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## How Well is the Medical Home Working for Latino Children?

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### Abstract

**Objective**—To examine the benefits of having a medical home among Latino and Black school-aged children, both with and without special health care needs (CSHCN).

**Design**—Data from the 2011–2012 National Survey of Children's Health (NSCH) were analyzed to examine the associations of preventive dental and medical care, unmet dental or medical care, or missed school days with having a medical home among Latino and Black children compared to White children. Multivariate logistic regression with survey weights was used to adjust for child, parent, home, and geographic characteristics and an interaction term to estimate differences in outcomes among Black or Latino children receiving care in a medical home compared to White children with a medical home.

**Results**—Approximately 35% of Latino CSHCN and Latino non-CSHCN ages 6 to 17 years of age had a medical home. In the adjusted model comparing the effectiveness of the medical home by race and ethnicity, Latino non-CSHCN compared to White non-CSHCN were associated with lower odds of having one or more preventive dental visit in the last 12 months (OR 0.66 95% CI 0.46–0.95) and no other associations between having a medical home and outcomes were found among Latinos compared to Whites regardless of non-CSHCN or CHSCN status. Meanwhile, having a medical home among Black non-CHSCN and CHSCN, compared to their White counterparts, showed potential benefits in regards to unmet medical care needs after adjusting for covariates, (OR 0.15; 95% CI 0.06–0.35; OR 0.16; 95% CI 0.05–0.55).

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**Conclusions**—Medical homes may not be effective in delivering health services to the majority of Latino children but provide some benefit to Black children with and without CSHCN. Alternatively, the medical home may function differently for Latinos due to the specific medical home components measured by NSCH.

### Keywords

medical home; Latino children; racial/ethnic health disparities; children without special health care needs; children with special health care needs

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### Introduction

Latino children are the largest minority group of children living in the United States (US), represent the fastest growing segment of the US population, and experience a disproportionate burden of poor healthcare access and health outcomes.(1–4) The current state of affairs for this group of children makes it imperative to address and improve the health care needs of this population.

One proposed approach to address the health needs of both children and adults has been to expand access to the medical home. The American Academy of Pediatrics defines a medical home as care that is accessible, comprehensive, family-centered, coordinated, compassionate, and culturally effective.(5) The medical home therefore is grounded in a philosophy and approach to primary care that is patient- and family-centered, comprehensive, team-based, coordinated, and accessible, and initially conceived for all children, from those that have the most simple to the most complex health conditions.(6, 7) The medical home has been widely accepted and supported by numerous professional and accreditation organizations, along with the Affordable Care Act as an effective healthcare delivery model.(6, 8) This acceptance is likely rooted in the components of care that are emphasized in the medical home and the association of improved processes of care and health outcomes for children with medical homes.(9, 10) Most of the literature to date, however, has focused on non-minority children with special health care needs (CSHCN). Within the limited number of studies that include Latino CSHCN, some evidence suggests that they may not experience the same benefits as White CSHCN when they have a medical home. Latino CSHCN for example, have been shown to have higher utilization of emergency care (11, 12) and unmet specialty, dental and mental health care needs than White CSHCN despite receiving care within a medical home. (11–14)

The benefits of having a medical home for the much larger group of children without special health care needs (non-CSHCN) has been less studied. A small body of literature, however, suggests that having a medical home also benefits non-CSHCN. Available studies indicate increases in satisfaction of care, reduction in emergency room visits, increases in preventive care visits and the receipt of anticipatory guidance, and increases in health-related quality of life ratings for non-CSHCN. (10, 15, 16) What is not clear from such studies is whether these benefits also exist for Latino and other racial and ethnic minority groups of non-CSHCN.(17–19)

Minority groups of children with or without special health care needs already experience disparities in access to a medical home,(20–23) and there are gaps in the medical home literature regarding 1) how well the medical home may be working for minority groups of children compared to White children and 2) whether it might function as a mechanism to decrease child health disparities. To that end, the purpose of this study was to examine the relationship between having a medical home and having a preventive medical and dental visit in the last 12 months, having less missed school days due to an illness, and having less unmet medical and dental needs among Latino and Black children, compared to White children, both with and without special health care needs.

