JOINT CENTER FOR POLITICAL AND ECONOMIC STUDIES

TRENDS IN CHILD HEALTH 1997-2006:

ASSESSING HISPANIC-WHITE DISPARITIES

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FEBRUARY 2009

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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 significantly more likely than white children to report unmet dental care needs—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 need, 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/Latino children). In this brief, disparities between 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

By 2042, demographics of the United States are projected to be drastically different. Americans who identify themselves as Hispanic, African American, Asian, American Indian/Alaska Native, Native Hawaiian and Other Pacific Islander will together outnumber non-Hispanic whites (U.S. Census Bureau 2008a). The Hispanic population in particular is expected to nearly triple and will account for 30 percent of Americans.

Because of the Hispanic population's growth and diversity, the ongoing challenge for persons interested in child health is to determine the facts surrounding the health of Latino children and how these health facts have developed. The major Hispanic subpopulations (Mexican Americans, Puerto Ricans and Cubans) differ from one another and also from white Americans on several health indicators. In some cases, the health of Hispanic children is better than that of white children, in spite of the usually lower socioeconomic status of the Hispanic population.

To provide greater detail on disparities in child health, the Joint Center for Political and Economic Studies undertook an examination of how child health indicators vary by sociodemographic characteristics. The comparative findings for Hispanic children and white children are provided in this brief.

METHODOLOGY

Data from the National Health Interview Survey (NHIS) for the years 1997 through 2006 were used to compare non-Hispanic white (white) children and Hispanic (Latino) children under age 18 on the following health indicators:

- Low birthweight
- Health status (as evaluated by a family member)[1]
- Recent unmet dental care needs
- Lifetime asthma diagnosis
- ADHD/ADD diagnosis
- Learning disability diagnosis[2]
- Activity limitation

The NHIS provides data for the major Hispanic subpopulations (Mexican American, Puerto Rican and Cuban) as well as for all Hispanic subpopulations combined. The data for Hispanic subpopulations were not used, however, because of the small sample sizes in each year between 1997 and 2006. Thus, the data analyzed for Hispanic children combine children of the various Latino subpopulations.

The significance of gaps between Hispanic children and white children on these health indicators was assessed using t-tests of differences of proportions with 90-percent confidence intervals.[3] The difference between Hispanic children and white children on each indicator was determined to be significant overall 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 on health indicators that are neither statistically significant nor statistically insignificant in a majority of years during the study period.

1 Health status is rated as either excellent, very good, good, fair, poor or unknown.
2 Children and their families were told that they had a learning disability by either school personnel or a health professional.
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.

For each health indicator, in each year between 1997 and 2006, comparisons were made first between children of the two 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 the gaps in health between the two ethnic groups, Hispanic children and white 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)
- Employment status (of household)—Zero-earner; Single-earner; Two-earner
- Poverty status (of household or individual)[4]—At or above poverty threshold; Below poverty threshold
- 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.

LOW BIRTHWEIGHT

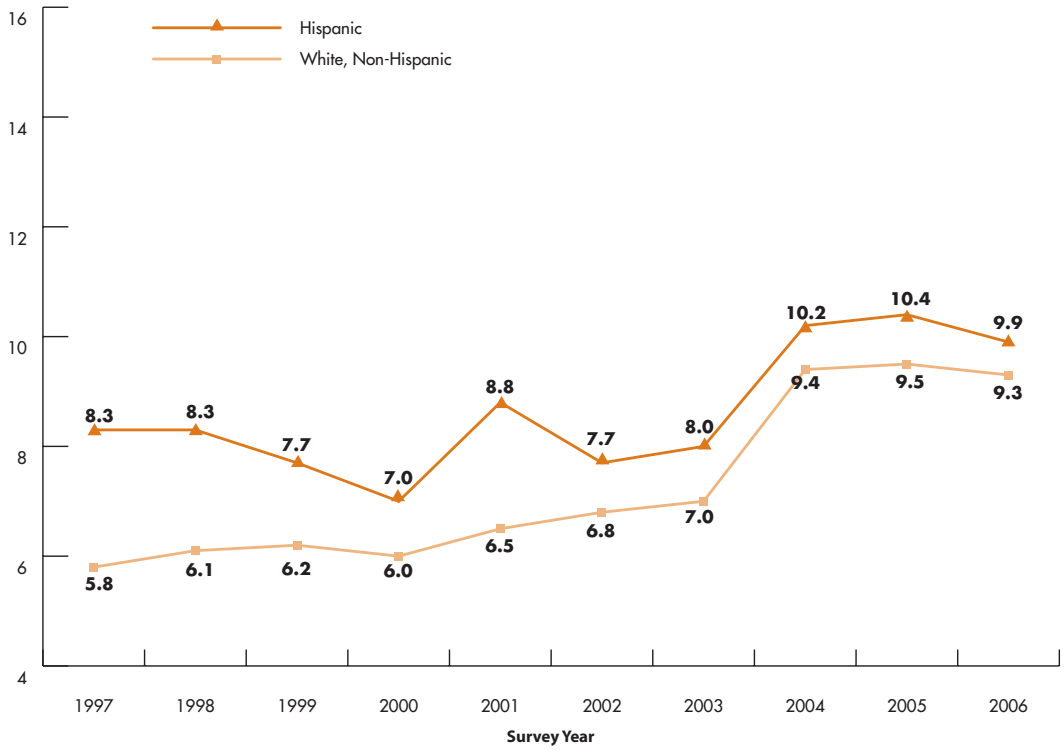
Low-weight babies are born weighing less than 5 pounds, 8 ounces (or 2,500 grams) (US DHHS 2008). Because babies born low-weight are at increased risk for serious health problems or even death as newborns, birthweight is widely used as an indicator of infant health. Low birthweight also has been linked to certain chronic conditions in adulthood, including hypertension, Type 2 diabetes and heart disease (March of Dimes 2008).

Over the 1997-2006 period, on average, 8.7 percent of Hispanic infants were born low-weight, compared to 7.2 percent of white infants **(Figure 1)**. The relationship between the overall frequencies of low-weight births of Hispanic children and of white children is indeterminate. In other words, in a majority of study years, these frequencies are neither different from nor equal to one another for the two groups of children. When Hispanic children and white children are compared by sociodemographic characteristics, however, Hispanic children and white children in each of the sociodemographic subgroups are equally likely to have been born low-weight.

The fact that Hispanic children and white children in families in any of the sociodemographic subgroups in our analysis are equally likely to have been born low-weight is counterintuitive—especially given the lower rates of health insurance coverage for Hispanics in the United States (Perry 2008). However, our results are consistent with other studies that have

4 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 2008b).

Figure 1
Children born low-weight, by ethnicity, 1997-2006
(Percent)



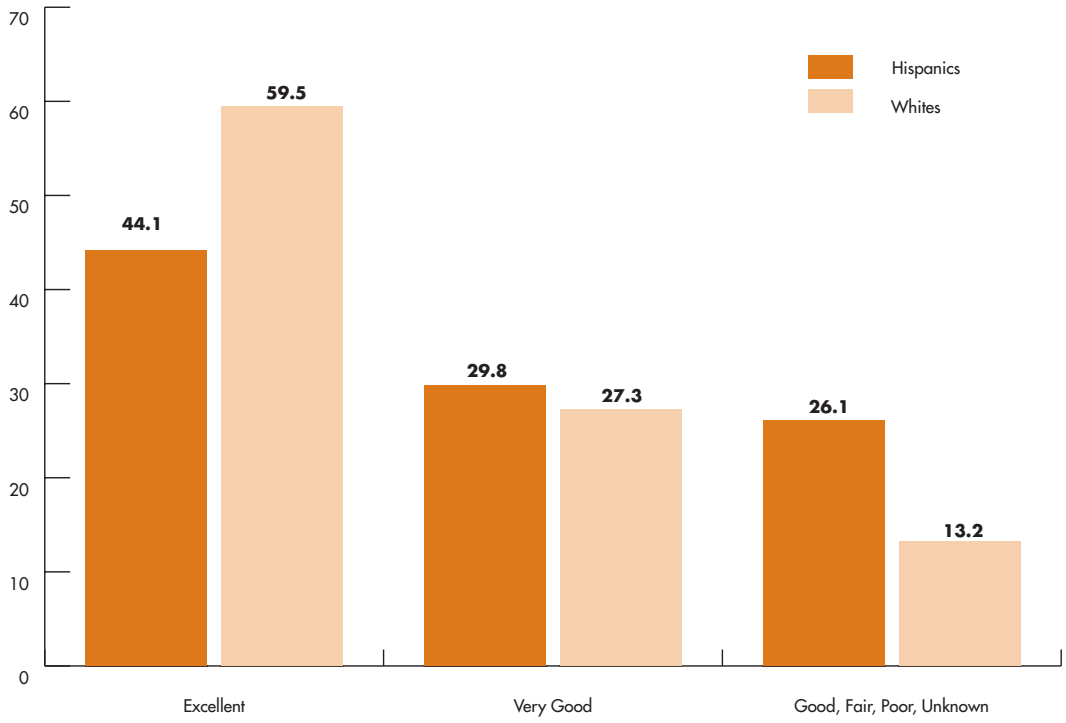
Source: Joint Center tabulations of data from the National Health Interview Survey (NHIS)

