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Understanding health-care access and utilization disparities among Latino children in the United States

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Abstract

It is important to understand the source of health-care disparities between Latinos and other children in the United States. We examine parent-reported health-care access and utilization among Latino, White, and Black children (17 years old) in the United States in the 2006–2011 National Health Interview Survey. Using Blinder-Oaxaca decomposition, we portion health-care disparities into two parts (1) those attributable to differences in the levels of sociodemographic characteristics (e.g., income) and (2) those attributable to differences in group-specific regression coefficients that measure the health-care ‘return’ Latino, White, and Black children receive on these characteristics. In the United States, Latino children are less likely than Whites to have a usual source of care, receive at least one preventive care visit, and visit a doctor, and are more likely to have delayed care. The return on sociodemographic characteristics explains 20–30% of the disparity between Latino and White children in the usual source of care, delayed care, and doctor visits and 40–50% of the disparity between Latinos and Blacks in emergency department use and preventive care. Much of the health-care disadvantage experienced by Latino children would persist if Latinos had the sociodemographic characteristics as Whites and Blacks.

Keywords

Access to care; child health; health care; health disparities; Latinos; race/ethnicity

Introduction

Relative to children of other races/ethnicities, particularly non-Latino Whites, Latino children in the United States receive fewer preventive and other health-care visits, are less

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likely to have health insurance, receive regular medical checkups, and have a pediatric medical home (i.e. a single designated health-care professional that is the first point of contact for all ongoing health-care queries and needs of the child), but more likely to use the emergency room as their primary source of care (Flores et al., 1998, 1999, 2005). Latino parents often have difficulty navigating the US health-care system, experience cultural and linguistic barriers with providers, and are frequently dissatisfied with the quality of interactions with their children's health-care providers (Flores et al., 2005).

Racial/ethnic disparities in children's health care may result from sociodemographic characteristics that distinguish Latinos from other US subpopulations. About 37% of Latinos in the United States are immigrants, many of whom are ineligible for publicly funded insurance programs and are migrating from countries with vastly different health-care systems (Motel, 2012). Furthermore, 4 in 10 Latino adults in the United States have less than a high school degree, compared with 15% of all adults and 10% of Whites (Dockterman, 2011). Nearly 3 in 10 Latinos live in poverty, more than any other racial/ethnic group and nearly triple the rate among non-Latino Whites (11.1%) (Short, 2011).

While an emerging literature has documented health-care access and use disparities between Latino and other children, we are unaware of any study that has assessed the extent to which these disparities are attributable to 'levels disparities' that result from differences between groups in sociodemographic characteristics that affect health care (i.e. health insurance status, language, income, and educational attainment) as opposed to 'coefficients disparities' that result from differences in the health-care 'return' received on these characteristics. This health-care return refers to increases or decreases in health-care access and use that are associated with children's sociodemographic characteristics (e.g. having health insurance). As discussed by Hargraves and Hadley (2003), these coefficients disparities may 'result from differences in unobservable characteristics such as care-seeking behavior, attitudes, or discrimination' that prevent some racial/ethnic groups from effectively converting income, education, health insurance, or other factors into health care. Understanding the extent to which health-care disparities are attributable to differences between racial/ethnic groups in the levels of sociodemographic characteristics (i.e. levels disparities), as opposed to differences between the return on these characteristics (i.e. coefficients disparities), could help inform policy makers and interventionists in efforts to reduce disparities.

Disparities caused primarily by low insurance rates among Latinos may be remedied by increasing insurance coverage, which is expected after the Affordable Care Act (ACA) enacted in 2010 gets fully implemented and families begin to enroll in insurance exchanges or the expansion of the federal Medicaid program for children in low-income households. In contrast, if limited English proficiency is the primary factor that contributes to health-care disparities, a source of disparities that is well-documented in the literature, coverage may be insufficient to narrow the gap (Clemans-Cope et al., 2012; Fiscella et al., 2002; Morales et al., 1999). In the latter scenario, resources should be allocated toward strategies to address linguistic and cultural barriers, improve communication, or intervene in other ways that will reduce barriers among parents and children with limited English proficiency. Knowing the extent to which the coverage or other factors drive disparities is important for addressing these disparities.