## Methods

### Study Sample

The data source for this study was the 2011–2012 National Survey of Children’s Health (NSCH) sponsored by the U.S. Department of Health and Human Services, Health Resources and Services Administration Maternal and Child Health Bureau. The study population of the NSCH represents a nationally-representative sample of parents of children 0–17 years old. The NSCH was designed to estimate a variety of physical, emotional, behavioral, child health, and healthcare indicators. Data was collected via telephone using a stratified random digit sampling of households with children under the age of 18. Informed consent of adult respondents for study participation was obtained using a consent script describing the voluntary nature of the survey, confidentiality of responses, survey content, and expected duration. Interviews were conducted in 52% of sampled households with children, with an overall weighted response rate of 54% for landline and 41% for cell phone. A total of 95,677 interviews were completed and surveys were completed in English, Spanish, Mandarin, Cantonese, Vietnamese, and Korean. Details on NSCH survey design, operation, methods, and weighting procedures are described elsewhere.(24, 25)

Because one of our outcomes of interest was the number of missed school days due to an illness, we excluded children younger than six years of age. Therefore, our final analytic sample included all Latino and White children six to seventeen years old who had complete data for all of the measures of interest in our *a priori* model. This study was exempt from review by the University of California, Los Angeles Institutional Review Board.

### Measures

This study includes five outcomes of interest. We examined well-established indicators that were both associated with having a medical home (9–13, 15, 16) and available in the NSCH. The outcomes of interest included preventive dental or medical care visits in the last 12 months, unmet dental or medical care in the last 12 months, and the number of missed school days due to illness or injury in the last 12 months. Parents/guardians were asked, “During the last 12 months how many times did [he/she] see a doctor, nurse, or other health care provider for preventive medical care such as a physical exam or well-child checkup?” and “During the last 12 months, how many times did (he/she) see a dentist preventive for dental care, such as check-ups and dental cleanings?” Responses were dichotomized as 0 visits or 1 or more visits. Parents/guardians were also asked, “During the past 12 months,

was there any time when (he/she) needed healthcare that was delayed or not received?” and “During the past 12 months, was there any time when (he/she) needed dental care that was delayed or not received?” Responses were dichotomized as “yes” or “no.” Finally parents/guardians were asked, “During the past 12 months, about how many days did [he/she] miss school because of illness or injury?” Responses were categorized by NSCH into 0 days, 1–5 days, 6–10 days, and 11 or more days.

The primary independent variable of interest for this study was whether a child had a medical home. A medical home composite is developed by the Child and Adolescent Health Measurement Initiative (CAHMI) Data Resource Center of the NSCH that is based on the survey items, major components of the medical home, and a scoring algorithm to determine the presence of a medical home.<sup>(26)</sup> Of the seven American Academy of Pediatrics medical home components (coordinated, family-centered, comprehensive, compassionate, culturally effective, continuous, and accessible) plus the presence of a personal doctor or nurse, only continuous and accessible care were not captured by 2011 NSCH items, and are therefore not included in the medical home composite of this analysis. CAHMI’s scoring algorithm provides a dichotomous medical home composite that classifies children as either having or not having a medical home. Table 1 provides a summary of the components of the medical home and the corresponding NSCH survey questions.

Covariates for this study included the child’s race and ethnicity, age, and sex. We used the NSCH parent-reported child race/ethnicity to classify race/ethnicity as Hispanic/Latino, non-Latino African American, and non-Latino whites, referred to hereafter as Latino, Black, and White, respectively. Children categorized in the “other” racial/ethnic group, which includes Asian/Pacific Islander and American Indian/Alaska Native, were included but results were not reported due to heterogeneity and inability to draw any definitive conclusions about such a diverse group. Children’s general health status was also included and the presence of a special health care need was based on the NSCH CAHMI’s 5-item screener that identifies children based on responses to questions related to: (1) chronic use of medications; (2) above average use of medical, mental health, or educational services; (3) functional limitations compared with others of same age; (4) use or need of specialized services such as physical and speech therapy; and (5) treatment or counseling for emotional or developmental problems. Household characteristics known to be associated with access to care and utilization of services were also included. Family poverty status was included and based on the Department of Health and Human Services poverty guidelines and categorized as 0–99%, 100–199%, 200–399%, and 400% of the federal poverty threshold for a family of four in 2011. Maternal educational attainment was also a relevant household factor that was included as a covariate in this study. Well established access to healthcare factors were also included as covariates and included geographic region of the US and children’s health insurance status.