found Latinas to have infant birthweight outcomes more similar to white women than to black women (Chung et al. 2003; Leslie et al. 2003; National Research Council 2006). This may reflect the so-called "Hispanic paradox" or "epidemiological paradox." This paradox is that Hispanics have more favorable health outcomes (on certain indicators) than whites, despite their generally less favorable sociodemographic profiles (Chen, Martin, Matthews 2006; Kimbro, Bzostek, Goldman, Rodriguez 2008; National Research Council 2006).

The "healthy immigrant effect" also has been put forth to explain the similarity in birth outcomes between Latinas and white women, because the Hispanic population in the United States has a large component of foreign-born individuals.[5] This effect finds that foreign-born individuals, regardless of race/ethnicity, tend to have better outcomes on a wide variety of health indicators when compared to their U.S.-born counterparts (Kimbro, Bzostek, Goldman, Rodriguez 2008). Also, the effect suggests that the health differences between foreign-born and native-born individuals are driven by higher migration rates among healthier people. Looking at the prevalence of low-weight births among Hispanic mothers of all national origins, however, may obscure the disparities that exist within the Hispanic population. Specifically, in 2005, 9.9 percent of births to women of Puerto Rican origin were low-weight, versus 6.5 percent for Mexican American women and 7.3 percent for non-Hispanic white women (Martin et al. 2007). The rate of low-weight births to women of Puerto Rican origin

5 In 2005, 40.2 percent of the U.S. Hispanic population was foreign-born, compared to 3.9 percent of the U.S. non-Hispanic white population (Pew Hispanic Center 2006).

Figure 2
Health Status of Hispanic Children and White Children (as Reported by Family Member), 1997-2006 Average
(Percent)



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

was second only to that of African American women, for whom the rate was 14 percent. Additional research is needed to fully understand the differences in birthweights for Hispanic children both among Hispanic nationality groups and when compared to other racial and ethnic groups.

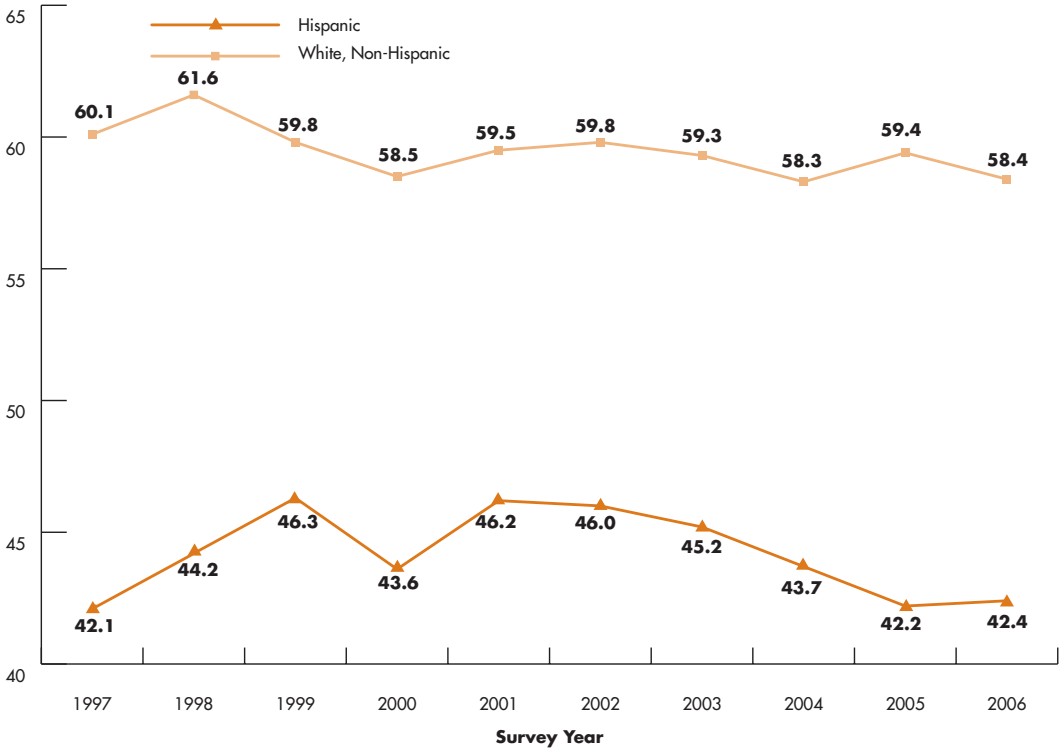
HEALTH STATUS

Ratings of the general health of children are based on the assessment of a family member, who is asked to characterize the child's health as one of the following: "excellent, very good, good, fair, poor or unknown." In other words, the NHIS variable for health status reflects a child's general health (as evaluated by a family member) on a five-point Likert scale, ranging from "excellent" to "poor," along with an unrated "unknown" category. The NHIS interviewers provide only the numerical scale to respondents and do not provide definitions for the various health statuses (excellent, very good, good, fair and poor). Thus, the ratings of health are somewhat subjective and may vary across children. In this analysis, the ratings good, fair, poor and unknown are collapsed into a single category to ensure adequate sample sizes. Over the 1997-2006 period, Hispanic children are more likely than white children to be reported in good, fair, poor or unknown health and less likely to be reported in excellent health **(Figure 2)**.

Excellent Health Status

Hispanic children were less likely than white children to be reported in excellent health. On average, 59.5 percent of white children and 44.1 percent of Hispanic children were reported in excellent health during the 1997-2006 period **(Figure 2**

Figure 3
Children reported to be in 'Excellent' health, by ethnicity, 1997-2006 (Percent)



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

and Figure 3). When Hispanic children and white children in the majority of sociodemographic subgroups are compared, Hispanic children also are less likely than white children to be reported in excellent health **(Table 1)**.

Table 1
Hispanic-White Differences in Excellent Health Rating by Sociodemographic Variables

