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## Silverstein and WFB Prevalence of and Disparities in Barriers to Care Experienced by Youth with Type 1 Diabetes

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## Abstract

**Objective**—To describe the prevalence of access and process barriers to health care and to examine their relationship to sociodemographic and disease factors in a large and diverse cohort of US youth with type 1 diabetes.

**Study design**—A cross-sectional analysis of 780 youth who participated in the SEARCH for Diabetes in Youth Study and were diagnosed with T1DM in 2002-2005. Experience of barriers to care was collected from parent report on questionnaires. Analyses include multivariate regression models to predict the presence of specific barriers to care.

**Results**—Overall, 81.7% of participants reported at least one barrier; the three most common were costs (47.5%), communication (43.0%) and getting needed information (48.4%). Problems with access to care, not having a regular provider, and receiving contextual care (care that takes into account personal and family context) were associated with poorer glycated hemoglobin levels. Adjusted multivariate models indicated that barriers related to access (regular provider, cost) were most likely for youth with low family income and those without public health insurance. Barriers associated with the processes of quality care (contextual care, communication) were more likely for Hispanic youth and those whose parents had less education.

**Conclusions**—This study indicates that a large proportion of youth with type 1 diabetes experience substantial barriers to care. Barriers to access and those associated with processes of quality care differed by sociodemographic characteristics. Future investigators should expand knowledge of the systemic processes that lead to disparate outcomes for some youth with diabetes and assess potential solutions.

## Keywords

Health Disparities; Access to Health Care; Youth with Chronic Conditions; Diabetes

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Accessing high quality care can be particularly complicated in children with special health care needs, such as those with diabetes, because they require more health care services than their healthy peers (1). There is evidence, in fact, that the quality of care for US children with diabetes is less than ideal (2). “Barriers to care” are factors that inhibit a patient or parent’s ability to access, receive, and make use of care that is comprehensive, patient-centered, coordinated, accessible, and of high quality. Given the high burden of pediatric diabetes in children, including the early onset of complications increasingly identified in childhood (3,4), an understanding of the prevalence of specific barriers to care is needed to better understand how to improve the quality of care and outcomes in this population. Barriers to care refer to both barriers accessing care (i.e., getting care when needed and having a regular doctor) as well as barriers that affect the processes of care (5-7). Process barriers affect family-provider interactions and include, for example, an appreciation of how a child’s condition might affect other aspects of his/her or the family’s life (contextual care), communication problems, and problems getting needed information (7). Both types of barriers – access barriers and process barriers – could be a significant problem for youth with chronic conditions such as diabetes, because they impede receipt of high quality care (8) necessary for good outcomes (9).

Barriers have been shown to be especially problematic for children of minority race/ethnicity and low socioeconomic status (SES) (10), potentially contributing to health disparities (11). In pediatric type 1 diabetes, disparities in glycemic control and other health outcomes are well documented (12-14). However, there is limited research examining how sociodemographic characteristics are related to these poor outcomes in vulnerable youth with diabetes. Despite increasing recognition of the implications of barriers to care in children and adolescents, there are few studies describing the prevalence of such barriers in youth with diabetes, nor data to show whether these vary with sociodemographic characteristics. Filling this gap potentially could lead to interventions or policies that could reduce barriers and improve outcomes. This study fills existing gaps by describing barriers to care and the variables associated with them in a sample of children and youth with type 1 diabetes who participated in the SEARCH for Diabetes in Youth study.

