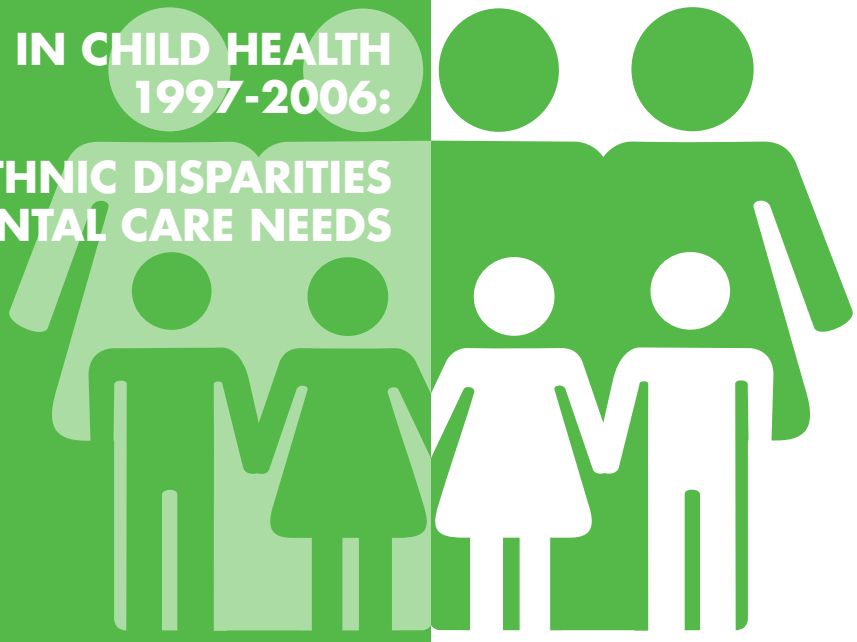
JOINT CENTER FOR POLITICAL AND ECONOMIC STUDIES

TRENDS IN CHILD HEALTH 1997-2006:

ASSESSING RACIAL/ETHNIC DISPARITIES IN UNMET DENTAL CARE NEEDS



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FOREWORD

The health of children is a direct reflection and a critical measure of a nation's overall quality of life. For that reason, the persistent disparities in child health indicators across racial and ethnic lines—such as the fact that Hispanic children are the group most likely to not receive needed dental care—should raise concern in every American community. Our country can do and be better than this.

Promoting greater knowledge and understanding of these disparities is a key objective of the Joint Center for Political and Economic Studies, which, with generous support from the W.K. Kellogg Foundation, has analyzed data for selected indicators on the health of children and has examined trends over time (1997-2006). These indicators—specifically, low birthweight, rated health status, unmet dental care needs, ADHD/ADD diagnosis, asthma diagnosis, learning disability diagnosis, and activity limitation—provide insight into an array of factors that can influence health and quality of life throughout the lifespan.

The findings from this analysis are presented in a series of issue briefs, each of which highlights differences in health outcomes by race/ethnicity (for black, white, and Hispanic children). In this brief, disparities in the rates of unmet dental care needs among African American children, Hispanic children and white children are explored.

I would like to extend a special thanks to Dr. Wilhelmina Leigh of the Joint Center and her research assistant, Anna L. Wheatley. Their work, along with that of many other Joint Center staff members, has produced a series of briefs that will prove invaluable to our national policymakers as they look to improve our health care system. In particular, we hope that the information herein will help them in their efforts to craft new policies and programs that will deliver the broadest possible benefits and, at the same time, have the greatest impact on expanding hope, opportunity and improving the quality of life for all Americans.

Ralph B. Everett
President and CEO
Joint Center for Political and Economic Studies

In 2000, the Office of the Surgeon General released its first-ever report on oral health, with the aim of increasing awareness of the importance of oral health in general health and well-being (US DHHS 2000). While drastic improvements have been made in oral health over time, tooth decay (dental caries) affects children in the United States more than any other chronic infectious disease. Among children, chronic pain from dental disease can affect cognitive development and behavior. Untreated tooth decay causes pain and infections that may lead to problems eating, speaking, playing and learning (US DHHS 2005). At their worst, unmet dental care needs can result in death, as was the case in 2007 for a 12-year-old boy who died after bacteria from a dental abscess spread to his brain (Dasanayake et al. 2007). The tragic incident received national attention and even prompted the introduction of a bill named after the child.[1] While cases such as this are rare, dental disease has been described as "a silent epidemic," with the most advanced disease found primarily among children living in poverty, certain racial/ethnic minority populations, disabled children and children with HIV infection (US DHHS 2000).

