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## **Racial/Ethnic Disparities in Access to Care Among Children: How Does Medicaid Do in Closing the Gaps?**

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# Racial/Ethnic Disparities in Access to Care Among Children: How Does Medicaid Do in Closing the Gaps?

## Introduction

Since the mid-1980s, Medicaid has become an increasingly important source of health coverage for low-income children under age 19 in all racial/ethnic groups. The means-tested program plays an especially large role for children of color because they are more likely to be low-income compared with White children. In 2007, Medicaid and the smaller Children's Health Insurance Program (CHIP) covered nearly 1 of every 5 White children, but roughly 2 of every 5 African American and Hispanic children.<sup>1</sup> Because Medicaid is such a significant source of coverage for children of color, it is important to know whether the program is helping to improve equity in access to care across racial/ethnic groups. Further, as policymakers engaged in health care reform consider the merits of public and private approaches to expanding coverage, an assessment of Medicaid's relative impact on racial/ethnic disparities in access is timely.

Most previous research on racial/ethnic disparities in access has focused on adults and has either controlled for health insurance in an analytic model or examined a *single* insurance group. As a result, we know relatively little about racial/ethnic disparities in health care among children or about how these disparities compare across insurance groups.

This brief presents findings from a recent study conducted by the Kaiser Family Foundation to examine how racial/ethnic disparities in access among Medicaid-enrolled children compare with disparities among privately insured and uninsured children. The analysis is based on data for a pooled sample of 15,280 African American, Latino, and White children aged 1-18, from the 2003 and 2004 Medical Expenditure Panel Survey (MEPS). We analyze data on four indicators of access to care -- two that examine entry into the health care system and two measures of perceived ability to obtain access. We identify a racial/ethnic difference as a *disparity* only if statistically significant at  $p < 0.05$ .

Key findings are as follows:

- ***While the vast majority of children fared well on the indicators examined, access problems persist for some children.*** In 2003-2004, about 8.6% of children lacked a usual source of care (USC), 27.1% had no ambulatory medical visit in the prior year, 9.6% of children with a prior medical visit reported problems getting necessary care, and 22.0% of children needing specialty care reported problems seeing a specialist.
- ***Medicaid was on par with private insurance with regard to racial/ethnic disparities in children's access.*** Racial/ethnic disparities in access were no more likely among children in Medicaid than among privately insured children on these four indicators of access.
- ***The presence and magnitude of disparities varied by the combination of a child's race/ethnicity and insurance group, and by the access measure examined.*** African American and Latino children lagged behind White children on the usual source of care measure in all three insurance groups; the disparity was largest – nearly three-fold – between uninsured Latino and White children. Privately insured African Americans and Latinos fared worse than Whites on the ambulatory visit measure, but in the Medicaid group, Latinos experienced no disadvantage, and in the uninsured group, African Americans experienced no gap. Evidence of racial/ethnic disparities

in access to necessary care or specialty care within insurance groups was limited. Privately insured African American children fared worse than Whites in reports of problems getting necessary care, and uninsured Latino children were more likely than Whites to report problems seeing a specialist.

- ***Insurance raised access levels but generally did not narrow racial/ethnic disparities.*** Insurance – both private and Medicaid – often improved access for children in all three racial/ethnic groups. However, coverage generally did not reduce racial/ethnic disparities.

Our results provide empirical evidence that, although Medicaid is often perceived to lag behind private insurance in providing access to health services, the program works at least as well as private insurance in equalizing access to care for African American and Latino children relative to White children. However, the persistence of disparities among insured children indicates that while insurance can increase access to care, it does not necessarily eliminate access barriers that appear to affect children of color disproportionately.

#### **Data and Methods**

This study analyzes data from the Medical Expenditure Panel Survey (MEPS), a nationally representative household survey conducted by the Agency for Healthcare Research and Quality (AHRQ).<sup>2</sup> MEPS data from 2003 and 2004 were pooled for this analysis. The study population consists of an unweighted sample of 15,280 children aged 1-18 who were either covered through Medicaid or private insurance for the entire 12 months of 2003 or 2004, or were uninsured for the entire period. Private insurance includes employer-sponsored and individual private coverage, as well as coverage available to active-duty military families. Medicaid includes enrollees in the Children's Health Insurance Program (CHIP). We analyzed pooled 2003-2004 data using a logistic regression model for four access measures. The models controlled for child's family income, gender, age, and health status, adult's education, metropolitan statistical area, and region. We used the logistic regression results to compute adjusted rates, or predicted probabilities, of the four access indicators for each race/ethnicity and insurance group combination (e.g., African American children with Medicaid, or Latino children with private insurance). The methods are described more fully in Appendix 1.