## Analysis

Analyses were performed using Stata 12 (Stata Corp., College Station, TX). The survey design and survey weights of NSCH were used to obtain estimates for population parameters of interest. Descriptive statistics of the study were calculated for each racial and

ethnic group of children and an adjusted Wald test was used to compare the means or proportions among different groups of children. Unadjusted logistic regression models were used to examine the association between medical home with each healthcare measure. Multivariate logistic regression models were used to examine whether and how much the estimates from the unadjusted model changed after adjusting for child and family characteristics (child age, child sex, race and ethnicity, etc). Because ordered logistic regression for the categorical missed school days variable violated the proportional odds assumption and to also ease interpretation of results, the missed school days outcome was dichotomized into <11 days or ≥11 days to highlight the most severe outcome category, and logistic regression was used. Lastly, we used an interaction term and formed contrasts to determine whether the effects of a medical home differ for Latino and Black children compared to White children.

## Results

The total sample size included 13,697 CSHCN and 42,200 non-CSHCN. Approximately 10% of all CSHCN were Latino or Black (Table 2). The age range of the study population was 6 to 17 years of age (due to the missed school days outcome measure) and; among CSHCN the mean age of White children was slightly older than all the non-White children. Approximately 60% of Latino CSHCN were male and approximately 50% of Black CSHCN were male. Over half of Latino and Black CSHCN resided in homes with family incomes under 200% of the federal poverty level (FPL) and significantly lower than their White counterparts (32%). Majority of White CSHCN had private insurance while a larger majority of Latino and Black CSHCN had public insurance non-CSHCN and CSHCN had private insurance. Approximately 35% of Latino CSHCN and 42% of Black CSHCN had a medical home. In contrast, a majority of White CSHCN had a medical home (54%). Among CSHCN, Latino children had the highest percentage of not having a preventive medical visit in the last 12 months (15%) while Black CSHCN had the lowest (8%). In regards to missed school days, Black CSHCN had the lowest percentage of ≥11 missed school days (11%) compared to Latino CSHCN who had the highest percentage (17%). No significant differences for unmet dental needs existed across the racial/ethnic groups of CSHCN.

Similar results were found among non-CSHCN groups of children (Table 3). Latino non-CSHCN were on average younger than their White non-CSHCN counterparts. Over half of Latino and Black non-CSHCN resided in homes with family incomes under 200% of the federal poverty level (FPL) and significantly lower than their White counterparts (24%). Approximately 35% of Latino non-CSHCN and 42% of Black non-CSHCN had a medical home; these were very similar proportions found among Latino and Black CSHCN. A higher percentage of White non-CSHCN had a medical home (68%) compared to all racial/ethnic groups of non-CSHCN children. Approximately 20% of all non-White non-CSHCN had no preventive medical visit in the last 12 months. Latino non-CSHCN had the highest percentage of not having a preventive dental visit in the last 12 months (18%) while White non-CSHCN had the lowest (10%). In regards to missed school days, non-CSHCN had lower percentages of missing more than 11 days of school due to an illness compared to CSHCN. Finally, although unmet medical and dental needs were at or below 5% for all

groups of non-CSHCN, Black non-CSHCN had the highest percentage of unmet medical and dental care.

