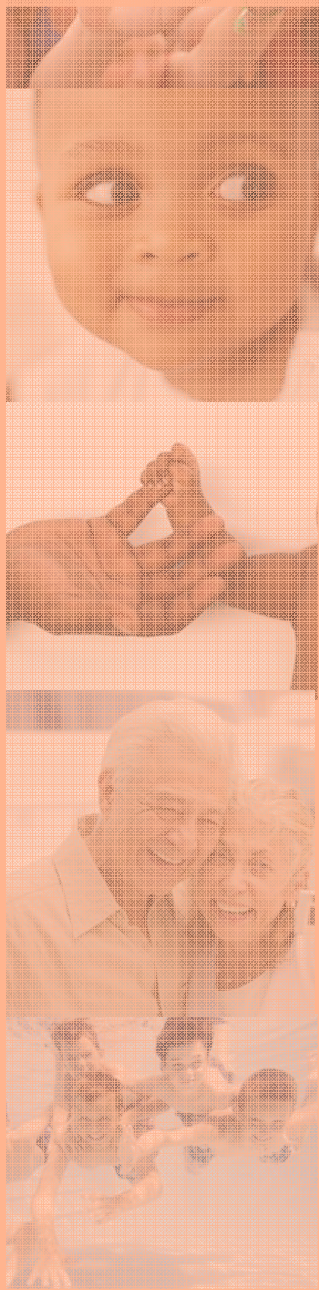


# Racial/Ethnic and Language Differences in Patient Assessments of Health Care: Final Report

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## **Executive Summary**

Ample research has documented the existence of significant racial and ethnic disparities in access to healthcare, as well as poorer outcomes and health status among racial and ethnic minorities. In addition, recent national studies reveal racial/ethnic disparities in patient assessments of care. Among the strategies that have been advocated for reducing racial/ethnic differences in patient experiences with care is the provision of “culturally competent” medical care. In this study, we focus on two of the domains of cultural competency: experiences of discrimination and language barriers to care. Specifically, we examine the relationships between patients’ language barriers to care and perceptions of discrimination, and their experiences with Medicaid as shown by CAHPS reports and ratings of care.

Data consist of a survey of a random sample of Florida Medicaid beneficiaries from September 2007 to December 2007. The survey included the Health Plan CAHPS 4.0 instrument as well as an additional set of items that assess patient experiences with discrimination and access to language barriers to care. There was a 42% response rate with a total of 1877 completed surveys.

The dependent variables consist of Health Plan CAHPS 4.0 reports (getting needed care, timeliness of care, doctor communication, and health plan customer service) and ratings of care (personal doctor, specialists, health care, and health plan). The independent variables include measures of patient experiences with discrimination based on race/ethnicity, English speaking ability, and Medicaid insurance. In addition, there are 3

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measures of language barriers to care: limited English proficiency, language communication barriers with personal doctor, and access to interpreter services. An additional set of variables known to be related to systematic differences in survey responses are used as case-mix adjustors: gender, age, education, and health status. Data are analyzed using analysis of variance (ANOVA) and ordinary least squares regression.

Study results show that a significant proportion of the surveyed population perceived discrimination as a result of race/ethnicity (9%), Medicaid insurance (14%), and language spoken (12% of limited English proficient individuals). Furthermore, 19 percent of the surveyed population indicated having difficulties communicating with their personal doctor. The results suggest that language barriers to care and perceptions of discrimination based on race/ethnicity, Medicaid insurance, and language spoken are associated with lower CAHPS reports and rating of care.

The study findings have several policy implications. As the state and Federal governments increase their efforts towards health plan accountability and public reporting of CAHPS measures, it is imperative that Medicaid health plans use quality improvement efforts to address perceptions of discrimination and language barriers to care of their enrolled patient population. Findings suggest that reducing language barriers to care and perceptions of discrimination can result in improved CAHPS reports and ratings of care. The study also suggests the importance of assessing cultural competency from the patients' perspective, and including these measures in patient health care surveys.

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## **Research Objective**

Ample research has documented the existence of significant racial and ethnic disparities in access to healthcare, as well as poorer outcomes and health status among racial and ethnic minorities (Smedley, Stith, & Nelson, 2002). Several recent national studies reveal racial/ethnic disparities in patient assessments of care. A survey by the Commonwealth Fund in 2001 showed that racial/ethnic minorities were less satisfied with the quality of health care services (Collins et al., 2002). Only 45% of Asians, 56% of Hispanics, and 61% of African Americans, compared to 65% of Whites, reported being “very satisfied” with their care. In addition, this study found that 15% of African Americans, 13% of Hispanics, and 11% of Asians, compared to 1% of Whites, felt that they would receive better health care if they were of a different race and/or ethnicity. Similarly, a study using the Community Tracking Survey (CTS) found that Hispanics and African Americans expressed less satisfaction with their physician style (listening skills, explanations, and thoroughness) and less trust in their doctor even after controlling for socioeconomic factors (Doescher, Saver, Franks, & Fiscella, 2000). Finally, studies using the National Consumer Assessments of Healthcare Providers and Systems (CAHPS®) Benchmarking Database have shown that racial/ethnic minorities have worse reports of care than Whites in commercial and Medicaid managed care (L. S. Morales, Elliott, Weech-Maldonado, Spritzer, & Hays, 2001; Weech-Maldonado et al., 2004; Weech-Maldonado et al., 2003 ; Weech-Maldonado, Morales, Spritzer, Elliott, & Hays, 2001 ). However, among Hispanics and Asians, language barriers have a larger negative impact on assessments of care than race/ethnicity.

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Among the strategies that have been advocated for reducing racial/ethnic differences in patient experiences with care is the provision of “culturally competent” medical care(Ngo-Metzger, Telfair, & Sorkin, 2006; Weech-Maldonado, Dreachslin, Dansky, De Souza, & Gatto, 2002). The Office of Minority Health, using the definition developed by Cross et al. has defined cultural and linguistic competence as “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations” (Cross, Bazron, Dennis, & Isaacs, 1999).

In a Commonwealth Fund-commissioned paper, Ngo-Metzger and colleagues present a conceptual framework for obtaining the patient’s perspective on culturally competent care (Ngo-Metzger et al., 2006). This framework builds on the work of Bethell and colleagues on measuring healthcare quality among diverse populations(Bethell, Carter., Lansky, Latzke, & Gowen, 2003). In this framework, healthcare is experienced by the patient in the context of interactions with providers within the health care system. There are six domains that are best measured by asking the patient (as opposed to obtaining this information from providers or other sources). The first two domains reflect interactions between the patient and the provider: 1) Patient-provider communication; 2) Respect for patient preferences/ shared decision-making. The other four domains include patient and provider interactions, but also include interactions with other staff and the health care system overall: 3) Experiences leading to trust or distrust; 4) Experiences of discrimination; 5) Health literacy strategies; and 6) Access to language services.