## **BACKGROUND**

Medicaid's historical role in reducing financial and racial barriers to medical care is well established.<sup>3-5</sup> Recently, the program's experiences in providing preventive care for children have also been documented.<sup>6</sup> We identified just three studies published since 2000 that present results that relate closely to our research question: *Among children, how do racial/ethnic disparities in access to care within Medicaid compare with disparities found within privately insured and uninsured populations?*<sup>7-9</sup> While diverse in their focus, all three studies provide information about the presence and magnitude of disparities for specific indicators, but leave lingering questions about whether children of color are more or less likely to be disadvantaged in obtaining care if enrolled in Medicaid. This study sought to update earlier analyses and provide a more definitive assessment of how racial/ethnic disparities in access among Medicaid-enrolled children compare with disparities among privately insured and uninsured children.

## **FINDINGS**

The study population for this analysis represents an estimated 59 million children in the United States (Appendix 2). Nearly half (48.7%) of African American children and 44.2% of Latino children in this analysis were covered by Medicaid, compared with 15.2% of White children.

### ***Racial/ethnic disparities in children's access were not always the same across insurance groups.***

Overall, 8.6% of children in 2003-2004 lacked a usual source of care (USC), 27.1% had no ambulatory medical visit in the prior year, 9.6% of the children with a prior medical visit reported problems getting necessary care, and 22.0% of children needing specialty care reported problems seeing a specialist. After controlling for differences in demographic characteristics and insurance status, this study found that African American and Latino children had a higher likelihood than White children of not having a USC or a medical visit, but were not more likely than Whites to perceive problems getting necessary care or seeing a specialist (Appendix 3).

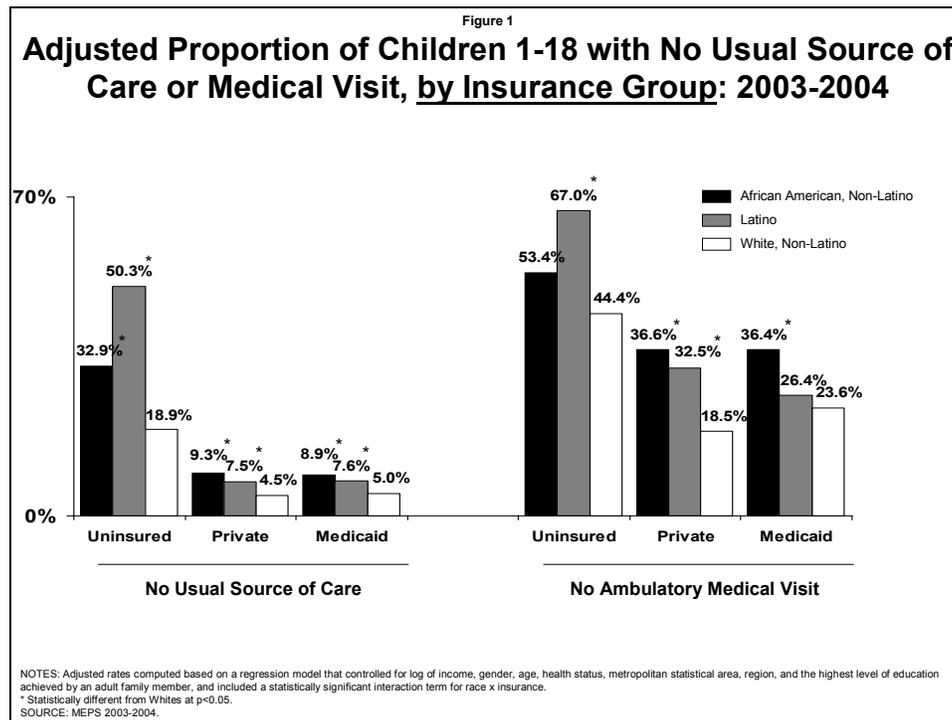
To determine whether the combination of a child's race/ethnicity and insurance status (e.g., being an African American child covered by Medicaid versus a Latino child covered by Medicaid) shapes access patterns in ways not captured when these variables are considered separately, we included "interaction terms" in a multivariate model for each access measure. We found that one or more of the interaction terms was statistically significant for each access indicator – evidence that, indeed, the influences of race/ethnicity and insurance act together to produce effects that are not fully apparent when the influences are considered independently.

The analysis also revealed that the factors associated with children's access to care varied depending on the indicator examined (Appendix 4). For example, family income, child's age, child's health status, adult's education, and region were associated with not having a USC, whereas only child's health status and region were associated with problems receiving necessary care. Figures 1 and 2 present estimates of the proportion of children lacking access for each indicator, adjusted by the race/ethnicity-insurance interaction terms (also presented in a table in Appendix 5).

