Hablamos Juntos (Together We Speak): Interpreters, Provider Communication, and Satisfaction with Care

Gerardo Moreno, MD, MSHS[1,2] and Leo S. Morales, MD, PhD[3,4]

[1]Robert Wood Johnson Clinical Scholars Program at UCLA, Los Angeles, CA, USA; [2]Department of Family Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA; [3]Group Health Research Institute, Seattle, WA, USA; [4]Department of Health Services, School of Public Health University of Washington, Seattle, WA, USA.

BACKGROUND: The Hablamos Juntos—*Together We Speak* (HJ)—national demonstration project targeted the improvement of language access for Spanish-speaking Latinos in areas with rapidly growing Latino populations. The objective of HJ was to improve doctor-patient communication by increasing access to and quality of interpreter services for Spanish-speaking patients.

OBJECTIVE: To investigate how access to interpreters for adult Spanish-speaking Latinos is associated with ratings of doctor/office staff communication and satisfaction with care.

DESIGN: Cross-sectional cohort study.

PATIENTS: A total of 1,590 Spanish-speaking Latino adults from eight sites across the United States who participated in the outpatient HJ evaluation.

MEASUREMENTS: We analyzed two multi-item measures of doctor communication (4 items) and office staff helpfulness (2 items), and one global item of satisfaction with care by interpreter use. We performed regression analyses to control for patient sociodemographic characteristics, survey year, and clustering at the site of care.

RESULTS: Ninety-five percent of participants were born outside the US, 81% were females, and survey response rates ranged from 45% to 85% across sites. In this cohort of Spanish-speaking patients, those who needed and always used interpreters reported better experiences with care than their counterparts who needed but had interpreters unavailable. Patients who always used an interpreter had better adjusted ratings of doctor communication [effect size (ES=0.51)], office staff helpfulness (ES=0.37), and satisfaction with care (ES=0.37) than patients who needed but did not always use an interpreter. Patients who needed and always used interpreters also reported better experiences with care in all three domains measured [doctor communication (ES=0.30), office staff helpfulness (ES=0.21), and satisfaction with care (ES=0.23)] than patients who did not need interpreters.

CONCLUSIONS: Among adult Spanish-speaking Latinos, interpreter use is independently associated with higher satisfaction with doctor communication, office staff helpfulness, and ambulatory care. Increased attention to the need for effective interpreter services is warranted in areas with rapidly growing Spanish-speaking populations.

INTRODUCTION

The last 20 years have been marked by unparalleled increases in Latino populations across many communities in the US. Between 2000 and 2006, Latinos accounted for one-half of the nation's growth and have increased dramatically in many Midwestern and Southern areas of the country. Arkansas and Georgia, for example, experienced a 60% growth rate in their Latino population during that period[1]. The Latino migration to new areas of the US has made the provision of language access services in those areas a challenge for health care systems[2–6]. Indeed, this demographic shift poses daunting linguistic challenges to health care providers who may be providing medical treatment to significant numbers of linguistically diverse patients for the first time. A recent survey study found that physicians in communities with small but expanding Latino populations report more language barriers than do physicians practicing in major Latino population centers[7].

Research has documented that Latinos with limited English proficiency (LEP) face barriers to receiving high quality health care services[8–10]. Specifically, Latinos who speak Spanish are less satisfied with provider communication than English-speaking patients[11–13]. For Latinos who need interpretive services, studies have documented the important benefits of utilizing professional interpreters[14–16]. In one of the first studies of interpreters, Spanish-speaking patients who received care in the ED and communicated through an interpreter or who did not have an interpreter when they thought one was necessary were less satisfied with the patient-provider relationship compared to their counterparts that did not need interpreters[17]. In a recent hospital study, uninsured Spanish-speaking adults who used interpreters were more satisfied with provider communication than those who did not use interpreters[18]. Less research has focused on the relationships between interpreter use and the combination of patient satisfaction with care, provider communication, and office

staff helpfulness within a Latino cohort in ambulatory care settings.

Our purpose in conducting this study was to investigate the associations between the use of interpreters and patient ratings of provider communication and satisfaction with care among Spanish-speaking adults receiving ambulatory health care services. We hypothesized that Spanish-speaking Latinos, who need and use interpreters, will report higher ratings of provider-communication and satisfaction with care than those who do not use them. This study expands on previous studies in a number of ways, including (1) using data from adult patients with and without insurance coverage; (2) examining data from a large cohort of adult Spanish-speaking Latinos; and (3) including patients from communities that have recently experienced large increases in Latino populations.