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In this study, we focus on two of the domains of cultural competency: experiences of discrimination and language barriers to care. Specifically, we examine the following research questions:

- 1) What is the relationship between patient experiences with discrimination and CAHPS reports and ratings of care?
- 2) What is the relationship between language barriers and CAHPS reports and ratings of care?

### **Literature Review**

Research Question 1: What is the relationship between patient experiences with discrimination and CAHPS reports and ratings of care?

The literature is replete of studies investigating the relationship between minorities, perceived discrimination and the quality of health care received with few addressing the influence of perceived discrimination on patients' experiences with health care. Most studies have explored the association of perceived discrimination with general health status and well-being, family planning and contraception, chronic disease, utilization, and mental health. Following is a review of that literature and the literature assessing the relationship between perceived discrimination and the patient's health care experience.

*General Health Status* – Perceived discrimination has been found to have deleterious effects on general health status and health enhancing behaviors in the United States and other societies(Ahmed, Mohammed, & Williams, 2007). A British study discovered that no matter what the level or form of racial discrimination they all had negative effects on

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health regardless of the health indicator used(Karlsen & Nazroo, 2002). Similar results were seen among seven immigrant groups in Finland. Immigrants of Arab and Somali origin had poorer self-rated general health status than the Estonians, Russians, Finnish, Albanians and Vietnamese(Jasinskaja-Lahti, Liebkind, & Perhoniemi, 2006). The IOM 2002 report reviewed and summarized the literature on perceived discrimination and concluded that racial and ethnic minority patients are found to receive a lower quality and intensity of healthcare and diagnostic services across a wide range of procedures and disease areas(Smedley et al., 2002). The findings held when controlling for confounding variables, a patients' race and ethnicity significantly predict the quality and intensity of care that they receive.

*Family Planning/Contraception* – African American women who had experienced discrimination in family planning visits developed negative attitudes towards contraception, specifically, birth control pills. They preferred to use condoms, as the method does not require frequent health care visits allowing the women to avoid interaction with the health care system(Bird & Bogart, 2001, 2005).

*Chronic Disease* –Persons who thought that they would have received better treatment if they were of a different race were significantly less likely to receive optimal chronic disease screening and more likely to not follow the doctor's advice or put off care(Blanchard & Lurie, 2004). The frequency and type of racial and nonracial discrimination African American men and women experienced was found to differentially affect the odds of having hypertension(Roberts, Vines, Kaufman, & James, 2008). Self-reported racial/ethnic discrimination was associated with a 50% lower marginal probability of receiving a hemoglobin A1c test, foot exam, and blood pressure

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exam making it difficult to keep diabetes at appropriate levels(Ryan, Gee, & Griffith, 2008). Self-reported racial discrimination was associated with A1C levels that were higher for blacks than other patients, more symptoms, and poorer physical functioning(Piette, Bibbins-Domingo, & Schillinger, 2006).

*Utilization and Adherence* – The negative experiences resulting from perceived discrimination influenced how and when minorities utilized health care services(Bird & Bogart, 2001). For both African Americans and whites, a report discrimination experiences in one's lifetime were associated with more medical care delays and nonadherence as compared to those with no experiences(Casagrande, Gary, LaVeist, Gaskin, & Cooper, 2007). In Sweden, delays in seeking medical treatment were associated with perceived discrimination independent of age, long-term illness, low education and living alone(Wamala, Merlo, Bostrom, & Hogstedt, 2007). The odds of delaying filling a prescription were higher for Latinos than who reported experiences of discrimination(Van Houtven et al., 2005). Some studies found the opposite or no effect of discrimination on adherence to screening for breast cancer. Perceived discrimination was not associated with non-adherence to mammography screening among African American and white women(Dailey, Kasl, Holford, & Jones, 2007) but was positively and significantly associated with screening for breast cancer among older urban African American women(Klassen & Washington, 2008).

*Mental Health and Stress* – Perceived discrimination has been found to be correlated with stress and adverse mental health outcomes(Kessler, Mickelson, & Williams, 1999). Racial discrimination, perceived and actual, was associated with psychological distress instead of psychiatric disorder in Black Americans(Brown et al., 2000). African

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American college students who experienced racial discrimination were more likely to have depressive symptoms and dissatisfaction with their lives(Prelow, Mosher, & Bowman, 2006).

*Health Care Experience* – Few articles have studied the relationship between perceived discrimination and the patient’s feelings about their health care experience; even fewer, looked at perceived discrimination as the dependent variable. In a telephone survey, 691 randomly selected African Americans and whites with Medicaid insurance were interviewed to ascertain the impact of racial discrimination on health care delivery. Interviewees who experienced discrimination were significantly more likely to be less satisfied with their overall care and race had no effect on the patient’s satisfaction with the health plan(Bouknight, 2000). Assessment of determinants of satisfaction among 1,784 cardiac patients reported similar results. African Americans were more likely to perceive racism leading to less satisfaction with their health care(LaVeist, Nickerson, & Bowie, 2000). Another study examined race-based and SES-based discrimination for 110 people living with HIV in a US Midwestern city. The study found a significant negative correlation between perceived discrimination and health care satisfaction(Bird, Bogart, & Delahanty, 2004). A population-based study of the 2003 California Health Interview Survey of 39,000 adults explored the relationships of patient dissatisfaction and racial discrimination. The results revealed a one unit increase on the dissatisfaction scale was associated with approximately a 30% increased odds of having experienced discrimination(Ponce, 2006). A small study of 38 African Americans from Veterans Administration medical center in Pittsburgh and Cleveland examined their responses to seven items of discrimination and the 6-item Health Care Decision Scale. Consistent with

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the other studies, those who had experienced discrimination were less satisfied with the physician's treatment recommendations(Hausmann et al., 2007). In a Northeastern University study of African American veterans, 78% of respondents revealed they had experienced discrimination in the health care setting. Although the veterans expressed moderate satisfaction with their health care, they were not confident in the diagnosis given by the doctor(Rickles et al., 2006).

These studies establish the relationship between perceived discrimination and the patient's experiences in the health care setting. Understanding the impact of perceived discrimination on patient experience facilitates identification of barriers to health care, positive health care experiences, and can ultimately lead to a healthier minority community

Research Question 2: What is the relationship between language barriers to care and CAHPS reports and ratings of care?

The National Center for Cultural Competence defines linguistic competence as “The capacity of an organization and its personnel to communicate effectively, and convey information in a manner that is easily understood by diverse audiences including persons of limited English proficiency, those who have low literacy skills or are not literate, and individuals with disabilities”(Goode & Jones, 2003).