## METHODS

The SEARCH study is a multi-center observational study that, in 2001, began conducting population-based ascertainment of cases of non-gestational diabetes in youth < 20 years of age (15). Youth with diagnosed diabetes were identified in geographically defined populations in Ohio (eight urban and suburban counties encompassing and surrounding Cincinnati); Washington (five urban counties encompassing and surrounding Seattle); South Carolina and Colorado (selected counties in 2001, all counties in subsequent years); among health care plan enrollees in Hawaii and southern California; and among Indian Health Service beneficiaries in four American Indian populations. SEARCH sought to identify all existing (prevalent) cases of diabetes in 2001 and all newly diagnosed (incident) cases in subsequent calendar years. Ascertained cases were contacted and asked to complete an Initial Patient Survey (IPS), and persons completing the IPS were invited for an In-Person Visit (IPV) where, after obtaining informed parent consent and youth assent, anthropometric and clinical data and blood samples were collected. Youth with diabetes diagnosed in 2002-2005 who completed an IPV were also invited back for follow-up visits at 12, 24, and 60 months after their baseline IPV. A detailed description of SEARCH study methods has been published elsewhere (15). Data for this cross-sectional study were obtained at the 24-month follow-up visit for participants diagnosed in 2002-2005.

Prior to implementation of the protocol, the study was reviewed and approved by the local Institutional Review Boards (IRB) that had jurisdiction over the local study populations, and compliance with Health Insurance Portability and Accountability Act (HIPAA) regulations was ensured.

Parent-report on survey items was used to assess the presence or absence of several barriers to care, all of which can be organized into two categories associated with the quality of accessed care: (1) access barriers; and (2) process barriers. In terms of **access barriers**, general difficulty accessing care was measured by two items from the National Longitudinal Study of Adolescent Health (NLSAH) (16). In addition, lack of a regular health care provider and cost of care were each measured using items from the Consumer Assessment of Healthcare Providers and Systems survey (CAHPS 3.0). Process barriers were assessed with items from the CAHPS survey and included problems receiving care that takes into

account personal and family context (contextual care), difficulty getting needed health information, and more general provider-family communication barriers. Table I shows all of the items for each barrier measured. Barriers were coded as present if parents endorsed the barrier or indicated that it was *ever* a problem (e.g., that their provider “never,” “sometimes,” or “usually” showed respect for what they had to say). We used this relatively high cut-off score because of research suggesting ceiling effects in many parent and patient-reported provider satisfaction measures (17).

Youths’ race/ethnicity was reported by caregivers based on the 2000 census questions and categorized as Hispanic (regardless of race), non-Hispanic white, non-Hispanic black, American Indian, Asian, and Pacific Islander. Those who reported more than one race were placed into a single race category using the NCHS plurality approach (18). Persons not classified into one race group using the plurality approach (0.5% of study visit cases), and those with missing race/ethnicity information (0.02% of cases) were classified as “other race/ethnicity” and “unknown race/ethnicity” respectively, and were excluded from analyses involving this variable.

Annual family income, parent education, health insurance status, and family composition were assessed based on caregiver report. Income was divided into four categories: <\$25,000, \$25,000 – \$49,999, \$50,000 – \$74,999 and > \$75,000. Parent education was classified as less than high school, high school graduate, some college, and bachelor’s degree or beyond, and was based on the highest education of either parent. Health insurance status was categorized as private, Medicaid/Medicare, none, and other (including military, tribe/IHS (Indian Health Service), school-based, or other type). Family composition was dichotomized as two-parent household versus other (including 1 parent/1 household, 2 parent/2 households, and other).

Diabetes duration, defined as months since diagnosis, was measured by medical chart review. Blood samples were processed locally and shipped on ice to a central laboratory (Northwest Lipid Laboratory, University of Washington, Seattle, WA) for analysis. A dedicated ion exchange unit, Variant II (Bio-Rad; Diagnostics, Hercules, CA), quantified glycated hemoglobin (HbA1c).

## Statistical Analyses

Frequencies (and percentages) for presence of each barrier were calculated for the overall sample and by socio-demographic characteristics. Chi-square analyses were conducted to examine the distribution of barriers to care by sociodemographic factors and disease duration. Because of the large number of comparisons, we conservatively set  $p < 0.01$  as the level of statistical significance. T-test analyses were also conducted to examine mean differences in HbA1c when each barrier was present vs. absent. Finally, to determine the unique contribution of each sociodemographic factor to the presence of barriers, we calculated the odds ratios and 95% Wald confidence intervals using logistic regression models while adjusting for all other factors in the model. For these multivariate analyses, racial/ethnic categories were limited to Hispanic, non-Hispanic black, and non-Hispanic white, and insurance status categories were limited to Medicaid/Medicare and private

insurance given small sample sizes ( $n=37$  for “Other” race,  $n=27$  for None/Other insurance) in all other categories.