This brief examines the prevalence of recent unmet dental care needs among children under the age of 18 who are African American, Hispanic or white. Differences between and similarities among the groups are noted in the frequency with which children are reported to have experienced unmet dental care needs. This analysis makes comparisons between pairs of children belonging to different racial/ethnic groups overall and between pairs of children of various racial/ethnic groups who are in families with comparable sociodemographic characteristics.

METHODOLOGY

The National Health Interview Survey (NHIS) variable indicating whether a child needed dental care (including check-ups) at any time during the past 12 months (but his/her family could not afford it) is the measure of recent unmet dental care needs used in this brief (Integrated Health Interview Series n.d.). Data from the NHIS for the years 1997 through 2006 were used to compare non-Hispanic white (white) children, non-Hispanic black (black) or African American children and Hispanic (Latino) children under age 18. The NHIS collects data for the major Hispanic subpopulations (Mexican American, Puerto Rican and Cuban) as well as for all the Hispanic subpopulations combined. The data for Hispanic subpopulations were not used, however, because of small sample sizes in each year between 1997 and 2006. Thus, the data analyzed for Hispanic children combine children of the various Latino subpopulations.

In each year between 1997 and 2006, comparisons of the percent of children who had unmet dental care needs were made first between children belonging to pairs of racial/ethnic groups as a whole. Then, to examine the ways in which differences in sociodemographic (i.e., socioeconomic, familial and demographic) characteristics are associated with differences in unmet dental care needs between children belonging to pairs of races/ethnicities, children in families with characteristics corresponding to the following nine sociodemographic variables were compared.

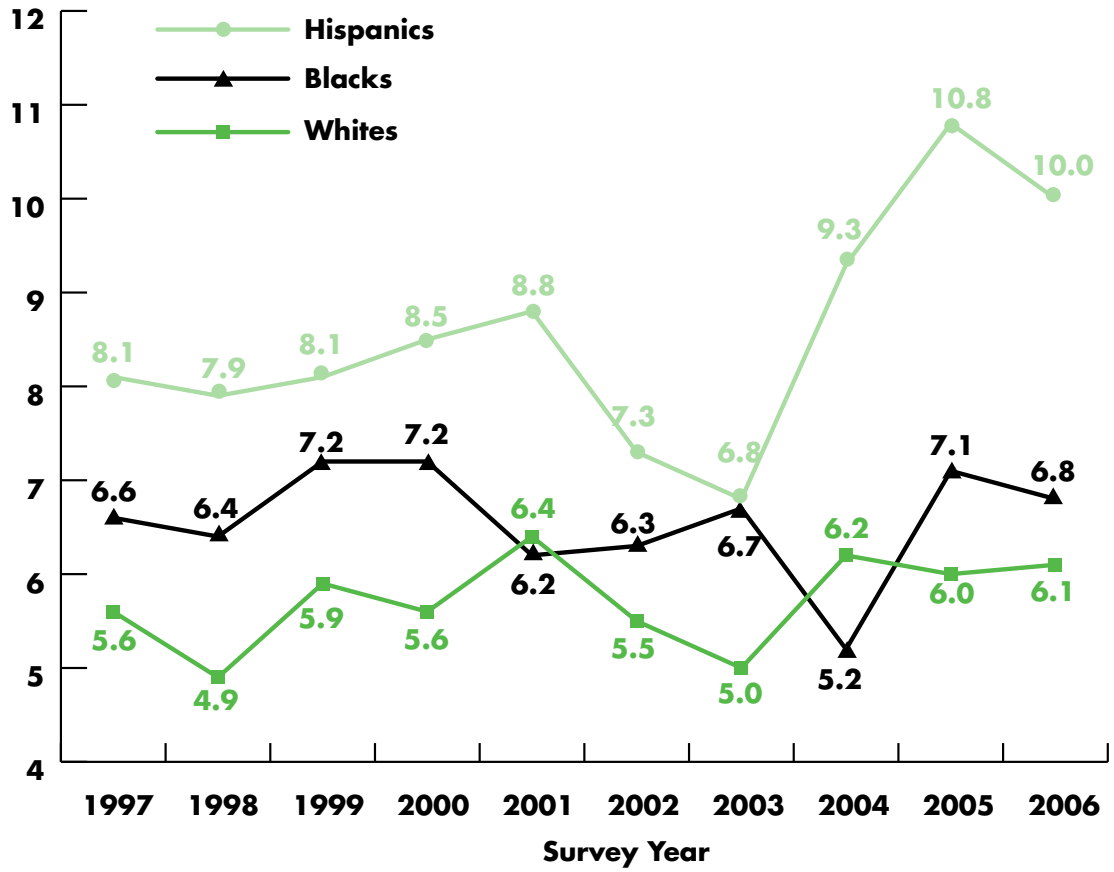
- Region of residence—Northeast; North Central; South; West
- Legal marital status (of householder)—Married; Widowed, divorced, separated, never married or unknown
- Family type—Married-couple; Single-parent
- Educational attainment (of householder/spouse)—Less than high school; High school; Some college; Bachelor's degree (or higher)

