

GAO

Testimony

Before the Subcommittee on Domestic
Policy, Committee on Oversight and
Government Reform, House of
Representatives

For Release on Delivery
Expected at 10:00 a.m. EDT
Tuesday, September 23, 2008

MEDICAID

Extent of Dental Disease in Children Has Not Decreased

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Highlights

Highlights of [GAO-08-1176T](#), a testimony before the Subcommittee on Domestic Policy, Committee on Oversight and Government Reform, House of Representatives

Why GAO Did This Study

In recent years, concerns have been raised about the adequacy of dental care for low-income children. Attention to this subject became more acute due to the widely publicized case of Deamonte Driver, a 12-year-old boy who died as a result of an untreated infected tooth that led to a fatal brain infection. Deamonte had health coverage through Medicaid, a joint federal and state program that provides health care coverage, including dental care, for millions of low-income children. Deamonte had extensive dental disease and his family was unable to find a dentist to treat him.

GAO was asked to examine the extent to which children in Medicaid experience dental disease, the extent to which they receive dental care, and how these conditions have changed over time. To examine these indicators of oral health, GAO analyzed data, by insurance status, from two nationally representative surveys of the Department of Health and Human Services (HHS): the National Health and Nutrition Examination Survey (NHANES) and the Medical Expenditure Panel Survey (MEPS). This statement summarizes the resulting report being released today, *Medicaid: Extent of Dental Disease in Children Has Not Decreased, and Millions Are Estimated to Have Untreated Tooth Decay* ([GAO-08-1121](#)). In commenting on a draft of the report, HHS acknowledged the challenge of providing dental services to children in Medicaid, and cited the agency's related activities.

To view the full product, including the scope and methodology, click on [GAO-08-1176T](#). For more information, contact Alicia Puente Cackley at (202) 512-7114 or cackleya@gao.gov.

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Extent of Dental Disease in Children Has Not Decreased

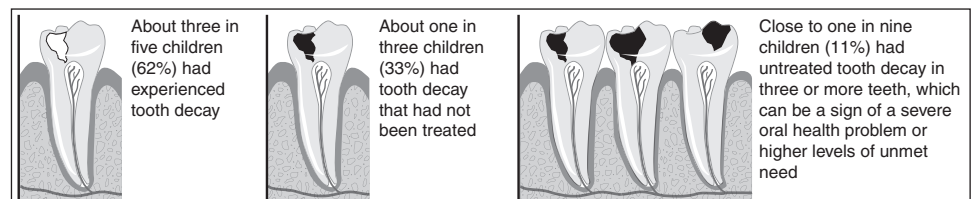
What GAO Found

Dental disease remains a significant problem for children aged 2 through 18 in Medicaid. Nationally representative data from the 1999 through 2004 NHANES surveys—which collected information about oral health through direct examinations—indicate that about one in three children in Medicaid had untreated tooth decay, and one in nine had untreated decay in three or more teeth (see figure). Projected to 2005 enrollment levels, GAO estimates that 6.5 million children aged 2 through 18 in Medicaid had untreated tooth decay. Children in Medicaid remain at higher risk of dental disease compared to children with private health insurance; children in Medicaid were almost twice as likely to have untreated tooth decay.

Receipt of dental care also remains a concern for children aged 2 through 18 in Medicaid. Nationally representative data from the 2004 through 2005 MEPS survey—which asks participants about the receipt of dental care for household members—indicate that only one in three children in Medicaid ages 2 through 18 had received dental care in the year prior to the survey. Similarly, about one in eight children reportedly never sees a dentist. More than half of children with private health insurance, by contrast, had received dental care in the prior year. Children in Medicaid also fared poorly when compared to national benchmarks, as the percentage of children in Medicaid who received any dental care—37 percent—was far below the Healthy People 2010 target of having 66 percent of low-income children under age 19 receive a preventive dental service.

Survey data on Medicaid children's receipt of dental care showed some improvement; for example, use of sealants went up significantly between the 1988 through 1994 and 1999 through 2004 time periods. Rates of dental disease, however, did not decrease, although the data suggest the trends vary somewhat among different age groups. Younger children in Medicaid—those aged 2 through 5—had statistically significant higher rates of dental disease in the more recent time period as compared to earlier surveys. By contrast, data for Medicaid adolescents aged 16 through 18 show declining rates of tooth decay, although the change was not statistically significant.

Proportion of Children in Medicaid Aged 2 through 18 with Tooth Decay, Untreated Tooth Decay, and Untreated Tooth Decay in Three or More Teeth, 1999-2004



Source: GAO analysis of 1999 through 2004 NHANES survey data.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today as you further examine concerns related to the adequacy of dental services for children in Medicaid. My testimony will provide a summary of our report for the subcommittee, which you are releasing today, entitled *Medicaid: Extent of Dental Disease in Children Has Not Decreased, and Millions Are Estimated to Have Untreated Tooth Decay*.¹ This report provides information following the May 2007 and February 2008 subcommittee hearings investigating concerns related to the provision of dental services to children in Medicaid. These hearings investigated the circumstances of Deamonte Driver, a 12-year-old boy with Medicaid coverage who did not receive timely and needed dental care and who died as a result of an untreated infected tooth that led to a fatal brain infection. As you know, Medicaid—the joint federal and state program—provides health care coverage for millions of low-income individuals—provides comprehensive dental coverage for enrolled children.² Concerns raised at the hearings about low-income children’s oral health, including the extent that children in Medicaid experience dental disease and receive dental care, are not new. GAO reviews conducted in the late 1990s highlighted the problem of chronic dental disease and the factors that contribute to low use of dental care by low-income populations, including children in Medicaid.³

Our new work examined two aspects of children’s oral health: the extent to which children in Medicaid experience dental disease and the extent to which they receive dental care. We also assessed how these conditions have changed over time. Our work provides information from national health surveys on key indicators of the oral health status of children in Medicaid, specifically, the rate of dental disease and their receipt of dental care, and changes in these indicators over time.