## RESULTS

Sociodemographic and clinical characteristics of the study population are presented in Table II. Our sample is comprised of 780 participants with mean diabetes duration of 39.5 months ( $SD=9.6$ ) who completed both the 24-month follow-up visit and the survey (94% of those with a visit).

### Prevalence of Barriers

The number and percent of the sample reporting barriers overall and across sociodemographic and disease factors are presented in Table III. The three most common barriers - cost of care, communication, and getting information - were reported by 47.5%, 43.0%, and 48.4% of the sample, respectively, and 81.7% of all participants reported at least one barrier to care. Significant group differences existed in the presence of barriers to care by race/ethnicity, family income, parent education, family composition, and insurance status. No differences were found based on the child's age, diabetes duration, or sex. These variables were not included in the final multivariate adjusted models.

### Association of Barriers with Glycemic Control

T-test analyses indicated mean differences in HbA1c levels for those who experienced certain barriers to care. Those who experienced general access to care difficulties ( $M = 9.1\%$ ) had poorer glycemic control compared with those who did not ( $M = 8.5\%$ ,  $p = .004$ ), those with problems accessing a regular provider ( $M = 9.0\%$ ) had poorer glycemic control compared with those with a regular provider ( $M = 8.5\%$ ,  $p = .008$ ), and those with barriers to accessing contextualized care ( $M = 8.9\%$ ) had poorer glycemic control compared with those without this barrier ( $M = 8.5\%$ ,  $p = .017$ ). HbA1c levels were not significantly different based on the presence or absence of cost, communication, and getting information barriers.

### Association of Barriers with Socio-Demographic Characteristics

Odds ratios from the multivariate analysis estimating the association between the presence of barriers and each socio-demographic characteristic while controlling for all other variables in the model are shown in Table IV. Factors associated with **access barriers** (general access to care, regular provider, and cost of care) included race/ethnicity, family income, parent education, and insurance status. Non-Hispanic black youth were significantly more likely to lack a regular provider as compared with non-Hispanic white youth ( $OR = 2.62$ ; 95%  $CI$  [1.22 5.62]). Youth of families with low or middle income, were more likely than their wealthier counterparts to report cost barriers. Low parent education was associated with higher probability of lacking a regular provider. Medicaid/Medicare insurance status was associated with a lower probability of experiencing cost barriers ( $OR = 0.11$ ; 95%  $CI$  [0.06 0.21]).

Factors associated with process barriers (contextual care, communication, getting information barriers) included race/ethnicity and parent education. Caregivers of Hispanic

youth were significantly more likely to report problems receiving contextual care ( $OR = 1.95$ ;  $95\% CI [1.09\ 3.46]$ ) and problems with communication ( $OR = 2.22$ ;  $95\% CI [1.31\ 3.75]$ ) compared with non-Hispanic white youth. In addition, parents with less than a high school education were more likely than those with a college education to report problems with contextual care and less likely to report problems with communication.

## DISCUSSION

Although some evidence suggests that the quality of care for children with diabetes is not ideal (2), little is known about the prevalence of specific barriers to care which may contribute to these problems in this population. Our study indicates the presence of substantial barriers. More than 80% of participants reported at least one barrier to care over the past year, the most prevalent being cost and provider-family interaction barriers. More than 40% of respondents reported problems with cost, communication, and getting needed information and almost 30% cited problems receiving contextual care (care that takes into account their child's and family's circumstances). The cost of care has been recently highlighted by a report by the Centers for Disease Control and Prevention (CDC) that the predicted mean annual per-person medical expenditures for privately insured youth with diabetes were \$7,593 greater than for youth without diabetes (19). Our study echoes these findings and expands on them by demonstrating additional barriers beyond cost.