1 H.R. 2371, "Deamonte's Law," was introduced by Representative Elijah Cummings on May 17, 2007. The bill was intended to increase children's dental services in community health centers and to train more individuals in pediatric dentistry. No action was taken on the bill (GovTrack.us n.d.).

- Employment status (of household)—Zero-earner; Single-earner; Two-earner
- Poverty status (of household or individual)[2]—At or above poverty; Below poverty
- Private health insurance coverage status (of child)—Not covered; Covered
- Medicaid coverage status (of child)—Not covered; Covered
- Health insurance coverage status (of child)—Not covered; Covered

These nine sociodemographic variables include a total of 23 categories and thus provide 23 subgroups of children for comparison.

Figure 1
Children who have had recent unmet dental care needs, by race/ethnicity, 1997-2006
(Percent)



Source: Joint Center tabulations of data from the National Health Interview Survey (NHIS)

2 The federal poverty threshold is determined by the U.S. Census Bureau, which uses a set of "money income" thresholds that vary by family size and ages of the members to determine who is in poverty. The official poverty thresholds are updated annually for inflation using the Consumer Price Index for All Urban Consumers (CPI-U). For example, in 2006, the poverty threshold for a family of four, including two related children under age 18, was $20,444. If a family of this composition has an income below this threshold, they are officially considered to be in poverty (U.S. Census Bureau 2008).

The statistical significance of gaps in unmet dental care needs between black children and white children, between Hispanic children and white children and between black children and Hispanic children was assessed using t-tests of differences of proportions with 90-percent confidence intervals.[3] The difference in unmet dental care needs between paired groups of children was determined to be significant if the gap was significant in at least seven years (out of the 10 years 1997 through 2006). The term "indeterminate" is used to characterize gaps that are neither significant nor insignificant in a majority of years during the study period.

FINDINGS

Over the 1997-2006 period, on average 6.6 percent of black children, 8.6 percent of Latino children and 5.7 percent of white children were reported as unable to afford needed dental care during the past 12 months **(Figure 1)**. Overall, black children and white children were equally likely to have had unmet dental care needs. Hispanic children, however, were more likely than white children to have had unmet dental care needs. Although Hispanic children also had unmet dental care needs at a higher rate than black children, the nature of the difference between these rates is indeterminate.

Gaps by Sociodemographics

When black children and white children in the majority of sociodemographic subgroups are compared, black children and white children are also equally likely to have experienced unmet dental care needs in the past 12 months. In the subgroups of children for which blacks and whites are not equally likely to have had unmet dental care needs, the nature of the difference between the two groups is indeterminate.

Although Latino children as a group are more likely than white children as a group to have experienced recent unmet dental care needs, in the majority of sociodemographic subgroups, Hispanic children and white children are equally likely to have experienced unmet dental care needs. Latino children in only five sociodemographic subgroups are more likely than white children (in the same sociodemographic subgroup) to have had unmet dental care needs **(Table 1)**.

Table 1
Hispanic-White Differences in Recent Unmet Dental Care Needs by Sociodemographic Variables

Sociodemographic Variables	Findings
Marital status: married	Hispanic children in families in which the householder's marital status is married are more likely than white children in this same type of family to have had unmet dental care needs in the past 12 months.
Family type: married-couple	Hispanic children in married-couple families are more likely than white children in this same type of family to have had unmet dental care needs in the past 12 months.
Employment status: single-earner household	Hispanic children in single-earner households are more likely than white children in single-earner households to have had unmet dental care needs in the past 12 months.