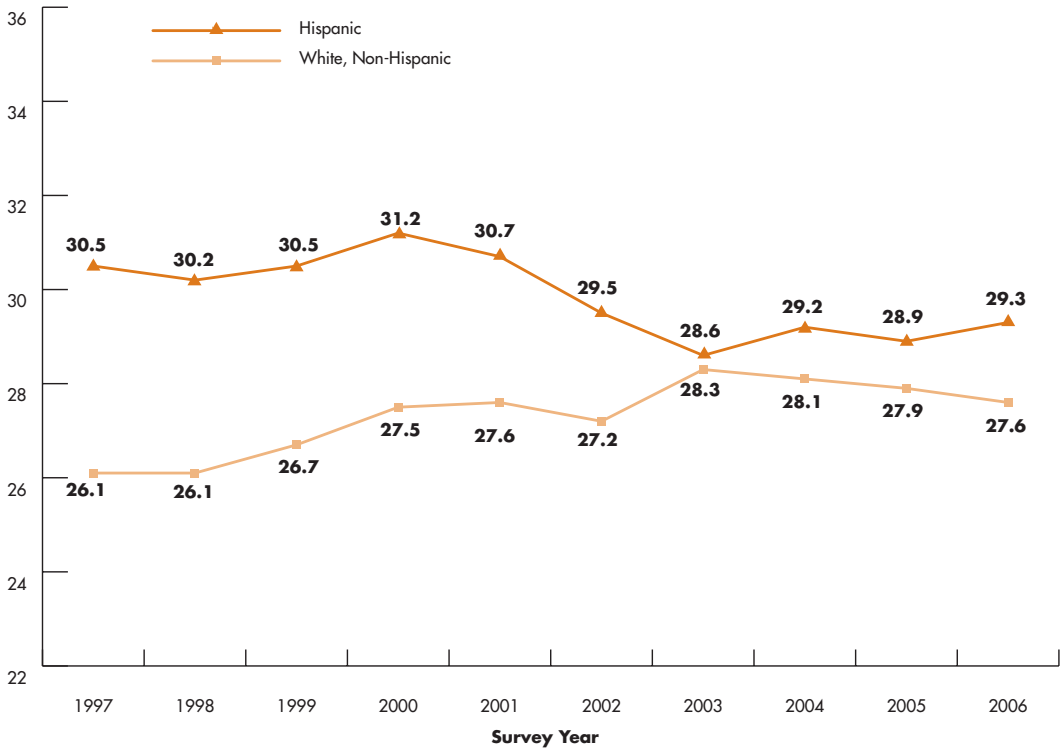
Sociodemographic Variables	Findings
Region of residence: Northeast	Hispanic children who live in the Northeast are less likely than white children who live in the Northeast to be reported in excellent health.
Region of residence: South	Hispanic children who live in the South are less likely than white children who live in the South to be reported in excellent health.
Region of residence: West	Hispanic children who live in the West are less likely than white children who live in the West to be reported in excellent health.
Marital status: married	Hispanic children in families in which the householder's marital status is married are less likely than white children in this same type of family to be reported in excellent health.
Marital status: 'widowed, divorced, separated, never married or unknown'	Hispanic children in families in which the householder's marital status is widowed, divorced, separated, never married or unknown are less likely than white children in this same type of family to be reported in excellent health.

Table 1 continued

Sociodemographic Variables	Findings
Family type: married-couple	Hispanic children in married-couple families are less likely than white children in this same type of family to be reported in excellent health.
Family type: single-parent	Hispanic children in single-parent families are less likely than white children in this same type of family to be reported in excellent health.
Educational attainment: some college	Hispanic children in families in which the educational attainment of the householder/spouse is some college are less likely than white children in this same type of family to be reported in excellent health.
Educational attainment: Bachelor's degree (or higher)	Hispanic children in families in which the educational attainment of the householder/spouse is a Bachelor's degree or higher are less likely than white children in this same type of family to be reported in excellent health.
Employment status: zero-earner household	Hispanic children in zero-earner households are less likely than white children in zero-earner households to be reported in excellent health.
Employment status: single-earner household	Hispanic children in single-earner households are less likely than white children in single-earner households to be reported in excellent health.
Employment status: two-earner household	Hispanic children in two-earner households are less likely than white children in two-earner households to be reported in excellent health.
Poverty status: at or above poverty threshold	Hispanic children in families with incomes at or above the poverty threshold are less likely than white children in this same type of family to be reported in excellent health.
Private insurance coverage status: not covered	Hispanic children who are not privately insured are less likely than white children who are not privately insured to be reported in excellent health.
Private insurance coverage status: covered	Hispanic children who are privately insured are less likely than white children who are privately insured to be reported in excellent health.
Medicaid coverage status: not covered	Hispanic children who are not covered by Medicaid are less likely than white children who are not covered by Medicaid to be reported in excellent health.
Any health insurance coverage status: covered	Hispanic children who are covered by any form of health insurance are less likely than white children who are covered by any form of health insurance to be reported in excellent health.

In particular, Hispanic children are less likely than white children to be reported as having excellent health, regardless of the following variables: marital status of householder, family type, household employment status and private health insurance coverage status. This means that for both categories of householder marital status—married or widowed, divorced, separated, never married or unknown—Hispanic children are less likely than white children to be reported in excellent health. Hispanic children also are less likely than white children to be reported in excellent health in the two subgroups by family type (married-couple and single-parent), in the three subgroups of employment status (zero-earner household, single-earner household and two-earner household), and in the two subgroups for private insurance (not covered and covered).

Figure 4
Children reported to be in 'Very good' health, by ethnicity, 1997-2006
(Percent)



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

Hispanic children are less likely than white children to be reported in excellent health when comparing children in families whose householder/spouse has educational attainment of some college or beyond. Hispanic children and white children are equally likely to be reported in excellent health, however, when comparing children in families in which the educational attainment of the householder/spouse is less than high school. In fact, this is the only sociodemographic subgroup (of the 23 analyzed) for which Hispanic children and white children are equally likely to be rated in excellent health.

Very Good Health Status

Over the 1997-2006 period, on average, 29.8 percent of Hispanic children were reported in very good health, compared to 27.3 percent of white children **(Figure 4)**. The relationship between the overall frequencies of very good health status among Hispanic children and among white children is indeterminate, however. In other words, in a majority of study years these frequencies are neither different from nor equal to one another for the two groups of children. When compared by sociodemographic characteristics, Hispanic children and white children are equally likely to be reported in very good health for a majority of these subgroups. In only two sociodemographic subgroups are Hispanic children more likely than white children to be reported in very good health **(Table 2)**.

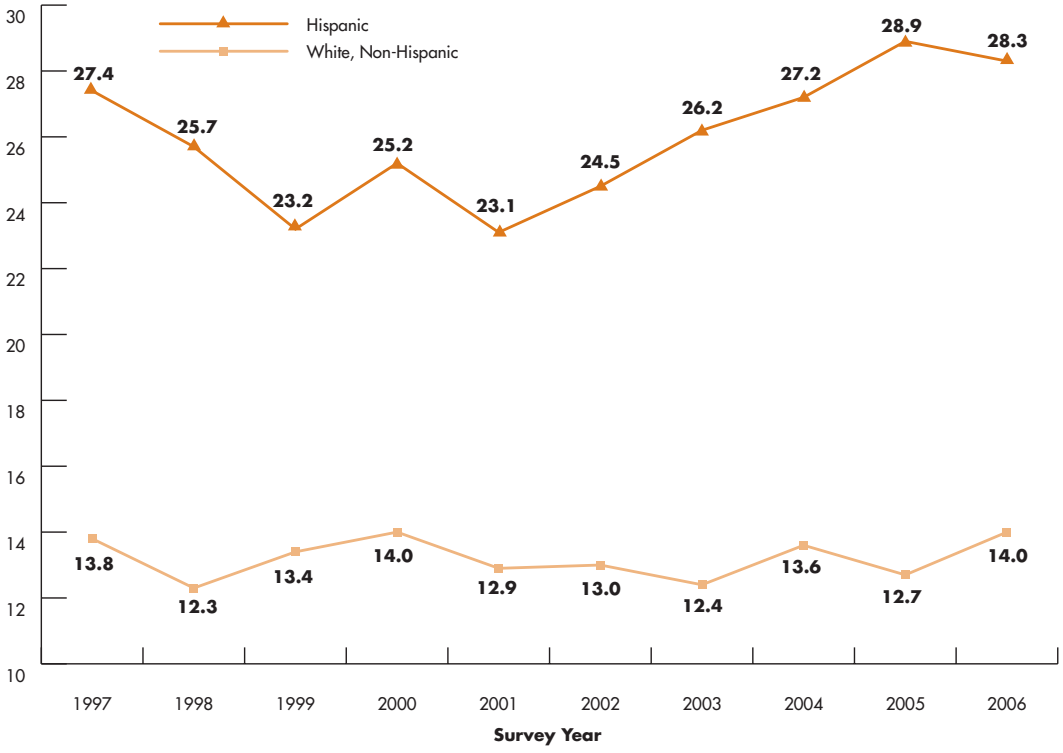
Table 2
Hispanic-White Differences in Very Good Health Rating by Sociodemographic Variables

Sociodemographic Variables	Findings
Region of residence: West	Hispanic children who live in the West are more likely than white children who live in the West to be reported in very good health.
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 be reported in very good health.