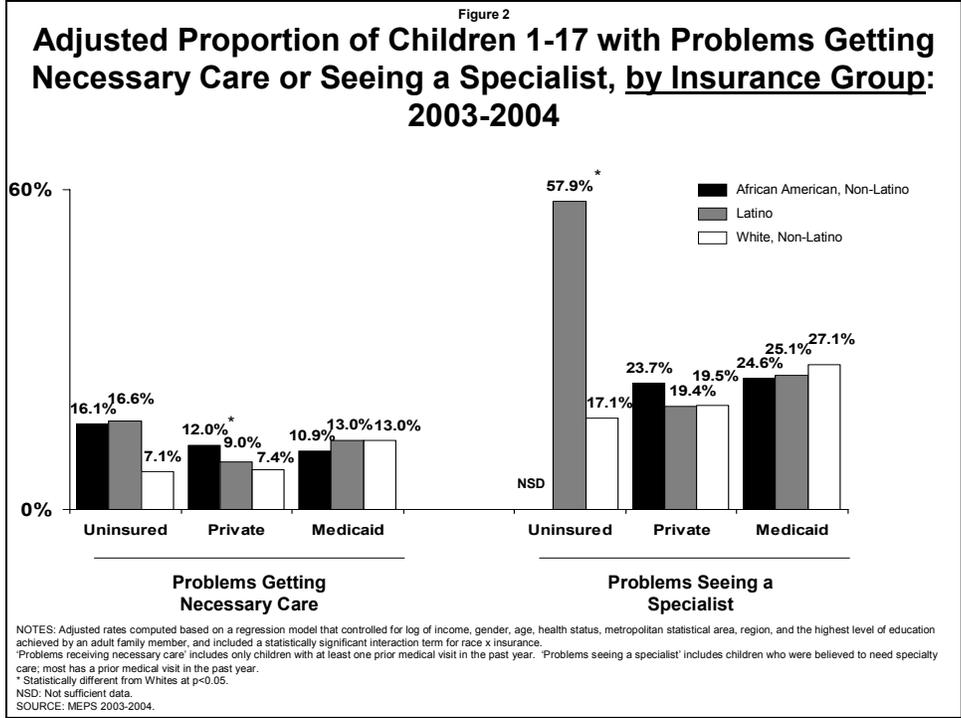
Specific results are as follows:

- **No Usual Source of Care or Medical Visit.** With two exceptions, we observed racial and ethnic disparities in the adjusted proportion of children without a USC or medical visit in all three insurance groups (Figure 1). In Medicaid and private insurance, African American and Latino children were roughly twice (between 1.5 and 2.1 times) as likely as White children to lack a USC. Among uninsured children, African Americans were 1.7 times as likely as Whites to lack a USC (32.9% vs.

18.9%). The disparity was greatest for uninsured Latino children, who were 2.7 times as likely as uninsured White children to lack a USC (50.3% vs. 18.9%). In general, African Americans and Latinos also fared worse than Whites in the adjusted proportion without a medical visit in the past year. However, in Medicaid, Latino children fared no differently from White children (26.4% vs. 23.6%), and among the uninsured, African American and White children did not differ (53.4% vs. 44.4%) in the adjusted proportion without a visit.



- Problems Getting Necessary Care or Seeing a Specialist.** On these two access indicators, assessed for children with a prior medical visit and/or in need of specialty care, neither African American nor Latino children differed from White children in their reported rates of problems – with two exceptions (Figure 2). Privately insured African American children were 1.6 times as likely as their White counterparts to report problems getting necessary care (12.0% vs. 7.4%). Uninsured Latino children were greatly disadvantaged relative to uninsured White children, being about 3.4 times as likely to report problems seeing a specialist (57.9% vs. 17.1%).



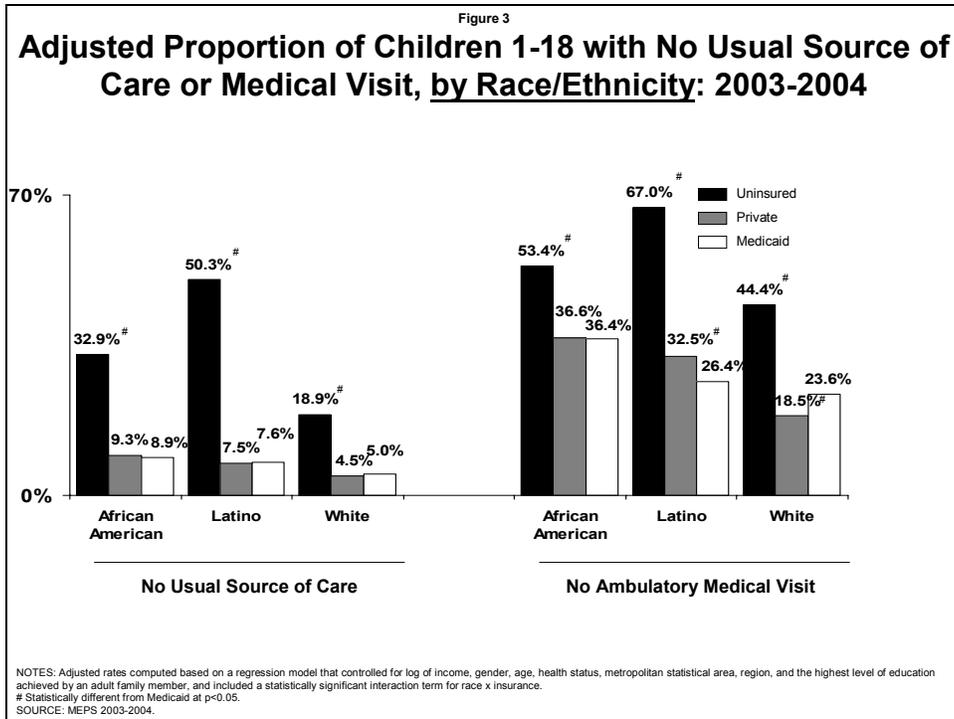
***Insurance coverage had limited impact on racial/ethnic disparities in children’s access to care.***