¹GAO, *MEDICAID: Extent of Dental Disease in Children Has Not Decreased, and Millions Are Estimated to Have Untreated Tooth Decay*, [GAO-08-1121](#) (Washington, D.C.: Sept. 23, 2008).

²Low-income children eligible under a state Medicaid plan generally are entitled to screening, diagnostic, preventive, and treatment services—including dental services—under Medicaid’s Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit. The Centers for Medicare & Medicaid Services (CMS) oversees state Medicaid programs at the federal level.

³A list of related GAO products can be found at the end of this statement.

In carrying out this work, we analyzed data from a survey conducted by the Department of Health and Human Services (HHS)—the National Health and Nutrition Examination Survey (NHANES). NHANES, which is administered by the Centers for Disease Control and Prevention’s (CDC) National Center for Health Statistics, obtains nationally representative information on the health and nutritional status of the U.S. population through direct physical examinations, including dental examinations, and interviews. The dental examinations include a dentist’s assessment of tooth decay and the presence of dental sealants, and the interviews include questions on various health and demographic characteristics, including information on insurance status. To assess how the rate of dental disease experienced by children in Medicaid has changed over time, we compared NHANES data from 1999 through 2004 with NHANES data from 1988 through 1994. We analyzed results from three different groups based on their health insurance status: children with Medicaid,⁴ children with private health insurance, and uninsured children. The group of children with private insurance included both children with dental coverage and children without dental coverage,⁵ while the group of uninsured was children who had neither health insurance nor dental insurance.

To assess how receipt of dental care has changed over time, we also analyzed data from another HHS survey, the Medical Expenditure Panel Survey (MEPS). MEPS is administered by HHS’s Agency for Healthcare Research and Quality (AHRQ). MEPS obtains nationally representative information on Americans’ health insurance coverage and use of health care, including information on receipt of dental care such as how often participants see a dentist and whether they have experienced problems accessing needed dental care. Our MEPS analysis was based on surveys conducted in 2004 and 2005 (the most recent data available). To assess changes in receipt of dental care over time, we compared the data from 2004 and 2005 with MEPS data from 1996 and 1997. We analyzed the MEPS data using the same three insurance groups as we used for the NHANES

⁴Our figures for Medicaid include children enrolled in the State Children’s Health Insurance Program (SCHIP), because NHANES contains a single category that combines Medicaid and SCHIP beneficiaries. SCHIP provides health care coverage to children in low-income families who are not eligible for traditional Medicaid programs.

⁵We analyzed the data for privately insured children with and without dental coverage separately, and found that the indicators of oral health and dental utilization for both groups were similar. Consequently, we present the data for children with private insurance as one group.

data. To estimate the number of children in each Medicaid category with a given condition, we applied certain proportions from NHANES or MEPS data to an estimate of the 2005 average monthly Medicaid enrollment of children aged 2 through 18 (20.1 million children).⁶ Finally, we obtained information on oral health and the Medicaid population from CDC and from dental associations and experts including the Children's Health Dental Project and the Medicaid/SCHIP Dental Association. The work for our report was conducted in accordance with generally accepted government auditing standards from December 2007 through September 2008. A detailed explanation of our methodology is included in the report.

In summary, dental disease and inadequate receipt of dental care remain significant problems for children in Medicaid. Nationally representative survey data from 1999 through 2004 indicate that about one in three children aged 2 through 18 in Medicaid had untreated tooth decay, and one in nine had untreated decay in three or more teeth. Projecting the survey results to the 2005 average monthly Medicaid enrollment of 20.1 million children, we estimate that 6.5 million children aged 2 through 18 in Medicaid had untreated tooth decay. Children in Medicaid remain at higher risk of dental disease compared to children who have private health insurance; children in Medicaid were almost twice as likely to have untreated tooth decay.

Survey data from 2004 and 2005 showed that only about one in three children in Medicaid aged 2 through 18 had received dental care in the prior year; about one in eight children reportedly never sees the dentist. More than half of children with private health insurance, by contrast, had received dental care in the prior year. Children in Medicaid also fared poorly when compared to national benchmarks, as the percentage of children in Medicaid aged 2 through 18 who received any dental care—37 percent—was far below HHS's Healthy People 2010 target of having 66 percent of low-income children under age 19 receive a preventive dental service in the prior year.

⁶To assess the reliability of NHANES and MEPS data, we spoke with knowledgeable agency officials, reviewed related documentation, and compared our results to published data. We determined these data to be reliable for the purposes of our work.

Survey data on Medicaid children's receipt of dental care showed some improvement over time. For example, comparison of survey data from 1988 through 1994 to more recent data from 1999 through 2004 showed that the percentage of children aged 6 through 18 in Medicaid with at least one dental sealant increased nearly threefold, from 10 percent in 1988 through 1994 to 28 percent in 1999 through 2004. However, over the same time periods, dental disease in the overall Medicaid population aged 2 through 18 did not decrease, although the data suggest the trends vary somewhat among different age groups. Younger children—those aged 2 through 5—had statistically significant higher rates of dental disease in the more recent time period examined as compared to earlier surveys. By contrast, data for adolescents—children in Medicaid aged 16 through 18—show declining rates of tooth decay, although the change was not statistically significant.

In commenting on a draft of our report, HHS provided comments from three component agencies: CMS, CDC, and AHRQ. CMS acknowledged the challenge of providing dental services to children in Medicaid, as well as all children nationwide, and cited a number of activities undertaken by CMS in coordination with states. CDC commented that trends in dental caries (tooth decay) vary by age group and for primary versus permanent teeth. We revised our report to further clarify the trends by age group and added information on CDC's findings in the general population. AHRQ commented that its own work on dental use, expenses, dental coverage, and changes had not been cited and sought additional clarification on the methodology used to analyze the data. We revised our report to cite AHRQ's findings on dental services for children and to further describe our methodology. A full copy of HHS's written comments can be found in our report.