Good, Fair, Poor or Unknown Health Status

Hispanic children were more likely than white children to be reported in good, fair, poor or unknown health. During the study period, on average, 26.1 percent of Hispanic children were reported in good, fair, poor or unknown health, compared to 13.2 percent of white children **(Figure 5)**. In a majority of the sociodemographic subgroup comparisons between Hispanic children and white children, Hispanic children also are more likely than white children to be reported in good, fair, poor or unknown health **(Table 3)**.

Figure 5
Children reported to be in 'Good, Fair, Poor or Unknown' health, by ethnicity, 1997-2006 (Percent)



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

Table 3
Hispanic-White Differences in Good, Fair, Poor or Unknown Health Rating by Sociodemographic Variables

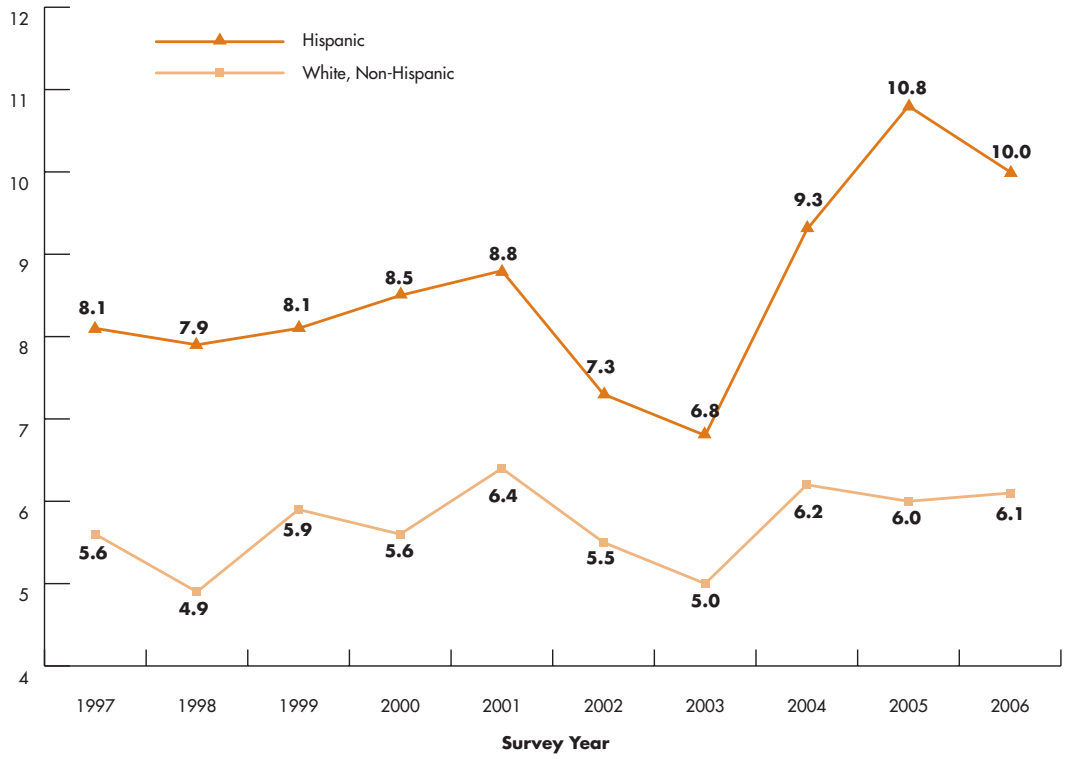
Sociodemographic Variables	Findings
Region of residence: Northeast	Hispanic children who live in the Northeast are more likely than white children who live in the Northeast to be reported in good, fair, poor or unknown health.
Region of residence: North Central	Hispanic children who live in the North Central are more likely than white children who live in the North Central to be reported in good, fair, poor or unknown health.
Region of residence: South	Hispanic children who live in the South are more likely than white children who live in the South to be reported in good, fair, poor or unknown health.
Region of residence: West	Hispanic children who live in the West are more likely than white children who live in the West to be reported in good, fair, poor or unknown health.
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 be reported in good, fair, poor or unknown health.
Marital status: 'widowed, divorced, separated, never married or unknown'	Hispanic children in families in which the householder's marital status is widowed, divorced, separated, never married or unknown are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.
Family type: married-couple	Hispanic children in married-couple families are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.
Family type: single-parent	Hispanic children in single-parent families are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.
Educational attainment: high school	Hispanic children in families in which the educational attainment of the householder/spouse is high school are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.
Educational attainment: some college	Hispanic children in families in which the educational attainment of the householder/spouse is some college are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.
Educational attainment: Bachelor's degree (or higher)	Hispanic children in families in which the educational attainment of the householder/spouse is a Bachelor's degree or higher are more likely than white children in this same type of family to be reported in good, fair, poor or unknown health.

Table 3 continued

Sociodemographic Variables	Findings
Employment status: zero-earner household	Hispanic children in zero-earner households are more likely than white children in zero-earner households to be reported in good, fair, poor or unknown health.
Employment status: single-earner household	Hispanic children in single-earner households are more likely than white children in single-earner households to be reported in good, fair, poor or unknown health.
Employment status: two-earner household	Hispanic children in two-earner households are more likely than white children in two-earner households to be reported in good, fair, poor or unknown health.
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 be reported in good, fair, poor or unknown health.
Private insurance coverage status: not covered	Hispanic children who are not privately insured are more likely than white children who are not privately insured to be reported in good, fair, poor or unknown health.
Private insurance coverage status: covered	Hispanic children who are privately insured are more likely than white children who are privately insured to be reported in good, fair, poor or unknown health.
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 be reported in good, fair, poor or unknown health.
Any health insurance coverage status: not covered	Hispanic children who are not covered by any form of health insurance are more likely than white children who are not covered by any form of health insurance to be reported in good, fair, poor or unknown health.
Any health insurance coverage status: covered	Hispanic children who are covered by any form of health insurance are more likely than white children who are covered by any form of health insurance to be reported in good, fair, poor or unknown health.

In particular, Hispanic children are more likely than white children to be reported in good, fair, poor or unknown health, regardless of the category considered for the following variables: region of residence, marital status of householder, family type, household employment status, private health insurance coverage status and whether the child has any form of health insurance. The relationship between the ratings of good, fair, poor or unknown health for Latino children and white children is indeterminate when comparisons are made for families with income below the poverty threshold and for families in which the child has Medicaid coverage. Only in families in which the householder/spouse has not completed high school are Hispanic children and white children equally likely to be reported in good, fair, poor or unknown health.

Figure 6
Children who have had recent unmet dental care needs, by ethnicity, 1997-2006 (Percent)



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

DENTAL CARE

In the first-ever Surgeon General's report about oral health, Surgeon General David Satcher noted that good oral health is important to overall health (US DHHS 2000). Chronic pain from dental disease can affect a child's cognitive development and his/her behavior. According to the Centers for Disease Control and Prevention, untreated dental disease can lead to problems in eating, speaking and learning (US DHHS 2005). Data for the 1997-2006 period about unmet dental care needs among children in the past 12 months are used to examine access to dental treatment by ethnicity.

During the 1997-2006 period, Hispanic children were more likely than white children to have experienced unmet dental care needs in the past 12 months. On average during the study period, 8.6 percent of Hispanic children and 5.7 percent of white children experienced such unmet needs **(Figure 6)**. Highlighting similar results, Scott and Simile (2005) offered several possible explanations. One possibility is that Hispanics or Latinos may perceive their dental care needs differently than whites "because of different expectations of access to dental care according to their culture."

Hispanic children as a group overall and when sociodemographics are taken into account, experience unmet dental care needs at high rates. In only five sociodemographic subgroups, however, are Hispanic children also more likely than white children to have experienced such needs **(Table 4)**.

Table 4
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.
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.