A substantial literature exists documenting disparities in access to care for children with special health care needs (20). In the present study, SES and racial/ethnic disparities were consistently associated with experiencing barriers to care in youth with type 1 diabetes. In adjusted models, we found that barriers to accessing care were associated uniquely with multiple SES factors including family income, parent education, and health insurance status. Interestingly, in the present study there were benefits to public versus private insurance status. In this study, having public insurance reduced the likelihood of experiencing cost of care as a barrier. We have documented elsewhere that having health insurance mitigates child demographic risk characteristics (e.g. poverty, racial/ethnic minority status) in accessing care (21).

Beyond disparities in accessing care, the present study also found that SES is associated with processes associated with high quality care. For example, low parent education increased the likelihood of parents reporting some difficulty in provider-family interactions. Specifically, caregivers with less than a high school education were less likely to report that their provider understood their child's and family's context. The relationship between family health literacy and health behaviors, resources, and outcomes in youth has been established, but there is a need to understand the processes through which poor literacy leads to poor outcomes, especially in chronically ill youth (22). Receiving less contextual care may be one of the many ways that low health literacy impacts families with low parent education. Furthermore, it is unclear why caregivers with less than a high school education were less likely to report communication barriers (despite experiencing less contextualized care), and this finding was surprising. It is possible that caregivers with less education were "satisfied with less" in terms of provider-family interactions, so they felt their doctors "spent enough time with their child" and "showed respect for what they had to say," even when providers



may not have “understood how their child’s conditions affect their day-to-day life.” Additional research is needed to examine the potential impact of sub-optimal provider-family interactions in youth with diabetes who may be vulnerable due to low parent education.

Our study showed that above and beyond the contribution of SES factors, race/ethnicity was a unique and significant predictor of barriers to care for youth with type 1 diabetes. Although caregivers of non-Hispanic black youth were more likely to report difficulty accessing a regular doctor compared with non-Hispanic white youth, caregivers of Hispanic youth reported difficulties with provider-family communication and accessing contextualized care. These findings, especially in Hispanic youth, suggest a role for improved cultural and linguistic competency in the care received by youth with type 1 diabetes. Research suggests black and Hispanic children with diabetes have higher HbA1c values than non-Hispanic white children (14,23), and that black children with diabetes are more likely to be hospitalized for short-term complications of diabetes (24). A recent CDC report documents a diabetes-related death rate for black children (ages 1-19) that is twice that of non-Hispanic, white children (25). Given the unique burden of pediatric diabetes in racial/ethnic minority youth, findings of disparate access to care and disparate experiences in the processes associated with quality care (e.g., provider-family communication and contextual care) should be further studied in this population in order to understand the potential for improvements in these systemic barriers and to ameliorate existing health disparities. Research in other populations has shown that, in the presence of access to care (26), disparities in the quality of care received (27) and in health outcomes (21) can be attenuated.

Limitations exist in this study. Our measure of barriers was based on parent report and, even though this is currently state-of-the-art, unknown measurement biases may be present. Another limitation is that respondents who did not give providers ‘perfect marks’ were counted as experiencing barriers. This choice of cut-offs was based on the presence of ceiling effects in these items. Although this may inflate the presence of barriers, the ceiling effect may instead indicate that a less-than-perfect score is substantively different from a perfect score. We were also unable to determine the effect of language on barriers. Although limited English speakers have been shown to have more barriers to care (28), only 1.4% of surveys in our sample were completed in a language other than English. Finally, our findings are from those who participated in at least two research visits, thus their access to care may be relatively high and findings may be conservative in describing the prevalence of barriers to care and disparities experienced by families.

Nevertheless, our study documented the presence of a variety of specific barriers to care experienced by youth with type 1 diabetes. Beyond cost and other access barriers, racial/ethnic minority families and those with lower SES were more likely to report barriers associated with provider-family interactions, suggesting the possibility that these interaction are key to improving the quality of care in this population.

These findings confirm the need to implement existing recommendations, such as those from the Institute of Medicine (29), for reducing health disparities. That report includes

recommendations for increasing the proportion of underrepresented U.S. racial and ethnic minorities among health professionals, enhancing patient-provider communication and trust by providing financial incentives for practices that reduce barriers and encourage evidence-based practice, implementing patient education programs to increase patients' knowledge of how to best access care and participate in treatment decisions, and integrating cross-cultural education into the training of all current and future health professionals.