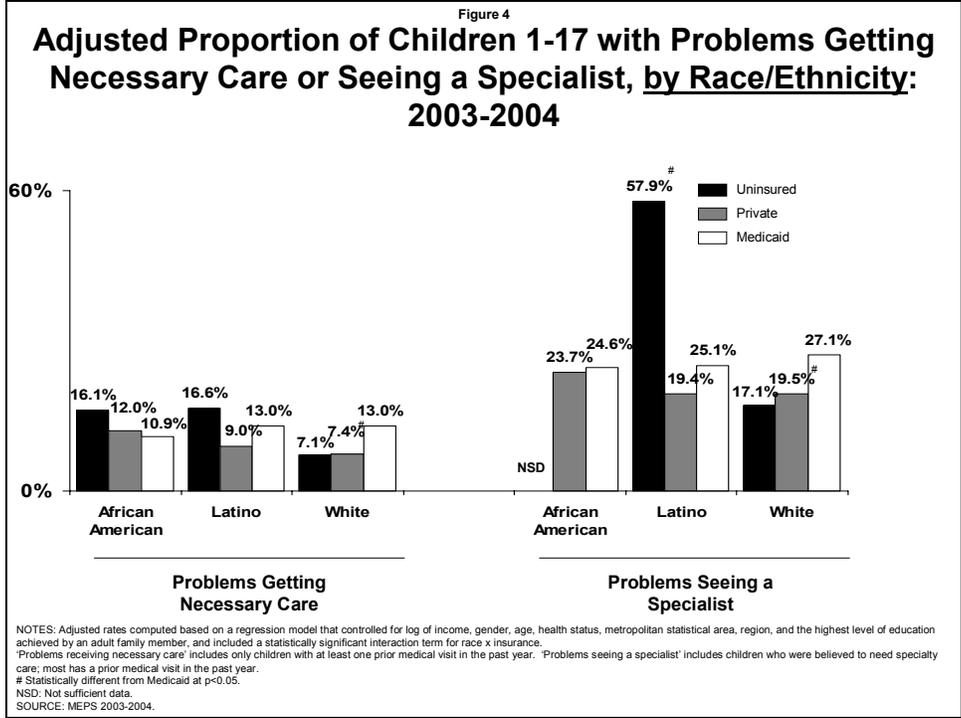
Evidence that racial/ethnic disparities were narrower among insured children than among uninsured children was limited, and any narrowing associated with being insured benefited only Latinos. Specifically, whereas uninsured Latino children were more likely than uninsured Whites to lack a medical visit (67.0% vs. 44.4%), in Medicaid, there was no Latino:White disparity on this measure (26.4% vs. 23.6%). Similarly, we found a Latino:White disparity among uninsured children reporting problems seeing a specialist (57.9% vs. 17.1%), but not among Medicaid-enrolled (25.1% vs. 27.1%) or privately insured (19.4% vs. 19.5%) children. We observed only one African American:White disparity in access among uninsured children – in the proportion without a USC – but African American:White disparities on this measure were detected among children with Medicaid and private insurance, too.

***Insurance (Medicaid and private coverage) generally improved access levels for children of each racial/ethnic group.***

In comparing insured and uninsured children within each racial/ethnic group, our findings on the first two indicators add to the large body of research showing that the insured have better access to health care. In each racial/ethnic group, uninsured children were at least 3.7 times as likely as children in Medicaid to lack a USC and they were 1.5 to 2.5 times as likely to lack an ambulatory medical visit (Figure 3); similar findings were observed when the uninsured were compared with the privately insured in each racial/ethnic group. Our findings on the other two access indicators were unexpected. Generally, uninsured children in each racial/ethnic group were no more likely than their insured counterparts to report problems getting necessary care or specialty care (Figure 4). In an exception, however, uninsured Latino children were twice as likely as Latino children enrolled in Medicaid to report problems seeing a specialist (57.9% vs. 25.1%). The sample size for uninsured African American children on this indicator was insufficient to produce reliable estimates.