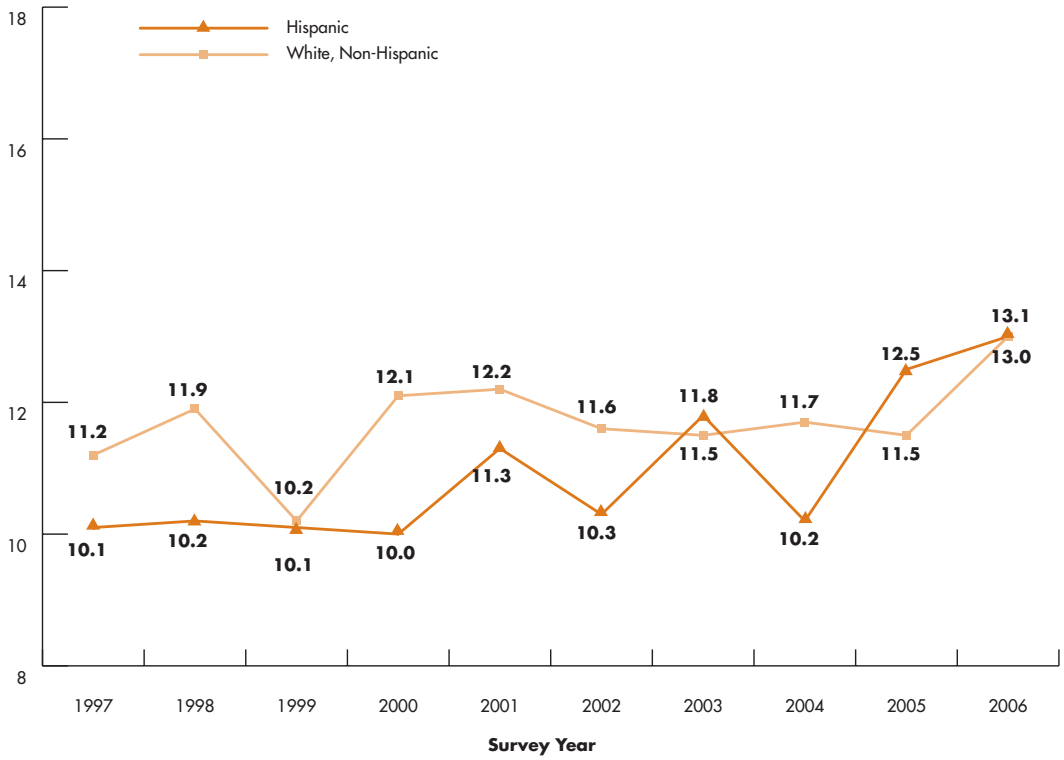
When the gaps are diminished in the frequency with which unmet dental care need is experienced, however, it is often because white children also experience high rates of recent unmet dental care needs. As **Table 4** indicates, Hispanic children tend to experience higher rates of recent unmet dental care needs than white children in sociodemographic subgroups that generally convey a relatively higher socioeconomic status—e.g., married-couple family, at or above poverty or not covered by Medicaid. Hispanic children who are not covered by Medicaid are more likely than white children who are not covered by Medicaid to have had recent unmet dental care needs. Hispanic children and white children who *are* covered by Medicaid, however, are equally likely to have had recent unmet dental care needs. This finding suggests that the role of Medicaid in dental care access and utilization should be studied further to explore ethnic differences in unmet dental care needs.

LIFETIME ASTHMA DIAGNOSIS

Among children, asthma is the leading cause of emergency room visits, hospitalization and school absence (Currie 2005). With diagnosis based on experiencing an episode of blocked airways, asthma affects a person's ability to breathe freely. The NHIS measure of lifetime asthma diagnosis used in this analysis indicates whether a child had ever been diagnosed with asthma.

Overall, Hispanic children and white children were equally likely to have ever been diagnosed with asthma. During the study period, on average, 11.1 percent of Hispanic children and 11.7 percent of white children had ever been diagnosed with asthma **(Figure 7)**. When Hispanic children and white children in the majority of sociodemographic subgroups are compared, Hispanic children and white children also are equally likely to have been diagnosed with asthma. Only in

Figure 7
Children ever diagnosed with asthma, by ethnicity, 1997-2006
(Percent)



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

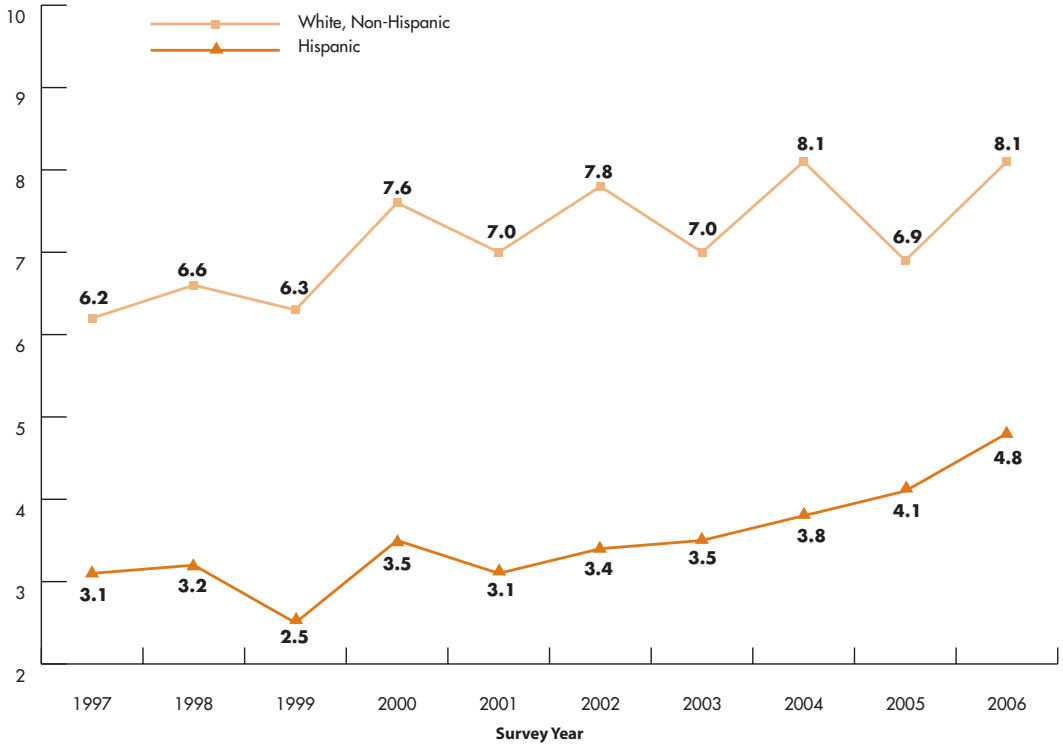
families with the following sociodemographic characteristics is the relationship between the frequency of asthma diagnosis for Hispanic children and for white children indeterminate: residing in the Northeast, residing in the West, householder/spouse is married, family type is married-couple, not covered with private health insurance, not covered with Medicaid and not covered with any health insurance.

As with the findings for low birthweight, differences in asthma diagnosis rates *within* the Hispanic population also should be considered. According to 2005 data from the Centers for Disease Control and Prevention, the rate of asthma prevalence for Puerto Rican children was 22.0 percent, compared to only 7.3 percent among Mexican American children (Akinbami 2006). At the same time, the rate for all Hispanic children was 8.9 percent. Thus, it is clear when analyzing asthma for Latino children that additional data need to be examined to get a complete picture of disparities.

ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD/ADD)

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurobehavioral disorder characterized by an inability to pay attention or by hyperactivity, or both. ADHD/ADD can last into adulthood, affecting numerous areas of life, including relationships with peers/family members and performance in school. In addition, some studies have demonstrated increased substance abuse, risk-taking and criminal behaviors among adolescents and adults who have ADHD and other behavioral disorders (Centers for Disease Control and Prevention 2005).

Figure 8
Children ever diagnosed with ADHD/ADD, by ethnicity, 1997-2006 (Percent)



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

During the study period, Hispanic children were less likely than white children to have received an ADHD/ADD diagnosis. On average, only 3.6 percent of Hispanic children had received an ADHD/ADD diagnosis, compared to 7.2 percent of white children **(Figure 8)**. When Hispanic children and white children in the majority of sociodemographic subgroups are compared, Hispanic children also are less likely than white children to have been diagnosed with ADHD/ADD **(Table 5)**.

Table 5
Hispanic-White Differences in ADHD/ADD Diagnosis by Sociodemographic Variables

Sociodemographic Variables	Findings
Region of residence: South	Hispanic children who live in the South are less likely than white children who live in the South to have been diagnosed with ADHD/ADD.
Region of residence: West	Hispanic children who live in the West are less likely than white children who live in the West to have been diagnosed with ADHD/ADD.
Marital status: married	Hispanic children in families in which the householder's marital status is married are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.