Background

In 2000, a report of the Surgeon General noted that tooth decay is the most common chronic childhood disease.⁷ Left untreated, the pain and infections caused by tooth decay may lead to problems in eating, speaking, and learning. Tooth decay is almost completely preventable, and the pain, dysfunction, or on extremely rare occasion, death, resulting from dental disease can be avoided (see fig. 1). Preventive dental care can make a

⁷U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, *Oral Health in America: A Report of the Surgeon General* (Rockville, Md., 2000).

significant difference in health outcomes and has been shown to be cost-effective. For example, a 2004 study found that average dental-related costs for low-income preschool children who had their first preventive dental visit by age 1 were less than one-half (\$262 compared to \$546) of average costs for children who received their first preventive visit at age 4 through 5.⁸

Figure 1: Tooth Decay and Its Possible Adverse Outcomes If Untreated

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|---|--|
|  | <p>What is tooth decay?</p> <p>The American Academy of Pediatric Dentistry describes dental caries (commonly known as cavities or tooth decay) as a process where bacteria in the mouth form acids which demineralize tooth enamel. Tooth decay can be prevented by good oral health practices, such as brushing with fluoride toothpaste regularly, but if not treated, could result in pain, infection, and tooth loss.</p> |
|  | <p>How can tooth decay lead to death?</p> <p>Untreated tooth decay can penetrate the tooth surface, allowing bacteria to infect the interior of the tooth, causing an abscess. From there, if the infection is not dealt with by antibiotics or other treatment, it can travel to surrounding tissue or other organs, including the brain, and on extremely rare occasions, cause death.</p> |

Source: GAO and the American Academy of Pediatric Dentistry.

The American Academy of Pediatric Dentistry (AAPD) recommends that each child see a dentist when his or her first tooth erupts and no later than the child's first birthday, with subsequent visits occurring at 6-month intervals or more frequently if recommended by a dentist. The early initial visit can establish a "dental home" for the child, defined by AAPD as the ongoing relationship with a dental provider who can ensure comprehensive and continuously accessible care. Comprehensive dental visits can include both clinical assessments, such as for tooth decay and

⁸Matthew F. Savage, Jessica Y. Lee, Jonathan B. Kotch, and William F. Vann Jr., "Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs," *Pediatrics*, 114 (2004). The study examined the effects of preventive care on subsequent utilization and costs of dental services among preschool-aged children in North Carolina continuously enrolled in Medicaid between 1992 and 1997.

sealants,⁹ and appropriate discussion and counseling for oral hygiene, injury prevention, and speech and language development, among other topics. Because resistance to tooth decay is determined in part by genetics, eating patterns, and oral hygiene, early prevention is important. Delaying the onset of tooth decay may also reduce long-term risk for more serious decay by delaying the exposure to caries risk factors to a time when the child can better control his or her health behaviors.

Recognizing the importance of good oral health, HHS in 1990 and again in 2000 established oral health goals as part of its Healthy People 2000 and 2010 initiatives. These include objectives related to oral health in children, for example, reducing the proportion of children with untreated tooth decay. One objective of Healthy People 2010 relates to the Medicaid population: to increase the proportion of low-income children and adolescents under the age of 19 who receive any preventive dental service in the past year, from 25 percent in 1996 to 66 percent in 2010.¹⁰

Medicaid, a joint federal and state program that provides health care coverage for low-income individuals and families; pregnant women; and aged, blind, and disabled people, provided health coverage for an estimated 20.1 million children aged 2 through 18 in federal fiscal year 2005.¹¹ The states operate their Medicaid programs within broad federal requirements and may contract with managed-care organizations to provide Medicaid benefits or use other forms of managed care, when approved by CMS. CMS estimates that as of June 30, 2006, about 65 percent of Medicaid beneficiaries received benefits through some form of managed care.¹² State Medicaid programs must cover some services for

⁹According to AAPD, dental sealants, a plastic material put on the chewing surfaces of back teeth, have been shown to prevent decay on tooth surfaces where food and bacteria can build up. AAPD recommends sealants for 6-year and 12-year molars as soon as possible after eruption.

¹⁰The Healthy People 2010 goal was increased from 57 percent when it was first established in 2000 to 66 percent during a mid-course review in the mid-2000s. The goal defines preventive dental care to include examination, x-ray, fluoride treatment, cleaning, or sealant application. See U.S. Department of Health and Human Services, Public Health Service, *Progress Review: Oral Health* (Feb. 7, 2008).

¹¹Estimate based on CMS statistics for children ages 1 through 18 in Medicaid, less the estimated number of children aged 1 in that group (the latter of which was estimated using Census data).

¹²CMS's statistics include the Medicaid population enrolled in capitated plans (typically defined as plans that contract with states to receive a prepaid per enrollee payment for coverage of Medicaid services) and primary-care-case management models.

certain populations under federal law. For instance, under Medicaid's early and periodic screening, diagnostic, and treatment (EPSDT) benefit, states must provide dental screening, diagnostic, preventive, and related treatment services for all eligible Medicaid beneficiaries under age 21.¹³

Dental Disease and Inadequate Receipt of Dental Care Remain Significant Problems for Children in Medicaid