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According to the 2000 census, approximately 47 million people in the United States (US) speak a language other than English at home, and, in addition, over 21 million are Limited English Proficient(LEP)<sup>1</sup>(Census Bureau, 2000). Communication barriers affect all aspects of health care encounters, from history taking to improving patient understanding of diagnoses and treatments and they disproportionately affect racial and ethnic minorities.

Previous research has shown that non-English speakers suffer from poorer access to care(Kirkman-Liff & Mondragon, 1991 ; Solis, Marks, Garcia, & Shelton, 1990 ; Stein & Fox, 1990 ; Timmins, 2002 )and lower assessments of their health care (Carrasquillo, Orav, Brennan, & Burstin, 1999 ; L. S. Morales, Cunningham, Brown, Liu, & Hays, 1999; L. S. Morales et al., 2001; Weech-Maldonado et al., 2003). Ayanian and colleagues have reported that patient perception of quality of care differs by language (Ayanian et al., 2005).

Strategies for improving language access in health care encounters include bilingual providers proficient in the patient's language often referred to as language-concordant encounters; in-person, third-party interpretation, using dedicated, trained professional interpreters or ad-hoc interpreters such as patient's family members, friends, or clinic staff; and remote, third-party interpretation using technology (GIH, 2003 ).

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<sup>1</sup> LEP is the term used by the U.S. Department of Health and Human Services (DHHS) Office of Civil Rights to refer to people that have poor or no English skills.

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A nationally representative survey in 2001 found that only 49 percent of Hispanic adults who said they needed medical interpretation always or usually got an interpreter(Doty, 2003). Of those who used an interpreter, 55 percent used a staff interpreter, 43 percent relied on a family member or friend, and only 1 percent of the patients used a trained interpreter. A 2003 survey in California found that most non-English speakers (56 percent) who do not have a doctor who speaks their native language, do not rely on interpreters but rather “do the best they can in English” (NCM, 2003 ). Only 9 percent had professional interpreters, while 15 percent used staff interpreters and 19 percent depended on family members or friends for translation.

Language concordant encounters have better communication, interpersonal processes, and outcomes than language discordant encounters(Clark, Sleath, & Rubin, 2004 ; Fernandez et al., 2004 ; GIH, 2003 ; Perez-Stable, Napoles-Springer, & Miramontes, 1997 ; Seijo, Gomez, & Freidenberg, 1991 ; Wilson, Chen, Grumbach, Wang, & Fernandez, 2005 ). However, the limited supply of bilingual providers has led health care organizations to use interpreter services to bridge language gaps.

When examining the impact of language services in bridging language services, it is important to distinguish between professional interpreters and ad-hoc interpreters. Ad-hoc interpreters are “individuals whose primary job function in the health care setting is something other than interpretation and includes the patient’s family members, friends, clinic staff, or even fellow patients” (GIH, 2003 ). On the other hand, professional

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interpreters are “those individuals whose sole function in the health care setting is to interpret” (GIH, 2003 ).

Availability of professional interpreters may reduce barriers to care among LEP patients (Karlner, Jacobs, Chen, & Mutha, 2007). Similarly, Baker et al. found that Spanish-speaking patients who communicated directly with their provider but suggested that they needed an interpreter were less satisfied with their care compared with patients those who used an interpreter(Baker, Parker, Williams, Coates, & Pitkin, 1996 ). In another study, Baker and colleagues found that Spanish-speaking patients who communicated directly with their provider but suggested that they needed an interpreter were less satisfied with their care compared with patients those who used an interpreter(Baker, Hayes, & Fortier, 1998 ). Jacobs et al concluded that provision of interpreter services significantly improves delivery of health care to LEP Spanish and Portuguese speaking patients(Jacobs et al., 2001 ). Tocher and Larson reported that the quality of care for diabetic patients for LEP patients was as good, if not better, than for English speaking patients when professional interpreter services were available(Tocher & Larson, 1999). Enguidanos and Rosen have shown the availability of staff interpreters improves compliance with follow-up appointments and overall satisfaction(Enguidanos & Rosen, 1997 ).

Several studies have found communication problems when ad-hoc staff interpreters, or those employed in other capacities in health care such as nurses or social workers, are used as interpreters. Often, although bilingual, not formally trained as interpreters; they lack appropriate knowledge of health-related terminology. In addition, they may conflate

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their traditional patient care role and interpreter roles(Laws, Heckscher, Mayo, Li, & Wilson, 2004 ). One study found that ad-hoc staff interpreters often would have separate conversations with providers, which they would not report to the patient, and would attempt to translate lengthy conversations, which resulted in inaccuracies(Laws et al., 2004 ). Elderkin-Thompson et al. reported that translation errors occurred frequently when untrained nurse interpreters were used, and that approximately half of the interpreted encounters had serious miscommunication problems that affected either the physician’s understanding of the symptoms or the credibility of the patient’s concerns(Elderkin-Thompson, Silver, & Waitzkin, 2001 ). In another study, interpreted encounters with Spanish-speaking patients using staff nurses were less “patient-centered” than in encounters with English-speaking patients. That is physicians made fewer facilitative remarks and patients introduced fewer topics and were more likely to be ignored (Rivadeneyra, Elderkin-Thompson, Silver, & Waitzkin, 2000 ).

The use of patients’ family members or friends as ad-hoc interpreters is considered problematic for some of the same reasons mentioned above. In addition, family members may filter information to reduce emotional distress for the patient(GIH, 2003 ). Furthermore, it can be burdensome on the family member or friend as it interrupts his/her routines and responsibilities, and it can foster patient dependency and passivity(Rhodes & Nocon, 2003 ). Using children as interpreters is particularly problematic since it can have potentially damaging psychological effects on the child when required to translate potentially sensitive medical issues(GIH, 2003 ). However, there are also certain advantages in using adult family members as interpreters such as “support during the

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consultation, help in remembering what was said, following treatment regimens and implementing dietary advice, and greater awareness of preventive measures within the family”(Rhodes & Nocon, 2003 ). Studies have reported mixed findings in terms of patients’ preference for the use of family members compared to other types of interpreter services(Kuo & Fagan, 1999 ; Ngo-Metzger et al., 2006; Rhodes & Nocon, 2003 ).

Relatively few studies have compared the performance of interpreted encounters based on the type of interpreter service (professional versus ad-hoc interpreter). Flores et al. found that errors committed by ad hoc interpreters were more likely to be errors of clinical significance than those committed by hospital interpreters in pediatric encounters (Flores et al., 2003 ). In another study, physicians who had access to trained interpreters reported a significantly higher quality of patient-physician communication than physicians who used ad-hoc medical staff or patients’ friends or family members(J. Hornberger, Itakura, & Wilson, 1997 ; J. C. Hornberger et al., 1996 ).