3 For additional information about the tests of significance conducted at both the 90-percent confidence level and the 95-percent confidence level, contact Wilhelmina Leigh at wleigh@jointcenter.org.

Table 1 continued

Sociodemographic Variables	Findings
Poverty status: at or above poverty threshold	Hispanic children in families with incomes at or above the poverty threshold are more likely than white children in this same type of family to have had unmet dental care needs in the past 12 months.
Medicaid coverage status: not covered	Hispanic children who are not covered by Medicaid are more likely than white children who are not covered by Medicaid to have had unmet dental care needs in the past 12 months.

The indeterminate relationship between the frequency of reported unmet dental care needs for Latino children and for black children overall is modified when sociodemographic variables are considered. Latino children and black children in the majority of sociodemographic subgroups are equally likely to have had recent unmet dental care needs (despite the indeterminate nature of the overall difference between the two groups).

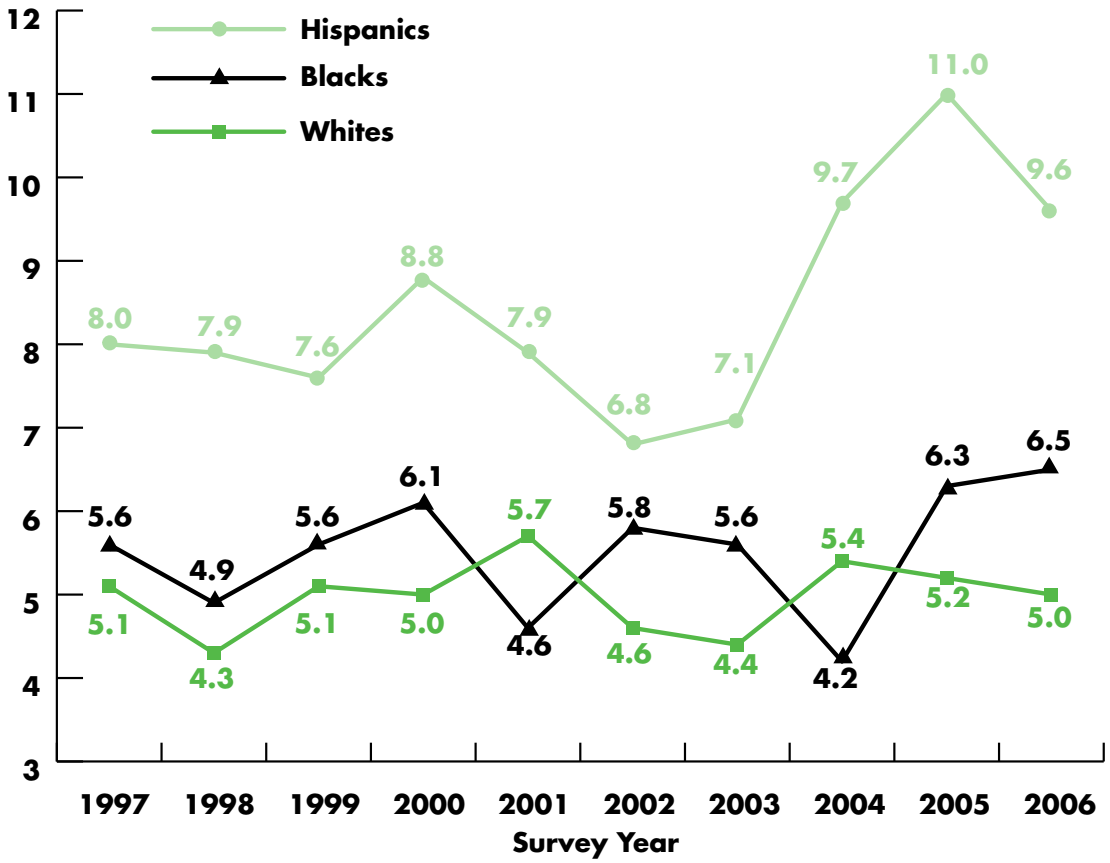
Family Structure

Analysis of data by the two characterizations of family structure—marital status and family type—shows that family structure is associated with differences in the rates of unmet dental care needs when comparing Latino children and white children. Among children in families whose householder has the marital status of married, Hispanic children are more likely than white children to have had unmet dental care needs. When comparing Hispanic children and black children in families whose householder is married, these children are equally likely to report recent unmet dental care needs. This equality also is found when comparing black children and white children in families headed by a married householder.