Children in Medicaid aged 2 through 18 often experience dental disease and often do not receive needed dental care, and although receipt of dental care has improved somewhat in recent years, the extent of dental disease for most age groups has not. Information from NHANES surveys from 1999 through 2004 showed that about one in three children ages 2 through 18 in Medicaid had untreated tooth decay, and one in nine had untreated decay in three or more teeth. Compared to children with private health insurance, children in Medicaid were substantially more likely to have untreated tooth decay and to be in urgent need of dental care. MEPS surveys conducted in 2004 and 2005 found that almost two in three children in Medicaid aged 2 through 18 had not received dental care in the previous year and that one in eight never sees a dentist. Children in Medicaid were less likely to have received dental care than privately insured children, although they were more likely to have received care than children without health insurance. Children in Medicaid also fared poorly when compared to national benchmarks, as the percentage of children in Medicaid ages 2 through 18 who received any dental care—37 percent—was far below the Healthy People 2010 target of having 66 percent of low-income children under age 19 receive a preventive dental service.¹⁴ MEPS data on Medicaid children who had received dental care—from 1996 through 1997 compared to 2004 through 2005—showed some improvement for children ages 2 through 18 in Medicaid. Comparisons of recent NHANES data to data from the late 1980s and 1990s suggest that the extent that children ages 2 through 18 in Medicaid experience dental disease has not decreased for most age groups.

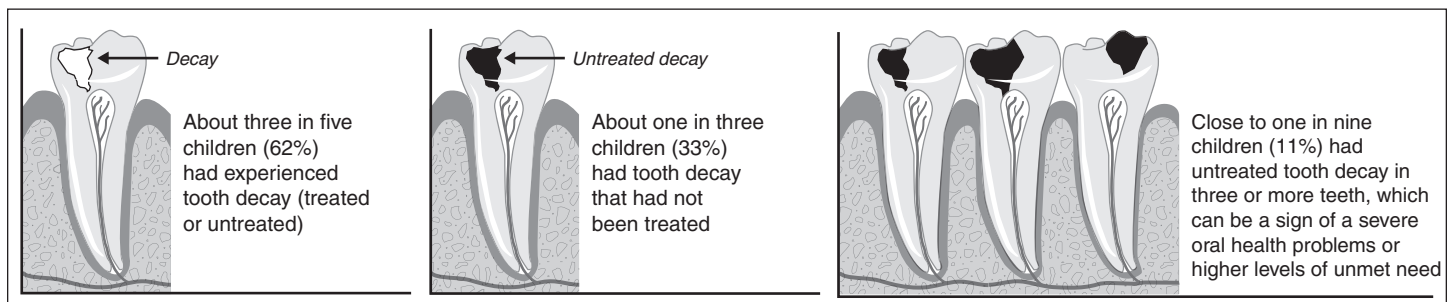
¹³These Medicaid dental services must be provided at intervals which meet reasonable standards of dental practice or as medically necessary and must include relief of pain and infections, restoration of teeth, and maintenance of dental health.

¹⁴MEPS measures receipt of any dental care, whereas the 2010 Healthy People target is for receipt of a preventive dental service. This comparison may underestimate the actual gap.

National Survey Data from 1999 through 2004 Show That One in Three Children in Medicaid Had Untreated Tooth Decay

Dental disease is a common problem for children aged 2 through 18 enrolled in Medicaid, according to national survey data (see fig. 2). NHANES oral examinations conducted from 1999 through 2004 show that about three in five children (62 percent) in Medicaid had experienced tooth decay,¹⁵ and about one in three (33 percent) were found to have untreated tooth decay.¹⁶ Close to one in nine—about 11 percent—had untreated decay in three or more teeth, which is a sign of unmet need for dental care and, according to some oral health experts, can suggest a severe oral health problem. Projecting these proportions to 2005 enrollment levels, we estimate that 6.5 million children in Medicaid had untreated tooth decay, with 2.2 million children having untreated tooth decay involving three or more teeth.¹⁷

Figure 2: Proportion of Children in Medicaid Aged 2 through 18 with Tooth Decay, Untreated Tooth Decay, and Untreated Tooth Decay in Three or More Teeth, 1999-2004



Source: GAO analysis of 1999 through 2004 NHANES survey data.

Note: The NHANES survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 15 percent of the total.

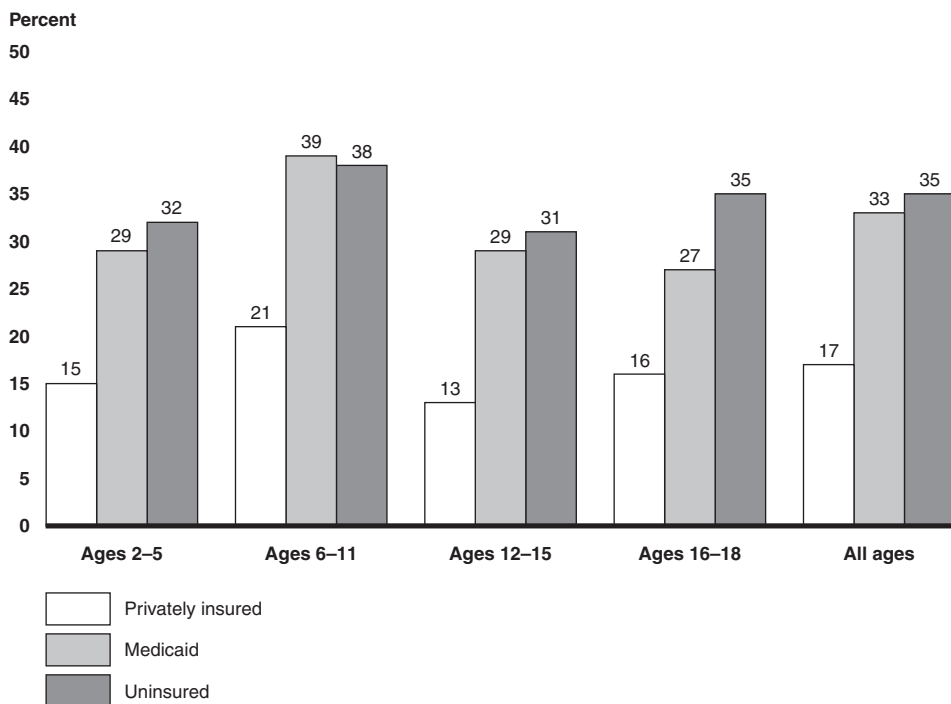
¹⁵We considered children as having experienced tooth decay if he or she had a tooth with untreated decay, had a tooth that had been treated for decay (meaning had a filling), or had lost a tooth due to decay.

