Medical Expenditure Panel Survey

Agency for Healthcare Research and Quality

STATISTICAL BRIEF #117

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Children's Dental Visits and Expenses, United States, 2003

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Introduction

Regular dental care, beginning early in childhood, is an important component of health care. The American Academy of Pediatric Dentistry recommends that children begin having dental service visits at approximately age 1.[1] Tooth decay (dental caries) is one of the most common chronic infectious diseases among children in the United States. Tooth decay begins early. Among children ages 2–4, 17 percent have already had tooth decay. By the age of 8, approximately 52 percent of children have experienced tooth decay, and by the age of 17, tooth decay affects 78 percent of children.[2] However, tooth decay is, to a large extent, preventable through regular dental cleanings and checkups, the use of sealants, and appropriate diet and oral health care.[3]

This Statistical Brief presents estimates based on data from the Household Component of the 2003 Medical Expenditure Panel Survey (MEPS-HC) on the proportion of children age 17 and under who utilize dental services, by race/ethnicity, age, sex, income, and geographical region. In addition, the data presented in the brief include measures from Healthy People 2010, a set of health objectives to be attained in the U.S. by 2010. Only differences that are statistically significant at the 0.05 level are discussed in the text.

Highlights

- Slightly more than half of all U.S. children ages 2–17, who were part of a civilian noninstitutionalized family, received dental services during 2003.
- In 2003, white children were more likely to have at least one dental-related visit than black children, Hispanic children, and children in the other single race/multiple race category.
- Among children using dental services in 2003 and with a dental expense, those children in high income families incurred higher dental costs than those children in low/middle income and poor/near poor families.

Findings

In 2003, approximately 50.9 percent of children between the ages of 2 and 17 living in the civilian noninstitutionalized population had at least one dental-related visit (table 1). This translates into about 33.5 million American children ages 2–17 obtaining at least one dental service visit during 2003.

During 2003, a larger percentage of children ages 12–17 (55.4 percent) had a dental visit than children ages 2–11 (48.1 percent). Among all children, whites (59.6 percent) were more likely to have at least one dental visit than any other reported race/ethnic children's group.

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[1] American Academy of Pediatric Dentistry. *Guideline on Infant Oral Health Care.* Available at aapd.org/media/Policies_Guidelines/G_InfantOralHealthCare.pdf.

[2] *Preventing Dental Caries with Community Programs*, Fact Sheet August 2005. CDC National Center for Chronic Disease Prevention and Health Promotion Division of Oral Health. Available at http://www.cdc.gov/oralhealth/publications/factsheets/dental_caries.htm.

[3] Kaste, L. M., Selwitz, R. H., Oldakowski, R. J., Brunelle, J. A., Winn, D. M., and Brown, L. J. (1996). Coronal Caries in the Primary and Permanent Dentition of Children and Adolescents 1–17 Years of Age: United States, 1988–1991. *Journal of Dental Research*, 75, 631–641. Rockville, Md.: National Institutes of Health. National Institute of Dental Research, Division of Epidemiology and Oral Disease Prevention.

Children residing in high income families (60.1 percent, or 24.2 million) were more likely to have a dental visit than children in low/middle income families (37.4 percent, or 4.0 million) and children in poor/near poor income families (35.8 percent, or 5.3 million). Children residing in the Northeast and Midwest regions (55.3 percent and 55.6 percent, respectively) were most likely to have at least one dental visit compared to children residing in the South (47.7 percent) and the West (48.3 percent) regions.

In 2003, the average dental care expense for a child ages 2–17 with an expense and having at least one dental visit was $501 (table 2). For children between ages 12–17 with at least one dental visit, the average dental expense was $742 for the same period. This was more than twice the average annual dental expense of $327 for a child ages 2–11. These differences in expenditures reflect differences in use by age. Among children with a dental services visit in 2003, those children ages 2–11 averaged 2.0 visits per year while older children ages 12–17 averaged 3.4 visits per year.

Among children with an expense, expenses incurred for white children and other single race/multiple race children ages 12–17 ($835 and $827, respectively) were significantly higher than those incurred for similar age Hispanic children ($472) and black children ($323). A significant difference in the average expenses for a dental services visit was also evident among children ages 2–11 with respect to race/ethnicity. White children ages 2–11 ($369) with a dental visit had significantly higher average dental expenses than black children ($228) and Hispanic children ($226) in the same age group in 2003.

Among those with a dental visit and a dental expense in 2003, those children living in high income families had average dental expenses of $567. This compares with average expenses of $365 for children in low/middle income families and $302 for children living in poor/near poor families.

