



GAPS IN PREVENTION AND TREATMENT: DENTAL CARE FOR LOW-INCOME CHILDREN

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Tooth decay is one of the most prevalent chronic illnesses facing children in the United States today (Edelstein and Douglas 1995). It is estimated that children miss 52 million hours of school each year due to tooth decay and other dental problems (Gift et al. 1992). Oral health problems persist among children, in spite of the fact that tooth decay is largely preventable through regular dental cleanings and checkups, the use of sealants, and appropriate diet and oral health care. Kaste et al. (1996) report that 24 percent of children ages 5 to 17 account for 80 percent of the tooth decay disease burden in permanent teeth among this age group. There are clear socioeconomic disparities in the distribution of oral health problems, and low-income children are disproportionately affected (Milgrom et al. 1998; Vargas et al. 1998). One explanation for the persistent problems, particularly among low-income children, is inadequate access to dental care (Milgrom et al. 1998), not only for acute but also for preventive services.

Using estimates drawn from the 1997 National Survey of America's Families (NSAF), this brief examines variations in the receipt of dental services and in unmet need for dental care across different subgroups of children ages three and over, both nationally and across 13 different states. Almost 10 percent of low-income children had unmet need for dental care, nearly twice the level experienced by higher-income children. Nationally, 30 percent of low-income children received no dental care in the previous year and nearly 60 percent failed to receive recommended minimum levels of care. Among low-income children, deficits in dental services use appear greatest among those who lack health insurance, those in poor health, and those with less-educated primary caregivers. There is also substantial variation across states in the receipt of dental care. These findings indicate that there is considerable scope for increasing the provision of dental care to low-income children.

The National Survey of America's Families—Data and Methods

The NSAF is a household survey that provides information on over 100,000 children and nonelderly adults representing the noninstitutionalized, civilian population under 65 nationally and in 13 states.¹ It oversamples the low-income population (i.e., those with incomes below 200 percent of the federal poverty level [FPL]). Detailed information was collected from the adult who knew the most about the education and health care of up to two children in each household (one age 5 or under and one age 6 to 17).

Two dimensions of dental care are measured in the NSAF—unmet need and number of dental visits. The primary caregiver was asked to indicate whether in the 12 months prior to the survey the child experienced delays receiving or failed to receive needed dental care and, if so, the main reason for the delay or failure. The caregiver was also

asked how many times the child visited a dentist or dental hygienist in those 12 months. From the responses to these questions, two measures of dental care utilization can be constructed: no dental visits and fewer than two visits. If a child did not get any visits, then he or she did not get any preventive care; if a child had fewer than two visits, then he or she did not receive the recommended minimum level of care and that care can be characterized as inadequate.² Receipt of two dental visits does not necessarily imply that the recommended standards have been met, since the NSAF provides no information on the content or quality of the visits and it cannot be determined whether they were for preventive services or for acute care. However, receipt of fewer than two visits indicates that the recommended level of preventive care measures are not being undertaken, nor is oral development being routinely monitored.

While efforts were made to ascertain the actual amount of dental care each child received, these data,

Low-income children are almost twice as likely as high-income children to have unmet dental needs.

like all survey data, are subject to potential bias. In this case, caregivers may have reported more dental care than was actually received in order to not appear negligent. Because these data are self-reported, they may understate the extent to which children fail to receive any, or minimum recommended levels of, dental care.³

Variation in Unmet Dental Need and Receipt of Dental Care

Figure 1 shows the percentage of children with unmet dental needs, no dental visits, and fewer than two dental visits in the 12 months preceding the survey. One-fifth (20.9 percent) of all children had no dental visits, and 47.9 percent had fewer than two visits. Low-income children fared particularly poorly. Nearly twice as many low-income children as higher-income children reported unmet dental needs (9.6 versus 5.4 percent), and they were 15 percentage points more likely to have had no dental visits (29.5 versus 14.6 percent). Low-income children were also much more likely than higher-income children to have had fewer than two annual visits, (58.4 versus 40.2 percent, respectively). This evidence suggests that while children at all income levels are receiving less-than-optimal dental care,

the gap between actual and recommended care is significantly greater for low-income children.

More detailed results for low-income children, presented in table 1, indicate that the receipt of dental care varies by both child and family characteristics, as well as by geographic location.⁴ All data presented in the rest of this brief are for low-income children only.

