3,148)	48.1 (1.2)	57.4 (1.6)	57.5 (1.6)	48.2 (1.9)	29.3 (1.7)	57.5 (1.6)	43.2 (1.4)	21.7 (2.4)
South	104,405 (3,445)	38.7 (0.9)	49.6 (1.4)	49.8 (1.5)	41.9 (1.7)	23.5 (1.0)	49.8 (1.5)	36.3 (1.1)	15.0 (1.3)
West	66,761 (3,436)	43.9 (1.1)	55.3 (1.6)	55.6 (1.6)	44.4 (1.8)	29.2 (1.4)	55.6 (1.6)	38.9 (1.3)	22.2 (2.5)

Table 1. Continued overleaf...

Table 1. Continued...

Population Characteristics	Total Population	Overall	Population with Private Dental Coverage	Population with Dental and Medical Coverage	Population with Medical Coverage Only	Population with No Coverage	Population with Dental and Medical Coverage	Population with Medical Coverage Only	Population with No Coverage
<i>Marital Status</i>									
Married	120,122 (2,813)	47.4 (0.8)	56.0 (1.1)	56.3 (1.1)	47.6 (1.3)	25.5 (1.2)	56.2 (1.1)	43.5 (1.1)	17.7 (1.4)
Not married	106,075 (2,452)	39.0 (0.7)	53.2 (1.1)	53.3 (1.1)	40.8 (1.3)	24.2 (0.9)	53.4 (1.1)	35.9 (0.9)	16.9 (1.1)
Under 16	64,374 (1,791)	44.9 (0.8)	52.0 (1.5)	52.1 (1.5)	52.1 (2.1)	33.0 (1.3)	52.1 (1.5)	40.9 (1.2)	27.7 (3.2)
<i>Education</i>									
Less than High School	46,199 (1,605)	21.8 (0.7)	34.6 (1.9)	34.6 (1.9)	20.8 (1.7)	18.1 (0.9)	34.8 (1.9)	22.3 (1.0)	9.9 (1.0)
High School-Grad	98,128 (2,415)	39.1 (0.7)	48.6 (1.1)	48.7 (1.1)	40.4 (1.5)	27.2 (1.0)	48.6 (1.1)	37.1 (1.0)	17.0 (1.4)
Some College	44,449 (1,448)	44.7 (1.1)	49.8 (1.7)	50.0 (1.7)	47.4 (2.0)	32.8 (1.6)	50.0 (1.7)	44.0 (1.5)	24.1 (2.5)
College Grad	98,927 (2,913)	58.8 (0.9)	63.0 (1.1)	63.2 (1.1)	58.2 (1.3)	41.0 (2.2)	63.2 (1.1)	55.8 (1.2)	34.2 (3.1)

Note: Standard errors are in parenthesis.

a Includes persons in families with negative income. Where poor refers to family incomes less than or equal to 100% Federal Poverty Line (FPL), near poor less than 125% and greater than 100% FPL, poor less than 125% and greater than 200% FPL; middle income less than 400% and greater than 200% FPL and high income greater than 400% FPL.

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**Table 2.** Probit regression coefficients of the probability of having a dental visit during the year for adults age 19 to 64, 2003 United States.