Excluding orthodontic care from these estimates reduces the number of dental visits and the cost of dental care, especially for children between the ages of 12 and 17. When orthodontic care is excluded, the number of visits for all children drops from 2.6 to 1.8; and, for children between 12 and 17, the average number of visits drops from 3.4 to 1.8 (figure 1). Similarly, the average dental expenses for all children drop from $501 to $243; and, for children between 12 and 17, the average dental expense drops from $742 to $268 (figure 2).

Data Source

The estimates in this Statistical Brief are based on a sample from the dental public use data set of the 2003 MEPS-HC (HC-077B: 2003 Dental Visits file). This data set contains 29,473 dental event records; of these records, 28,920 are associated with persons having a positive person-level weight. This file includes dental event records for all household survey respondents who resided in eligible responding households and reported at least one dental event. Each record represents one household-reported dental event that occurred during calendar year 2003. Dental visits known to have occurred before January 1, 2003 and after December 31, 2003 are not included in this brief.

Definitions

Dental services/visit

Dental services/visit refers to care by or visits to any type of dental care provider, including general dentists, dental hygienists, dental technicians, dental surgeons, orthodontists, endodontists, and periodontists.

Dental expenses

Expenses are the amount actually paid for dental services. More specifically, in MEPS, expenses/expenditures are defined as the sum of payments for care received, including out-of-pocket payments, and made by private insurance, Medicaid, and other sources.

Race/ethnicity

Race/ethnicity is coded hierarchically into the following codes: White single race, black single race, Hispanic or Latino, and other single race/multiple race.

Poverty status

Income is expressed in terms of poverty status, the ratio of the family's income to the Federal poverty thresholds, which control for the size of the family and the age of the head of the family (see the 2002 U.S. Department of Health and Human Services Poverty Guidelines at http://aspe.hhs.gov/poverty/02poverty.htm for more details). In this Statistical Brief, the following classifications were used:

– Poor: Persons in families at or below the poverty line.
– Near poor: Persons in families over the poverty line through 125 percent of the poverty line.
– Low income: Persons in families with income from 125 percent to less than 200 percent of the poverty line.
– Middle income: Persons in families with income from 200 percent to less than 400 percent of the poverty line.
– High income: Persons in families with income at or over 400 percent of the poverty line.

Region of residence

Each MEPS sampled person was classified as living in one the following four regions as defined by the U.S. Census Bureau:

– Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
– Midwest: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, South Dakota, North Dakota, Nebraska, and Kansas.
– South: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.
– West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

About MEPS-HC

MEPS-HC is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the civilian noninstitutionalized population. It is cosponsored by the Agency for Healthcare Research and Quality and the National Center for Health Statistics.

For more information about MEPS, call the MEPS information coordinator at AHRQ (301-427-1656) or visit the MEPS Web site at http://www.meps.ahrq.gov/.

References

For a detailed description of the MEPS survey design, sample design, and methods used to minimize sources of nonsampling error, see the following publications:

Cohen, J. *Design and Methods of the Medical Expenditure Panel Survey Household Component.* MEPS Methodology Report No. 1. AHCPR Pub. No. 97-0026. Rockville, Md.: Agency for Health Care Policy and Research, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf

Cohen, S. *Sample Design of the 1996 Medical Expenditure Panel Survey Household Component.* MEPS Methodology Report No. 2. AHCPR Pub. No. 97-0027. Rockville, Md.: Agency for Health Care Policy and Research, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.pdf

Cohen, S. Design Strategies and Innovations in the Medical Expenditure Panel Survey. *Medical Care,* July 2003: 41(7) Supplement: III-5–III-12.

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other MEPS data and tools and to share suggestions on how MEPS products might be enhanced to further meet your needs. Please e-mail us at mepspd@ahrq.gov or send a letter to the address below:

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Table 1. Percentage of children ages 2–17 with at least one dental care visit, 2003

Population characteristic	Total population (in thousands) (age 2–17)	Percentage with at least a visit (age 2–17)	Percentage with at least a visit (age 2–11)	Percentage with at least a visit (age 12–17)
Total	65,868	50.9%	48.1%	55.4%
Race/ethnicity				
Hispanic	12,253	36.7%	36.1%	37.9%
White single race	39,262	59.6%	56.1%	65.0%
Black single race	10,042	36.8%	37.1%	36.3%
Other single race/multiple race	4,311	45.3%	39.5%	55.1%
Gender				
Male	33,745	49.5%	47.6%	52.4%
Female	32,123	52.5%	48.6%	58.7%
Income				
Poor/near poor	14,888	35.8%	37.0%	33.7%
Low/middle income	10,664	37.4%	34.8%	42.4%
High income	40,315	60.1%	56.6%	65.2%
Census region				
Northeast	11,613	55.3%	52.7%	59.4%
Midwest	14,569	55.6%	51.9%	61.4%
South	23,835	47.7%	44.9%	52.3%
West	15,851	48.3%	46.3%	51.5%