In summary, with respect to LEP patients, we found that: 1) the majority of LEP patients in the U.S. still lack access to language services; 2) access to language services can help improve LEP patients’ experiences with and access to care; 3) language concordant encounters result in better communication, interpersonal processes, and outcomes than language-discordant encounters; and 4) language concordance between patients and providers, as well as interpreting by trained professionals, are the most effective strategies for communicating with LEP patients.

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## **Methods**

### Data

Data consisted of a survey of Florida Medicaid beneficiaries from 18<sup>th</sup> September 2007 to 4<sup>th</sup> December 2007. The survey was administered to a random sample of the Florida non-HMO Medicaid beneficiaries using a computer assisted telephone interview system. The survey included the CAHPS 4.0 survey instrument as well as an additional set of items that assess patient experiences with discrimination and language barriers to care (Appendix A). There was a 40.2% response rate with a total of 1877 completed surveys. The respondents included: Fee-for-service (384), Medipass (383), Netpass (370), Access Health Solutions (formerly Phy Trust) (370), and PSN (370).

### Variables

The dependent variables consisted of Health Plan CAHPS 4.0 reports and ratings of care (Table 1). Ratings are personal evaluations of providers and services; as such they reflect both personal experiences as well as the standards used in evaluating care. Reports of care capture the specific experiences with care in terms of what did or did not happen from the consumer's perspective. Responses to questions about specific health care experiences were answered with respect to the past 12 months. Health Plan CAHPS 4.0 included four global rating items: personal doctor, specialists, health care, and health plan. The four global rating questions were asked using a 0-10 scale, where 10 is the best possible rating. In addition, Health Plan CAHPS 4.0 contained 10 items (reports) measuring 4 domains of health plan performance: getting needed care (access to care), timeliness of care, doctor communication, and health plan customer service. All items in

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the four domains were administered using a four-point response scale (Never, Sometimes, Usually, Always). The global ratings were transformed linearly to a 0 to 100 scale. The reports were calculated in two steps. First, the items were transformed linearly to a 0 to 100 scale (with a higher score representing more favorable perceptions of care), and then a mean score of items within the report was calculated (Weech-Maldonado et al., 2003).

The independent variables included measures of patient experiences with discrimination and language barriers to care. Patient experiences with discrimination, based on race/ethnicity, English speaking ability, and having Medicaid insurance, are assessed by a set of 3 measures (Table 2). There are 3 measures that assess language barriers to care: limited English proficiency, language communication barriers with personal doctor, and access to interpreter services (Table 3).

An additional set of variables known to be related to systematic differences in survey responses are used as case-mix adjustors: gender, age, education, and health status. (Elliott, Swartz, Adams, Spritzer, & Hays, 2001) Gender is a dichotomous variable: 0 = male, 1 = female. Age is a categorical variable consisting of six levels: 21-24, 25-34, 35-44, 45-54, 55-64, and 65 or older. Education is a categorical variable with five levels: 8th grade or less; some high school; high school graduate; some college or 2-year degree; and 4-year college graduate or more. Self-rated health is a categorical variable measuring perceived overall health: excellent, very good, good, fair, and poor.

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## Analysis

Analysis of variance (ANOVA) was used to perform a comparison and hypothesis test of differences in CAHPS reports and ratings of care across the variable categories for the discrimination and language barrier measures. In addition, post hoc tests using the Tukey procedure were conducted for the ANOVA analysis to test the significance of differences between means of paired groups.

Ordinary least squares regression were used to model the effect of patient perceptions of discrimination and language barriers to care on CAHPS reports and ratings of care controlling for age, gender, education, and self-rated health. This was a patient level analysis. Standard errors for all regressions were adjusted for correlation within health plans using the Huber/White correction (White, 1980).

## **Results**

The ANOVA results are shown on Tables 4-10. The summary that follows describes only the statistically significant differences as shown by the Tukey test ( $p < .05$ ). Compared to English speakers, respondents that did not speak English at all had higher CAHPS scores for getting needed care, doctor communication, plan service, personal doctor rating, specialist rating, health care rating, and health plan rating (Table 4). Similarly, respondents that did not speak English well had higher CAHPS scores than English speakers for doctor communication, personal doctor rating, specialist rating, health care rating, and health plan rating.

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Compared to those that never had communication barriers with their personal doctor, respondents that sometimes had language communication barriers had lower CAHPS scores for getting needed care, doctor communication, personal doctor rating, specialist rating, and health plan rating (Table 5). Similarly, those that sometimes had language communication barriers with their personal doctor had lower scores for doctor communication and health plan rating compared to those that always had communication barriers.

Compared to English speakers, respondents with limited English proficiency (LEP) that did not have problems communicating with their personal doctor had higher CAHPS scores for getting needed care timeliness of care, doctor communication, personal doctor rating, specialist rating, health care rating, health plan rating (Table 6-7). Similarly, LEP respondents that did not need an interpreter had higher scores for doctor communication compared to those that used family and friends as an interpreter.

Compared to those that never perceived racial/ethnic discrimination, respondents that usually/always perceived discrimination had lower CAHPS scores for doctor communication, personal doctor rating, and health care rating (Table 8). Similarly, respondents that sometimes perceived such discrimination had lower CAHPS scores for getting needed care, timeliness of care, doctor communication, plan customer service, personal doctor rating, specialist rating, health care rating, and plan rating, compared to those that never experienced discrimination.

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Compared to those that never perceived discrimination because of Medicaid insurance, those that usually/always perceived discrimination had lower CAHPS scores for getting needed care, timeliness of care, doctor communication, plan service, personal doctor rating, specialist rating, health care rating, and health plan rating (Table 9). Similarly, those that sometimes perceived discrimination because of Medicaid had lower CAHPS scores for getting needed care, timeliness of care, doctor communication, plan service, personal doctor rating, specialist rating, health care rating, and health plan rating, compared to those that never experienced such discrimination.

Compared to English speakers, LEP individuals who never perceived discrimination based on language had higher CAHPS scores for getting needed care, timeliness of care, doctor communication, plan service, personal doctor rating, specialist rating, health care rating, and plan rating (Table 10). On the other hand, LEP respondents that sometimes perceived discrimination based on language had lower CAHPS scores than English speakers for doctor communication and plan rating; had lower CAHPS scores compared to LEP that never experienced such discrimination for getting needed care, timeliness of care, doctor communication, plan service, personal doctor rating, specialist rating, health care rating, and plan rating; and had lower scores than LEP that usually/always perceived such discrimination for doctor communication, plan service, personal doctor rating, and plan rating.