METHODS

Sample

We analyzed cross-sectional pooled data from 2003 and 2006 of 1,590 Spanish-speaking Latino adults that participated in the evaluation of the Hablamos Juntos (HJ) national demonstration project[19]. HJ was funded by the Robert Wood Johnson Foundation targeting language access for Latinos with LEP in multiple sites across the US with a primary objective to improve doctor-patient communication by increasing access to and quality of interpreter services for Spanish-speaking patients. The eight clinical sites that participated in the outpatient program evaluation were located in Alabama, Nebraska, Pennsylvania, Rhode Island, South Carolina, Texas, California, and Washington. The HJ selection criteria required that sites be located in areas that had recently experienced large growths in Latino populations.

Two methods were used to recruit participants in the survey (passive versus active consent). For six sites, administrative record and surname analysis was used to identify and contact potential Latino participants (passive). For the remaining two other sites, patients were recruited directly in clinic waiting rooms (active). The survey response rates ranged from 45% to 85% across sites, and the survey was conducted by bilingual interviewers using computer-assisted telephone interviews (CATI). Higher response rates were obtained in sites that used active consent recruitment than those that used passive consent recruitment. The CATI survey took on average 22 min to complete, and up to 15 callbacks were made at various times of the day and days of the week. No contact information or incorrect contact information accounted for 90% of the non-response. The remaining 10% were due to ineligibility, not English or Spanish speaking, or refusal to participate. The incentive to complete the survey was $10, and patients who initially refused were called back to attempt refusal conversions. The protocol was approved by the RAND Corporation (Santa Monica, CA) IRB and the IRB at each clinical site. A general evaluation of the HJ national initiative has been published[19,20].

Dependent Variables

We examined four survey items that asked patients to rate (in the last 6 months) the quality of doctor communication in four areas: (1) listening carefully to patients; (2) explaining things in a way patients could understand; (3) showing respect for what patients have to say; and (4) spending enough time with patients. Two additional items asked patients about office staff communication in their doctor's office in two areas: (1) being courteous and respectful; and (2) being helpful. The response options to these six questions were administered using a 4-point response scale (*never*, *sometimes*, *usually*, and *always*) and used to calculate composite sores (0–100 scale) for doctor communication and office staff helpfulness. We also examined a single global item of patient ratings of satisfaction with overall ambulatory health care provided over the last 6 months (0–10 scale). These items were adapted from the Consumer Assessment of Health Plans Survey (CAHPS®)[21] and culturally tailored if necessary to specific HJ settings and population.

Independent Variables

Patients were classified into three groups[11,17,18,22,23] based on how they responded to two questions about interpreters during the last 6 months. Those patients who did not need interpreters were categorized as "interpreter not needed." They represent the gold standard or patients who should ideally experience clinical encounters that facilitate sound conditions for healthful doctor-patient communication. Patients who needed interpreters were asked a follow-up question about how frequently they had interpreters available for use (response options: *always, usually, sometimes*, and *never*). All patients were put into one of the following categories: interpreter not needed, interpreter needed and always available, or interpreter needed but not available. Because of sample size considerations, those who answered *usually/sometimes/never* were put into the final category.

We also examined an additional set of survey items on patient sociodemographic characteristics including age (categorized as 18–29 years, 30–44 years, and ≥45 years), gender (dichotomous), marital status (dichotomous), education (categorized as >6 years of school, between 7–12 years of school, and >12 years of school). Patients were asked how many people were supported by income that they (and/or their spouse or partner) earn. Based on this household size, interviewers calculated the incomes corresponding to the poverty level and 1/2 the poverty level. We used the 2002 (survey wave 1) and 2005 (survey wave 2) US federal poverty guidelines to determine the federal poverty level. Interviewers used a series of questions using the poverty level corresponding to the reported household size to determine whether the respondent's income was above the poverty level, between 1/2 and at the poverty level, or less then 1/2 the poverty level.

Finally, we analyzed items that asked patients about health insurance coverage (insured versus uninsured), self-rated health status (response options: *excellent, very good, good, fair*, and *poor*), and presence of selected chronic conditions (diabetes, hypertension, asthma, and high cholesterol). We constructed dichotomous variables to indicate survey year (wave) and recruitment method.