In this study, we use data from the 2006–2011 National Health Interview Survey (NHIS) to examine factors associated with disparities in the access and use of health-care services among Latino, White, and Black children. The Latino-White comparison is useful because Latino children experience socioeconomic disadvantage as well as social and cultural barriers to health care as compared to their White counterparts. The Latino-Black comparison is useful for understanding alternative mechanisms that may lead to health-care disparities since Black children experience many of the same socioeconomic disadvantages of Latino children but are a longer tenured population in the United States that faces limited linguistic barriers and different cultural barriers. Using Blinder–Oaxaca decomposition, we assess the extent to which health-care disparities are attributable to differences between racial/ethnic groups in the levels of sociodemographic factors (e.g. health insurance coverage and income) versus differences in the health-care return on these factors.

Methods

Data

We use data from 2006 to 2011 NHIS (DHIS/NCHS, 2012). NHIS is a nationally representative survey of the civilian, non-institutionalized population in the United States, with oversampling of racial/ethnic minorities. NHIS includes a range of data regarding sociodemographic characteristics, health, and health care. Parents are the primary respondents. In this study, we use data from 13,669 Latino, 21,884 White, and 7465 Black children between the ages of 0 and 17 years. We use sampling weights provided in NHIS to adjust for probability of selection into the survey, nonresponse, and the complex design.

Measures

Outcome variables—We examine five dichotomous variables commonly used in surveys conducted in the United States to assess children’s health-care access and use, including whether the child had (1) a usual source of care, (2) any delays in any medical care in the past 12 months, (3) one or more physician visits during the past 12 months, (4) one or more emergency department (ED) visits in the past 12 months, and (5) one or more preventive visits in the past 12 months. The recommended number of preventive visits per year varies by the age of the child, with several visits per year for children younger than age three and at least one preventive visit per year through age 21 regardless of socioeconomic status with no adjustments for underlying health risk or need (Bright Futures and American Academy of Pediatrics, 2014). Total physician visits, having any ED visits, and receiving at least one annual preventive visit are routinely used in studies of children’s health care because they should not vary with socio-demographic characteristics in the absence of health-care access and quality disparities (Berdahl et al., 2013; Bethell et al., 2011; Strickland et al., 2011).

Predictor variables—The primary predictor variable in this study is children’s race/ethnicity, defined as White, Black, or Latino. We further control for potential confounders that previous studies have found to be associated with both race/ethnicity and health-care access and use, including child age, gender, citizenship, mother’s education, family income, interview language, region, parent-reported health status of the child, and health insurance status (Andersen, 1995; Flores and Tomany-Korman, 2008; Flores et al., 2005).

Statistical analyses

We present summary statistics for sociodemographic characteristics and health-care access and use among Latino, Black, and White children. We use χ^2 tests to assess the statistical significance of variation in these characteristics across racial/ethnic groups. We use multivariable logistic regression to assess these relationships after adjustment for confounders.

We use Blinder–Oaxaca decomposition to examine the extent to which disparities in health-care access and utilization are attributable to levels disparities versus coefficients disparities. Levels disparities refer to disparities that result from differences between groups in the ‘levels’ of social, demographic, or other observable characteristics that are associated with health-care access and use. Levels disparities are the portion of a given health-care disparity that would be eliminated if Latino children had the sociodemographic characteristics of their White (or Black) counterparts. Coefficients disparities result from differences in the health-care return a group gets on factors such as income, education, or health insurance, as measured via differences between groups in regression coefficients. Coefficients disparities can also result from differences between groups in variables that are uncontrolled in the analyses, such as stigma. For example, Latino families with low income might be less likely to use care compared to White families with low income because of stigma regarding providers or the health-care system.

To decompose disparities in the probability of having any usual source of care between Whites (W) and Latinos (L) into levels disparities and coefficients disparities, we first estimate the following multivariable logistic regression models separately for each racial/ethnic group l :

$$\log \left(\frac{p_i}{1-p_i} \right) = X_i \hat{\beta}_l$$

Where p_i is the probability that the binary outcome of interest for each individual i is true (e.g. that i has a usual source of care); X_i is a vector of predictor variables for individual i ; and $\hat{\beta}_l$ is a vector of estimated coefficients for each racial/ethnic group l . We then subtract the two equations and decompose the differences into a levels portion and a ‘coefficients’ portion:

$$\bar{Y}_W - \bar{Y}_L = \left[\sum_{i=1}^{N_W} \frac{F(X_W \hat{\beta}_W)}{N_W} - \sum_{i=1}^{N_L} \frac{F(X_L \hat{\beta}_W)}{N_L} \right] + \left[\sum_{i=1}^{N_L} \frac{F(X_L \hat{\beta}_W)}{N_L} - \sum_{i=1}^{N_L} \frac{F(X_L \hat{\beta}_L)}{N_L} \right]$$

where \bar{Y}_W and \bar{Y}_L are average predicted probabilities that each health-care outcome is true among White and Latino children, respectively, F denotes the logistic function, and N_W and N_L are the number of White and Latino children, respectively, in the sample. For each health-care outcome, we present absolute disparity between groups (i.e. the difference in proportions), the percentage of this disparity that is explained by levels of predictor variables (i.e., the levels disparity), and the percentage of disparity that is attributable to each

characteristic (e.g. maternal education). The coefficients disparity is the remaining percentage that is unexplained by differences in levels of predictor variables (i.e. 100% minus the levels portion). To conduct the decomposition analyses described above, we use multivariate logistic regression and apply the method described in Fairlie (2005) for decomposition of binary outcomes. We use Stata 12 for all analyses.

Results

Table 1 presents sociodemographic characteristics and health-care access and use among Latino, White, and Black children. A greater proportion of White children had family income >200% of the federal poverty level (75%) relative to Latino (36%) and Black (43%) children. Similarly, the lowest levels of maternal education were among Latino children (40% with <high school education), followed by Blacks (14%) and Whites (6%). More Latino children lacked health insurance (16%) than White (6%) and Black (7%) children. Fewer White children had public insurance (20%) compared to Latinos (52%) and Blacks (51%). Latino children were less likely than Whites to have a usual source of care, doctor visit, or preventive care visit, and more likely to have delayed care ($p < .001$ for all factors).

Table 2 presents the results of five multivariable logistic regressions predicting health-care outcomes based on social characteristics. Even after adjustment for disparities in sociodemographic factors, White children were more likely than Latinos to have had a usual source of care (odds ratio (OR) = 1.24, $p < .01$), made an ED visit (OR = 1.10, $p < .05$), or made a doctor visit (OR = 1.20, $p < .001$), but less likely to have had at least one preventive care visit (OR = .84, $p < .001$) or experienced delayed care (OR = .77, $p < .001$). Black children were more likely than Latinos to have made an ED visit (OR = 1.15, $p < .01$) and had a preventive care visit (OR = 1.23, $p < .001$), but less likely to experience delayed care (OR = .71, $p < .001$). After adjustment for other factors, there was no significant difference between Latino and Black children in having a usual source of care or having visited the doctor in the previous year.

Tables 3 and 4 show the results of the Blinder–Oaxaca decomposition. In contrast to the multivariable logistic regressions presented earlier, which included the full sample, the decomposition results are based on race-/ethnicity-specific regressions. The results suggest that differences between Latino and White children in the levels of sociodemographic characteristics explain 82% of the disparity in having a usual source of care, 71% of the disparity in delayed care, and 70% of the disparity in visiting the doctor in the previous year. In contrast, 18–30% of the disparities in these health-care outcomes were attributable to coefficients disparities that result from greater health-care returns received by White children on sociodemographic factors (e.g. family income, maternal education, and health insurance). The results further suggest that levels differences more than explained the difference between Latino and White children in having attended at least one preventive care visit, which implies that Latinos actually received greater returns on observed characteristics than their White counterparts when it comes to preventive care visits.

Table 3 also includes the percentage of disparities between Latino and White children attributable to differences in each characteristic. For example, 31% of the explained disparity

between Latino and White children in having a usual source of care is attributable to differences in public insurance rates (see Table 1 for differences in rates) and an additional 26% is attributable to private insurance. In total, differences in health insurance status between Latinos and Whites contribute 58% to the explained disparity in having a usual source of care, 27% to disparity in delayed care, 18% to disparity in having visited the doctor in the previous year, and 17% to disparity in receiving a preventive care visit. Other major contributors to Latino-White disparities include maternal education, family income, language use, and region of residence.