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The case-mix adjusted regression results are shown on Tables 11-18. The summary that follows describes only the statistically significant results as shown by the t-test for each regression coefficient. LEP respondents in general had higher CAHPS scores than English speakers for getting needed care, timeliness of care, doctor communication, plan customer service, personal doctor rating, specialist rating, health care rating, and plan rating. Similarly, LEP that did not need an interpreter had higher CAHPS scores than English speakers for getting needed care, timeliness of care, doctor communication, specialist rating, health care rating, and health plan rating.

However, there were variations in CAHPS scores among LEP depending on the presence of communication barriers and the availability of interpreter services. Those that sometimes had language barriers with their personal doctor had lower CAHPS scores for getting needed care, doctor communication, personal doctor rating, specialist rating, and health plan rating compared to those that never had language barriers. In addition, those that used family and friends as their preferred interpreter had lower CAHPS scores for doctor communication than English speakers

Regression results for racial/ethnic discrimination were very similar to the ANOVA results. Compared to those that never experienced discrimination based on race/ethnicity, those that usually/always perceived discrimination had lower CAHPS scores for doctor communication, personal doctor rating, and health care rating. Similarly, those that sometimes perceived discrimination based on race/ethnicity had lower CAHPS scores for getting needed care, timeliness of care, doctor communication, plan customer service,

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personal doctor rating, specialist rating, health care rating, and health plan rating, compared to those that never experienced such discrimination.

Regression results for perceived discrimination based on Medicaid insurance were similar to the ANOVA results. Compared to those that never experienced discrimination because of Medicaid, those that usually/always perceived discrimination had lower CAHPS scores for doctor communication, plan customer service, personal doctor rating, specialist rating, health care rating, and health plan rating. Similarly, those that sometimes perceived discrimination because of Medicaid insurance had lower CAHPS scores for getting needed care, timeliness of care, doctor communication, plan customer service, personal doctor rating, specialist rating, health care rating, and health plan rating, compared to those that never experienced such discrimination

Finally, regression results showed that respondents that sometimes perceived discrimination based on language had lower CAHPS scores for doctor communication, personal doctor rating, specialist rating, health care rating, and health plan rating, compared to those who never experienced discrimination. On the other hand, those that always perceived discrimination based on language had higher scores for health plan rating, compared to those who never experienced discrimination.

### **Conclusions/Policy Implications**

This study examined the relationships between patients' language barriers to care and perceptions of discrimination, and their experiences with Medicaid as shown by CAHPS

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reports and ratings of care. Study results show that a significant proportion of the surveyed population perceived discrimination as a result of race/ethnicity (9%), Medicaid insurance (14%), and language spoken (12% of limited English proficient individuals). Furthermore, 19 percent of the surveyed population indicated having difficulties communicating with their personal doctor.

The results suggest that language barriers to care and perceptions of discrimination based on race/ethnicity, Medicaid insurance, and language spoken are associated with lower CAHPS reports and rating of care. The study findings have several policy implications. As the state and Federal governments increase their efforts towards health plan accountability and public reporting of CAHPS measures, it is imperative that Medicaid health plans use quality improvement efforts to address perceptions of discrimination and language barriers to care of their enrolled patient population. Findings suggest that reducing language barriers to care and perceptions of discrimination can result in improved CAHPS reports and ratings of care.

While the study found that limited English proficient individuals had more favorable experiences than English speakers, their experiences were dependent on language access. Patient that experienced language barriers with their personal doctor, those that used family and friends as interpreters, and those that perceived discrimination based on language had lower CAHPS reports and ratings of care. This finding underscores the importance of having bilingual providers and language services to address language barriers to care.

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The study also suggests the importance of assessing cultural competency from the patients' perspective, and including these measures in patient health care surveys. CAHPS has been used to assess racial/ethnic and language differences in patient experiences with care(L. S. Morales et al., 2001; Weech-Maldonado et al., 2004; Weech-Maldonado et al., 2003 ; Weech-Maldonado et al., 2001 ). However, there are concerns that the CAHPS instrument does not fully capture domains of care that are particularly relevant to diverse populations(Ngo-Metzger et al., 2006). Current efforts by the Agency of Healthcare Research and Quality (AHRQ) and the Commonwealth Fund are aimed at developing and disseminating the Patient Assessments of Cultural Competency (PACC). The PACC addresses the cultural competency domains not adequately addressed in the current version of the CAHPS surveys: 1) Patient-provider communication; 2) Respect for patient preferences/ shared decision-making; 3) Experiences leading to trust or distrust; 4) Experiences of discrimination; 5) Health literacy strategies; and 6) Language services. This module will serve as a supplement item set to the CAHPS health plan and clinician and group survey instruments. The present study has used two of the domains captured by the PACC, experiences of discrimination and language services, and has examined their relationship with CAHPS reports and ratings of care.

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**Table 1**  
**CAHPS 4.0 Health Plan Survey Core Composites (Updated December 2007)**

<b>Survey Composites and Items (Questions in this section relate to the last 12 Months)</b>	<b>Response Format</b>
<b>Access: Getting Needed Care In the last 12 months...</b>	Never / Sometimes / Usually / Always
<b>Q17</b> How often was it easy to get an appointment with specialists?	N / S / U / A
<b>Q21</b> How often was it easy to get the care, tests, or treatment you thought you needed through your health plan	N / S / U / A
<b>Access: Getting Care Quickly In the last 12 months...</b>	N / S / U / A
<b>Q4</b> When you needed care right away, how often did you get care as soon as you thought you needed?	N / S / U / A
<b>Q6</b> Not counting the times you needed care right away, how often did you get an appointment for your health care at a doctor's office or clinic as soon as you thought you needed?	N / S / U / A
<b>How Well Doctor Communicate In the last 12 months...</b>	N / S / U / A
<b>Q11</b> How often did your personal doctor explain things in a way that was easy to understand?	N / S / U / A
<b>Q12</b> How often did your personal doctor listen carefully to you?	N / S / U / A
<b>Q13</b> How often did your personal doctor show respect for what you had to say?	N / S / U / A

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<p><b>Q14</b> How often did your personal doctor spend enough time with you?</p>	<p>N / S / U / A</p>
<p><b>Health Plan Customer Service In the last 12 months...</b></p>	
<p><b>Q23</b> How often did your health plan's customer service give you the information or help you needed?</p>	<p>N / S / U / A</p>
<p><b>Q24</b> How often did your health plan's customer service staff treat you with courtesy and respect?</p>	<p>N / S / U / A</p>
	<p><b>Global Ratings</b> <b>0</b> (Worst to <b>10</b> (Best)</p>
<p><b>Q8</b> Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?</p>	<p>0 – 10 _____</p>
<p><b>Q15</b> Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?</p>	<p>0 – 10 _____</p>
<p><b>Q19</b> <i>[We want to know your rating of the specialist you saw most often in the last 12 months.]</i> Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate that specialist?</p>	<p>0 – 10 _____</p>
<p><b>Q27</b> Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?</p>	<p>0 – 10 _____</p>