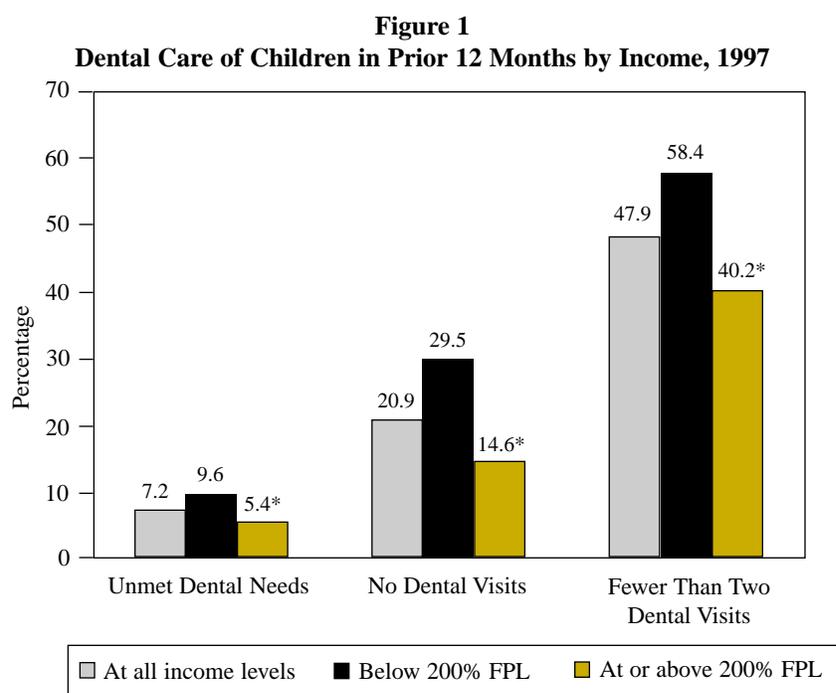
While 12.2 percent of children ages 13 to 17 were reported to have unmet dental needs, only 7.2 percent of the 3- to 5-year-olds did, with the middle age group falling in between. Rising unmet need in older age groups may reflect the increasing prevalence of dental problems, possibly due to the cumulative effect of inadequate dental care over time, or the lower availability of public insurance for older children.⁵ Although the youngest children had the lowest level of unmet need, they were also nearly 20 percentage points more likely than the 6- to 12-year-olds to have had no dental visits. This low visit rate may be partly caused by lack of awareness about the recommended levels of care. While older children in some states face required dental exams for school entry, preschoolers seldom face any requirements. Their caregivers may have fewer opportunities to learn about their children's dental needs, and so may be less able to identify the need for care.

A more consistent pattern can be found with reported health status, which shows that children in fair or poor health have greater levels of unmet need and lower probability of having visits than children in better health. Among children in "fair/poor" health, 18.5 percent reported unmet need, nearly double the levels experienced by children in the "good" or "excellent/very good" categories, and the least healthy children were more than 5 percentage points more likely to have had no dental visits than children in excellent/very good health. No significant differences related to gender or disability status were found (not shown).

Receipt of dental care also varies by race and immigration status. Hispanic children were 10 percentage points more likely to have had no visits than other children. Controlling for other factors correlated with ethnicity, however, such as birthplace and insurance coverage, resulted in no statistically significant differences for Hispanic children. Foreign-born children were 20 percentage points more likely to have had no visits than children born in the United States. Nearly half had no visits at all.

Dental care is also correlated with the educational level of the primary caregiver, family income, and insurance coverage. Children whose primary caregiver had not completed high school were nearly 11 percentage points more likely to have had no dental visits than children whose caregiver had and almost 13 percentage points more likely than children whose caregiver was college educated. In contrast, there is a nonlinear relationship between income and dental care receipt, with children in the lowest- and highest-income groups least likely to have had no visits. Just over 25 percent of children with family incomes between 150 and 200 percent of the FPL reported no visits; those with incomes below 50 percent had a slightly higher rate (27.6 percent). In contrast, nearly 33 percent of children whose families were between 100 and 150 percent of the FPL reported no visits in the past year.

