

# **Health Communication**



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# Physician-Patient Communication and Satisfaction in Spanish-Language Primary Care Visits

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#### **ABSTRACT**

Language discordance poses a barrier to effective physician-patient communication, and health care outcomes, such as patient satisfaction, can be associated with language barriers experienced by Spanish-speaking patients. This exploratory study assessed specific aspects of communication between 128 Spanish-speaking primary care patients and their physicians (primary English speakers without an interpreter present). The rating scale developed for this study was used by five raters, who listened to audiotapes of each of these medical visits. Patients and physicians completed measures of visit satisfaction. Results indicated physicians with better Spanish-language skills were less frustrated with medical visit communication and more connected to their patients; patients whose physicians were rated as having better Spanish-speaking ability reported having greater choice in their medical care. Patients whose physicians spoke more Spanish were more satisfied with the information given by their physicians. Physicians rated as having better Spanish-speaking ability were more likely to say they could not understand all the patients wanted to tell them. These data support the importance of language concordance in physician-patient communication and awareness of potential communication barriers between physicians and patients.

Effective communication in physician-patient relationships predicts patient outcomes such as satisfaction with care (Beck et al., 2002). Affective communication places the relationship as central to care, whereas instrumental communication focuses on tasks and information delivery during medical visits, which both contribute to effective relationships. Numerous barriers to effective communication exist, however, and prominent among them is language discordance (Diamond et al., 2019).

Language barriers affect the quality of communication between physicians and patients, with patients not proficient in English receiving less information, fewer markers of empathy, less rapport, and fewer opportunities to participate in care decisions than English-proficient patients (Ferguson & Candib, 2002). These communication disparities might provide a partial explanation for the observed health disparities. In the United States, many individuals are native Spanish speakers, and research has shown Spanish-speaking patients have more difficulty communicating with their non-Spanishspeaking medical providers (Seijo et al., 1991); they tend to be less satisfied with how their concerns are addressed (Welty et al., 2012), noting deficits in listening, explanations, and responsiveness to questions (Morales et al., 1999). Research also shows that monolingual Spanish-speaking patients are less satisfied with the physician-patient communication process and with help provided by medical office staff than their bilingual Hispanic counterparts (O'Brien & Shea, 2011).

The content of medical encounters and objective outcome indicators also depends partly on language concordance (Diamond et al., 2019). Health behavior counseling about

eating habits and physical activity occurs more often when Spanish-speaking patients have language-concordant physicians (Eamranond et al., 2009). Latino/a patients ask more questions and recall more information when their physicians speak Spanish than when they do not (Seijo et al., 1991). The preference for Latino/a physicians expressed by Latino/a patients may be explained by language concordance (Betancourt et al., 2004) and may also be associated with these other content- and style-related factors.

Both Spanish-speaking patients and physicians and other health care providers report higher levels of satisfaction when professional interpreters are available (Bagchi et al., 2011; Moreno & Morales, 2010). Interpreters can be particularly important when physicians or nurses have low Spanishlanguage proficiency or when they need to give patients important information (Diamond et al., 2012). These studies suggest lower satisfaction among Spanish-speaking patients may be partly due to difficulty understanding their physicians' communication.

Lack of understanding is likely not the only predictor of satisfaction, however. A comparison of satisfaction in Spanish-and English-speaking patients undergoing hand surgery with a bilingual surgeon found Spanish-speaking patients were less satisfied with their listening skills and the amount of time spent with them compared to English-language patients (Menendez et al., 2015). Despite language concordance, Spanish-speaking patients were still less satisfied, but it was not clear why. This study found no differences in total time spent in the office between English-language and Spanish-language patients (although wait time was not



examined). Also, patients' self-reported perceptions of communication represented the only measure of communication. Differences in wait time versus contact time with physicians or other issues may have at least partially explained the discrepancy in satisfaction.

Cultural competence and other aspects of communication likely also play a role in satisfaction with the encounter. There is less patient-centered communication and psychosocial talk in encounters with Hispanic patients compared to White patients (Beach et al., 2010). Spanish-speaking diabetic patients report better interpersonal processes of care when their physicians have higher self-rated Spanish language ability and cultural competence (Fernandez et al., 2004). Language fluency likely improved elicitation of patients' problems and concerns, and cultural competence was likely linked to acknowledging patients' worries.