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**Table 2**  
**Discrimination Measures**

Measure	Scale
Race/Ethnicity	0= Never (Dis3a=1) 1= Sometimes (Dis3a=2) 2= Usually or Always (Dis3a= 3 OR Dis3a=4)
Medicaid Insurance	0= Never (Dis3c=1) 1= Sometimes (Dis3c=2) 2= Usually or Always (Dis3c= 3 OR Dis3c=4)
Language	0= English primary language, or speak English very well (LA1 = 1 OR LA2= 1) 1= Never ((LA2=2 OR LA2=3 OR LA2=4) AND LA3=1) 2= Sometimes ((LA2=2 OR LA2=3 OR LA2=4) AND LA3=2) 3= Usually or Always ((LA2=2 OR LA2=3 OR LA2=4) AND (LA3= 3 OR LA3=4))

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**Table 3**  
**Language Barriers to Care**

Measure	Scale
English Proficiency	0= English speaker (LA1 = 1 OR LA2= 1 OR LA2=2) 1= Does Not Speak English Well (LA2= 3) 2= Does Not Speak English at All (LA2=4)
Language Communication Barriers with Personal Doctor	0= Never (C1=1) 1= Sometimes (C1=2) 2= Usually or Always (C1=3 OR C1=4)
Access to Interpreter Services	0= Did not need an interpreter (LA1= 1 OR LA2= 1 OR LA2=2) 1= Limited English proficiency, but did not need an interpreter (IF (LA2=3 OR LA2=4) AND (C1=1)) 2= Limited English proficiency, used interpreter other than family and friends (IF (LA2=3 OR LA2=4) AND LA5=1 AND (LA6=1)) 3= Limited English proficiency, used Family and Friends as their preferred interpreter (IF (LA2=3 OR LA2=4) AND LA5=1 AND LA8=1) 4= Limited English proficiency, used Family and Friends but not their preference (IF (LA2=3 OR LA2=4) AND LA5=1 AND LA8=2)

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**Table 4**  
**Means for English Proficiency**

	0= English Speaker	1= Non-English Speaker, Does Not Speak English Well	2= Non-English Speaker, Does Not Speak English at All	F-test
Timeliness of Care	80.5	86.0	84.5	3.7*
Getting Needed Care	69.5	77.5	79.4	7.1***
Provider Communication	86.3	93.5	92.4	14.0***
Health Plan Customer Service	72.8	83.3	86.0	6.7**
Personal Doctor Rating	86.1	92.2	93.9	23.2***
Specialist Rating	86.7	92.4	93.7	12.9***
Health Care Rating	79.1	85.3	85.1	9.6***
Health Plan Rating	80.1	89.7	92.3	38.1***

\*<.05

\*\*<.01

\*\*\*<.001

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**Table 5**  
**Means for Language Communication Barriers with Personal Doctor**

	0= Never	1= Sometimes	2= Usually or Always	F-test
Timeliness of Care	82.5	77.9	80.6	1.24
Getting Needed Care	73.9	57.7	68.1	8.1***
Provider Communication	89.4	74.0	87.9	25.8***
Health Plan Customer Service	76.9	67.6	79.1	1.8
Personal Doctor Rating	89.5	81.7	86.5	7.8***
Specialist Rating	89.1	82.1	88.2	3.9*
Health Care Rating	82.1	76.2	77.8	4.3*
Health Plan Rating	84.2	75.3	84.1	6.3**

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**Table 6**  
**Means for Access to Interpreter Services by Reports of Care**

	Timeliness of Care	Getting Needed Care	Provider Communication	Health Plan Customer Service
0= English speakers	80.5	69.5	86.3	72.8
1= Limited English proficiency, but did not need an interpreter	86.7	82.8	94.1	83.9
2= Limited English proficiency, used interpreter other than family and friends	75.0	60.4	83.3	73.3
3= Limited English proficiency, used family and friends as preferred interpreter	77.7	52.7	69.4	75.0
4= Limited English proficiency, used family and friends as interpreter but that was not preferred	81.2	59.7	85.4	79.1
F-test	2.02	4.9***	7.0***	1.8

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**Table 7**  
**Means for Access to Interpreter Services by Ratings of Care**

	Personal Doctor Rating	Specialist Rating	Health Care Rating	Health Plan Rating
0= Did not need an interpreter	86.1	86.7	79.1	80.1
1= Limited English proficiency, but did not need an interpreter	94.7	93.7	87.2	92.0
2= Limited English proficiency, used interpreter other than family and friends	85.0	86.2	71.4	81.6
3= Limited English proficiency, used family and friends as preferred interpreter	86.2	88.3	85.0	91.2
4= Limited English proficiency, used family and friends as interpreter but that was not preferred	86.6	95.5	88.6	77.7
F-test	8.7***	4.2***	6.1***	11.6***

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**Table 8**  
**Means for Discrimination- Race/Ethnicity**

	0= Never	1= Sometimes	2= Usually or Always	F-test
Timeliness of Care	82.4	70.9	78.9	4.5*
Getting Needed Care	73.6	51.8	64.6	10.0***
Provider Communication	89.1	75.6	80.7	15.4***
Health Plan Customer Service	77.5	51.8	75.0	9.3***
Personal Doctor Rating	89.0	81.9	81.2	8.5***
Specialist Rating	89.3	81.4	85.7	3.6*
Health Care Rating	82.1	68.2	72.5	12.8***
Health Plan Rating	84.2	70.1	80.9	10.4***

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**Table 9**  
**Means for Discrimination- Medicaid Insurance**

	0= Never	1= Sometimes	2= Usually or Always	F-test
Timeliness of Care	83.0	71.9	75.3	9.3***
Getting Needed Care	74.9	56.4	61.2	15.0***
Provider Communication	90.2	75.7	75.8	41.4***
Health Plan Customer Service	78.8	62.3	63.8	10.1***
Personal Doctor Rating	90.1	79.5	74.8	42.6***
Specialist Rating	90.2	78.8	83.1	14.7***
Health Care Rating	82.7	71.9	68.9	37.9***
Health Plan Rating	85.6	70.1	71.2	23.2***

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**Table 10**  
**Means for Discrimination- Language**

	0= English speaker	0= Never	1= Sometimes	2= Usually or Always	F-test
Timeliness of Care	80.7	85.6	69.2	81.5	4.1**
Getting Needed Care	68.6	81.3	56.2	70.5	10.3***
Provider Communication	86.1	93.1	73.2	93.6	14.3***
Health Plan Customer Service	72.2	84.8	56.9	90.6	7.4***
Personal Doctor Rating	86.0	93.2	78.0	92.1	16.2***
Specialist Rating	87.0	92.9	76.0	84.0	8.7***
Health Care Rating	78.9	85.9	68.6	80.0	9.7***
Health Plan Rating	80.1	90.8	68.0	94.3	28.7***