Statistical Analysis

We used Stata (version 10.1) statistical software to conduct all analyses for this study. The dependent variables for this study

were composed of two multi-item composite measures of doctor communication (4 items), office staff communication (2 items), and one global item on satisfaction with overall ambulatory care. The composite scores were computed by transforming the item scores linearly to a metric with a possible range of 0–100 and then averaging across items in the same scale. The internal consistency reliability for the doctor communication composite, assessed with Cronbach's alpha statistic, was 0.82. Mean scores for satisfaction with care and the office staff communication composite scores (α = 0.74) were calculated in similar fashion.

We computed frequencies to describe the sample's characteristics and need and use of interpreters. One-way analysis of variance (ANOVA) was then used to assess statistically significant unadjusted differences between mean scores for patient ratings of care across items by use and availability of interpreters.

The income item had 19% missing values and was imputed five times using (Stata version 10.1) multiple imputations by a chained equations (ICE) statistical program, which uses an iterative multivariable regression imputation technique[24]. All other independent variables that we examined had less than 0.6% missing values. For this study, an a priori decision was made to not profile or rank individual study sites, but rather to focus on patient reports of care with respect to communication and satisfaction with care. We used studies in the literature to guide our selection of covariates and model factors that influence provider communication and patient satisfaction with care[12,17,22,23,25]. Using the imputed dataset, we conducted three multiple variable linear regression models to estimate the impact of interpreters on our three outcome measures while adjusting for survey year and clustering[26] at the site of care [intraclass correlation coefficient (ICC) =0.020–0.026]. Finally, we estimated the adjusted composite and global rating scores.

We replicated our regression models discounting participants with missing data and found little difference in results from those obtained with imputed data. In other analyses, we also controlled for the number of physician visits and number of self-reported chronic conditions (diabetes, hypertension, high cholesterol, and asthma), but found no difference in the results from those reported (data not shown). We also conducted a series of sensitivity analyses for all outcome measures by including a variable that indicated the type of recruitment method but, again, found no difference from the reported coefficients and standard errors (data not shown). Finally, because of skewness in the distribution of responses, we transformed each dependent variable by dividing its square root by 100 and re-estimated each model using the transformed dependent variables. However, we only found a small difference in the coefficients and standard errors and report the results using untransformed dependent variables. For all analyses in this study, a p-value of <0.05 was used to determine statistical significance.

RESULTS

Sample Characteristics

The mean age of HJ participants was 39 years (SD=13), and 81% of them were female (Table 1). Approximately 69% of

Table 1. Sociodemographic Characteristics, Health Status, and Insurance Coverage Among *Hablamos Juntos* Survey Participants (N=1,590)

Characteristic	Freq (n=1,590)	%
Age (years)		
18–29	423	27
30–44	666	42
≥45	501	31
Female	1,293	81
Education (years)		
0–6	597	38
7–11	495	31
≥12	476	30
Marital status		
Married	848	54
Separated, divorced, widowed	370	24
Never married, single	355	22
Insured	1,108	70
Family income*		
Less than 1/2 the poverty level	323	25
1/2 to at the poverty level	494	38
Above the poverty level	475	37
Labor force participation†	996	63
Birthplace		
United States	76	5
Mexico	843	53
Central America	216	14
Caribbean	344	22
South America/Other	102	6
Self-reported health status		
Excellent	109	7
Very good	161	10
Good	491	31
Fair	684	43
Poor	134	9
Household size (adults and children)		
1–2	220	14
3–4	684	44
5–6	512	33
7+	148	9

Poverty level was calculated using the US federal poverty guidelines. Two items were used to determine poverty level including (1) the number of people supported by income that respondent and/or their spouse or partner earn, and (2) total household income amount. †Employed or looking for employment

participants had completed less than 12 years of school, and about half (54%) of them were married. Having any type of health insurance was reported by 70% of participants, and 63% had at least one chronic condition (diabetes, asthma, hypertension, high cholesterol, or depression). Sixty-three percent of participants reported US citizenship. Fifty-three percent of participants were of Mexican ethnic origin, with the second largest group being from the Caribbean (22%; includes Puerto Ricans). Fair or poor health status was self-reported by 52% of participants.

Ninety-nine percent of patients responded to the survey in Spanish. Eighteen percent of respondents indicated that they did not need an interpreter, and of those who needed an interpreter, 39% indicated that one was always made available. Thirteen percent of respondents indicated they needed an interpreter and never had one available. The rest of participants indicated that they needed an interpreter and usually or sometimes had one available. The need and use of interpreters ranged from 71–92% and 57–83% between sites, respectively.