# Current study's purpose and research questions

In this exploratory study, we assessed specific aspects of communication between 128 Spanish-speaking patients and their physicians in primary care clinics in the state of California. A rating scale was developed and used by five raters, who listened to audiotapes of each of these medical visits. The goal of this research was to assess several indicators of communication quality in language concordant visits (based on the total amount of Spanish spoken and Spanish-language ability in physicians) and determine how these related to outcomes of patient and physician satisfaction.

We addressed the following research questions:

- (1) How do judgments of Spanish-speaking ability by the physician relate to:
  - a. other ratings of affective physician communication,
  - b. patient satisfaction, and
  - c. physician satisfaction?
- (2) Are there significant mean differences in patient satisfaction in visits where the Spanish language is used more by physicians and patients (based on a median split of the percentage of communication in Spanish variable)?
- (3) Are there significant mean differences in physician satisfaction in visits where the Spanish language is used more by physicians and patients (based on a median split of the percentage of communication in Spanish variable)?

We hypothesized Spanish-speaking patients would be more satisfied with their medical encounter if most of the medical encounter was in Spanish, but hypotheses regarding the direction of association for physicians were not specified.

#### Method

#### **Participants**

#### Parent study

Audiotaped physician-patient interactions rated in this study were derived from a larger study conducted by the Institute for Health Care Communication and the University of California, Irvine. This study was a randomized experiment examining the effects of communication-skills training on outcomes including physicians' and patients' satisfaction with the medical visit and raters' assessments of global affect in the interaction

(Haskard et al., 2008). Medical visits were audiotaped, and both parties completed questionnaires after each visit. Using a subset of the audiotaped interactions from the larger study, the present study assessed physician-patient communication in interactions in which Spanish was the primary language spoken. Institutional review boards at two universities (University of California, Riverside, and Texas State University, IRB #5157, #2017407) approved this project.

#### **Current study**

A total of 135 interactions for which patient questionnaires were completed in Spanish and the patient spoke Spanish to the doctor were identified (from a total of 2,213 in the larger study). All patients were 18 or older and were receiving ongoing care (i.e., were not new patients) at that site. A total of 128 interactions met the additional inclusion criterion that more than 5% of the communication by both physician and patient be in Spanish. English was the primary language for all physicians, and no interpreter was present. A total of 37.9% of the interactions in the encounters with 99.5% and above had a Hispanic physician, 27.3% had a White physician, 19.7% had an Asian physician, and 15.2% had a physician of another or unknown ethnicity. Table 1 provides demographic information for the 128 patients and 23 physicians in these interactions.

#### Measures

# Spanish physician-patient communication rating scale (SP-PCRS)

A new rating scale was developed for this study after detailed literature searches of PubMed and PsycINFO databases using the following keywords: health disparities, medicine, doctorpatient communication, physician-patient communication, patient satisfaction (crossed with) Spanish, Mexican, Hispanic, Latin\*, language, interpreter, bilingual, cultural, and bicultural. Three doctoral-level psychologists and one bilingual undergraduate student developed the rating scale following careful review of relevant themes in the literature. Scale development included pilot testing by bilingual raters to refine the scale.

The resulting measurement tool consisted of 16 affective communication items, each rated on a 7-point Likert-type scale (1 = strongly disagree to 7 = strongly agree), with 12 items focusing on physician's communication with the patient, and 4 items focusing on patient's communication with the physician. Taped interactions were evaluated by five trained raters from two universities who were fluent in Spanish. Each rater assessed all 128 audiotaped interactions using a unique randomly ordered list to control for practice and fatigue effects. They participated in a training session delivered by the scale developers; this session focused on the rating scale, definitions of scale terms, and the ratings process. They received follow-up guidance/training as needed during the rating period and had no knowledge about the interactants' characteristics. The raters were four females and one male; four were upper division undergraduate students, and one was a graduate student.