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## Appendix

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### Abbreviations

<b>CAHPS 3.0</b>	Consumer Assessment of Healthcare Providers and Systems
<b>SES</b>	socioeconomic status
<b>HbA1c</b>	glycated hemoglobin or hemoglobin A1c

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**Table 1**  
 SEARCH Study Items Measuring Barriers to Care: Derived from CAHPS 3.0 and NLSAH

Barriers to Care	Items	“No Barrier” Response
<b>Access Barriers</b>		
Access to Care	How much of a problem, if any, was it to get the care, tests, or treatment you or a doctor believed necessary?	No problem
	Has there been a time when you thought your child should get care but did not receive it?	No
Regular Provider	Do you have one person you think of as your child’s personal doctor?	Yes
Cost of Care	How much of a problem is the cost of your child’s health care for you (including paying for health insurance premiums and co-payments for doctor’s office visits, medications, and medical supplies)?	No problem
<b>Process Barriers</b>		
Contextual Care	Did your child’s doctors or other health providers talk with you about how your child is feeling, growing or behaving?	Yes
	Do your child’s doctors or other health providers understand how your child’s medical, behavioral or other health conditions affect your child’s day-to-day life?	Yes
	Do your child’s doctors or other health providers understand how your child’s medical, behavioral or other health conditions affect your family’s day-to-day life?	Yes
Communication	How often did your child’s doctors or health providers listen carefully to you?	Always
	How often did your child’s doctors or health providers explain things in a way you can understand?	Always
	How often did your child’s doctors or health providers show respect for what you had to say?	Always
	How often did your child’s doctors or health providers spend enough time with your child?	Always
Getting Information	How often did your child’s doctors or other health providers make it easy for you to discuss your questions or concerns?	Always
	How often did you have your questions answered by your child’s doctors or other health providers?	Always
	How often did you get the specific information you needed from your child’s doctors or other health providers?	Always

National Longitudinal Study of Adolescent Health (NLSAH); Consumer Assessment of Healthcare Providers and Systems (CAHPS 3.0) All questions asked about “the past 12 months”

**Table 2**

## Characteristics of the Study Population.

Characteristics	n=780
<b>Sociodemographic Factors</b>	
Age, years, mean(SD)	12.76 (4.37)
Sex (male)	397 (50.9%)
Race/Ethnicity	
White, non-Hispanic	567 (72.7%)
Black, non-Hispanic	88 (11.3%)
Hispanic	88 (11.3%)
Other	37 (4.7%)
Family Income	
< \$25,000	103 (14.6%)
\$25K-\$49,999	129 (18.3%)
\$50K-\$74,999	150 (21.3%)
\$75K	324 (45.9%)
Highest Parent Education	
High School	134 (17.6%)
Some College	310 (33.9%)
Bachelor degree	391 (48.6%)
Family Composition	
Two-parent household	563 (72.2%)
Other	217 (27.8%)
Health Insurance Status	
Private	578 (78.3%)
Medicaid/Medicare	133 (18.0%)
None	12 (1.6%)
Other	15 (2.0%)
<b>Disease Factors</b>	
Duration, months, mean(SD)	39.5( 9.6)
HbA1c, % , mean(SD)	8.6(1.7)

Table 3

Presence of Barriers to Care by Sociodemographic Characteristics and Diabetes Duration