Table 2. Unadjusted Doctor Communication, Office Staff Helpfulness, and Satisfaction with Care Scores and Standard Errors (SE) by Interpreter Need and Use

	Did not need interpreter	Need interpreter		P-value*
	score (SE)	*always available score (SE)*	*Not available score (SE)*	
Doctor communication				
Doctor listens carefully	88.33 (1.43)	93.11 (0.78)	83.21 (1.02)	<0.001
Doctor explains things well	87.07 (1.51)	90.95 (0.89)	80.01 (1.15)	<0.001
Doctor respects your comments	89.88 (1.39)	93.81 (0.77)	85.14 (1.03)	<0.001
Doctor spends enough time	86.26 (1.55)	91.98 (0.83)	80.33 (1.09)	<0.001
Doctor's staff				
Staff courteous and respectful	84.75 (1.54)	89.77 (0.95)	81.11 (1.11)	<0.001
Staff helpful	80.78 (1.67)	87.13 (1.01)	76.68 (1.16)	<0.001
Global rating				
Satisfaction with health care	88.85 (0.96)	92.30 (0.58)	85.99 (0.67)	<0.001

Note: The responses to individual items were transformed into 0–100 scale with 100 representing the best score
*Statistically significant at a p-value <0.001 level as assessed by one-way ANOVA

Unadjusted Scores

Table 2 shows individual item scores for composite and global measures by interpreter need and use among HJ participants. Among the four items that compose the doctor communication composite score, patients rated doctor communication the lowest when asked about time and explanations. The item that queried patients about staff helpfulness had the lowest mean scores regardless of need and use of interpreter services. Individual mean scores were greatest for the global item on satisfaction with overall health care. All seven individual items varied significantly (p-value <0.001) across interpreter need and use categories.

Multivariate Results

Table 3 reports multivariate regression results for the patient communication composite and satisfaction measures. Always using an interpreter was strongly and independently associated with greater satisfaction with overall care and doctor/staff communication. Specifically, always using an interpreter was independently associated with a 6.04 [standard error (SE)=1.47; p-value <0.001] and a 5.29 (SE=1.83; p-value <0.001) point increase in doctor and staff communication scores, respectively, compared to scores from patients who indicated that they did not need an interpreter. Always using an interpreter was independently associated with a 3.65 (SE=1.19; p-value <0.01) point

Table 3. Multivariate Regression Results for Doctor and Office Staff Communication Composite Scores and Satisfaction with Health Care Global Scores for *Hablamos Juntos* Participants

	Doctor communication		Office staff communication		Satisfaction with health care	
Patient characteristics and interpreter need and use	β-Coefficient (SE)		β-Coefficient (SE)		β-Coefficient (SE)	
Interpreter need and use						
Did not need interpreter	REF	—	REF	—	REF	—
Need interpreter, always available	6.04‡	(1.47)	5.29‡	(1.83)	3.65†	(1.19)
Need interpreter, not available	-4.28‡	(1.42)	-3.78*	(1.77)	-2.39*	(1.15)
Age						
18–29 years	REF	—	REF	—	REF	—
30–44 years	-0.04	(1.24)	0.82	(1.54)	0.63	(1.00)
≥45 years	4.18‡	(1.38)	6.35‡	(1.71)	4.72‡	(1.12)
Female	-1.89	(1.31)	-0.12	(1.62)	-2.24*	(1.06)
Married	-1.23	(1.04)	-3.25*	(1.27)	-0.49	(0.82)
Education (years completed)						
≥12 years	REF	—	REF	—	REF	—
7–11 years	0.33	(1.27)	-0.75	(1.57)	2.04*	(1.02)
0–6 years	-0.09	(1.28)	2.09	(1.59)	2.12*	(1.04)
Family income for household size						
Above the poverty level	REF	—	REF	—	REF	—
1/2 to at the poverty level	0.81	(1.46)	-2.06	(1.64)	-0.14	(1.04)
Less than half the poverty level	1.96	(1.37)	-2.14	(1.84)	-0.28	(1.11)
Insured	2.90*	(1.11)	1.10	(1.38)	1.08	(0.89)
Self-rated health status						
Excellent	REF	—	REF	—	REF	—
Very good	-1.15	(2.45)	-5.03	(3.03)	-2.48	(1.97)
Good	-3.07	(2.10)	-1.29	(2.59)	-5.01‡	(1.68)
Fair	-5.13*	(2.05)	-5.26*	(2.53)	-6.86‡	(1.64)
Poor	-12.78‡	(2.57)	-8.52*	(3.18)	-12.87‡	(2.08)
Predicted mean composite score	87.18	(SD=5.95)	83.30	(SD=6.00)	88.99	(SD=4.54)