Table 5 continued

Sociodemographic Variables	Findings
Marital status: 'widowed, divorced, separated, never married or unknown'	Hispanic children in families in which the householder's marital status is widowed, divorced, separated, never married or unknown are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Family type: married-couple	Hispanic children in married-couple families are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Family type: single-parent	Hispanic children in single-parent families are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Educational attainment: less than high school	Hispanic children in families in which the educational attainment of the householder/spouse is less than high school are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Educational attainment: high school	Hispanic children in families in which the educational attainment of the householder/spouse is high school are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Educational attainment: some college	Hispanic children in families in which the educational attainment of the householder/spouse is some college are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Employment status: single-earner household	Hispanic children in single-earner households are less likely than white children in single-earner households to have been diagnosed with ADHD/ADD.
Employment status: two-earner household	Hispanic children in two-earner households are less likely than white children in two-earner households to have been diagnosed with ADHD/ADD.
Poverty status: at or above poverty threshold	Hispanic children in families with incomes at or above the poverty threshold are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Poverty status: below poverty threshold	Hispanic children in families with incomes below the poverty threshold are less likely than white children in this same type of family to have been diagnosed with ADHD/ADD.
Private insurance coverage status: not covered	Hispanic children who are not privately insured are less likely than white children who are not privately insured to have been diagnosed with ADHD/ADD.
Private insurance coverage status: covered	Hispanic children who are privately insured are less likely than white children who are privately insured to have been diagnosed with ADHD/ADD.
Medicaid coverage status: not covered	Hispanic children who are not covered by Medicaid are less likely than white children who are not covered by Medicaid to have been diagnosed with ADHD/ADD.

Table 5 continued

Sociodemographic Variables	Findings
Medicaid coverage status: covered	Hispanic children who are covered by Medicaid are less likely than white children who are covered by Medicaid to have been diagnosed with ADHD/ADD.
Any health insurance coverage status: not covered	Hispanic children who are not covered by any form of health insurance are less likely than white children who are not covered by any form of health insurance to have been diagnosed with ADHD/ADD.
Any health insurance coverage status: covered	Hispanic children who are covered by any form of health insurance are less likely than white children who are covered by any form of health insurance to have been diagnosed with ADHD/ADD.

Assessing the prevalence of ADHD is complicated, and not without controversy.[6] Because there is no specific test for ADHD/ADD, its diagnosis is less objective than that of non-behavioral health conditions. In addition, the diagnosis of ADHD/ADD is based on identifying behaviors that often are normal for children, such as high activity levels. This context somewhat tempers these findings and makes it difficult to say that Hispanic children necessarily fare "better" than white children because they are diagnosed less frequently with ADHD/ADD. Increased contact with a physician may contribute to a greater likelihood of diagnosis. Because Hispanic children are more likely to be uninsured than white children,[7] they may be less likely than white children to make physician visits and, therefore, less likely to be diagnosed with ADHD/ADD and other health conditions. The finding that Hispanic children covered by private insurance are less likely than white children covered by private insurance to be diagnosed with ADHD/ADD, however, suggests that lower rates of ADHD/ADD diagnoses may, in fact, be a reliable indicator of lower prevalence among Hispanic children. Further research is needed to explore and explain these complicated findings.

LEARNING DISABILITY

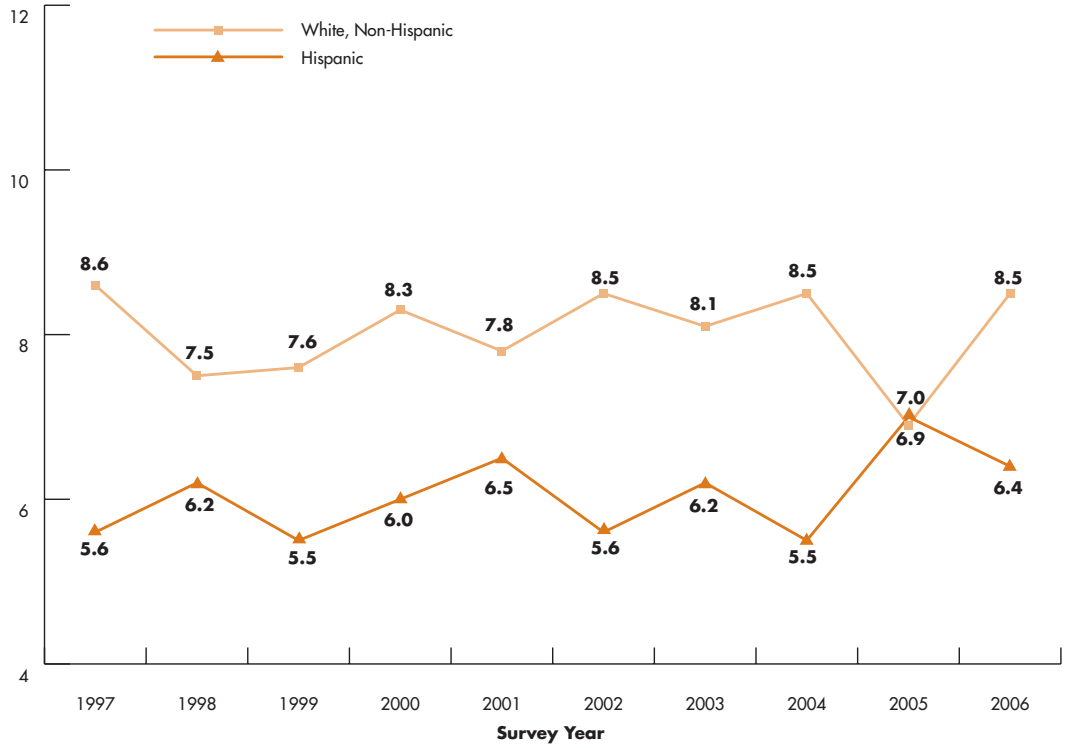
A learning disability is not a single disorder, but rather includes disabilities in any of seven areas—receptive language (listening), expressive language (speaking), basic reading skills, reading comprehension, written expression, mathematics calculation and mathematical reasoning. In addition, different types of learning disabilities frequently co-occur with one another and with social skill deficits and emotional or behavioral disorders (Lyon 1996).

Overall, Hispanic children are less likely than white children to have been diagnosed with a learning disability. During the study period, on average, 6.1 percent of Hispanic children had been diagnosed with a learning disability, compared to 8.0 percent of white children **(Figure 9)**. Though Hispanic children as a group are less likely than white children as a group to have been diagnosed with a learning disability, Hispanic children in only six sociodemographic subgroups are also less likely than their white counterparts to have been diagnosed with this condition **(Table 6)**.

6 Some studies find that boys are more likely to be diagnosed with ADHD/ADD, while girls and racial/ethnic minorities are diagnosed and treated less frequently. It is not completely understood whether this is due to differential identification of behavior among certain groups, or due to a real difference in prevalence (Currie 2005).

7 According to 2007 Current Population Survey data, 23 percent of Hispanic children were uninsured in 2006, compared to only 8 percent of white children (Kaiser Commission on Medicaid and the Uninsured 2007).