Even more striking differences can be found based on health insurance coverage. Among children who were uninsured for either part or all of the previous year, nearly 17 percent had unmet need, more than double the 7.0 percent reported among publicly insured children and the 5.7 percent level of privately insured children. Furthermore, only 23.8 and 23.0 percent of publicly and privately



Source: Urban Institute calculations from the 1997 National Survey of America's Families.

Note: Excludes children ages 0–2.

*Significantly different from the low-income group at the 0.01 level.

Table 1
Dental Care of Low-Income Children by Demographic, Family, and Geographic Characteristics, 1997

	Children Who Have No Visits (%)	Children Who Have Fewer Than Two Visits (%)	Children with Unmet Dental Need (%)
	Mean	Mean	Mean
Age of Child			
3–5 years	42.1**	70.0**	7.2**
6–12 years	22.2**	52.9	9.2*
13–17 years ^a	31.2	57.8	12.2
Health Status of Child			
Excellent/very good ^a	28.2	57.4	8.2
Good	32.3	59.9	10.8
Fair/poor	34.5*	63.1	18.5**
Race/Ethnicity of Child			
Hispanic	38.6**	63.0**	11.0
Black, non-Hispanic	27.8	59.4	7.2
White, non-Hispanic ^a	26.6	55.9	10.1
Other, non-Hispanic	25.6	57.2	8.5
Birthplace of Child			
U.S.-born ^a	28.4	57.7	9.3
Foreign-born	49.6**	70.2**	14.2
Education of MKA			
No high school or GED ^a	37.3	61.1	9.9
High school diploma or GED	26.5**	57.7	9.6
Bachelor's degree	24.4**	52.9*	8.0
Family Income			
Below 50% of FPL	27.6**	55.8*	8.1
50–100% of FPL	31.9	61.3	10.0
100–150% of FPL ^a	32.8	60.4	10.6
150–200% of FPL	25.3**	55.3*	9.2
Past-Year Insurance Coverage of Child			
Full-year private coverage	23.8	50.6*	5.7
Full-year public coverage ^a	23.0	56.1	7.0
Full-year mixed public/private coverage	26.5	54.1	9.4
Uninsured for part of year	34.7**	63.2**	16.8**
Uninsured for full year	50.4**	76.1**	16.7**
Census Region			
Northeast ^a	23.0	52.9	7.1
Midwest	21.9	52.2	7.9
South	34.0**	60.9**	10.2**
West	33.8**	63.6**	11.7*
State			
Alabama	37.1**	61.7	8.0
California	34.0	65.1**	11.2
Colorado	35.0*	63.2	11.4
Florida	35.8**	59.8	10.2
Massachusetts	21.1**	47.9**	9.8
Michigan	24.5*	53.2*	8.0
Minnesota	22.0**	54.8	9.0
Mississippi	32.6	65.4**	8.9
New Jersey	26.7	60.0	10.1
New York	27.0	58.2	7.7
Texas	42.3**	71.4**	11.3
Washington	28.4	56.9	14.3**
Wisconsin	25.1*	53.8*	10.4
Nation ^a	29.5	58.4	9.6

Source: Urban Institute calculations from the 1997 National Survey of America's Families.

Note: Excludes children ages 0–2.

a. Reference group for testing of significance.

* Significantly different from the reference group at the .05 level.

** Significantly different from the reference group at the .01 level.

Table 2
Reasons for Unmet Dental Need of Low-Income Children
by Income and Insurance Status, 1997

	Insurance-Related/		
	Financial ^a (%)	Access (%)	Other (%)
	Mean	Mean	Mean
All Low-Income Children	72.3	8.0	19.7
Family Income			
Below 50% of FPL	61.3**	18.6*	20.1
50–100% of FPL	65.3**	9.7**	25.0*
100–150% of FPL ^b	85.5	3.2	11.3
150–200% of FPL	72.2	4.5	23.4
Past-Year Insurance Coverage			
Full-year private coverage	77.0**	1.8**	21.2
Full-year public coverage ^b	47.4	20.3	32.3
Full-year mixed public/private coverage	49.1	17.8	33.2
Uninsured for part of year	83.2**	7.2*	9.6**
Uninsured for full year	84.8**	1.2**	14.0*

Source: Urban Institute calculations from the 1997 National Survey of America's Families.