Table 4 displays the results of the decomposition of health-care disparities between Latino and Black children, which indicate that differences in the levels of sociodemographic characteristics explain 82% of the disparity between Latino and Black children in having a usual source of care, 51% of the disparity in visiting the emergency department in the previous year, all of the difference in visiting a doctor, and 62% of the difference in attending at least one preventive visit. The observed characteristics that contribute the most to Latino-Black disparities in health care include maternal education, health insurance status, and language use. Maternal education contributed 20% of the explained difference in having a usual source of care, 29% of the explained difference in ED use, 44% of the explained difference in having visited any doctor, and 43% of the explained difference in receiving at least one preventive care visit. A comparison of the Latino-White decomposition results suggests that a higher proportion of the Latino-Black disparity is due to coefficients disparities.

Discussion

Consistent with previous research, we found that Latino children were less likely than Whites to have a usual source of care, to have visited a doctor in the previous year, or to have received at least one preventive care visit in the previous year but were more likely to experience delayed care (Flores et al., 1998, 1999, 2005; Perez et al., 2009). We found that the majority of disparities in health-care access and use between Latino and White children would be reduced if Latino children had the sociodemographic characteristics of their White counterparts. Maternal education, family income, and health insurance status were particularly important sources of health-care disparities.

The contribution of health insurance coverage to health-care disparities is particularly important to understand given the recently implemented ACA, which includes expanded eligibility for Medicaid, an individual mandate to purchase health insurance, and the creation of health insurance exchanges for purchasing insurance. The ACA will likely reduce the number of Latino parents and children who are uninsured. Our study adds to the literature by quantifying the extent to which observed racial/ethnic disparities in health care would persist even if sociodemographic characteristics—including health insurance coverage—were equal across groups.

Our decomposition results suggest that 20–30% of Latino-White disparities related to having a usual source of care, delaying care in the previous year, or visiting a doctor in the previous year are attributable to coefficients disparities that result from differences in the health-care

return groups receive on sociodemographic characteristics or other unmeasured differences between groups (e.g. perceived stigma related to care). An even larger portion of Latino-Black disparities (i.e. 40–50%) in ED visits and preventive care visits was attributable to coefficients disparities. The finding that so much of these Latino-Black disparities are unexplained by differences in sociodemographic characteristics suggests that unobserved factors that affect health care may differ between the two groups, a possibility that should be investigated in future studies.

Several of our health-care outcomes, including delayed care, use of the ED, and doctor visits, can be related to health status, which makes it difficult to disentangle whether disparities are driven by differences between racial/ethnic groups in disease burden. On the other hand, all children should receive at least one preventive visit, regardless of underlying health status. The return disparities we observed in preventive visits underscore the importance of understanding the role that unobserved factors play in shaping health-care outcomes (Bustamante et al., 2009; Hargraves and Hadley, 2003). Prior studies have identified multiple barriers at the structural and organizational levels (e.g. low number of Latino physicians, lengthy intake processes, and long wait times) and clinical level (e.g. quality of communication) that influence health-care access and quality among Latinos (Betancourt et al., 2003; Valdez et al., 1993). Other unmeasured factors that may affect Latino's ability or inclination to access and use health-care services include attitudes and beliefs regarding care, care-seeking behavior, patient-provider communication, and structural barriers to accessing care (e.g. time and proximity) (Cooper-Patrick et al., 1999; Morales et al., 1999).

This study, while novel, has some limitations. NHIS data are cross-sectional, precluding us from establishing temporality in the relationships between predictor variables and health-care outcomes. Furthermore, the relationships we observed may be subject to confounding due to factors unmeasured in the NHIS data. For example, it is possible that the predictor variables we examined in this study may not be direct causes of health-care disparities but are proxies for other factors, including attitudes. Similarly, the coefficients disparities we observed may have been caused by differences between groups in factors that are possible to measure but were not measured in NHIS, for example, attitudes and beliefs regarding care, proximity to health-care providers, time use, or other factors. Another limitation is that NHIS data are self-reported and subject to measurement error. This study also has several strengths. We use a large national data set with representative samples of Latino, Black, and White children. This is the first study we are aware of that used Blinder-Oaxaca decomposition to examine health-care disparities between racial/ethnic groups.