¹⁶The extent of dental disease may be even more severe than these statistics suggest. Oral health experts told us that the extent of untreated tooth decay identified in NHANES is likely an underestimate because NHANES examiners consider a tooth as decayed only if the decay is “visibly significant.”

¹⁷These estimates are based on 95 percent confidence intervals—that is, there is a 95 percent probability that the actual number falls within this range. For children with untreated tooth decay, the lower and upper limits are 5.9 million and 7.1 million, respectively. For children with untreated tooth decay in three or more teeth, the lower and upper limits are 1.9 million and 2.6 million, respectively.

Compared with children with private health insurance, children in Medicaid were at much higher risk of tooth decay and experienced problems at rates more similar to those without any insurance. As shown in figure 3, the proportion of children in Medicaid with untreated tooth decay (33 percent) was nearly double the rate for children who had private insurance (17 percent) and was similar to the rate for uninsured children (35 percent). These children were also more than twice as likely to have untreated tooth decay in three or more teeth than their privately insured counterparts (11 percent for Medicaid children compared to 5 percent for children with private health insurance). These disparities were consistent across all age groups we examined.

Figure 3: Percentage of Children Aged 2 through 18 with Untreated Tooth Decay, by Age and Insurance Status, 1999-2004



Source: GAO analysis of 1999 through 2004 NHANES survey data.

Note: The NHANES survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 15 percent of the total.

According to NHANES data, more than 5 percent of children in Medicaid aged 2 through 18 had urgent dental conditions, that is, conditions in need of care within 2 weeks for the relief of symptoms and stabilization of the condition. Such conditions include tooth fractures, oral lesions, chronic pain, and other conditions that are unlikely to resolve without professional intervention. On the basis of these data, we estimate that in 2005, 1.1 million children aged 2 through 18 in Medicaid had conditions that warranted seeing a dentist within 2 weeks.¹⁸ Compared to children who had private insurance, children in Medicaid were more than four times as likely to be in urgent need of dental care.

The NHANES data suggest that the rates of untreated tooth decay for some Medicaid beneficiaries could be about three times more than national health benchmarks. For example, the NHANES data showed that 29 percent of children in Medicaid aged 2 through 5 had untreated decay, which compares unfavorably with the Healthy People 2010 target for untreated tooth decay of 9 percent of children aged 2 through 4.¹⁹

¹⁸This estimate is based on a 95 percent confidence interval—that is, there is a 95 percent probability that the actual number falls within a specific range. For children with an urgent need to see a dentist, the lower and upper limits of the range are 700,000 and 1.5 million, respectively.

¹⁹The age groups we used for our analysis of NHANES differ slightly from the age groups measured for purposes of Healthy People 2010. According to HHS, prevalence of untreated tooth decay among 2- through 4-year-olds in the general population increased from 16 percent during the 1988 through 1994 time period, to 19 percent for the 1999 through 2004 period (this increase was not statistically significant). For this objective, the trends may be moving in the opposite direction of the target. HHS has also reported that among young children aged 2 to 4 years, the prevalence of tooth decay in primary teeth increased from 18 percent in 1988 through 1994 to 24 percent in 1999 through 2004. By comparison with older children, tooth decay in preschool children in the general population increased significantly. According to HHS, this trend could portend a future increase in tooth decay in older children, as influenced by changes in diet or food consumption patterns. The target for this goal is 11 percent.

National Survey Data from 2004 through 2005 Showed That Nearly Two in Three Children in Medicaid Did Not Receive Dental Care in the Previous Year

Most children in Medicaid do not visit the dentist regularly, according to 2004 and 2005 nationally representative MEPS data (see fig. 4). According to these data, nearly two in three children in Medicaid aged 2 through 18 had not received any dental care in the previous year.²⁰ Projecting these proportions to 2005 enrollment levels, we estimate that 12.6 million children in Medicaid have not seen a dentist in the previous year.²¹ In reporting on trends in dental visits of the general population, AHRQ reported in 2007 that about 31 percent of poor children (family income less than or equal to the federal poverty level) and 34 percent of low-income children (family income above 100 percent but less than or equal to 200 percent of the federal poverty level) had a dental visit during the year.²² Survey data also showed that about one in eight children (13 percent) in Medicaid reportedly never see a dentist.²³

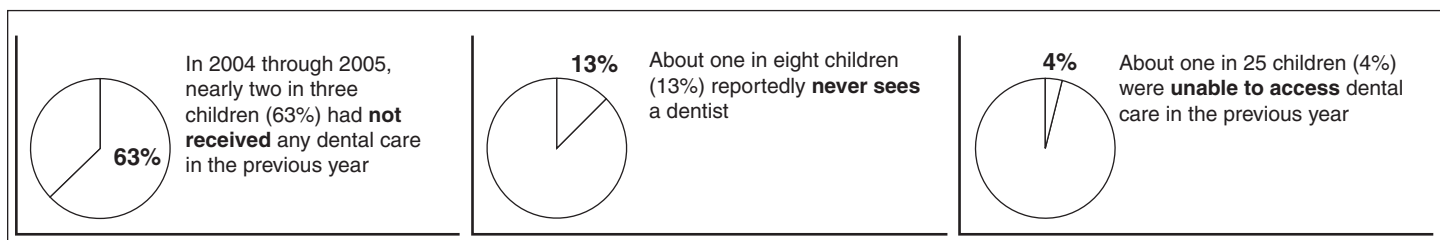
²⁰MEPS asks an adult if the children in the household had received any dental care in the previous year. If they respond affirmatively, then surveyors ask about the type of provider they visited: a dentist, a hygienist, oral surgeon, orthodontist, endodontist, periodontist, or dental technician.