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**Table 11**  
**Regression Results for Getting Needed Care**

	Coefficient	Std. Err.	T	P>t
Does Not Speak English Well	5.9	3.5	1.7	0.09
Does Not Speak English at All	8.1	3.2	2.5	0.01
Limited English proficiency, but did not need an interpreter	9.8	3.0	3.2	0.00
Limited English proficiency, used interpreter other than family and friends	-11.5	12.2	-0.9	0.35
Limited English proficiency, used family and friends as preferred interpreter	-19.1	14.1	-1.4	0.18
Limited English proficiency, used family and friends as interpreter but that was not preferred	-9.1	10.0	-0.9	0.36
Language communication barriers with personal doctor/sometimes	-11.4	4.2	-2.7	0.01
Language communications with personal doctor/usually or always	-2.5	3.7	-0.7	0.51
Sometimes perceived discrimination due to race/ethnicity	-18.6	5.3	-3.5	0.00
Usually/always perceived discrimination due to race/ethnicity	-5.7	5.0	-1.1	0.26
Sometimes perceived discrimination due to Medicaid insurance	-12.8	4.1	-3.1	0.00

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	Coefficient	Std. Err.	T	P>t
Usually/always perceived discrimination due to Medicaid insurance	-8.1	4.2	-1.9	0.05
Sometimes perceived discrimination due to language	-13.1	8.7	-1.5	0.13
Usually/always perceived discrimination due to language	-2.9	6.9	-0.4	0.67

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**Table 12**  
**Regression Results for Timeliness of Care**

	Coeff.	Std. Err	T	P>t
Does Not Speak English Well	7.1	2.6	2.8	0.01
Does Not Speak English at All	5.3	2.3	2.3	0.02
Limited English proficiency, but did not need an interpreter	7.1	2.2	3.2	0.00
Limited English proficiency, used interpreter other than family and friends	-4.7	11.6	-0.4	0.68
Limited English proficiency, used family and friends as preferred interpreter	-3.6	11.7	-0.3	0.76
Limited English proficiency, used family and friends as interpreter but that was not preferred	1.1	7.2	0.2	0.88
Language communication barriers with personal doctor/sometimes	-2.1	3.3	-0.6	0.54
Language communications with personal doctor/usually or always	0.5	2.8	0.2	0.86
Sometimes perceived discrimination due to race/ethnicity	-9.1	4.2	-2.2	0.03
Usually/always perceived discrimination due to race/ethnicity	-1.4	3.7	-0.4	0.72
Sometimes perceive	-8	3.2	-2.6	0.01

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	Coeff.	Std. Err	T	P>t
discrimination due to Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-5.0	3.1	-1.6	0.10
Sometimes perceived discrimination due to language	-10.4	6.6	-1.6	0.12
Usually/always perceived discrimination due to language	0.4	5.4	0.1	0.94

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**Table 13**  
**Regression Results for Doctor Communication**

	Coef.	Std. Err.	T	P>t
Does Not Speak English Well	6.4	1.8	3.5	0.00
Does Not Speak English at All	5.3	1.6	3.2	0.00
Limited English proficiency, but did not need an interpreter	6.1	1.5	4.1	0.00
Limited English proficiency, used interpreter other than family and friends	-4.7	7.6	-0.6	0.54
Limited English proficiency, used family and friends as preferred interpreter	-18.0	8.3	-2.2	0.03
Limited English proficiency, used family and friends as interpreter but that was not preferred	-2.4	6.7	-0.4	0.72
Language communication barriers with personal doctor/sometimes	-15.2	2.2	-7.1	0.00
Language communications with personal doctor/usually or always	-1.4	1.8	-0.8	0.41
Sometimes perceived discrimination due to race/ethnicity	-13.3	2.9	-4.6	0.00
Usually/always perceived discrimination due to race/ethnicity	-8.8	2.7	-3.2	0.00
Sometimes perceive	-13.7	2.2	-6.1	0.00

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	Coef.	Std. Err.	T	P>t
discrimination due to Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-13.8	2.1	-6.6	0.00
Sometimes perceived discrimination due to language	-14.8	4.9	-3.0	0.00
Usually/always perceived discrimination due to language	4.8	3.5	1.4	0.18

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**Table 14**  
**Regression Results for Health Plan Customer Service**

	Coef.	Std. Err.	t	P>t
Does Not Speak English Well	11.4	5.0	2.3	0.02
Does Not Speak English at All	11.4	4.8	2.4	0.02
Limited English proficiency, but did not need an interpreter	7.8	4.7	1.6	0.10
Limited English proficiency, used interpreter other than family and friends	0.7	14.2	0.1	0.96
Limited English proficiency, used family and friends as preferred interpreter	-0.6	13.0	0.0	0.97
Limited English proficiency, used family and friends as interpreter but that was not preferred	3.6	15.8	0.2	0.82
Language communication barriers with personal doctor/sometimes	-6.2	5.5	-1.1	0.26
Language communications with personal doctor/usually or always	6.1	4.6	1.3	0.18
Sometimes perceived discrimination due to race/ethnicity	-20.5	6.2	-3.3	0.00
Usually/always perceived discrimination due to race/ethnicity	-0.3	5.2	-0.1	0.96
Sometimes perceived discrimination due to	-12.0	5.2	-2.3	0.02

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	Coef.	Std. Err.	t	P>t
Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-10.9	4.6	-2.4	0.02
Sometimes perceived discrimination due to language	-17.1	9.1	-1.9	0.06
Usually/always perceived discrimination due to language	11.3	8.1	1.4	0.16

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**Table 15**  
**Regression Results for Health Care Rating**

	Coef.	Std. Err.	T	P>t
Does Not Speak English Well	6.4	2.1	3.0	0.00
Does Not Speak English at All	5.3	1.8	2.9	0.00
Limited English proficiency, but did not need an interpreter	7.7	1.7	4.5	0.00
Limited English proficiency, used interpreter other than family and friends	-8.8	8.8	-1.0	0.32
Limited English proficiency, used family and friends as preferred interpreter	5.1	8.3	0.6	0.53
Limited English proficiency, used family and friends as interpreter but that was not preferred	9.1	6.0	1.5	0.13
Language communication barriers with personal doctor/sometimes	-3.5	2.6	-1.4	0.18
Language communications with personal doctor/usually or always	-2.5	2.2	-1.1	0.26
Sometimes perceived discrimination due to race/ethnicity	-12.1	3.5	-3.5	0.00
Usually/always perceived discrimination due to race/ethnicity	-9.7	3.2	-3.1	0.00
Sometimes perceived discrimination due to	-8.0	2.6	-3.1	0.00