We also found evidence that the impacts of Medicaid and private insurance on access were different for White children than for African American and Latino children. Medicaid-enrolled White children did not fare as well as privately insured White children on three of the four indicators. Whites in Medicaid were more likely than their counterparts with private insurance to lack a medical visit (23.6% vs. 18.5%), to report problems getting necessary care (13.0% vs. 7.4%), and to report problems seeing a specialist (27.1% vs. 19.5%). In contrast, on all four indicators, Medicaid-enrolled African American and Latino children had rates of access that were similar to, if not better than, those of their privately insured counterparts.





**DISCUSSION**

Our results provide a more nuanced assessment of African American and Latino children’s access to care relative to their White counterparts than has usually been presented. We found that the presence and magnitude of disparities was not consistent across insurance groups, but, rather, varied depending on the combination of a child’s race/ethnicity and insurance group, and the specific access measure examined.

Of most relevance to current policy debates, we found that Medicaid was generally on par with private insurance with respect to racial/ethnic disparities in the access indicators we examined. Also, both Medicaid and private insurance appeared to eliminate some disparities experienced by uninsured Latino children. We found no corresponding effect of insurance on access disparities for African American children on these four indicators -- a result that could be real or, conceivably, a result of the smaller sample sizes for uninsured African American children. But regardless of whether insurance eliminates racial/ethnic disparities or not, the higher levels of basic access among insured children in each racial/ethnic subgroup demonstrate the advantage that insurance confers on children overall.

We can offer several possible explanations for our finding that access to necessary care or specialty care was more equitable between racial/ethnic groups than access to a USC or medical visit. One possibility is that children of color may face greater obstacles to entering the health care system than White children, but once “in the door,” are successful in obtaining needed care at similar rates. This hypothesis is consistent with findings from research on the benefits of having a regular provider or point of entry into the health system.<sup>10,11</sup> An alternative explanation is that self-reports of access difficulties may reflect differing expectations of the health system held by different racial/ethnic groups. Individuals who have experienced a history of barriers to care (e.g., geographic, socio-cultural) might have reduced expectations of the system. Racial/ethnic groups may also have different cultural norms with regard to when and from whom medical care should be sought, which might influence their assessments of their access. Finally, the finding could be due to the much smaller sample sizes for these estimates, since the

questions about necessary and specialty care were asked only of respondents who reported that they or a doctor said the child needed care.

Although not our primary focus, this study provides new evidence that lack of insurance continues to translate into major inadequacies in access to care for children, regardless of race/ethnicity. At the same time, our findings indicate that while insurance – whether public or private – improves children’s access to health care, it does not consistently reduce racial/ethnic *disparities* in access. Thus, our health care system is likely to fall short of both access and equity goals for children until three kinds of progress occur: improved access among insured children; broader coverage of uninsured children; and elimination of disparities.

**Implications for Policy and Practice.** Policymakers frequently look to Medicaid as a means of financing coverage and care for lower-income populations, yet the program has been characterized by some critics as a cause of, rather than part of the solution to, racial/ethnic disparities in care and other weaknesses in our health system.<sup>12</sup> Our findings indicate that Medicaid may help to reduce disparities in access to care in two ways:

- **Closes coverage gaps that fuel access gaps.** Children of color are more likely than White children to lack private health insurance.<sup>1</sup> The consistently higher levels of access among insured African American and Latino children relative to their uninsured counterparts on the two most basic measures reconfirm that health insurance is crucial to opening the door to the health care system and offer fresh evidence of the benefits of coverage. By providing a source of coverage, Medicaid has reduced racial/ethnic gaps in health insurance rates, bringing children of color, who are disproportionately left out of the health system, into it.
- **Provides access as equitable as it gets today.** A common perception of Medicaid is that the program lags behind private insurance. While questions concerning the content or quality of care received by Medicaid-enrolled and privately insured children were beyond the scope of our study, our findings provide empirical evidence that Medicaid works at least as well as private insurance in equalizing rates of access to health care for African American and Latino children relative to White children.

While coverage is key to reducing racial/ethnic disparities in access, the finding that such disparities persist among both insured and uninsured children adds to the body of evidence that insurance does not lower some types of barriers to access that may be more likely to affect populations of color. Measures to address these barriers, which may include translation services, transportation assistance, literacy training, and increasing the availability of geographically accessible health providers, are needed in addition to insurance to ensure that children are able to obtain the care they need.