	Access Barriers			Process Barriers		
	Regular Provider	Access to Care	Cost of Care	Contextual Care	Communication	Getting Information
<b>Overall</b>	94 (12.2%)	104 (13.6%)	369 (47.5%)	174 (27.0%)	331 (43.0%)	206 (48.4%)
<b>Age at exam</b>						
2-12 years	41 (10.4%)	49 (12.6%)	184 (46.7%)	93 (25.5%)	162 (41.4%)	121 (49.2%)
13+ years	53 (14.0%)	55 (14.6%)	185 (48.3%)	81 (28.9%)	169 (44.7%)	85 (47.2%)
	<i>p</i> = .13	<i>p</i> = .42	<i>p</i> = .65	<i>p</i> = .33	<i>p</i> = .36	<i>p</i> = .69
<b>Diabetes Duration</b>						
<36 months	32 (10.6%)	39 (12.9%)	149 (48.9%)	75 (30.0%)	132 (43.9%)	81 (49.7%)
36 months	62 (13.5%)	64 (14.1%)	216 (46.7%)	97 (24.9%)	194 (42.3%)	122 (47.3%)
	<i>p</i> = .23	<i>p</i> = .84	<i>p</i> = 0.63	<i>p</i> = 0.55	<i>p</i> = 0.16	<i>p</i> = 0.67
<b>Sex</b>						
Female	45 (11.8%)	58 (15.3%)	171 (44.9%)	86 (26.7%)	159 (41.8%)	103 (48.6%)
Male	49 (12.5%)	46 (11.9%)	198 (50.0%)	88 (27.2%)	172 (44.2%)	103 (48.1%)
	<i>p</i> = .77	<i>p</i> = .17	<i>p</i> = .15	<i>p</i> = .88	<i>p</i> = .51	<i>p</i> = .93
<b>Race/ethnicity</b>						
White, non-Hispanic	54 (9.6%)	70 (12.5%)	276 (48.9%)	112 (23.8%)	240 (42.9%)	148 (47.1%)
Black, non-Hispanic	20 (23.8%)	15 (17.2%)	33 (37.5%)	17 (23.9%)	24 (28.2%)	17 (40.5%)
Hispanic	17 (19.8%)	12 (14.3%)	45 (51.7%)	27 (37.5%)	50 (57.5%)	27 (55.1%)
Other *	3 (8.3%)	7 (20.0%)	15 (40.5%)	18 (56.3%)	17 (46.0%)	14 (66.7%)
	<i>p</i> < .001*	<i>p</i> = .43	<i>p</i> = .15	<i>p</i> < .001*	<i>p</i> = .002*	<i>p</i> = .18
<b>Family Income</b>						
<\$25K	21 (20.8%)	24 (24.0%)	40 (39.2%)	31 (33.3%)	42 (41.6%)	24 (47.1%)
\$25K - \$49,999	23 (18.6%)	19 (15.3%)	66 (51.6%)	35 (31.0%)	63 (49.6%)	34 (50.8%)
\$50K - \$74,999	10 (6.7%)	16 (11.0%)	85 (57.1%)	34 (26.0%)	55 (37.2%)	46 (48.9%)
\$75K	23 (7.1%)	31 (9.6%)	142 (43.8%)	64 (23.9%)	133 (41.4%)	88 (46.8%)
	<i>p</i> < .001*	<i>p</i> = .002*	<i>p</i> = .01*	<i>p</i> = .24	<i>p</i> = .21	<i>p</i> = .95