²¹This estimate is based on a 95 percent confidence interval—that is, there is a 95 percent probability that the actual number falls within a specific range. For children without a dental visit in the previous year, the lower and upper limits of this range are 12.1 million and 13.0 million, respectively.

²²U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, “Dental Use, Expenses, Private Dental Coverage, and Changes, 1996 and 2004,” *MEPS Chartbook*, no. 17 (2007), http://www.meps.ahrq.gov/mepsweb/data_files/publications/cb17/cb17.pdf (downloaded Sept. 16, 2008).

²³As part of the MEPS survey, participants are asked: “On average, how often does [person] receive a dental check-up?” One of the responses to this question is that the individual in question “never goes to a dentist.” The percentage of children who “never go to the dentist” varied by age group. The youngest group, ages 2 through 5, was the group most likely to never see a dentist, with 30 percent of children falling in that category. However, even some of the older children never see a dentist. We found that about 10 percent of children aged 16 through 18 in Medicaid were in this category.

Figure 4: Proportion of Children in Medicaid Nationwide Not Receiving Dental Care or Unable to Access Dental Care, 2004–2005



Source: GAO analysis of 2004 through 2005 MEPS survey data.

Note: The MEPS survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 16 percent of the total.

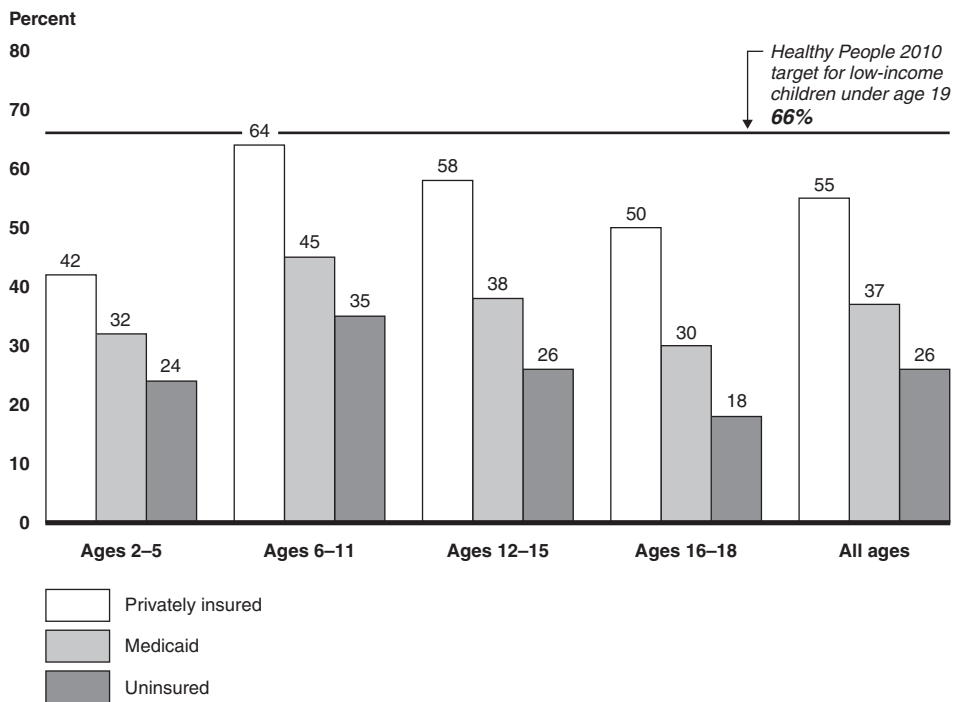
MEPS survey data also show that many children in Medicaid were unable to access needed dental care. Survey participants reported that about 4 percent of children aged 2 through 18 in Medicaid were unable to get needed dental care in the previous year. Projecting this percentage to estimated 2005 enrollment levels, we estimate that 724,000 children aged 2 through 18 in Medicaid could not obtain needed care.²⁴ Regardless of insurance status, most participants who said a child could not get needed dental care said they were unable to afford such care.²⁵ However, 15 percent of children in Medicaid who had difficulty accessing needed dental care reportedly were unable to get care because the provider refused to accept their insurance plan, compared to only 2 percent of privately insured children.

²⁴This estimate is based on a 95 percent confidence interval—that is, there is a 95 percent probability that the actual number falls within a specific range. For children who could not obtain needed dental care, the lower and upper limits of this range are 543,000 and 884,000, respectively.

²⁵MEPS asked participants for the reason they were unable to get needed care. Possible responses included (1) could not afford care, (2) insurance company would not approve/cover/pay, (3) doctor refused insurance plan, (4) problems getting to doctor's office, (5) could not get time off work, (6) didn't know where to get care, (7) was refused services, (8) could not get child care, (9) did not have time, and (10) other. MEPS is a nationally representative survey that also includes privately insured and uninsured individuals; it does not illuminate why beneficiaries with health coverage such as Medicaid (which has no cost sharing for certain beneficiaries) would report that they could not afford care, or the reasons for providers refusing to accept insurance plans.

Children enrolled in Medicaid were less likely to have received dental care than privately insured children, but they were more likely to have received dental care than children without health insurance. (See fig. 5.) Survey data from 2004 through 2005 showed that about 37 percent of children in Medicaid aged 2 through 18 had visited the dentist in the previous year, compared with about 55 percent of children with private health insurance, and 26 percent of children without insurance. The percentage of children in Medicaid who received any dental care—37 percent—was far below the Healthy People 2010 target of having 66 percent of low-income children under age 19 receive a preventive dental service.