Note: Excludes children ages 0–2.

a. The insurance-related/financial category includes responses referring to lack of insurance, insurance coverage problems, and financial costs.

b. Reference group for testing of significance.

* Significantly different from the reference group at the .05 level.

** Significantly different from the reference group at the .01 level.

insured children, respectively, had no visits in the previous year, compared with nearly 35 percent of the children who were uninsured for part of the year. Children who were uninsured for the entire year fared even worse; more than half (50.4 percent) reported no visits. Because income and insurance coverage are highly correlated, these disparities help to explain the somewhat unexpected finding that children in the middle income groups receive the least dental care. In 1997, children with family incomes below 50 percent of the FPL were more likely to qualify for public benefits and children at 150 to 200 percent of the FPL were more likely to have private coverage relative to families in the 50 to 150 percent FPL income range.

Interestingly, privately and publicly insured children show similar levels of unmet need and no dental visits in the previous year.⁶ However, the forces behind unmet need appear to be different for the two groups. Those with private insurance were significantly more likely to cite financial or insurance reasons as the main reason for failure to get or delays in getting needed care (77.0 versus 47.4 percent) and significantly less likely to cite access issues (1.8 versus 20.3 percent) than those with public insurance (table 2).

Medicaid benefits include comprehensive coverage for preventive and

acute dental care, so for publicly insured children, low levels of Medicaid participation among dentists may be the greatest barrier to access. For privately insured children, it may be underinsurance for dental care since dental benefits vary under private insurance coverage.

Geographic location is also correlated with receipt of dental care. Low-income children in the South and West had significantly higher levels of unmet need and were 10 percentage points less likely to have had a dental visit than those in the Northeast and the Midwest (table 1). For example, children in Washington were 6.6 percentage points more likely to report unmet need than children in New York. At the extreme, children in Massachusetts were 20 percentage points less likely to have had no dental visits than children in Texas.

Barriers to Dental Health Care

Three factors may impede utilization of dental services by children: lack of knowledge about or low priority given to meeting recommended dental care standards, lack of access to providers, and lack of means to pay for care. Our findings provide evidence in each of these three areas.

First, the contribution of lack of knowledge is evident in the association

between lower educational attainment by the child's primary caregiver and lower levels of utilization. In addition, low utilization of dental services is more common among children under the age of five, for whom knowledge about the need for preventive visits may be limited. The association between low utilization and lower child health status may indicate that there are competing demands for health care for these children and dental care is given lower priority.

Second, low utilization by children under five may also indicate an access problem. There are relatively few pediatric dentists (Tobler 1999), and many dentists are reluctant to treat children, particularly very young children whose treatment may be more time consuming (Gibbs Brown 1996). Access to dentists has long been recognized as a problem for children of all ages under Medicaid since participation of dentists in the program is low in many states (Tobler 1999). The strong association between public coverage and access issues as a reason for unmet dental need highlights the consequences of limited access to dentists under Medicaid.

Finally, the importance of financial constraints is evident in the association between lack of health insurance coverage and use of dental services. Children who lacked health insurance coverage for all 12 months were almost three times as likely to have had unmet need and only two-thirds as likely to have received any dental care, relative to children who had private health insurance for the entire year. In addition, children in higher-income families were less likely to have unmet need and significantly less likely to have had fewer than two dental visits.

Although the problem of inadequate dental care is most acute for uninsured low-income children, serious problems exist for both the privately and publicly insured. The NSAF data support the notion that barriers to utilization are based on lack of knowledge about the need for services, lack of access to providers, and lack of means to pay for care but suggest that the relative importance of the types of barriers varies across insurance coverage categories. Proposed policy solutions should take these differences into account.

Policy Implications

Under Medicaid, the solution may lie less in a change in policy than in

better adherence to existing requirements. The NSAF data show that, in spite of Medicaid requirements for screening and treatment, underutilization of dental services and unmet need for dental care persist. Ongoing efforts by states and managed care plans to increase compliance with established dental care requirements may alleviate the problem to some degree. Given that these data suggest that access to providers is a contributing factor, however, states may need to direct their efforts toward increasing provider participation. The movement to managed care within Medicaid shifts the responsibility for identifying providers to managed care plans. Progress toward meeting preventive care targets and reducing unmet need will be a function of the degree to which states enforce compliance with both Medicaid dental care standards and managed care contract requirements.