To examine whether the effect of a medical home differed for Latino and Black children compared to White children, an interaction term was included into multivariate logistic models that adjusted for child age, child sex, family income, child insurance status, maternal educational attainment, geography, and a medical home. There were no significant differences between Latino CSHCN with a medical home compared to White CSHCN with a medical home (Table 4). Among non-CSHCN, Latino children with a medical home had a lower odds ratio of having one or more preventive dental visits in the last 12 months compared to White children with a medical home after adjusting for all covariates (Table 5). Black CSHCN with a medical home compared to White CSHCN with a medical home, were found to have lower odds ratio of missing more than 11 missed school days and having more than one unmet medical need. A lower odds ratio of having more than one unmet medical need was also found among Black non-CSHCN with a medical home compared to White non-CSHCN with a medical home.

## Discussion

This study adds to the sparse literature on whether US Latino and Black children experience the same health benefits as White children if they receive care within a medical home. Our study found no significant relationship between having a medical home and the number of preventive medical or dental care visits, unmet medical or dental care needs, or missed school days among Latino CSHCN compared to White CSHCN. Among non-CSHCN, Latino children with a medical home compared to White children with a medical home were less likely to have had at least one preventive dental visit in the last 12 months. Unlike Latino children, Black children with a medical home compared to White children with a medical home, regardless of the presence of special health care needs, experienced fewer unmet medical needs. In addition, Black CSHCN with a medical home, compared to White CSHCN, experienced fewer missed school days. The medical home, therefore, did not provide any benefit related to the outcomes of this study among Latino children, and a level of disparity in access to preventive dental visits was observed among Latino non-CSHCN despite having a medical home. On the other hand, a level of benefit was observed for Black children, both CSHCN and non-CSHCN, in regards to missed school days and experiencing fewer unmet medical care needs. Although the outcomes measured in this study are limited, these results raise questions about the effectiveness of medical homes for delivering health services to Latino children. Alternatively, it is possible that the medical home may function differently for Latinos and require measurement of specific medical home components not captured by the NSCH.

The notion that the medical home may be less effective for Latino children than for White children is not entirely new. For example, studies including Latino CSHCN with a medical home have not shown improvements in dental care, mental health, subspecialty care, and the utilization of emergency care.(11–14) Furthermore, no association between a medical home and vaccination outcomes (19) has been documented among Latino children without special healthcare needs, with the caveat that this is a much more understudied population in the

medical home field. Our study findings in the context of this literature raise important questions about the suitability of the medical home model for Latino children's health, particularly with new provisions of the Affordable Care Act that incentivize providers and services to adopt models resembling medical homes within Accountable Care Organizations. Why the medical home might not work as well for Latino children, particularly in accessing preventive dental visits, is unclear and requires further investigation.

Another possibility is that the medical home composite may not be capturing those components that are needed to see positive associations with preventive care medical and dental visits, unmet medical and dental needs, and missed school days among Latino children. This possibility seems plausible given that in this study the CAHMI medical home composite included five components plus the presence of a personal doctor or nurse, rather than the seven American Academy of Pediatrics medical home components. Continuous care and accessible care are the two components that were not captured by the 2011 NSCH. It is possible that these two components, particularly accessible care, play a critical role in determining whether Latino children experience the health benefits associated with having a medical home. Evidence to support this possibility includes studies that have documented improvement of health services and care among Latino children when after hour visits, weekend visits, same-day appointments, and other methods of accommodating family schedules are implemented.(27, 28) Our results therefore should be interpreted with caution. Future studies involving survey data may benefit from closer scrutiny as to how medical home measurement is operationalized, particularly when studies are evaluating correlates of the medical home and Latino children.

Several limitations about this study should be noted. The outcomes of interest for this study were based on parental report so it is possible that parent recall may have biased our results. In addition, we were limited in what outcomes we could explore given the constraints of what survey measures were available and therefore could not explore additional measures of interest, such as emergency room utilization, immunization rates, and life quality measures. Furthermore, the medical home was examined as a whole and did not examine whether the individual components of the medical home may vary between racial and ethnic groups of children, or whether the medical home may function differently and vary across specific pediatric chronic health conditions. Lastly, it should be noted that NSCH categorizes racial and ethnic groups by self-report and that the groups of children used in this study may not appropriately reflect children who have mixed racial and ethnic heritage.