## **CONCLUSION**

The findings from this study indicate that Medicaid does not trail behind private insurance in assuring equitable access to care for racial/ethnic subgroups of children. As policymakers consider how to achieve progress on multiple health policy fronts – in particular, broadening children’s coverage and access and eliminating racial/ethnic access disparities – this new evidence can help to inform their deliberations. At the same time, this study serves as a reminder that public and private systems of health insurance alike have a substantial distance to go to improve access to health care and reduce disparities associated with race/ethnicity.

## **Appendix 1: Data and Methods**

This study analyzes data from the Medical Expenditure Panel Survey (MEPS), a nationally representative household survey conducted by the Agency for Healthcare Research and Quality (AHRQ).<sup>2</sup> MEPS data from 2003 and 2004 were pooled for this analysis. The questions analyzed in this study were drawn from the Household Component of the survey, including the Access to Care and the Child Preventive Health Supplements.

The study population consists of an unweighted sample of 15,280 children aged 1-18 who were either covered through Medicaid or private insurance for the entire 12 months of 2003 or 2004, or were uninsured for the entire period. Private insurance includes employer-sponsored and individual private coverage, as well as coverage available to active-duty military families (i.e., CHAMPUS or TRICARE). Medicaid includes CHIP. Children with multiple sources of coverage for the year (e.g., Medicaid and private insurance), except for children identified as having both Medicare and Medicaid, were excluded from the analysis; 232 children were excluded on this basis.

We further limited the study population to individuals who self-identified their race or ethnicity as African American/Black, Latino/Hispanic, or White, and we analyzed mutually exclusive categories of African Americans (non-Latino), Latinos, and Whites (non-Latino). Persons who reported their ethnicity as Latino/Hispanic – regardless of their race – are classified as Latino/Hispanic. We excluded from the analysis 277 non-Hispanic children, who were identified as being from more than one racial group (representing 1.7% of the children otherwise eligible for this study).

### **Access Indicators**

We examined four indicators of access to care: the proportion without a usual source of care (USC); the proportion without an ambulatory medical visit in the past year; the proportion reporting problems getting necessary care; and the proportion reporting problems seeing a specialist. The first two indicators are based on responses to MEPS questions that are asked with respect to all children ages 1-18. The latter two indicators are based on questions asked with respect to children age 17 or younger.

Having no usual source of medical care and having no ambulatory medical visit in the past 12 months are widely used indicators of the ability to gain entry to the health care system. Having a place where one usually goes to obtain care is also associated with a greater ability to obtain preventive, primary, and specialty care.<sup>10, 13</sup> Having had an ambulatory medical visit in the past year is considered an indicator of “realized access to care,” and gaps on this measure between subpopulations with similar needs have been interpreted to suggest gaps in the ability to obtain access.<sup>14</sup>

Reported problems getting necessary care and problems seeing a specialist capture the ability of children who gained entry to the health system to obtain additional care. These indicators from the Consumer Assessment of Health Plan Survey (CAHPS) are self-reported assessments of care designed to measure quality of care from the consumer’s perspective.<sup>15</sup> The first measure, which indicates whether a respondent experienced problems getting care perceived necessary by the respondent or the child’s doctor, was assessed for children who had at least one medical visit in the past 12 months, excluding emergency room visits; the second measure indicates whether the respondent experienced problems seeing a specialist when specialty care was perceived to be needed by the respondent or the child’s doctor. Nearly all (95%) children with a need for specialty care had a medical visit in the past year.

### **Analysis**

In the three insurance categories defined above, we first compare the access experience of African American and Latino children, respectively, with that of White children, using unadjusted rates. We identify a racial/ethnic difference as a *disparity* only if statistically significant at  $p < 0.05$ . The focus of the

analysis is on how racial/ethnic gaps within Medicaid compare with racial/ethnic gaps within the privately insured and uninsured groups. To test whether the descriptive findings hold true when controlling for differences in population characteristics, we analyzed pooled 2003-2004 data using a logistic regression model for each access measure. The multivariate models controlled for family income, gender, age, health status, the highest level of education achieved by an adult family member, metropolitan statistical area, and region.

In the regression model, we tested interaction terms for race/ethnicity and insurance coverage to determine whether access is affected differentially by the combined effects of these two variables. Researchers typically include a dummy variable for race/ethnicity in a regression model and assume the main (average) effects of race apply consistently across all levels of the other variables in the model. However, such an assumption is speculative without a statistical test, and main effects could mask variation in the way that race/ethnicity, when combined with insurance coverage, is associated with the other variables. To improve our understanding of racial/ethnic disparities in access, this study statistically tests, for each of the access measures, whether the effect of being African American or Latino or White varies based on whether the child is in Medicaid, privately insured, or uninsured.