Figure 9
Children ever diagnosed with a learning disability, by ethnicity, 1997-2006 (Percent)



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

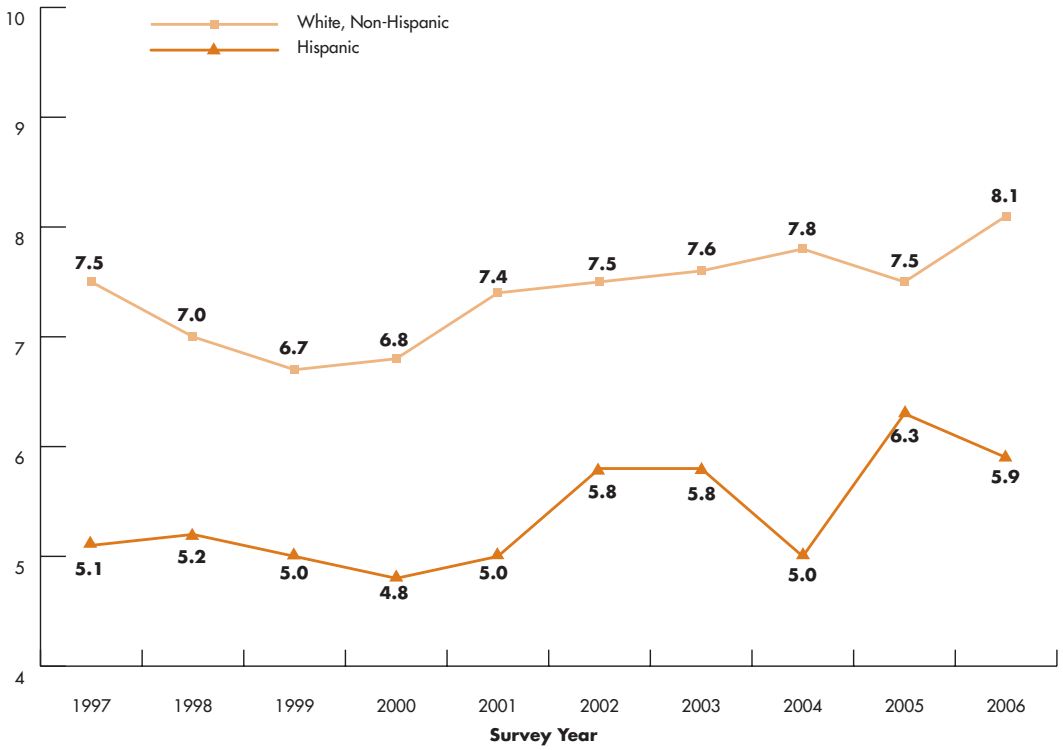
Table 6
Hispanic-White Differences in Learning Disability Diagnosis by Sociodemographic Variables

Sociodemographic Variables	Findings
Family type: married-couple	Hispanic children in married-couple families are less likely than white children in this same type of family to have been diagnosed with a learning disability.
Educational attainment: less than high school	Hispanic children in families in which the educational attainment of the householder/spouse is less than high school are less likely than white children in this same type of family to have been diagnosed with a learning disability.
Poverty status: below poverty threshold	Hispanic children in families with incomes below the poverty threshold are less likely than white children in this same type of family to have been diagnosed with a learning disability.

Table 6 continued

Sociodemographic Variables	Findings
Private insurance coverage status: not covered	Hispanic children who are not privately insured are less likely than white children who are not privately insured to have been diagnosed with a learning disability.
Medicaid coverage status: not covered	Hispanic children who are not covered by Medicaid are less likely than white children who are not covered by Medicaid to have been diagnosed with a learning disability.
Medicaid coverage status: covered	Hispanic children who are covered by Medicaid are less likely than white children who are covered by Medicaid to have been diagnosed with a learning disability.

Figure 10
Children who have any activity limitation, by ethnicity, 1997-2006
(Percent)



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

It is somewhat counterintuitive that Hispanic children in several lower sociodemographic status subgroups—i.e., less than high school householder/spouse educational attainment, below poverty, not privately insured—are less likely than white children in the same sociodemographic subgroups to have been diagnosed with a learning disability. Among the sociodemographic subgroups in which Hispanic children and white children are equally likely to have been diagnosed with a learning disability are private insurance coverage and Bachelor's degree or higher educational attainment by the householder/spouse. The underlying data show that this "equality" is the result of lower rates of learning disability for two groups of white children—those in families in which the householder/spouse has a Bachelor's degree (or higher) and those who are privately insured—than for white children in families with other householder/spouse educational attainment levels or for white children who are not privately insured.

ACTIVITY LIMITATION

The NHIS variable for activity limitation captures limitations in a person's activity due to a physical, mental or emotional problem (Integrated Health Interview Series, n.d.). This variable is based on whether a child can be characterized as follows: is limited in the kind or amount of play s/he can do (for children under 5 only); receives Special Education or Early Intervention services; needs help with activities of daily living (for 3-4 year olds only); has difficulty walking without special equipment; is limited due to memory problems or confusion; and/or is limited in any other activities. Overall, Hispanic children were significantly less likely than white children to be reported to have an activity limitation. During the study period, on average, 5.4 percent of Hispanic children were reported as having an activity limitation, compared to 7.4 percent of white children **(Figure 10)**.

When Hispanic children and white children in a majority of the sociodemographic subgroups are compared, Hispanic children also are less likely to be reported as having an activity limitation **(Table 7)**.

Table 7
Hispanic-White Differences in Activity Limitation by Sociodemographic Variables

Sociodemographic Variables	Findings
Region of residence: South	Hispanic children who live in the South are less likely than white children who live in the South to have an activity limitation.
Region of residence: West	Hispanic children who live in the West are less likely than white children who live in the West to have an activity limitation.
Marital status: married	Hispanic children in families in which the marital status of the householder is married are less likely than white children in this same type of family to have an activity limitation.
Marital status: 'widowed, divorced, separated, never married or unknown'	Hispanic children in families in which the marital status of the householder is widowed, divorced, separated, never married or unknown are less likely than white children in this same type of family to have an activity limitation.

Table 7 continued

Sociodemographic Variables	Findings
Family type: married-couple	Hispanic children in married-couple families are less likely than white children in this same type of family to have an activity limitation.
Educational attainment: less than high school	Hispanic children in families in which the educational attainment of the householder/spouse is less than high school are less likely than white children in this same type of family to have an activity limitation.
Educational attainment: high school	Hispanic children in families in which the educational attainment of the householder/spouse is high school are less likely than white children in this same type of family to have an activity limitation.
Employment status: single-earner household	Hispanic children in single-earner households are less likely than white children in single-earner households to have an activity limitation.
Employment status: two-earner household	Hispanic children in two-earner households are less likely than white children in two-earner households to have an activity limitation.
Poverty status: at or above poverty threshold	Hispanic children in families with incomes at or above the poverty threshold are less likely than white children in this same type of family to have an activity limitation.
Poverty status: below poverty threshold	Hispanic children in families with incomes below the poverty threshold are less likely than white children in this same type of family to have an activity limitation.
Private insurance coverage status: not covered	Hispanic children who are not privately insured are less likely than white children who are not privately insured to have an activity limitation.
Medicaid coverage status: not covered	Hispanic children who are not covered by Medicaid are less likely than white children who are not covered by Medicaid to have an activity limitation.
Medicaid coverage status: covered	Hispanic children who are covered by Medicaid are less likely than white children who are covered by Medicaid to have an activity limitation.
Any health insurance coverage status: not covered	Hispanic children who are not covered by any form of health insurance are less likely than white children who are not covered by any form of health insurance to have an activity limitation.

As **Table 7** shows, Hispanic children are less likely to have an activity limitation than are white children in each category of the following variables: marital status, poverty status and Medicaid coverage status. Additionally, only among children in the Northeast and children in families in which the householder/spouse had earned a Bachelor's degree (or higher) are Hispanic children and white children equally likely to have an activity limitation. In the remaining category of educational attainment (i.e., some college) and among families in the North Central region of the United States, the relationship between the frequencies with which Hispanic children and white children report an activity limitation is indeterminate.

SYNTHESIS AND IMPLICATIONS

Between 1997 and 2006, disparities between Hispanic children and white children persisted on a number of key health indicators. Specifically, Hispanic children were more likely than white children to be reported in "good, fair, poor or unknown" health and to have experienced recent unmet dental care needs. Hispanic children also were less likely than white children to be reported in excellent health.

At the same time, Hispanic children appear to fare equally as, or better than, white children on several health indicators. Hispanic children were less likely than white children to have been diagnosed with ADHD/ADD, to have ever been told they have a learning disability and to have an activity limitation. Hispanic children and white children were equally likely to have been diagnosed with asthma. Whether Hispanic children are more, less or equally likely as white children to have been born low-weight or to be reported in very good health was indeterminate.

Some of the overall findings for Hispanic children and white children (under 18 years of age) change when comparisons are made between Hispanic children and white children in families with differing sociodemographic characteristics. For example, when children in families in which the householder/spouse earned a Bachelor's degree (or higher) are compared, Hispanic children and white children are equally likely to have been diagnosed with ADHD/ADD; to have been diagnosed with a learning disability; and to have an activity limitation. Among children in families with incomes below the poverty threshold, Hispanic children and white children are equally likely to have experienced recent unmet dental care needs.