*p<0.05; †p<0.01; ‡p<0.001
REF = referent category
*SD = standard deviation*
Notes: (1) Model adjusted for survey wave (year) and site of care using random-effects models. A comparison with fixed effects found little difference in results, and both fixed effects and random effects models yielded consistent results under the Hausman-Wu test. We only report results from more efficient random effects models. (2) Poverty level was calculated using the US federal poverty guidelines (2002 and 2005).

increase in overall satisfaction with ambulatory care. Needing and not having an interpreter available for use was significantly associated with a -4.28 (SE=1.42; p-value <0.001) point decrease in doctor communication score compared to patients who did not need interpreters.

Being of older age (≥45 years) was associated with a greater satisfaction with care on all satisfaction measures. Having insurance was significantly associated with a 2.90 (SE=1.11; p-value <0.05) point increase in doctor communication scores. Self-reporting poor or fair health status was independently associated with lower ratings of care for all three outcome measures compared to those reporting excellent health.

Adjusted Scores

Figure 1 shows adjusted mean communication and satisfaction with care scores by need and use of interpreters.
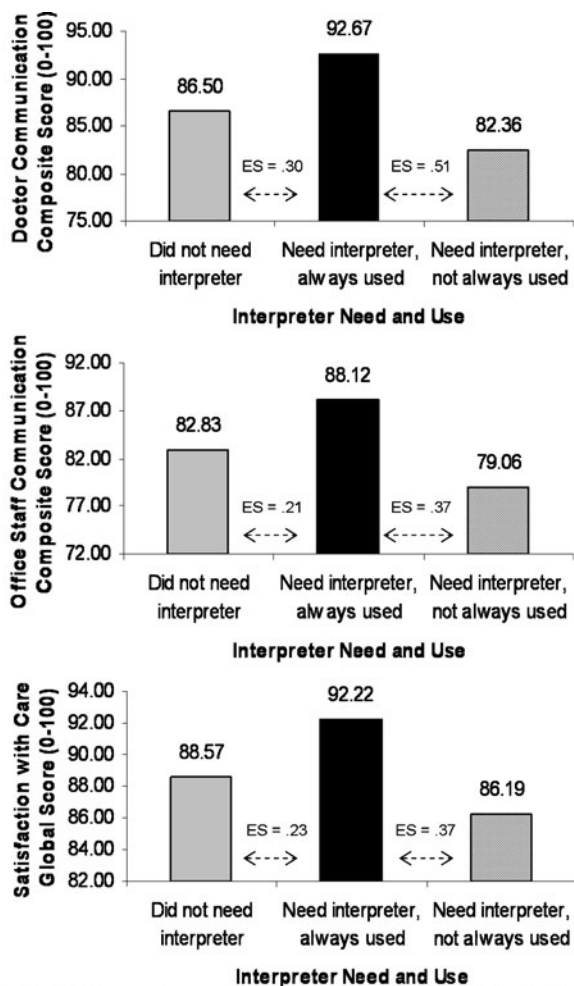
NOTES: 1) Differences in means across respective scores were statistically significant at a p-value of < 0.001 as assessed using one-way ANOVA for test of null hypothesis that all mean scores, in respective categories, are equal. Higher scores (range 0-100) indicate greater patient satisfaction with doctor/office staff communication and satisfaction with care; 2) ES = effect size of difference in means between categories for each outcome; and 3) scores adjusted for age, gender, marital status, education, income, insurance coverage, self-rated health status, survey wave (year), and clustering at the site of care (using random effects). Source: Cohen J. A Power Primer. *Psychological Bulletin.* Jul 1992;112(1):155-159.

Figure 1. Adjusted doctor communication, office staff communication, and satisfaction with care scores by interpreter need and use among Hablamos Juntos (*Together We Speak*) participants.

Communication and satisfaction with care scores were highest among patients who needed and always had an interpreter available. Use of an interpreter had its largest positive effect on doctor communication scores and its smallest effect on patient satisfaction with care.