Figure 5: Percentage of Children in Medicaid Nationwide Who Received Dental Care in the Previous Year, by Age and Insurance Status, 2004-2005



Source: GAO analysis of 2004 through 2005 MEPS survey data.

Note: The MEPS survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 16 percent of the total.

The NHANES data from 1999 through 2004 also provide some information related to the receipt of dental care. The presence of dental sealants, a form of preventive care, is considered to be an indicator that a person has received dental care. About 28 percent of children in Medicaid had at least one dental sealant, according to 1999 through 2004 NHANES data. In contrast, about 40 percent of children with private insurance had a sealant. However, children in Medicaid were more likely to have sealants than children without health insurance (about 20 percent).

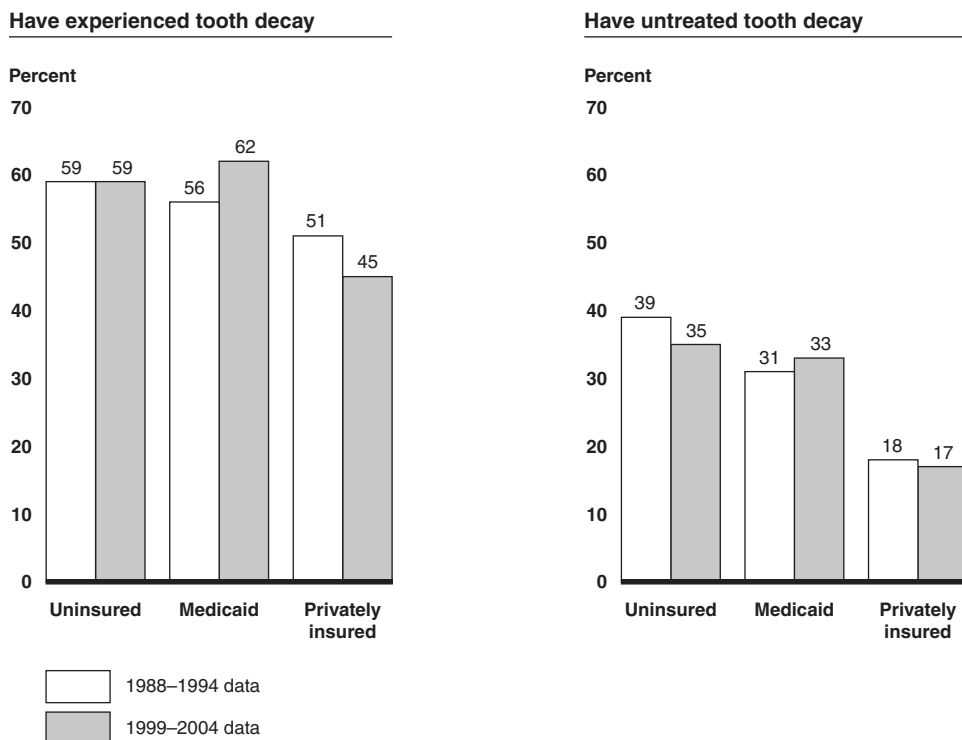
Comparison of Past and Recent Survey Data Suggests That the Rate of Dental Disease in Children in Medicaid Is Not Decreasing, although the Receipt of Dental Care Has Improved Somewhat in More Recent Years

While comparisons of past and more recent survey data suggest that a larger proportion of children in Medicaid had received dental care in recent surveys, the extent that children in Medicaid experience dental disease has not decreased. A comparison of NHANES results from 1988 through 1994 with results from 1999 through 2004 showed that the rates of untreated tooth decay were largely unchanged for children in Medicaid aged 2 through 18: 31 percent of children had untreated tooth decay in 1988 through 1994, compared with 33 percent in 1999 through 2004 (see fig. 6). The proportion of children in Medicaid who experienced tooth decay increased from 56 percent in the earlier period to 62 percent in more recent years. This increase appears to be driven by younger children, as the 2 through 5 age group had substantially higher rates of dental disease in the more recent time period, 1999 through 2004.²⁶ This preschool age group experienced a 32 percent rate of tooth decay in the 1988 through 1994 time period, compared to almost 40 percent experiencing tooth decay in 1999 through 2004 (a statistically significant change). Data for adolescents, by contrast, suggest declining rates of tooth decay. Almost 82 percent of adolescents aged 16 through 18 in Medicaid had experienced tooth decay in the earlier time period, compared to 75 percent in the latter time period (although this change was not statistically significant). These trends were similar for rates of untreated tooth decay, with the data suggesting rates going up for young children, and declining or remaining the same for older groups that are more likely to have permanent teeth. According to CDC, these trends are similar for the general population of children, for which tooth decay in permanent teeth has generally declined

²⁶We found that the rates of untreated tooth decay for children with Medicaid did not decrease from the period 1988 through 1994 to the period 1999 through 2004. Similarly, CDC found that the rates of untreated primary tooth decay in children aged 2 through 11 had not decreased between 1988 through 1994 and 1999 through 2004. However, CDC has found that rates of untreated tooth decay in permanent teeth for low-income children have declined since the early 1970s.

and untreated tooth decay has remained unchanged. CDC also found that tooth decay in preschool aged children in the general population had increased in primary teeth.

Figure 6: Surveyed Measures of Tooth Decay Rates, by Insurance Status, 1988–1994 and 1999–2004



Source: GAO analysis of 1988 through 1994 and 1999 through 2004 NHANES survey data.

Notes: For the privately insured and for those with Medicaid, changes between the two time periods in the percentage of children aged 2 through 18 who experienced tooth decay were statistically significant at the 95 percent level. For this measure, changes in the percentage of children aged 2 through 18 who were uninsured were not statistically significant. For untreated tooth decay, none of the changes between the two time periods were found to be statistically significant at the 95 percent level. The 1999 through 2004 NHANES survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 15 percent of the total.