In conclusion, we found that a relatively large proportion of health-care disparities faced by Latino children, particularly those between Latinos and Whites, were due to differences in a limited number of socio-demographic characteristics. Our findings suggest that the ACA will be able to reduce, but not eliminate, the health-care disparities faced by Latino children. The study is useful in documenting that a relatively large portion of health-care disparities, particularly those between Latinos and Blacks, were due to coefficients disparities that result from differences in the health-care return the groups receive on characteristics such as income, maternal education, and health insurance. Our findings can help inform policy

discussions about the relative emphasis that should be placed on social and other factors, with the goal of narrowing health-care disparities and improving children's health.

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Table 1

Summary statistics for children 0–17-years-old who participated in the 2006–2011 National Health Interview Survey (%).

	Whites		Latinos		Blacks		p
	%	95% CI	%	95% CI	%	95% CI	
Health-care outcomes							
Usual source of care	96.98	96.76 97.21	91.53	91.06 92.00	95.70	95.24 96.16	<.001
Delayed care	8.17	7.80 8.53	16.05	15.44 16.67	10.98	10.28 11.69	<.001
Emergency department visit	20.19	19.66 20.72	20.37	19.69 21.04	26.39	25.39 27.39	<.001
Doctor visit	92.20	91.84 92.56	85.15	84.55 85.75	89.50	88.80 90.19	<.001
Preventive visit	77.43	76.87 77.98	72.16	71.40 72.91	81.43	80.55 82.32	<.001
Social and demographic characteristics							
Age							
0–5	29.43	28.82 30.03	33.37	32.58 34.16	30.06	29.02 31.10	<.001
6–10	26.21	25.62 26.79	27.29	26.54 28.03	26.14	25.14 27.13	
11–17	44.37	43.71 45.02	39.34	38.53 40.16	43.80	42.68 44.93	
Female	49.20	48.53 49.86	48.47	47.64 49.31	48.72	47.59 49.85	.40
Self-reported health							
Excellent	61.51	60.87 62.16	47.42	46.58 48.26	49.73	48.59 50.86	<.001
Very good	26.93	26.34 27.52	28.03	27.27 28.78	26.15	25.15 27.15	
Good	10.46	10.06 10.87	21.69	21.00 22.38	20.56	19.65 21.48	
Fair	.96	.83 1.08	2.55	2.28 2.81	3.28	2.88 3.69	
Poor	.14	.09 .19	.31	.22 .41	.28	.16 .40	
Citizenship/nativity							
US-born	98.29	98.11 98.46	88.55	88.02 89.08	97.37	97.01 97.74	<.001
Naturalized citizen	1.05	.91 1.18	2.45	2.19 2.71	.95	.73 1.17	
Non-US citizen	.66	.55 .77	9.00	8.52 9.48	1.67	1.38 1.97	
Maternal education							
<High school	5.96	5.65 6.28	39.97	39.15 40.79	14.45	13.66 15.25	<.001
High school	22.43	21.87 22.98	25.63	24.90 26.37	27.46	26.45 28.47	
>High school	71.61	71.01 72.21	34.39	33.60 35.19	58.08	56.96 59.20	
Family income (% FPL)							<.001

	Whites			Latinos			Blacks			p
	%	95% CI	%	95% CI	%	95% CI	%	95% CI		
<100%	9.41	9.03	9.80	31.68	30.90	32.46	32.31	31.25	33.37	
100–200%	15.43	14.95	15.91	32.75	31.96	33.53	24.78	23.80	25.76	
>200%	75.16	74.58	75.73	35.58	34.77	36.38	42.91	41.78	44.03	
Interview language										<.001
English	99.65	99.57	99.73	74.50	73.77	75.23	99.83	99.73	99.92	
Spanish	.18	.12	.23	25.48	24.75	26.21	.04	-.01	.09	
Other	.17	.12	.23	.02	.00	.05	.13	.05	.22	
Health insurance										<.001
Uninsured	5.70	5.40	6.01	16.10	15.49	16.72	6.89	6.31	7.46	
Private health insurance	74.18	73.60	74.76	32.39	31.60	33.17	41.74	40.62	42.86	
Public health insurance	20.12	19.58	20.65	51.51	50.67	52.35	51.37	50.24	52.51	
US Census region										<.001
Northeast	17.58	17.08	18.09	13.80	13.23	14.38	16.92	16.07	17.77	
Midwest	29.44	28.83	30.04	9.49	9.00	9.98	18.55	17.67	19.44	
South	33.97	33.35	34.60	33.78	32.99	34.58	56.25	55.12	57.37	
West	19.00	18.48	19.52	42.92	42.09	43.75	8.28	7.65	8.90	
Survey year										<.001
2011	20.75	20.21	21.28	21.38	20.69	22.06	19.99	19.08	20.89	
2010	17.49	16.99	18.00	19.69	19.02	20.35	18.94	18.05	19.83	
2009	18.13	17.62	18.64	18.71	18.05	19.36	18.53	17.64	19.41	
2008	14.60	14.13	15.06	13.57	13.00	14.15	14.48	13.68	15.28	
2007	15.34	14.86	15.82	14.59	14.00	15.18	14.19	13.39	14.98	
2006	13.69	13.24	14.15	12.07	11.52	12.62	13.88	13.09	14.66	
Sample size	21,884			13,669			7,465			