DISCUSSION

In this study of Spanish-speaking Latinos, we find that use of interpreters is independently associated with increased satisfaction with health care and doctor and office staff communication. Specifically, the communication and satisfaction scores were highest for patients who needed interpreters and always had one available. Our results suggest that patients who need interpreters, but do not always get to use one, perceived their care to be of lower quality and are less satisfied with communication with providers and office staff. Improving doctor-patient communication is important clinically because evidence suggests that patients that experience superior communication with providers have better diabetes[27] and hypertension-related outcomes[28]. Moreover, high-quality patient-provider communication is a cornerstone of primary care and a key ingredient in delivering high quality patient-centered care[29,30]. Thus, health care organizations serving communities with growing Latino populations can significantly improve the quality of care they provide by always having interpreters available to Spanish-speaking patients who need them.

Our main finding that patients who needed interpreters and always used one had higher scores compared with patients who did not need an interpreter is consistent with that of a previous study of Spanish-speaking families enrolled in health plans participating in the California Children's Health Insurance Program (SCHIP)[22]. In that study, the provision of interpreters resulted in a graded relationship with reports about provider communication. By contrast, we did not find an obvious graded relationship between interpreter use (always/usually/sometimes/never) and the global and composite measures. It is important to note that our study included adult patients in different ambulatory care settings where comparable studies have surveyed Latinos enrolled in health plans[22,23]. Moreover, our sample accounts for patients of a different sociodemographics including individuals without insurance coverage. Our results resemble those from a similar survey study of uninsured adult Spanish-speaking patients that received care in urban hospitals and extend that study to incorporate findings for Spanish-speaking Latinos in ambulatory care settings[18].

Higher ratings of care by patients who needed and always got an interpreter than those who did not need interpreters may be explained by the belief that interpreters do more than interpret for patients; they function as a link between patients and health systems. They are plausibly unofficial health coaches or system navigators who provide linguistic services and beyond, possibly including social support for patients[22].

Limitations of this study prevent any inferences about causal effects of interpreters on communication between patients and doctors/staff. Our results may not be generalized to other populations with LEP or to all Latinos with LEP in the US. The large number of females in the sample and the site selection criteria—growing Latino populations—may also affect the generalizabilty of the results. In this analysis, the type of interpreter

used (e.g., professional, family member, or clinical staff) is not taken into account. Because data are from surveys and not directly observed clinical encounters, one cannot completely discount reporting bias from participants or verify the use of interpreters. Also, we cannot exclude instrument bias as a possible explanation for these results.[31,32] Because we made slight changes to some CAHPS® items, we do not recommend benchmarking. Finally, we focused on patient reports of care and did not have systematic clinic-level measures of interpreter service structure for each site that participated in HJ. This potentially biased our results and limited us from profiling individual sites. However, because participating sites were selected from 128 sites based in part on the need for new or expansion of existing language access services for Spanish-speaking Latinos, large differences in our results are unlikely to arise from clinic-level factors. Even if clinic-level language services explain the variation in patient ratings of care by interpreter use, our results would still suggest that having sound structural implementation of interpreter services leads to greater patient satisfaction with care[33]. Because some evidence suggests that clinic-level factors are linked to enhanced culturally appropriate provider behavior[34] and greater patient satisfaction with care[33], associations between clinic-level variables, interpreter use, and outcomes should be investigated in future studies.

Our study has policy implications. Given the current environment of health care reform, mention should be made that as primary care retools itself with a focus on patient-centered care[30], clinicians should consider incorporating interpreters into primary care teams that provide culturally and linguistically appropriate care[35]. When language concordance between doctors and patients is not possible[15], the incorporation of professionally trained interpreter services is essential for clinics that serve limited English speaking populations. Although not consistently enforced, federal regulations require that health care organizations provide culturally and linguistically appropriate care to patients[36,37]. Unfortunately, the quality of interpreters may vary greatly across settings because evidence-based criteria for what constitutes a qualified interpreter is lacking. Further research is needed to determine how the quality of interpretation is associated with patient-centered health outcomes.

We conclude that patient ratings of overall health care and doctor/office staff communication vary by availability of interpreters for Spanish-speaking patients in different ambulatory care settings. Our results demonstrate that among Spanish-speaking Latinos, always having an interpreter available for those that need them is associated with higher ratings of patient communication and satisfaction with overall ambulatory care. With the continued growth of Latino populations in the US, health care systems that invest in professional interpreter services will be well positioned to provide high quality of care to linguistically diverse populations.

Corresponding Author: *Gerardo Moreno, MD, MSHS; Department of Family Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA (e-mail: gemoreno@mednet.ucla.edu).*

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