## Conclusion

Non-White children are a fast-growing segment of the population and effective approaches are needed to address the disproportionate burden of health problems seen in racially and ethnically diverse groups of children. Our study examined whether the medical home model could be one mechanism to address these disparities in Latino and Black children. Our study did not find evidence to support this viewpoint for Latino children, but did show some evidence that Black children compared to White children receiving care within a medical home may reduce disparities in the number of missed school days due to illness (only among CSHCN) and fewer delays and unmet medical care needs for both CSHCN and non-



CSHCN. Our study highlights the possible limitations in using survey data to evaluate the health and health care outcomes associated with having a medical home among Latino children. Future studies would benefit from closely examining what components of the medical home are included when examining the relationship between medical homes and health outcomes among Latino populations.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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## APPENDIX 1. NSCH survey items used for healthcare outcome measures

[During the past 12 months/Since [his/her] birth], how many times did [S.C] see a doctor, nurse, or other health care provider *for preventive* medical care such as a physical exam or well-child checkup?

\_\_ \_\_ \_\_ TIMES

(77) DON'T KNOW

(99) REFUSED

[During the past 12 months/Since [his/her] birth], how many times did [S.C] see a dentist for *preventive* dental care, such as check-ups and dental cleanings?

\_\_\_ \_\_ \_TIMES

(77) DON'T KNOW

(99) REFUSED

Sometimes people have difficulty getting health care when they need it. By health care, I mean medical care as well as other kinds of care like dental care, vision care, and mental health services. [During the past 12 months/Since [his/her] birth], was there any time when [S.C] needed health care but it was delayed or not received?

(1) YES

(2) NO [SKIP TO K4Q35]

(77) DON'T KNOW [SKIP TO K4Q35]

(99) REFUSED [SKIP TO K4Q35]

During the past 12 months, that is since [FILL: CURRENT MONTH, 1 YEAR AGO], about how many days did [S.C] miss school because of illness or injury?

ENTER THE FOLLOWING AS NEEDED:

(000) NONE

(180) ENTIRE SCHOOL YEAR

(555) HOME SCHOOLED

(666) DID NOT GO TO SCHOOL

(777) DON'T KNOW

(999) REFUSED

**Table 1**

American Academy of Pediatrics Medical Home Components and Corresponding NSCH survey items

Medical home component	Corresponding NSCH survey questions
	<i>Personal doctor or nurse (included in NSCH medical home composite)</i>
Accessible	<i>Not assessed</i>
Continuous	<i>Not assessed</i>
Coordinated	<ul style="list-style-type: none"> <li>• Does anyone help family arrange or coordinate child's care</li> <li>• Did family need extra help arranging or coordinating child's care               <ul style="list-style-type: none"> <li>– If yes, how often did parents get as much help as needed arranging or coordinating child's care</li> </ul> </li> <li>• How satisfied with communication between child's provider and other providers</li> <li>• Needed doctors to communication with child's school or other programs               <ul style="list-style-type: none"> <li>– If yes, how satisfied with that communication</li> </ul> </li> </ul>
Comprehensive	<ul style="list-style-type: none"> <li>• Is there a place child usually goes when sick               <ul style="list-style-type: none"> <li>– If yes, what kind of place is it</li> </ul> </li> <li>• Needed a referral               <ul style="list-style-type: none"> <li>– If yes, any problem getting a referral</li> </ul> </li> </ul>
Compassionate	<i>Addressed in Family-centered care component questions</i>
Culturally competent	<ul style="list-style-type: none"> <li>• Provider sensitive to your family's values and customs</li> </ul>
Family-centered	<ul style="list-style-type: none"> <li>• Provider spent enough time</li> <li>• Provider listened carefully</li> <li>• Provider gave specific information when needed</li> <li>• Provider helped parents feel like partner in child's care</li> </ul>

**Table 2**

Characteristics of US Children with Special Health Care Needs 6 to 17 Years Old and their Parents