We used the logistic regression results to compute adjusted rates, or predicted probabilities, of lacking access for African American or Latino children (relative to White children in the same insurance category). Adjusted rates were calculated in STATA to account for the complex sample design of the survey and t-tests were used to test for statistical significance. The adjusted rates for each insurance-and-race/ethnicity group were calculated using the individual-specific covariates for each group to find the mean adjusted rate, as opposed to calculating the group's adjusted rate holding the population's covariates at their mean. This method yields more realistic estimates of actual differences in access; however, our conclusions are not sensitive to the choice of method.

**Appendix 2: Study Population of Children, by Insurance and Race/Ethnicity, 2003-2004<sup>a</sup>**

	<i>All (number)</i>		<i>All (percent distribution by coverage type)</i>			
	<i>Unweighted</i>	<i>Weighted<sup>b</sup></i>		<i>Private</i>	<i>Medicaid</i>	<i>Uninsured</i>
Total	15,280	58.6	100%	65.9%	26.1%	8.0%
African American	3,071	9.3	100%	45.2%	48.7%	6.1%
Latino	5,538	11.1	100%	38.8%	44.2%	17.0%
White	6,671	38.1	100%	78.9%	15.2%	5.9%

MEPS, 2003-2004.

Note: The unweighted n for private is 7,156; for Medicaid is 6,495; and for uninsured is 1,629.

<sup>a</sup>Children ages 1-18 with 12 months of continuous coverage of given insurance type.

<sup>b</sup>In millions.

**Appendix 3: Adjusted Odds of Access Indicators Among Children, by Race/Ethnicity, 2003-2004<sup>a</sup>**

	<i>No Usual Source of Care</i>	<i>No Ambulatory Medical Visit<sup>b</sup></i>	<i>Problems Getting Necessary Care<sup>c</sup></i>	<i>Problems Seeing a Specialist<sup>d</sup></i>
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
African American	1.80 (1.34, 2.42) <sup>e</sup>	2.03 (1.74, 2.36) <sup>e</sup>	1.24 (0.89, 1.74)	1.15 (0.78, 1.71)
Latino	1.72 (1.31, 2.24) <sup>e</sup>	1.47 (1.27, 1.71) <sup>e</sup>	1.09 (0.80, 1.48)	0.99 (0.66, 1.48)
White	1.00	1.00	1.00	1.00

Data from MEPS, 2003-2004.

The regression model controlled for insurance status, log of income, gender, age, health status, metropolitan statistical area, region, and the highest level of education achieved by an adult family member. This model did not include interaction terms.

<sup>a</sup>Data for 'no usual source of care' and 'no ambulatory medical visit' are for children 1-18; data for 'problems getting necessary care' and 'problems seeing a specialist' are for children 1-17.

<sup>b</sup>In the past year.

<sup>c</sup>Includes only children with at least one prior medical visit.

<sup>d</sup>Includes children who were believed to need specialty care; most had a prior medical visit in the past year.

<sup>e</sup> $p < .05$  refers to statistical difference from reference category.

**Appendix 4: Factors Significantly Associated with Access Indicators Among Children in Multivariate Model, 2003-2004<sup>ab</sup>**

	<i>No Usual Source of Care</i> OR (95% CI)	<i>No Ambulatory Medical Visit<sup>c</sup></i> OR (95% CI)	<i>Problems Getting Necessary Care<sup>d</sup></i> OR (95% CI)	<i>Problems Seeing a Specialist<sup>e</sup></i> OR (95% CI)
Log of Income	0.93 (0.89, 0.98) <sup>g</sup>	1.00 (0.96, 1.04)	0.94 (0.86, 1.02)	0.92 (0.82, 1.03)
Gender				
female	1.16 (0.98, 1.37)	1.00 (0.91, 1.10)	0.96 (0.80, 1.17)	0.93 (0.74, 1.18)
male	1.00	1.00	1.00	1.00
Age				
school-age (6-18) <sup>a</sup>	2.57 (2.06, 3.22) <sup>h</sup>	2.55 (2.25, 2.89) <sup>h</sup>	1.05 (0.78, 1.41)	1.32 (0.96, 1.81)
pre-school (<6)	1.00	1.00	1.00	1.00
Health Status				
excellent	1.70 (1.01, 2.88) <sup>h</sup>	3.21 (2.29, 4.49) <sup>h</sup>	0.36 (0.23, 0.58) <sup>h</sup>	0.81 (0.47, 1.38)
good	1.62 (0.97, 2.69)	2.39 (1.72, 3.34) <sup>h</sup>	0.58 (0.36, 0.91) <sup>h</sup>	1.00 (0.59, 1.69)
poor	1.00	1.00	1.00	1.00
Education <sup>f</sup>				
college	0.57 (0.39, 0.83) <sup>h</sup>	0.40 (0.32, 0.49) <sup>h</sup>	1.48 (0.96, 2.28)	1.24 (0.71, 2.17)
other degree	0.65 (0.42, 1.01)	0.63 (0.50, 0.80) <sup>h</sup>	1.15 (0.71, 1.87)	1.27 (0.66, 2.44)
high school graduate	0.88 (0.67, 1.16)	0.73 (0.62, 0.86) <sup>h</sup>	1.22 (0.85, 1.75)	1.02 (0.65, 1.58)
less than high school	1.00	1.00	1.00	1.00
Metropolitan Statistical Area				
urban	0.87 (0.63, 1.20)	0.92 (0.78, 1.08)	1.24 (0.93, 1.66)	1.18 (0.85, 1.65)
non-urban	1.00	1.00	1.00	1.00
Region				
west	2.60 (1.70, 3.95) <sup>h</sup>	1.63 (1.32, 2.02) <sup>h</sup>	1.16 (0.83, 1.61)	1.17 (0.77, 1.80)
midwest	1.49 (0.95, 2.35)	1.30 (1.07, 1.59) <sup>h</sup>	0.83 (0.60, 1.13)	0.82 (0.54, 1.24)
south	2.44 (1.66, 3.57) <sup>h</sup>	1.46 (1.21, 1.75) <sup>h</sup>	0.71 (0.53, 0.95) <sup>h</sup>	0.80 (0.56, 1.12)
northeast	1.00	1.00	1.00	1.00