At the same time, indicators of receipt of dental care, including the proportion of children who had received dental care in the past year and use of sealants, have shown some improvement. Two indicators of receipt of dental care showed improvement from earlier surveys:

- The percentage of children in Medicaid aged 2 through 18 who received dental care in the previous year increased from 31 percent in 1996 through

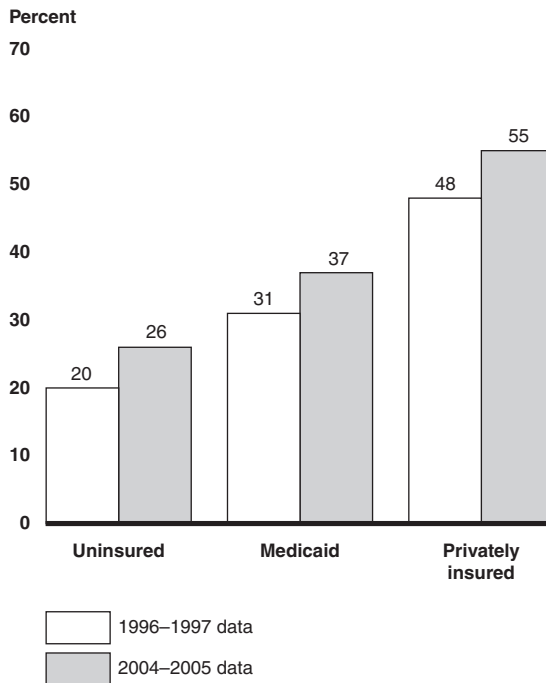
1997 to 37 percent in 2004 through 2005, according to MEPS data (see fig. 7). This change was statistically significant. Similarly, AHRQ reported that the percent of children with a dental visit increased between 1996 and 2004 for both poor children (28 percent to 31 percent) and low-income children (27 percent to 34 percent).

- The percentage of children aged 6 through 18 in Medicaid with at least one dental sealant increased nearly threefold, from 10 percent in 1988 through 1994 to 28 percent in 1999 through 2004, according to NHANES data, and these changes were statistically significant. The increase in receipt of sealants may be due in part to the increased use of dental sealants in recent years, as the percentage of uninsured and insured children with dental sealants doubled over the same time period.²⁷ Adolescents aged 16 through 18 in Medicaid had the greatest increase in receipt of sealants relative to other age groups. The percentage of adolescents with dental sealants was about 6 percent in the earlier time period, and 33 percent more recently.

The percentage of children in Medicaid who reportedly never see a dentist remained about the same between the two time periods, with about 14 percent in 1996 through 1997 who never saw a dentist, and 13 percent in 2004 through 2005, according to MEPS data.

²⁷According to HHS officials, many state health departments have long-term programs that have delivered sealants to a sizable number of low-income children over the past decade. See for example, CDC, "Impact of Targeted, School-Based Dental Sealant Programs in Reducing Racial and Economic Disparities in Sealant Prevalence Among School Children, Ohio, 1998-1999," *Morbidity and Mortality Weekly Report*, 50 no. 34 (2001), 736-8.

Figure 7: Surveyed Measures of Children Who Visited a Dentist in the Previous Year, by Insurance Status, 1996-1997 and 2004-2005



Source: GAO analysis of 1996 through 1997 and 2004 through 2005 MEPS survey data.

Notes: For each group, changes between the two time periods in the percentage of children aged 2 through 18 who had received dental care in the previous year were statistically significant at the 95 percent level. The 2004 through 2005 MEPS survey data for Medicaid also include data for children in SCHIP, which we estimate to be about 16 percent of the total.

More information on our analysis of NHANES and MEPS for changes in dental disease and receipt of dental care for children in Medicaid over time, including comments we received from HHS on a draft of the report and our response, more detailed data tables, and confidence intervals can be found in the report released today.

Concluding Observations

The information provided by nationally representative surveys regarding the oral health of our nation's low-income children in Medicaid raises serious concerns. Measures of access to dental care for this population, such as children's dental visits, have improved somewhat in recent surveys, but remain far below national health goals. Of even greater concern are data that show that dental disease is prevalent among children in Medicaid, and is not decreasing. Millions of children in Medicaid are estimated to have dental disease in need of treatment; in many cases this

need is urgent. Given this unacceptable condition, it is important that those involved in providing dental care to children in Medicaid—the federal government, states, providers, and others—address the need to improve the oral health condition of these children and to achieve national oral health goals. As you know, we have ongoing work for the subcommittee examining state and federal efforts to ensure that children in Medicaid receive needed dental services. We expect to report to the subcommittee on our findings and any recommendations in spring 2009.

Mr. Chairman, this concludes my prepared remarks. I will be happy to answer any questions that you or other members of the Subcommittee may have.

GAO Contacts and Acknowledgments

For information regarding this testimony, please contact Alicia Puente Cackley at (202) 512-7114 or cackleya@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Katherine Iritani, Assistant Director; Sarah Burton; and Terry Saiki made key contributions to this statement.

Related GAO Products

Medicaid: Extent of Dental Disease in Children Has Not Decreased, and Millions Are Estimated to Have Untreated Tooth Decay. [GAO-08-1121](#). Washington, D.C.: September 23, 2008.

Medicaid: Concerns Remain about Sufficiency of Data for Oversight of Children's Dental Services. [GAO-07-826T](#). Washington, D.C.: May 2, 2007.

Medicaid Managed Care: Access and Quality Requirements Specific to Low-Income and Other Special Needs Enrollees. [GAO-05-44R](#). Washington, D.C.: December 8, 2004.

Medicaid and SCHIP: States Use Varying Approaches to Monitor Children's Access to Care. [GAO-03-222](#). Washington, D.C.: January 14, 2003.

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