	<i>DENTCOV ONLY</i>	<i>PRICOV ONLY</i>	<i>MEDCOV ONLY</i>	<i>DENTCOV &amp; PRICOV</i>	<i>DENTCOV &amp; MEDCOV</i>
Constant	-0.280289 0.062906	-0.433858 0.063797	-0.692402 0.069094	-0.404568 0.063969	-0.620931 0.069399
Dental Coverage	0.375118 0.030010	NA NA	NA NA	0.246016 0.032718	0.265030 0.031613
Private Medical coverage	NA NA	0.503490 0.037730	NA NA	0.356203 0.040945	NA NA
Any Medical coverage	NA NA	NA NA	0.585457 0.041983	NA NA	0.455449 0.043721
Female	0.278192 0.021523	0.276547 0.021784	0.267288 0.021424	0.272831 0.021806	0.264458 0.021569
Age 19 to 44	-0.145778 0.026106	-0.129615 0.025818	-0.121313 0.025626	-0.140733 0.025863	-0.135199 0.025808
Married	0.015161 0.025759	-0.000763 0.025636	0.019729 0.025810	-0.010066 0.025680	0.000131 0.025744
Less Than High School	-0.418870 0.038408	-0.388984 0.038540	-0.417883 0.038386	-0.384356 0.038718	-0.400106 0.038794
High School Graduate	-0.251032 0.028673	-0.239740 0.027993	-0.244692 0.028187	-0.238481 0.028237	-0.240283 0.028406
Education Missing	-0.827642 0.183065	-0.816060 0.177888	-0.853498 0.193277	-0.798381 0.175670	-0.820134 0.185302
Hispanic	-0.386426 0.040380	-0.347694 0.040752	-0.334997 0.040878	-0.353241 0.040690	-0.338738 0.040784
Non-Hispanic Black	-0.377781 0.048549	-0.334376 0.049239	-0.366899 0.048847	-0.355714 0.048978	-0.380415 0.048620
Other Race/Ethnicity	-0.236340 0.057483	-0.217946 0.056304	-0.229737 0.056235	-0.221888 0.056985	-0.229262 0.057009
Employed	-0.102873 0.033568	-0.127257 0.033596	-0.038687 0.032966	-0.142692 0.034008	-0.083390 0.033829
Midwest	0.010246 0.056500	0.008701 0.054918	0.020979 0.053867	0.009487 0.056337	0.018843 0.055728
West	-0.010746 0.055831	0.011538 0.054744	0.012390 0.054001	0.003943 0.055655	0.005746 0.055159
South	-0.185976 0.052011	-0.178761 0.051081	-0.162845 0.049965	-0.176964 0.052127	-0.162995 0.051471
Middle Income <sup>a</sup>	0.194664 0.035695	0.132446 0.037630	0.206932 0.035819	0.120269 0.037541	0.162842 0.036134
High Income <sup>a</sup>	0.501988 0.037308	0.447812 0.038875	0.525754 0.037875	0.419968 0.038829	0.461601 0.038013
Prob > F	.0000	.0000	.0000	.0000	.0000

a Includes persons in families with negative income. Where poor/near poor and low income is the omitted category and refers to family incomes less than or equal to 200% FPL; middle income less than 400% and greater than 200% FPL and high income greater than 400% FPL.

Omitted categories included male, adults age 45-64, adults not married, education greater than high school graduate, non-Hispanic white adults, unemployed adults and adults residing in the east and adults with family incomes less than 200% FPL.

Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends (CFACT), 2003 Medical Expenditure Panel Survey (MEPS).

persons from families with middle or high income are more likely to have a dental visit than men or persons from families with low income. Column four of Table 2 shows that persons with private medical coverage, controlling for dental coverage and other socioeconomic and demographic factors, are more ( $p < 0.05$ ) likely to have a dental visit than persons without private medical coverage. Column five of Table 2 shows that persons with any medical coverage, controlling for dental coverage and other socioeconomic and demographic factors, are also more ( $p < 0.05$ ) likely to have a dental visit than persons without any medical coverage. These results, which were also found in Table 1 are confirmed after controlling for known possible confounding effects.

Column two of Table 2 shows that persons with private medical coverage only (no dental coverage) controlling for other socioeconomic and demographic factors, are more ( $p < 0.05$ ) likely to have a dental visit than persons without private medical coverage. Column three of Table 2 shows that persons with any medical coverage only (no dental coverage) controlling for other socioeconomic and demographic factors, are more ( $p < 0.05$ ) likely to have a dental visit than persons without any medical coverage only.