MEPS, 2003-2004.

<sup>a</sup>Data for 'no usual source of care' and 'no ambulatory medical visit' are for children 1-18; data for 'problems getting necessary care' and 'problems seeing a specialist' are for children 1-17.

<sup>b</sup>Coefficients for interaction terms not shown because most statistical packages cannot produce consistent estimates of these effects. Instead, in Table 3, we report adjusted rates by sub-group which are not affected by this concern. See, EC Norton and H Wang, *The Stata Journal*, 2004. 4(2): 103-116.

<sup>c</sup>In the past year.

<sup>d</sup>Includes only children with at least one prior medical visit in the past year.

<sup>e</sup>Includes children who were believed to need specialty care; most had a prior medical visit in the past year.

<sup>f</sup>The highest level of education achieved by an adult family member.

<sup>g</sup>Statistically significant at  $p < .05$ .

<sup>h</sup>Statistically different from reference category at  $p < .05$ .

**Appendix 5: Adjusted Proportion of Children with Access Indicator, by Insurance Group and Race/Ethnicity, 2003-2004**

	<i>Medicaid</i>	<i>Private</i>	<i>Uninsured</i>
No Usual Source of Care <sup>a</sup> (n = 15,280)			
Percent			
African American	8.9 <sup>g</sup>	9.3 <sup>g</sup>	32.9 <sup>fg</sup>
Latino	7.6 <sup>g</sup>	7.5 <sup>g</sup>	50.3 <sup>fg</sup>
White	5.0	4.5	18.9 <sup>f</sup>
Relative Rate			
African American:White	1.8	2.1	1.7
Latino:White	1.5	1.7	2.7
No Ambulatory Medical Visit <sup>ab</sup> (n = 15,280)			
Percent			
African American	36.4 <sup>g</sup>	36.6 <sup>g</sup>	53.4 <sup>f</sup>
Latino	26.4	32.5 <sup>fg</sup>	67.0 <sup>fg</sup>
White	23.6	18.5 <sup>f</sup>	44.4 <sup>f</sup>
Relative Rate			
African American:White	1.5	2.0	--
Latino:White	--	1.8	1.5
Problems Getting Necessary Care <sup>cd</sup> (n = 5,419)			
Percent			
African American	10.9	12.0 <sup>g</sup>	16.1
Latino	13.0	9.0	16.6
White	13.0	7.4 <sup>f</sup>	7.1
Relative Rate			
African American:White	--	1.6	--
Latino:White	--	--	--
Problems Seeing a Specialist <sup>ce</sup> (n = 2,243)			
Percent			
African American	24.6	23.7	NSD
Latino	25.1	19.4	57.9 <sup>fg</sup>
White	27.1	19.5 <sup>f</sup>	17.1
Relative Rate			
African American:White	--	--	NSD
Latino:White	--	--	3.4

MEPS, 2003-2004.

The regression model controlled for log of income, gender, age, health status, metropolitan statistical area, region, and the highest level of education achieved by an adult family member.

NSD: Not Sufficient Data.

--: Relative rates not statistically different.

<sup>a</sup>For children 1-18.

<sup>b</sup>In the past year.

<sup>c</sup>For children 1-17.

<sup>d</sup>Includes only children with at least one prior medical visit in the past year.

<sup>e</sup>Includes children who were believed to need specialty care; most had a prior medical visit in the past year.

<sup>f</sup>Statistically different from Medicaid at  $p < .05$ .

<sup>g</sup>Statistically different from Whites within insurance category at  $p < .05$ .

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