When comparing children in families in which the householder's marital status is anything other than married—i.e., widowed, divorced, separated, never married or unknown—differences are not identified in the rates at which unmet dental care needs are reported among children in each of the three racial/ethnic pairs. Latino children, black children and white children who live in families with a non-married householder are equally likely to have experienced unmet dental care needs.

Comparing rates of unmet dental care needs for children by family type yields similar results to the comparison by marital status. When comparing children who live in families headed by a single parent, differences are not identified in the rates at which unmet dental care needs are reported among children in each of the three racial/ethnic pairs. Latino children, black children and white children who live in single-parent families are equally likely to have recently experienced unmet dental care needs. The comparison of children who live in married-couple families yields somewhat different results, however. Among children in married-couple families, Hispanic children are more likely than white children to have had recent unmet dental care needs **(Figure 2)**. Black children in married-couple families, however, are equally likely as white children in married-couple families to have had recent unmet dental care needs. The nature of differences when comparing Hispanic children and black children is indeterminate.

Figure 2
Children in married-couple families who have had recent unmet dental care needs, by race/ethnicity, 1997-2006
(Percent)

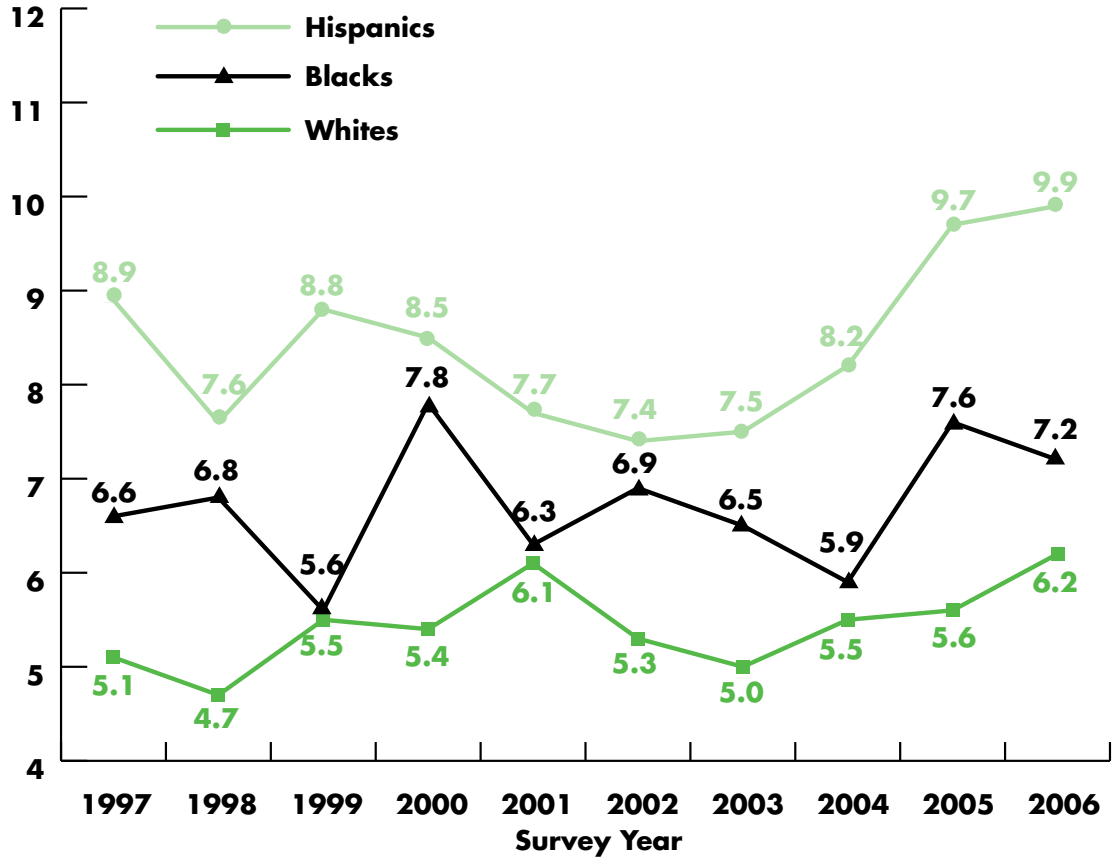


Source: Joint Center tabulations of data from the National Health Interview Survey (NHIS)