Persons residing in the South were less likely ( $p < 0.05$ ) than persons residing in the East to have a dental visit. Persons employed were less likely ( $p < 0.05$ ) to have a dental visit than unemployed persons in four of the five models. Column three of Table 2 shows that for the any health insurance only model, persons who are employed are no more likely ( $p > 0.05$ ) than unemployed persons to have a dental visit.

## Discussion

Analyses show that dental insurance is an important factor in decisions to seek and use dental care services. Interestingly, having medical insurance with or without coverage for dental care is also associated with an increased likelihood of having a dental visit. These patterns of dental visitation suggest a more complex role for dental insurance beyond that of traditional insurance motivation. For instance, while persons with dental insurance may perceive the price of dental care to be lower than persons without dental insurance and subsequently seek care at higher rates, persons with medical insurance also seek dental care at higher rates than persons without medical insurance. We hypothesize that the increase in rates of dental care use associated with medical benefits are the result of person specific health seeking behavior which is otherwise unobserved and may in part be captured with the medical insurance variable.

In our analyses we first attempted to describe the association between insurance and dental use. Second, we attempted to isolate the unobserved health seeking behaviour that may be confounded with dental insurance thus providing an upwards bias for the coefficient of dental insurance.

Our bivariate analyses reveal that in addition to dental insurance, medical insurance is also positively associated with the likelihood of a dental visit. Results from our probit analysis confirm these bivariate results and show that when dental coverage and medical coverage (private

and/or public) are both included in the model, the size of the coefficient for dental coverage decreases relative to the coefficient for dental coverage in the model with dental coverage only. Other coefficients for socioeconomic and demographic factors remained remarkably stable across each of the five models. These results suggest that current dental coverage modeling may have resulted in an exaggerated interpretation of the importance of dental coverage in the decision to seek dental care. These results show that including medical coverage in dental visit models will improve the accuracy of the dental coverage coefficients by mitigating some of the upward bias cause by unobserved factors. Additional study is warranted to isolate specific unobserved health behavior factors allowing for the development of more precise dental care coverage models.

These analyses have important public policy implications for programmes designed to improve dental access since these results suggest that dental coverage, as currently provided and taken up in the US health insurance context, appears to offer only modest extra incentives to use dental services over and above health insurance. This is not surprising since prior findings have indicated that some individuals report that they do not seek care because they think they do not have a problem or need care.

While these data and analyses are useful, they do have limitations. For instance, self-reporting of data is less accurate than collection by observation or by dental record abstraction and analyses of data from different survey sources have historically resulted in national estimates that vary. Multivariate results from these analyses only apply to adults age 19 to 64. Additional study is warranted to determine if these unobserved factors also apply to children and older adults as well. Since individual dental coverage plans may vary considerably in their degree of benefit generosity, these analyses do not disaggregate results by benefit plan generosity. Service specific variation may also have a differential effect on findings. For instance, the effect of dental coverage may differentially impact the likelihood of a preventive visit when compared to the likelihood of a non-preventive visit such as a visit for a restoration, crown, filling, extraction, root canal or periodontal care. Finally, adverse selection may overstate the effect of dental coverage on use should persons needing extensive services self select into obtaining dental coverage. On the other hand, these data are useful, comprehensive and provide estimates that are nationally representative. As such, these findings are unique and provide important information from which dental visits can be compared and analyzed in the context of dental care coverage. These analyses provide important new findings and suggest a need for further study of the possible factors driving health seeking behavior including health status, attitudes about health and preferences for risk. Specifically, whereas this manuscript explores and describes an overall health seeking behavioral effect and its relationship to other demographic factors, a subsequent examination of factors which may comprise this behavior itself is warranted.

## Conclusions

Since medical coverage generally does not provide for dental reimbursement, the positive effect of medical insurance on the dental use suggests an indirect health seeking behavior component of having medical insurance on the use of dental care. By isolating and understanding the health seeking behavioral component of dental care coverage, employers and other plan sponsors may be able to more accurately design future dental care plans that better meet the needs of employees and their dependents.

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