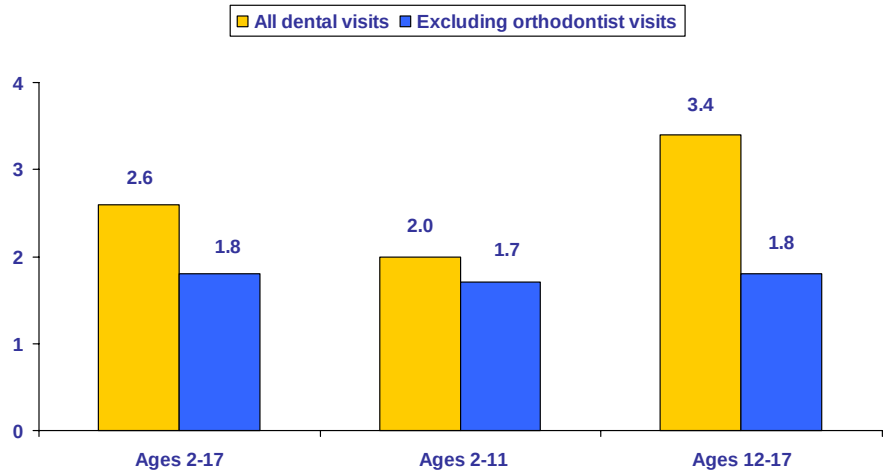
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2003

Table 2. Number of dental care visits and expenses for children ages 2–17 with at least one visit, 2003

Population characteristic	Total population (in thousands) (age 2–17)	Average visit with a visit (age 2–17)	Average expense with a visit (age 2–17)	Average visit with a visit (age 2–11)	Average expense with a visit (age 2–11)	Average visit with a visit (age 12–17)	Average expense with a visit (age 12–17)
Total	65,868	2.6	$501	2.0	$327	3.4	$742
Race/ethnicity							
Hispanic	12,253	2.1	$313	1.8	$226	2.6	$472
White single race	39,262	2.8	$571	2.2	$369	3.7	$835
Black single race	10,042	1.8	$265	1.6	$228	2.0	$323
Other single race/multiple race	4,311	2.6	$538	1.9	$295	3.4	$827
Gender							
Male	33,745	2.5	$516	2.0	$340	3.2	$767
Female	32,123	2.7	$486	2.0	$314	3.5	$717
Income							
Poor/near poor	14,888	1.9	$302	1.7	$213	2.4	$484
Low/middle income	10,664	2.3	$365	2.0	$289	2.8	$483
High income	40,315	2.8	$567	2.1	$365	3.6	$821
Census region							
Northeast	11,613	2.8	$610	2.1	$357	3.7	$960
Midwest	14,569	2.7	$433	2.0	$272	3.6	$641
South	23,835	2.5	$429	2.0	$308	3.1	$600
West	15,851	2.5	$587	2.0	$386	3.2	$884

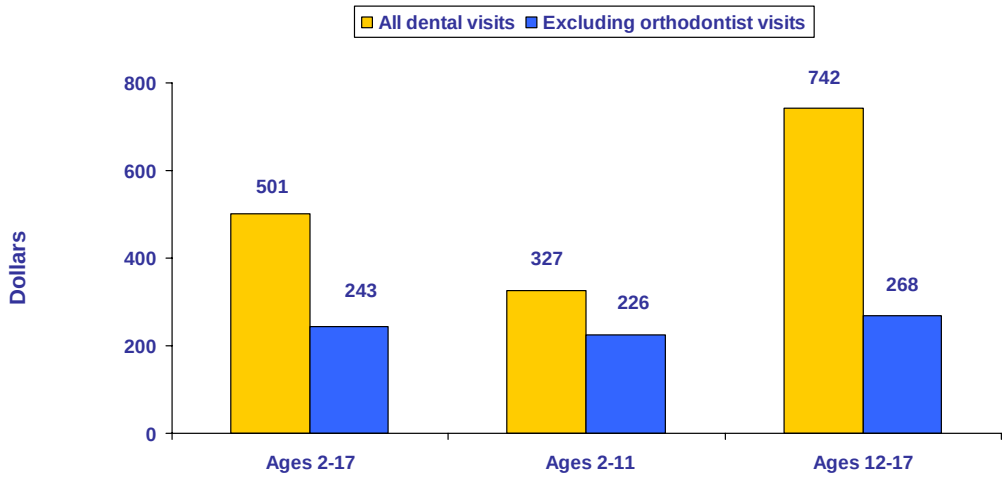
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2003

Figure 1. Average number of dental visits for children ages 2–17 with a visit, United States, 2003



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2003

Figure 2. Average expense per child with a dental visit and expense for children ages 2–17, United States, 2003



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2003