Note: CI = confidence interval, FPL = federal poverty level.

Table 2

Multivariable logistic regression models predicting health-care outcomes among children 0–17-years-old who participated in the 2006–2011 National Health Interview Survey.

	<u>Usual source of care</u>		<u>Delayed care</u>		<u>Emergency department visit</u>		<u>Doctor visit</u>		<u>Preventive visit</u>	
	OR	p	OR	p	OR	p	OR	p	OR	p
Latinos	Ref.		Ref.		Ref.		Ref.		Ref.	
Whites	1.24	.01	.77	<.001	1.10	.03	1.20	<.001	.84	<.001
Blacks	1.15	.11	.71	<.001	1.15	.01	.96	.51	1.23	<.001
Age										
0–5	Ref.		Ref.		Ref.		Ref.		Ref.	
6–10	.78	<.001	.85	<.001	.57	<.001	.44	<.001	.41	<.001
11–17	.59	<.001	.85	<.001	.61	<.001	.36	<.001	.34	<.001
Female	.99	.83	1.00	.92	.87	<.001	1.08	.05	.95	.09
Self-reported health										
Excellent	Ref.		Ref.		Ref.		Ref.		Ref.	
Very good	1.09	.18	1.22	<.001	1.19	<.001	1.24	<.001	.92	.01
Good	1.20	.02	1.78	<.001	1.54	<.001	1.29	<.001	.95	.20
Fair	1.11	.58	2.34	<.001	3.52	<.001	1.88	<.001	1.04	.72
Poor	1.23	.72	3.99	<.001	5.36	<.001	6.63	.03	1.05	.86
Citizenship/nativity										
US-bom	Ref.		Ref.		Ref.		Ref.		Ref.	
Naturalized citizen	.54	<.001	1.12	.51	.96	.76	.88	.36	.88	.26
Non-US citizen	.58	<.001	1.15	.16	.86	.10	.79	<.001	.76	<.001
Mother's education										
>High school	Ref.		Ref.		Ref.		Ref.		Ref.	
<High school	.58	<.001	1.02	.76	.94	.16	.53	<.001	.64	<.001
High school	.63	<.001	.95	.24	1.02	.57	.66	<.001	.70	<.001
Family income (% FPL)										
>200%	Ref.		Ref.		Ref.		Ref.		Ref.	
100–200%	.70	<.001	1.24	<.001	1.13	<.001	.75	<.001	.76	<.001
<100%	.68	<.001	1.69	<.001	1.22	<.001	.78	<.001	.81	<.001