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	Coef.	Std. Err.	T	P>t
Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-11.7	2.6	-4.6	0.00
Sometimes perceived discrimination due to language	-11.8	6.1	-2.0	0.05
Usually/always perceived discrimination due to language	-1.3	4.0	-0.3	0.73

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**Table 16**  
**Regression Results for Doctor Rating**

	Coef.	Std. Err.	T	P>t
Does Not Speak English Well	5.7	1.6	3.5	0.00
Does Not Speak English at All	6.4	1.4	4.4	0.00
Limited English proficiency, but did not need an interpreter	6.2	1.4	4.5	0.00
Limited English proficiency, used interpreter other than family and friends	-4.1	5.7	-0.7	0.47
Limited English proficiency, used family and friends as preferred interpreter	-1.9	6.9	-0.3	0.78
Limited English proficiency, used family and friends as interpreter but that was not preferred	-1.5	4.6	-0.3	0.74
Language communication barriers with personal doctor/sometimes	-6.7	2.1	-3.2	0.00
Language communications with personal doctor/usually or always	-2.8	1.7	-1.7	0.10
Sometimes perceived discrimination due to race/ethnicity	-7.4	2.6	-2.8	0.01
Usually/always perceived discrimination due to race/ethnicity	-8.8	2.4	-3.7	0.00
Sometimes perceived discrimination due to	-10.2	2.1	-5.0	0.00

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	Coef.	Std. Err.	T	P>t
Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-15.2	1.9	-8.2	0.00
Sometimes perceived discrimination due to language	-10.2	4.3	-2.4	0.02
Usually/always perceived discrimination due to language	2.2	3.1	0.7	0.48

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**Table 17**  
**Regression Results for Specialist Rating**

	Coef.	Std. Err.	T	P>t
Does Not Speak English Well	5.3	2.0	2.7	0.01
Does Not Speak English at All	6.2	1.7	3.6	0.00
Limited English proficiency, but did not need an interpreter	5.4	1.7	3.3	0.00
Limited English proficiency, used interpreter other than family and friends	-2.1	7.0	-0.3	0.76
Limited English proficiency, used family and friends as preferred interpreter	-0.5	8.1	-0.1	0.96
Limited English proficiency, used family and friends as interpreter but that was not preferred	7.4	6.6	1.1	0.26
Language communication barriers with personal doctor/sometimes	-6.3	2.6	-2.4	0.02
Language communications with personal doctor/usually or always	0.0	2.1	0.0	1.00
Sometimes perceived discrimination due to race/ethnicity	-6.8	3.5	-2.0	0.05
Usually/always perceived discrimination due to race/ethnicity	-3.7	2.9	-1.3	0.21
Sometimes perceive	-9.5	2.5	-3.7	0.00

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	Coef.	Std. Err.	T	P>t
discrimination due to Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-5.7	2.4	-2.3	0.02
Sometimes perceived discrimination due to language	-13.3	6.3	-2.1	0.03
Usually/always perceived discrimination due to language	-6.1	4.3	-1.4	0.16

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**Table 18**  
**Regression Results for Health Plan Rating**

	Coef.	Std. Err.	T	P>t
Does Not Speak English Well	9.8	2.0	5.0	0.00
Does Not Speak English at All	11.1	1.7	6.5	0.00
Limited English proficiency, but did not need an interpreter	9.5	1.7	5.6	0.00
Limited English proficiency, used interpreter other than family and friends	-1.8	7.0	-0.3	0.80
Limited English proficiency, used family and friends as preferred interpreter	8.7	8.6	1.0	0.31
Limited English proficiency, used family and friends as interpreter but that was not preferred	-3.5	5.7	-0.6	0.54
Language communication barriers with personal doctor/sometimes	-5.5	2.6	-2.1	0.04
Language communications with personal doctor/usually or always	1.9	2.1	0.9	0.38
Sometimes perceived discrimination due to race/ethnicity	-11.6	3.3	-3.5	0.00
Usually/always perceived discrimination due to race/ethnicity	-2.5	2.9	-0.9	0.39
Sometimes perceive	-11.2	2.5	-4.4	0.00

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	Coef.	Std. Err.	T	P>t
discrimination due to Medicaid insurance				
Usually/always perceived discrimination due to Medicaid insurance	-11.2	2.3	-4.8	0.00
Sometimes perceived discrimination due to language	-13.3	5.3	-2.5	0.01
Usually/always perceived discrimination due to language	10.0	3.9	2.6	0.01

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## Appendix A: Cultural Competency Items

Question	Response Scale
<p>LA1: Is English your primary language?</p>	<p>1 Yes 2 No</p>
<p>LA2 How well do you speak English?</p>	<p>1 Very Well 2 Well 3 Not Well 4 Not at all</p>
<p>LA3 In the last 6 months, how often have you been treated unfairly at this doctor's office because you do not speak English very well?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>LA4 How well do you understand English?</p>	<p>1 Very well 2 Well 3 Not well 4 Not at all</p>
<p>LA5 In the last 6 months, did you ever use an interpreter to help you talk with this doctor?</p>	<p>1 Yes 2 No</p>
<p>LA6 In the last 6 months, how often did you use a friend or family member as an interpreter when you talked with this doctor?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>LA7 In the last 6 months, did you use friends or family members as interpreters because there was no other interpreter available at this doctor's office?</p>	<p>1 Yes 2 No</p>

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<p>LA8 In the last 6 months, did you use friends or family members as interpreters because that was your personal preference?</p>	<p>1 Yes 2 No</p>
<p>LA9 In the last 6 months, how often did you use other interpreters when you talked with this doctor?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>LA10 In the last 6 months, how often did your visit with this doctor start late because you had to wait for an interpreter?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>La11 In the last 6 months, when you used an interpreter provided by the doctor's office, who was the interpreter you used most often when you talked with this doctor?</p>	<p>1 A nurse, clerk or receptionist from this doctor's office 2 A professional interpreter hired by this doctor's office to help patients talk with the doctor 3 A telephone interpreter 4 Someone else... Who?</p>
<p>LA12: In the last 6 months, how often did the interpreter you had most often at this doctor's office do a good job? Do not include friends or family members.</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>LA13 Using any number from 0 to 10 where 0 is the worst interpreter possible and 10 is the best interpreter possible, what number would you use to rate the interpreter you had most often at this doctor's office?</p>	<p>0-10</p>
<p>LA14 In the last 6 months, how often did you need an interpreter and did not get one at this doctor's office? Do not include friends or family members.</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>

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<p>DIS3a In the last 6 months, how often have you been treated unfairly at this doctor's office because of your race or ethnicity?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>
<p>C1: In the last 6 months, how often did you have a hard time speaking with or understanding your personal doctor because you spoke different languages?</p>	<p>1 Never 2 Sometimes 3 Usually 4 Always</p>

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