	Whites n=9,666	Latinos n=1,386	Blacks N=1,299	p-value
<b>Characteristic</b>				
Child age (mean)	11.9	11.3	11.5	<0.05
Child sex (%)				
Female	41.9	38.5	47.5	<0.05
Child health status (%)				
Excellent/Very good	70.2	56.0	65.7	<0.05
Family income (%)				
<100% FPT	13.4	31.0	37.2	<0.05
100–199 % FPT*	19.3	27.1	22.3	
200–299 % FPT	17.5	16.9	14.9	
300–399 % FPT	14.1	9.7	10.2	
400 FPT	35.6	15.3	15.4	
Maternal education (%)				
<High school degree	6.3	26.9	9.7	<0.05
High school degree	20.9	24.2	25.9	
>High School degree	72.2	48.9	64.3	
Health insurance (%)				
Private	69.2	39.2	37.6	<0.05
Public	28.1	55.3	59.3	
Uninsured	2.7	5.5	3.1	
U.S. geographic region				
Northeast	24.8	21.7	23.3	<0.05
South	30.5	34.8	46.2	
Mid-west	27.9	9.3	21.4	
West	16.8	34.2	9.2	
Medical home (%)				
Yes	53.8	35.2	42.5	<0.05
Preventive medical visits (%)				
no visit in last 12 mos	8.6	14.6	7.7	<0.05
Preventive dental visits (%)				
no visit in last 12 mos	9.6	17.6	15.8	<0.05
Missed school days (%)				
11 days	14.6	17.1	10.5	0.09
Unmet needs for medical care (%)				
>=1 unmet need	4.7	5.9	6.9	<0.05
Unmet needs for dental care (%)				
>=1 unmet need	4.2	7.7	4.2	0.31

\* FPT: federal poverty threshold

**Table 3**

Characteristics of US Children without Special Health Care Needs 6 to 17 Years Old and their Parents

	<b>Whites n=28,793</b>	<b>Latinos n=5,501</b>	<b>Blacks n=3,640</b>	<b>p-value</b>
Child age (mean)	11.6	11.1	11.5	<0.05
Child sex (%)				
Female	50.6	49.5	54.2	0.09
Child health status (%)				
Excellent/Very good	95.7	70.2	88.4	<0.05
Family income (%)				
<100% FPT *	8.0	37.8	30.5	<0.05
100–199 % FPT *	16.3	29.3	25.6	
200–299 % FPT *	18.4	12.2	14.7	
300–399 % FPT *	16.9	7.5	11.1	
400 FPT *	40.3	13.3	18.1	
Maternal education (%)				
<High school degree	4.7	41.5	10.5	<0.05
High school degree	19.8	22.6	26.6	
>High School degree	75.6	35.8	62.8	
Health insurance (%)				
Private	79.5	36.7	45.4	<0.05
Public	16.6	50.6	48.1	
Uninsured	3.9	12.4	6.5	
U.S. geographic region				
Northeast	25.3	13.2	25.1	<0.05
South	27.8	34.2	50.4	
Mid-west	28.0	9.9	17.1	
West	19.1	42.6	97.4	
Medical home (%)				
Yes	68.1	35.0	44.4	<0.05
Preventive medical visits (%)				
no visit in last 12 mos	18.2	22.5	19.7	<0.05
Preventive dental visits (%)				
no visit in last 12 mos	9.5	18.0	16.2	<0.05
Missed school days (%)				
11 days	4.0	3.0	2.0	<0.05
Unmet needs for medical care (%)				
>=1 unmet need	2.1	2.2	5.0	<0.05
Unmet needs for dental care (%)				
>=1 unmet need	2.6	3.1	4.8	<0.05

\* FPT: federal poverty threshold

**Table 4**

Multivariate Analysis with an Interaction Term: Adjusted Odds Ratios (95% CI) of a Medical Home among Latino and Black Children compared to White Children with Special Health Care Needs