Table 1. Patient and physician demographics

Variable (Patient)	N	Mean (SD)	Range
Gender			
Female	94		
Male	23		
Not reported	11		
Age		44.50 (16.75)	20-87
Race/Ethnicity			
Hispanic/Latino	110		
Caucasian	8		
African American	1		
Not reported/Other	9		
Employment Status			
Full-time	22		
Part-time	14		
Unemployed	44		
Retired	16		
Homemaker	16		
Student	0		
Other	5		
Not reported	11		
Education level			
No formal education	13		
Some grade school	19		
Completed grade school	28		
Some high school	23		
Completed high school	28		
Some college	4		
Completed college	5		
Not reported	8		
Variable (Physician)	N	Mean (SD)	Range
Gender			
Male	11		
Female	12		
Race/Ethnicity			
Asian	5		
Hispanic	6		
White	9		
Other	3		
Age		37.20 (10.84)	27–64
Specialty			
University Medical Center site	18		
Primary Clinic/Staff Model HMO site	5		

*Note.* Patient n = 128, physician n = 23

Interrater reliabilities varied considerably across items, ranging from .50 to .91. Item scores consisted of the mean rating, across the five raters, for each item. These means, standard deviations, and interrater reliability values for each item can be found in Table 2.

#### Use of spanish in the encounter

Raters recorded the approximate proportion of each visit conducted in English and Spanish, based on their judgments after listening to the audiotaped visits. The median proportion of Spanish spoken in these interactions was 99.6% (M=96.3%, SD=11.82), demonstrating that most interactions were conducted almost entirely in Spanish, and a median split was used to create two groups: (1) More than 99.5% of physician and patient communication was in Spanish (n=65) and (2) Between 5% and 99.5% of physician and patient communication was in Spanish (n=63). Nearly 75% of the patients spoke only Spanish during their medical visits, whereas 34% of the physicians spoke Spanish exclusively. Raters also judged the Spanish-speaking ability of the physicians by assessing their agreement with the statement: "The physician spoke Spanish very well" (1= strongly disagree to 7= strongly agree). Overall,

**Table 2.** Description of Spanish physician-patient communication rating scale items.

Doctor let patient choose language Doctor frustrated with patient communication Doctor connected to patient Doctor welcomed non-medical talk Doctor liked Patient 5.6		.26 47	.70
communication Doctor connected to patient 5.6 Doctor welcomed non-medical talk 3.1	0 .4	47	
Doctor welcomed non-medical talk 3.1			.91
	3 .	73	.65
Doctor liked Patient 5.8	7 1.	.56	.73
	. 08	64	.59
Doctor caring 5.7	3 .	60	.54
Doctor dominant 3.4	11 .9	90	.59
Doctor unfriendly 1.5	52 .0	60	.59
Doctor warm 5.2	8. 8	82	.66
Doctor enthusiastic 4.8	33 .8	84	.60
Doctor genuine 5.7	'0	58	.52
Doctor empathic 5.2	. 42	67	.54
Patient active in own care 5.7	4 .0	69	.56
Patient asked questions 5.4	17 .	88	.57
Patient enthusiastic 4.1	0 .	79	.58
Patient dominant 2.2	9 .		

*Note.* The rating scale for all items was 1 = strongly disagree to 7 = strongly agree

ratings of physicians' Spanish-speaking abilities in both groups indicated competence (i.e., Rating of physician Spanish-speaking ability in group in which more than 99.5% of physician and patient spoke Spanish, M=6.39, SD=.57; Rating of physician Spanish-speaking ability in group in which between 5% and 99.5% of physician and patient communication was in Spanish, M=5.13, SD=1.22). A total of 73.5% of the patients agreed or strongly agreed the physician spoke Spanish very well.

### Patient and physician survey measures

#### **Patient satisfaction**

Patients in the larger study reported satisfaction with their physician, quality of care, and their communication perceptions, in a 65-item post-visit survey (Haskard et al., 2008). The present study used three subscales and three individual items from this questionnaire, all on 5-point Likert-type scales, as follows: (1) the 6-item Physician Information-Giving Scale (Heisler et al., 2002; Cronbach's alpha = .95); (2) the Patient Perceived-Decision Making Scale (Kaplan et al., 1996; Cronbach's alpha = .74); (3) the Patient Choice in Medical Care/Treatment Decisions Scale (Heisler et al., 2002; Cronbach's alpha = .96); and (4) Individual items: patient's "rating of overall care," patient "would recommend doctor to a friend," and patient "prefers doctor over other doctors."