The expansion of public insurance under the State Children's Health Insurance Program (CHIP) holds the potential for addressing some problems in dental care by providing insurance to previously uninsured children. Under CHIP, states are given the choice of either expanding Medicaid coverage to higher-income children or developing separate plans for them. States that have opted for Medicaid expansions are required to provide the usual Medicaid benefit package, which includes comprehensive dental services. Non-Medicaid CHIP plans generally provide dental benefits that are less generous than those offered by Medicaid; currently, two states do not even include dental services in their benefits (Tobler 1999). While children covered under non-Medicaid CHIP plans may not receive the same extensive benefits as Medicaid-covered children, they may have better access if non-Medicaid CHIP plans have raised provider fees or reduced the administrative burden dentists associate with Medicaid participation.

Public insurance programs could also be a vehicle to address the problem of underinsurance for dental services among privately insured children. States have the option of offering Medicaid wraparound dental benefits to privately insured low-income children who meet Medicaid eligibility criteria. For CHIP-eligible children who have insurance but lack dental coverage, however, CHIP is unlikely to offer relief since current program legislation severely limits the provision of supplemental coverage.

Legislation or regulatory change would be required if wraparound dental coverage were to be allowed under CHIP.

As a first step toward improving dental care among low-income children, states need to address the underlying causes of low utilization. Some contributing factors appear to be constant across the states. A concerted effort aimed at educating parents about the requirements for sound oral health care will be an important component of any strategy for improving the oral health of low-income children, as will be reducing financial and supply barriers. The NSAF data suggest that there are significant state-specific variations in dental service utilization. Understanding state variation may provide further insights into the factors that lead to inadequate dental care for children and help identify those factors that could be changed through policy or program intervention.

Notes

1. The ANF states are Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin.

2. The American Academy of Pediatric Dentistry recommends that children ages three and over receive at least two dental checkups over a 12-month period, which is reflected in Medicaid requirements (HCFA 1998).

3. Estimates for similar time periods of the proportion of children receiving no dental visits over a 12-month period are also available from the National Health Interview Survey (HIS) and the Medical Expenditure Panel Survey (MEPS). While the patterns of care by age and income are consistent across all three surveys, the estimated proportion of children receiving no dental care does vary. The estimates from NSAF and HIS (Urban Institute tabulations) are very similar, but the MEPS estimates show substantially more children lacking dental care (Edelstein et al. 2000). Methodological research is needed to reconcile the estimates from these different surveys.

4. Multivariate analyses confirm most of the descriptive results. Logistic regression models were run for the probability of having unmet need, no dental visits, and fewer than two dental visits. After controlling for other factors (age, race, immigration status, health and disability status, gender, education of the primary caregiver, family income, insurance coverage, urban/rural characteristics, and state), age, health status, and insurance coverage were significant predictors of unmet dental need. Significant effects were found for age, immigration status, education, income, and insurance coverage on the likelihood of having no dental visits. Age, income, and insurance coverage were also significantly associated with the probability of having fewer than two dental visits, although education and

birthplace were not. State of residence was a significant predictor of unmet need for low-income children in Washington and of the higher probability of having no dental visits in Alabama, Colorado, Florida, and Texas. In addition, significant positive effects were found for California, Colorado, New Jersey, New York, and Texas on the probability of having fewer than two visits.

5. Historically, eligibility for public programs decreased with the age of the child (Ullman et al. 1999).

6. In the multivariate models, low-income children covered by Medicaid were more likely than low-income privately insured children to have received any dental care in the 12 months prior to the survey.

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This series presents findings from the National Survey of America's Families (NSAF). First administered in 1997, the NSAF is a survey of 44,461 households with and without telephones that are representative of the nation as a whole and of 13 selected states (Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin). As in all surveys, the data are subject to sampling variability and other sources of error. Additional information about the survey is available at the Urban Institute Web site: <http://www.urban.org>.

The NSAF is part of *Assessing the New Federalism*, a multiyear project to monitor and assess the devolution of social programs from the federal to the state and local levels. Alan Weil is the project director. The project analyzes changes in income support, social services, and health programs. In collaboration with Child Trends, the project studies child and family well-being.

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