Poverty

For children of each racial/ethnic group, the rates of unmet dental care needs reported for children in families with incomes below the poverty threshold are higher than the rates of such needs for children who live at or above the poverty threshold. Specifically, the percent of white children in families with incomes below the poverty threshold who experienced unmet dental care needs due to cost is more than double the percent of white children in families with incomes at or above the poverty threshold who experienced such needs (12.3 percent versus 5.4 percent, respectively). Among black children, 8.9 percent of those living below the poverty threshold experienced unmet dental care needs, compared to 6.7 percent of black children living at or above the poverty threshold. For Hispanic children living below the poverty threshold, 10.5 percent had unmet dental care needs, compared to 8.4 percent of Hispanic children living at or above the poverty threshold.

Figure 3
Children in families with incomes at or above the federal poverty threshold who have had recent unmet dental care needs, by race/ethnicity, 1997-2006
(Percent)



Source: Joint Center tabulations of data from the National Health Interview Survey (NHIS)

When comparisons are made between pairs of children in the same sociodemographic subgroup, significant racial/ethnic differences are noted for only one such pairing. Specifically, among families with incomes at or above the federal poverty threshold, Hispanic children are more likely than white children to have had unmet dental care needs. When comparisons are made between Hispanic children and black children and between white children and black children, however, these groups are found to be equally likely to have experienced unmet dental care needs in the past 12 months **(Figure 3)**. When comparing pairs of children with incomes *below* the poverty threshold, the rates of unmet dental care needs do not differ significantly for Latinos, blacks and whites. In short, children of the three racial/ethnic groups who live in poverty are equally likely to have experienced unmet dental care needs in the past 12 months.

Health Insurance

Cross tabulation by health insurance coverage status provides several noteworthy findings with respect to the disparities that exist in unmet dental care needs. These data show large differences in unmet dental care needs not by race/ethnicity alone but by race/ethnicity and health insurance coverage status.[4] The underlying data show that children of each racial ethnic group who are privately insured, covered by Medicaid or covered by any form of health insurance experienced recent unmet dental care needs at rates notably lower than their peers who are *not* covered by any form of health insurance. Among children who are not covered by any form of health insurance, on average 21.3 percent of whites, 21.9 percent of blacks and 18.5 percent of Latinos had experienced unmet dental care needs due to costs, during the study period. Among children who are covered by private health insurance, these rates fall to 3.8 percent, 4.5 percent and 5.3 percent of white, black and Latino children, respectively. Medicaid is also associated with lower rates of unmet dental care needs relative to the rates of such needs for children who are uninsured. Among children covered under this program, on average 8.1 percent of whites, 5.3 percent of blacks and 5.1 percent of Latinos were reported to have experienced recent unmet dental care needs during the study period.

Black children and white children who are covered by any form of health insurance are equally likely to have had recent unmet dental care needs. At the same time, black children and white children who are *not* covered by any form of health insurance are also equally likely to have had such needs. Similar relationships characterize the comparisons between white children and Latino children based on coverage status for any form of health insurance. Hispanic children and white children who are uninsured (i.e., not covered by any form of health insurance) are equally likely to have experienced unmet dental care needs within the past 12 months. When comparing Hispanic children and white children who *are* covered by any form of health insurance, the nature of the relationship is indeterminate.

Findings with respect to Medicaid coverage status show some differences based on race/ethnicity. Hispanic children and white children who *are* covered by Medicaid are equally likely to have had recent unmet dental care needs. Black children and white children who are covered by Medicaid also are equally likely to have had unmet dental care needs. Hispanic children in the residual category "not covered by Medicaid" (i.e., either uninsured or covered by forms of insurance other than Medicaid) are more likely than white children who are not covered by Medicaid to have experienced recent unmet dental care needs. When comparing black children and white children who are not covered by Medicaid, the nature of the relationship is indeterminate.