#### Physician satisfaction

Physician satisfaction with the medical visit was assessed with the 20-item Physician Satisfaction Questionnaire (Suchman et al., 1993; alpha = .91). In addition to calculating an overall satisfaction rating, Suchman et al. identified four composite subscales, which were analyzed individually ("satisfaction with the physician-patient relationship" [4 items, alpha = .79]; "satisfaction with the medical history-taking process" [3 items, alpha = .72]; "satisfaction with use of time in the visit" [3 items, alpha = .75]; and "satisfaction with the patient" [3 items, alpha = .78]). Of the remaining seven items in Suchman

et al.'s 20-item assessment, two were used in this paper: "this patient understood my explanations" and "I could not understand all this patient wanted to tell."

#### **Data analysis**

Analyses were computed at the interaction level (with N = 128). Pearson product-moment correlations were computed to examine relationships among measures of satisfaction, communication items, and physician Spanish-language ability (research questions [RQ] 1a, 1b, and 1c). Independent-samples t tests were computed to compare the two language-proportion groups on physician and patient satisfaction variables (RQs 2 and 3). The Benjamini-Hochberg procedure (Benjamini & Hochberg, 1995) was used as the correction for multiple tests. Given the exploratory nature of this study, the false discovery rate (FDR) was set at .30; p values were checked using this method, but uncorrected p values are reported.

#### Results

# Relationship between judgments of physicians' spanishlanguage ability and ratings of communication (RQ 1a)

Judgments of physicians' Spanish-speaking ability correlated significantly with several physician effective communication variables. Physicians rated as having better Spanish-language skills seemed less frustrated with patients' communication (r = -.25), more connected to the patient (r = .32), more welcoming of non-medical talk (r = .25), and more dominant (r = .18) (see Table 3). Ratings of physicians Spanish-language skills were not associated with judgments of physician friendliness, warmth, genuineness, empathy, patients' active involvement in care, dominance, question-asking behavior, and enthusiasm.

Table 3. Correlations between ratings of physician Spanish-speaking ability and other physician communication ratings (N = 128).

Physician and Patient Communication Ratings	n Ratings of Physician Spanish-speaking Ability			
Doctor let patient choose language	12			
Doctor frustrated with patient	25**			
communication				
Doctor connected to patient	.32**			
Doctor welcomed non-medical talk	.25**			
Doctor liked patient	.11			
Doctor caring	04			
Doctor dominant	.18*			
Doctor unfriendly	.12			
Doctor warm	03			
Doctor enthusiastic	<b>–.11</b>			
Doctor genuine	.08			
Doctor empathic	06			
Patient active in own care	.12			
Patient asked questions	.16			
Patient enthusiastic	.14			
Patient dominant	.13			

<sup>\*</sup> *p* < .05. \*\* *p* < .01

Note. Each significant correlation remains significant after Benjamini-Hochberg procedure with FDR set at .30 (note that these are not corrected p values).

# Relationship between judgments of physicians' spanishlanguage ability and patient-reported and physicianreported satisfaction (RQs 1b and 1 c)

Patients whose physicians were rated as having better Spanishspeaking ability reported having greater choice in medical care/ treatment decisions (r = .20) and trended toward greater perceptions of involvement with decision-making (r = .16, ns). No other patient perceptions were related to the ratings of physicians' Spanish proficiency (see Table 4).

Physicians rated as speaking better Spanish were more satisfied with the medical history-taking process (r = .19) and more likely to say they could not understand most of what the patient communicated during the encounter (r = .28) (see Table 4). Spanish proficiency assessed by raters was not related to any other aspects of physician satisfaction.

# Differences in patient and physician satisfaction based on proportion of interaction conducted in spanish (RQs 2 and 3)

Although patients whose physicians were rated as speaking more versus less Spanish during the office visit did not differ in most of their perceptions, they did report receiving more information from their physicians (More Spanish: M = 4.49, SD = .74; Less Spanish: M = 4.08, SD = .91) and a trend toward having more choice in medical care/treatment decisions (More Spanish: M = 4.19, SD = 1.27; Less Spanish: M = 3.67, SD = 1.53). Physicians were significantly more satisfied with the use of time during the visit when less Spanish was spoken (Less Spanish: M = 3.97, SD = .37; More Spanish: M = 3.82, SD = .38) (see Table 5). All other correlations were nonsignificant; patients were not more satisfied with decision-making, and physicians were not more satisfied with the process of collecting data (information) or with their relationships with patients when more Spanish was spoken.