Hispanic-White Gaps by Sociodemographics

When sociodemographic factors are taken into account, where do gaps in health indicators persist between Hispanic children and white children? The following are true not only when Hispanic children and white children are compared overall, but also for Hispanic-white comparisons of children in a majority of sociodemographic subgroups:

- Hispanic children are less likely than white children to be reported in excellent health;
- Hispanic children are more likely than white children to be reported in good, fair, poor or unknown health;
- Hispanic children are less likely than white children to have been diagnosed with ADHD/ADD; and
- Hispanic children are less likely than white children to have an activity limitation.

In other words, these four gaps between Hispanic children and white children persist when children in a majority of the 23 sociodemographic subgroups are compared, as well as for the comparison of Latino children and white children overall.

In addition, the following gaps exist for the overall Hispanic-white comparisons and persist for Hispanic children and white children in a smaller number of sociodemographic subgroups:

- Hispanic children are more likely than white children to have experienced recent unmet dental care needs; and
- Hispanic children are less likely than white children to have been diagnosed with a learning disability.

Thus, in a small minority of sociodemographic subgroups, when Hispanic children and white children are compared, Hispanic children and white children differ with respect to unmet dental care needs and learning disability diagnosis. In other words, Hispanic-white gaps in unmet dental care needs and learning disability diagnosis are found for children in a few sociodemographic subgroups. (For unmet dental care, the categories are marital status of married, family type of married-couple, single-earner household, at or above poverty and not covered by Medicaid. For learning disability diagnosis,

the categories are married-couple family type, less than high school householder/spouse educational attainment, below poverty threshold, not privately insured, not covered by Medicaid and covered by Medicaid.) The influence of two of these categories of sociodemographic variables (educational attainment and health insurance coverage) is discussed below.

Educational Attainment

When examining Hispanic-white gaps, educational attainment is found to have an impact on a greater number of health indicators than the other sociodemographic variables. Educational attainment appears to have an impact on the following six health indicators—excellent health status; good, fair, poor or unknown health status; recent unmet dental care needs; ADHD/ADD diagnosis; learning disability diagnosis; and activity limitation. The nature of this influence differs, however, with the health indicator considered.

When differences in excellent health status and in good, fair, poor or unknown health status are examined by level of educational attainment, children in families in which the householder/spouse did not complete high school are the only subgroup for which Hispanics and whites fare equally. Hispanic children fare worse than their white counterparts in families in which the householder/spouse has an educational attainment level of some college and of a Bachelor's degree (or higher). Hispanic-white differences in excellent health are indeterminate for children in families in which the householder/spouse has an educational attainment level of high school.

In families in which the householder/spouse has not received a Bachelor's degree (i.e., did not complete high school, high school completion and some college completed), educational attainment appears to be associated with equally poor outcomes for Hispanic children and white children with respect to dental care needs. This contrasts with the finding that Hispanic children overall are more likely than white children overall to experience unmet dental care needs. Hispanic children and white children in families in which the householder/spouse has a Bachelor's degree are less likely to have unmet dental care needs than their counterparts in families with lower levels of educational attainment. The relationship between unmet dental care needs for Latino children and white children in these families at the highest level of educational attainment, however, is indeterminate.

When comparing Hispanic children and white children in families ranked by householder/spouse educational attainment, the group of children most likely to report ADHD/ADD diagnosis, learning disability diagnosis and activity limitation is white children in families in which the householder/spouse did not complete high school. Thus, white children with relatively *disadvantaged* sociodemographics (i.e., householder/spouse did not complete high school) are more likely to report these health conditions than are Hispanic children in this same type of family. When white children and Hispanic children in families in which the householder/spouse earned a Bachelor's degree (or higher) are compared, however, the rates for these three health outcomes do not differ significantly. In other words, for these Latino children and white children the rates of diagnosis for any of these conditions are not significantly different. Thus, the influence of educational attainment on the relationships between these three health outcomes for Hispanic children and white children needs to be probed further.

Health Insurance Coverage

Interesting patterns emerge from our analysis of the influence of health insurance coverage on child health indicators. Although they lack some clarity because of issues related to the reliability of diagnosis rates for these conditions, the findings for differences in ADHD/ADD diagnosis and learning disability diagnosis by health insurance coverage are mentionworthy. Differences between Hispanic children and white children are exhibited when comparing those who are not privately

insured. This is contrary to the comparison between children who are privately insured. It appears that being privately insured (versus not being privately insured) is associated with lower rates of both ADHD/ADD and learning disability diagnosis for white children. However, Hispanic children who are not privately insured and Hispanic children who *are* privately insured have nearly equal rates of diagnosis. Thus, it is unlikely that regular contact with a health care provider (for which private insurance coverage is a reasonable proxy) affects the rates of diagnosis for them. Further examination is required to better understand the differing ways in which health insurance coverage affects diagnosis rates for ADHD/ADD and learning disability among Hispanic children and white children.

Analysis of the Hispanic-white differences in unmet dental care needs by health insurance coverage status also provides noteworthy findings. Children who are not covered by any form of health insurance (both Latino and white) are reported to have experienced unmet dental care needs at rates notably higher than their peers (both Latino and white) who *are* covered by any form of health insurance. The underlying data suggest that being covered by any form of health insurance is associated with lower rates of unmet dental care needs for both white children and Hispanic children. Findings with respect to Medicaid coverage status also suggest that insurance coverage is associated with closing the gap in unmet dental care needs. Hispanic children and white children who are covered by Medicaid are equally likely to have had recent unmet dental care needs. The role of insurance coverage (all forms) in dental care access and utilization should be studied further to explore ethnic differences in unmet dental care needs.

Summary of Sociodemographic Findings

The findings presented in this brief reveal a highly nuanced portrait of Hispanic child health. In sum, Hispanic children fare poorly on certain health indicators, but quite well on others. The ways in which Hispanic children differ from white children in the health indicators included in this study complicate our ability to interpret how sociodemographic characteristics influence Hispanic-white gaps on these indicators. Of particular interest are the sociodemographic subgroups in which health outcomes among Hispanic children do not differ significantly from the outcomes among white children, when these Hispanic-white differences were significant in comparisons of the two groups of children overall. In other words, we examine more closely the sociodemographic subgroups for which Hispanic-white gaps on health indicators are smaller than the Hispanic-white gaps overall. This occurs in two ways.

In the first circumstance, the gaps are smaller when outcomes for the (relatively) *disadvantaged* are compared. This pattern is exhibited in differences in the following health indicators—excellent health status; good, fair, poor or unknown health status; and recent unmet dental care needs. In other words, among families with (relatively) disadvantaged sociodemographic status (e.g., income less than the poverty threshold), the rates of white children are not significantly different from the rates of Hispanic children on these health indicators. Meanwhile, significant Hispanic-white gaps persist when children of (relatively) *advantaged* sociodemographic status (e.g., income at or above the poverty threshold) are compared.

The second circumstance in which the gaps in health indicators are noted to be smaller for sociodemographic subgroups occurs for the following health indicators—ADHD/ADD diagnosis, learning disability diagnosis and activity limitation. In this case, the rates for white children of (relatively) *advantaged* sociodemographic status (e.g., educational attainment of Bachelor's degree or higher for householder/spouse) are not significantly different from the rates for Hispanic children on these health indicators. Meanwhile, the significant Hispanic-white gaps observed when comparing all Hispanic children with all white children persist when comparing children of (relatively) *disadvantaged* sociodemographic category (e.g., less than high school householder/spouse educational attainment).

The complexity of the findings and interpretations of Hispanic-white disparities in child health may reflect the so-called "Hispanic paradox" or "epidemiological paradox." This paradox is that Hispanics have more favorable health outcomes (on certain indicators) than whites, despite their generally less favorable sociodemographic profiles (Chen, Martin, Matthews 2006; Kimbro, Bzostek, Goldman, Rodriguez 2008; National Research Council 2006). The "healthy immigrant effect"—that health differences between the foreign-born and native-born are driven by higher migration rates among healthier people—may also account for the favorable outcomes of Hispanics in part (Kimbro, Bzostek, Goldman, Rodriguez 2008).

Additional research is needed to better understand the ways in which Hispanic children differ from their white peers in health outcomes. What is gleaned from subsequent research may help to better address health disparities through more targeted efforts and policy recommendations.

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