CSHCN (n=13,697)										
Model	1 preventive medical visit in 12 mos		1 preventive dental visit in 12 mos		11 missed school days		>=1 unmet medical need		>=1 unmet dental need	
	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
<b>Effect of a Medical Home (Unadjusted)</b>										
Medical Home	1.45	1.11-1.91*	1.38	1.05-1.81*	0.51	0.40-0.65*	0.21	0.14-0.31*	0.28	0.18-0.43*
<b>Effect of a Medical Home by race and ethnicity (adjusted)</b>										
[Medical Home vs. No Medical Home]* [White=Reference]	1.28	0.95-1.72	1.05	0.74-1.50	0.79	0.59-1.05	0.25	0.15-0.41*	0.32	0.18-.55*
[Medical Home vs. No Medical Home]* [Latino=]	0.98	0.41-2.36	0.53	0.25-1.12	0.68	0.311-1.48	0.45	0.16-1.28	0.37	0.13-1.05
[Medical Home vs. No Medical Home]* [Black =1]	0.82	0.38-1.71	1.03	0.54-1.97	0.18	0.09-0.38*	0.16	0.05-0.55*	0.49	0.19-1.30
<b>Relative Effectiveness of a Medical Home Compared to Whites (adjusted)</b>										
[Medical Home vs. No Medical Home]* [Latino vs. White]	0.77	0.29-1.96	0.51	0.22-1.14	0.86	0.38-1.93	1.78	0.58-5.48	1.16	0.37-3.61
[Medical Home vs. No Medical Home]* [Black vs. White]	0.63	0.28-1.41	0.98	0.47-2.05	0.23	0.11-0.51*	0.65	0.18-2.34	1.54	0.51-4.63

AOR=adjusted odds ratio; CI=confidence interval

\* denotes a racial or ethnic variable that differed significantly p<0.05 compared to white children with a medical home

Analyses adjusted for child age, child sex, child's health status, child's insurance status, household income, maternal education, geographic region

**Table 5**

Multivariate Analysis with an Interaction Term: Adjusted Odds Ratios (95% CI) of a Medical Home among Latino and Black Children compared to White Children without Special Health Care Needs

Non-CSHCN (n=42,200)											
Model	1 preventive medical visit in 12 mos		1 preventive dental visit in 12 mos		11 missed school days		>=1 unmet medical need		>=1 unmet dental need		
	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI	
<b>Effect of a Medical Home (unadjusted)</b>											
Medical Home	1.73	1.54-1.95*	1.82	1.57-2.01*	0.72	0.57-0.91*	0.21	0.15-0.29*	0.34	0.26-0.45*	
<b>Effect of a Medical Home by race and ethnicity (adjusted)</b>											
[Medical Home vs. No Medical Home] * [White=Reference]	1.35	1.17-1.568*	1.31	1.06-1.61*	0.65	0.49-0.86*	0.23	0.15-0.36*	0.35	0.24-0.49*	
[Medical Home vs. No Medical Home] * [Latino=1]	1.22	0.88-1.69	0.66	0.46-0.95*	1.14	0.51-2.56	0.95	0.42-2.14	0.73	0.34-1.53	
[Medical Home vs. No Medical Home] * [Black =1]	1.36	0.98-1.89	1.15	0.82-1.63	0.49	0.23-1.09	0.15	0.06-0.35*	0.54	0.27-1.07	
<b>Relative Effectiveness of a Medical Home Compared to Whites (adjusted)</b>											
[Medical Home vs. No Medical Home] * [Latino vs. White]	0.91	0.63-1.28	0.51	0.33-0.76*	1.74	0.74-4.11	4.02	1.61-10.05*	2.09	0.94-4.71	
[Medical Home vs. No Medical Home] * [Black vs. White]	1.01	0.70-1.44	0.88	0.59-1.31	0.76	0.33-1.71	0.64	0.24-1.64	1.56	0.73-3.34	

AOR=adjusted odds ratio; CI=confidence interval

\* denotes a racial or ethnic variable that differed significantly p<0.05 compared to white children with a medical home

Analyses adjusted for child age, child sex, child's health status, child's insurance status, household income, maternal education, geographic region