	Access Barriers			Process Barriers		
	Regular Provider	Access to Care	Cost of Care	Contextual Care	Communication	Getting Information
<b>Highest Parent Education</b>						
High School	36 (27.1%)	20 (15.4%)	59 (44.0%)	45 (40.2%)	52 (39.1%)	25 (41.7%)
Some College	28 (11.1%)	46 (18.4%)	117 (45.5%)	59 (26.9%)	108 (42.9%)	73 (50.3%)
BA	27 (7.4%)	35 (9.6%)	187 (50.8%)	67 (21.9%)	160 (43.7%)	104 (48.6%)
	<i>p</i> < .0001*	<i>p</i> = .006*	<i>p</i> = .27	<i>p</i> < .001*	<i>p</i> = .65	<i>p</i> = .52
<b>Family Composition</b>						
Two Parents	76 (12.6%)	65 (10.9%)	293 (48.4%)	136 (27.6%)	260 (43.2%)	154 (47.8%)
Other	64 (21.5%)	60 (20.3%)	129 (42.6%)	73 (31.7%)	132 (44.6%)	74 (49.3%)
	<i>p</i> = 0.0005*	<i>p</i> = 0.0001*	<i>p</i> = 0.10	<i>p</i> = 0.25	<i>p</i> = 0.67	<i>p</i> = 0.76
<b>Insurance</b>						
Private	56 (9.8%)	64 (11.2%)	303 (52.6%)	117 (24.6%)	241 (42.2%)	154 (48.4%)
Medicaid/Medicare	27 (20.6%)	28 (22.1%)	27 (20.5)	38 (32.2%)	56 (43.1%)	33 (45.8%)
None	3 (20.0%)	3 (21.4%)	15 (100%)	2 (28.6%)	7 (46.7%)	3 (60.0%)
Other	1 (8.3%)	2 (16.7%)	7 (58.3%)	5 (41.7%)	7 (63.6%)	6 (75.0%)
	<i>p</i> = 0.005*	<i>p</i> = 0.01*	<i>p</i> < .001*	<i>p</i> = 0.23	<i>p</i> = 0.55	<i>p</i> = 0.44

Race/ethnicity category "Other" consists of American Indian (n=5), Asian/Pacific Islander (n=51), and Other (n=4).

**Table 4**

Multivariate Adjusted Odds Ratios (95% Wald Confidence Intervals) from Logistic Regression Models Predicting Presence of Barriers among SEARCH participants.

Factors	Regular Provider	Access Barriers			Process Barriers		
		Access to Care	Cost of Care	Contextual Care	Communication	Getting Information	
<b>Race/Ethnicity (vs. White, non-Hispanic)</b>							
Black, non-Hispanic	2.62 (1.22, 5.62)	1.26 (0.58, 2.71)	0.59 (0.31, 1.12)	0.85 (0.41, 1.73)	0.69 (0.37, 1.26)	1.07 (0.48, 2.39)	
Hispanic	1.72 (0.82, 3.61)	1.26 (0.59, 2.70)	1.10 (0.63, 1.91)	1.95 (1.09, 3.46)	2.22 (1.31, 3.75)	1.49 (0.77, 2.89)	
<b>Family Income (vs. \$75K)</b>							
<\$25K	1.02 (0.35, 3.00)	1.03 (0.37, 2.85)	3.09 (1.40, 6.83)	0.98 (0.42, 2.29)	1.18 (0.57, 2.46)	1.35 (0.55, 3.34)	
\$25K - \$49,999	1.31 (0.58, 2.98)	0.77 (0.34, 1.77)	2.83 (1.63, 4.92)	0.96 (0.50, 1.82)	1.58 (0.94, 2.67)	1.45 (0.71, 2.98)	
\$50K - \$74,999	0.64 (0.28, 1.51)	0.86 (0.42, 1.75)	2.26 (1.44, 3.56)	0.87 (0.50, 1.54)	0.99 (0.64, 1.55)	1.38 (0.78, 2.43)	
<b>Parent Education (vs. BA)</b>							
High School	2.95 (1.28, 6.78)	0.99 (0.40, 2.47)	1.07 (0.57, 2.00)	2.43 (1.27, 4.66)	0.53 (0.29, 0.96)	0.51 (0.23, 1.09)	
Some College	1.41 (0.71, 2.80)	2.11 (1.15, 3.85)	0.85 (0.57, 1.27)	1.37 (0.83, 2.21)	0.90 (0.61, 1.33)	0.88 (0.53, 1.47)	
<b>Family Composition (vs. Other)</b>							
Two Parents	0.84 (0.46, 1.55)	0.63 (0.35, 1.12)	0.90 (0.58, 1.38)	0.90 (0.55, 1.46)	0.91 (0.60, 1.38)	0.95 (0.56, 1.61)	
<b>Health Insurance (vs. Private)</b>							
Medicaid/Medicare	1.07 (0.49, 2.30)	1.75 (0.83, 3.71)	0.11 (0.06, 0.21)	0.90 (0.48, 1.70)	0.91 (0.52, 1.60)	0.81 (0.41, 1.62)	