	<u>Usual source of care</u>		<u>Delayed care</u>		<u>Emergency department visit</u>		<u>Doctor visit</u>		<u>Preventive visit</u>	
	OR	p	OR	p	OR	p	OR	p	OR	p
Interview language										
English	Ref.		Ref.		Ref.		Ref.		Ref.	
Spanish	1.05	.62	1.17	.02	.61	.00	.85	.02	.75	<.001
Other	2.18	.27	.85	.74	.78	.47	1.15	.78	.99	.99
Health insurance										
Uninsured	Ref.		Ref.		Ref.		Ref.		Ref.	
Private health insurance	9.16	<.001	.92	.22	.91	.12	3.38	<.001	2.91	<.001
Public health insurance	8.62	<.001	1.34	<.001	1.49	<.001	3.96	<.001	3.35	<.001
US Census region										
Northeast	Ref.		Ref.		Ref.		Ref.		Ref.	
Midwest	.50	<.001	1.37	<.001	.99	.89	.61	<.001	.39	<.001
South	.41	<.001	1.55	<.001	.90	.01	.57	<.001	.37	<.001
West	.37	<.001	1.56	<.001	.74	<.001	.43	<.001	.34	<.001
Survey year										
2006	Ref.		Ref.		Ref.		Ref.		Ref.	
2007	.81	.04	1.13	.08	.94	.24	1.07	.35	1.06	.32
2008	.81	.06	1.22	.01	.97	.61	1.18	.03	1.17	.01
2009	1.04	.74	1.18	.02	.96	.36	1.20	.01	1.28	<.001
2010	.94	.59	1.11	.16	.97	.51	1.31	<.001	1.40	<.001
2011	1.40	<.001	1.04	.60	.82	<.001	1.35	<.001	1.49	<.001

Note: OR = odds ratio; FPL = federal poverty level.

Table 3
Regression-based decomposition of differences in health-care outcomes between White and Latino children who participated in the 2006–2011 National Health Interview Survey.

	Usual source of care	Delayed care	Emergency Department visit	Doctor visit	Preventive visit
Whites (mean)	96.85	8.21	20.40	92.21	77.47
Latinos (mean)	91.75	15.38	20.72	85.67	73.11
Difference in means	-5.10	7.12	.32	-6.54	-4.36
Difference in means explained by levels of population characteristics	-4.18	5.10	.91	-4.61	-6.14
% Difference explained by levels	81.93	71.14	NS	70.4	140.67
% Explained by specific characteristics (5% contribution)					
Age					
6–10				-8.49	
11–17	-9.78			-18.04	-24.42
Self-reported health					
Good		12.91		-5.83	
Citizenship/nativity					
Non-US citizen	12.94			11.34	5.89
Mother's education					
<High school	25.24			60.97	50.14
Family income (% FPL)					
100–200%	5.34	8.26		10.29	7.82
<100%	8.23	30.23		12.88	10.25
Interview language					
Spanish		11.53		10.65	20.78
Health insurance					
Private health insurance	26.17	18.17		35.54	57.13
insurance Public health	31.49	9.24		-17.78	-39.86
US Census region					
Midwest		-17.79			-39.97
West		26.31		24.89	52.61

Note: Decomposition models included variables in Table 2, but for brevity characteristics were excluded if they contributed <5% of the total difference explained. Reference categories presented in Table 2.
FPL = federal poverty level.

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Table 4
Regression-based decomposition of differences in health-care outcomes between Latino and Black children who participated in the 2006–2011 National Health Interview Survey.

	Usual source of care	Delayed care	Emergency Department visit	Doctor visit	Preventive visit
Latinos (mean)	91.75	15.38	20.72	85.67	73.11
Black (mean)	95.88	10.65	26.49	90.20	81.83
Difference in means	-4.12	4.72	-5.77	-4.53	-9.73
Difference in means explained by levels of population characteristics	-3.37	.64	-2.96	-4.58	-5.38
% Total difference explained	81.65	NS	51.34	100.94	61.71
% Explained by specific characteristics (5% contribution)					
Age					
6–10			25.98	-10.49	
11–17	-9.61		-23.34	-11.37	-19.61
Self-reported health					
Poor			5.53		
Citizenship/nativity					
Non-US citizen	14.32			10.02	5.89
Mother's education					
<High school	20.45		28.67	44.14	42.86
Family income (% FPL)					
100–200%	6.38			6.47	
<100%	-12.18				
Interview language					
Spanish			43.06	11.67	24.75
Health insurance					
Private health insurance	-78.27			-15.77	-11.99
Public health insurance	154.84			55.61	52.31
US Census region					
Midwest	-15.13		-15.72		-23.82
South	-24		-35.59		-47.25

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	Usual source of care	Delayed care	Emergency Department visit	Doctor visit	Preventive visit
West	45.82		75.96	35.56	83.33

Note: Decomposition models included variables in Table 2, but for brevity characteristics were excluded if they contributed <5% of the total difference explained. Reference categories presented in Table 2. FPL = federal poverty level.