Comparing black children and Latino children by Medicaid coverage status reveals that these two groups of children are equally likely to have had recent dental care needs go unmet, regardless of coverage status. In sum, the rates of unmet dental care needs for black children covered by Medicaid and for Latino children covered by Medicaid are not significantly different. The rates also are not significantly different when comparing black children who are *not* covered by Medicaid to Latino children who are not covered by Medicaid.

4 This study provides analysis based on data for three different measures of health insurance coverage status—private health insurance, Medicaid and any form of health insurance (which includes both private insurance and Medicaid, as well as any other forms). For each of these three variables, there is a category for children who are covered by that form of health insurance and a residual category for children who are *not* covered by that form of health insurance. Thus, children who are not covered by Medicaid may be uninsured or may be covered by some other form of health insurance. Likewise, children who are not covered by private health insurance may be uninsured or may be covered by some other form of health insurance.

When rates are analyzed by private insurance coverage status, no significant differences are noted between any of the pairs of races/ethnicities compared. In particular, when comparing children within each category of private insurance coverage status (i.e., covered and not covered), black children and Hispanic children are equally likely to report unmet dental care needs. The same is true when white children and Hispanic children in both categories of private health insurance coverage status are compared. Comparisons between black children and white children reveal a somewhat different pattern. Black children and white children who are covered by private health insurance are equally likely to report unmet dental care needs, while the relationship between the rates for white children and black children who are not privately insured is indeterminate. The role of insurance coverage (all forms) in dental care access and utilization should be studied further to explore racial/ethnic differences in unmet dental care needs.

IMPLICATIONS

This study finds that children's race or ethnicity tends to be a less important predictor of unmet dental needs than family income and insurance status. Children whose family income is below the federal poverty level, as well as those who are uninsured, are far more likely to have unmet dental needs than children whose families' income is at or above the federal poverty level and those who have health insurance. But because black and Latino children are disproportionately uninsured and live in families below the poverty level, they are more likely to face unmet dental needs. The only significant differences identified in unmet dental care needs are found when comparing Hispanic children and white children overall and when comparing Hispanic children and white children in selected sociodemographic subgroups. In other words, overall and in selected sociodemographic subgroups, Hispanic children are significantly more likely than white children to report recent unmet dental care needs. Although Hispanic children overall experienced unmet dental care needs at a higher rate than African American children overall, the relationship between their rates is indeterminate—neither significant nor insignificant throughout the study period. In addition, when comparisons are made by both race/ethnicity and sociodemographics, black children and Hispanic children in a majority of sociodemographic subgroups are equally likely to have experienced unmet dental care needs.

No significant differences are evident from black-white comparisons of rates of recent unmet dental care needs, both when comparisons are made overall and when comparisons are made by the sociodemographic factors included in this study. This finding could be viewed as encouraging given the large number of disparities that exist between black children and white children on a number of other health indicators (Children's Defense Fund 2006; Hernandez & Macartney 2008; Land 2008; National Research Council 2004). At the same time, while it may be tempting to interpret some of the findings (especially with respect to black-white comparisons) as indicating the lessening of one of these disparities, the data for unmet dental care needs by insurance coverage status highlight another important disparity that exists among children—that of health insurance coverage. According to Current Population Survey data, 23 percent of Hispanic children and 15 percent of African American children were uninsured in 2006, compared to only eight percent of white children (Kaiser Commission on Medicaid and the Uninsured 2007). The data underlying this brief show that Latino, white and African American children who are uninsured have rates of recent unmet dental care needs that are between three and four times those of their peers who are covered by any form of health insurance.

This analysis suggests ways to address (or reduce) the disparity in access to dental care between Hispanic children and both white children and black children. The data show strong support for the role that health insurance coverage can play in decreasing unmet dental care needs and in diminishing the disparities that exist along racial/ethnic lines. This finding is of particular importance when discussing ways to improve access to dental care and reduce racial/ethnic disparities.

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Dr. Wilhelmina A. Leigh, a senior research associate at the Joint Center for Political and Economic Studies since 1991, conducts research in the areas of income security, housing and health. Prior to joining the Joint Center, she was a principal analyst at the U.S. Congressional Budget Office and worked for the Bureau of Labor Statistics, U.S. Department of Labor; the U.S. Department of Housing and Urban Development; the Urban Institute; and the National Urban League Research Department. She received her PhD in economics from the Johns Hopkins University and her AB, also in economics, from Cornell University.

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