Table 4. Correlations between ratings of physician Spanish-speaking ability and patient and physician satisfaction.

Self-reported Patient and Physician Satisfaction Measures (N = 128)	Ratings of Physician Spanish- speaking Ability
Patient satisfaction items	
Physician Information-Giving Scale	.08
Patient rating – overall care	.09
Patient rating – would recommend doctor to	
a friend	.00
Patient rating – prefer doctor to other doctors	01
Patient Perceived Decision-Making Scale	.16
Patient Choice in Medical Care/Treatment	
Decisions Scale	.20*
Physician satisfaction items	
Satisfaction with physician-patient	
relationship – Subscale	05
Satisfaction with medical history-taking	
process – Subscale	.19*
Satisfaction with use of time in the visit –	
Subscale	13
Satisfaction with patient – Subscale	13
This patient understood my explanations –	
individual item	.04
I could NOT understand all that patient wanted	
to tell – individual item	.28**
Total Physician Satisfaction Scale	.02

<sup>\*</sup> p < .05 \*\* p < .01

Note. Each significant correlation remains significant after Benjamini-Hochberg procedure with FDR set at .30 (note that these are not corrected p values).

Table 5. Comparisons of patient and physician satisfaction are based on the amount of Spanish spoken.

	Physician spoke more <sup>a</sup> Spanish (n = 65)		Physician spoke less <sup>a</sup> Spanish $(n = 63)$			
Self-reported satisfaction measures	М	SD	М	SD	t	р
Patient satisfaction						
Physician Information-Giving Scale	4.49	.74	4.08	.91	2.68	p = .008
Patient rating – overall care	4.20	1.04	4.03	1.00	.90	p = .37
Patient rating – would recommend doctor to a friend	4.50	.90	4.50	.88	28	p = .78
Patient rating – prefer doctor to other doctors	4.27	1.15	4.40	.94	65	p = .51
Patient Perceived Decision-Making Scale	3.83	1.07	3.56	1.29	1.15	p = .25
Patient Choice in Medical Care/Treatment Decisions Scale	4.19	1.27	3.67	1.53	1.82	p = .07
Physician satisfaction						
Satisfaction with physician-patient relationship – Subscale	3.75	.53	3.80	.55	64	p = .52
Satisfaction with data collection process – Subscale	3.63	.57	3.53	.63	.93	p = .35
Satisfaction with use of time in the visit – Subscale	3.82	.38	3.97	.37	-2.3	p = .02
Satisfaction with patient – Subscale	3.57	.59	3.72	.37	-1.4	p = .17
Total physician satisfaction scale	3.68	.35	3.72	.37	55	p = .57
This patient understood my explanations – individual item	2.16	.68	2.11	.55	.37	p = .70
I could NOT understand all that patient wanted to tell – individual item	3.92	.60	3.73	.66	1.64	p = .10

Note. Each significant correlation remains significant after Benjamini-Hochberg procedure with FDR set at .30 (note that these are not corrected p values). a. Physician spoke Spanish less = between 5% and 99.5% Spanish spoken in visit. Physician spoke Spanish more = 99.6% – 100%. The distinction was based on a median split of the ratings of the percentage of the visit spoken in Spanish.

#### **Discussion**

The present study provides an exploratory investigation of the amount and quality of communication in Spanish-language primary care visits with physicians whose primary language is English, the second language is Spanish, and no interpreter is present. This study used ratings of audiotaped visits and perception/satisfaction questionnaires completed by both patients and physicians to answer the research questions posed in this study.

Research Question 1 examined the communication ability of physicians in relationship to communication quality and satisfaction. Physicians whose Spanish-speaking ability was rated more highly were perceived as more connected to the patient and more welcoming of non-medical talk. This is consistent with past findings that language concordance predicts better interpersonal care, communication, and discussion of patient concerns on topics outside the biomedical realm (Detz et al., 2014; Fernandez et al., 2004). Findings also showed a significant association between physician language ability and lower frustration with their own communication and the patient's communication. Not surprisingly, physicians were less frustrated with the communication process when there were fewer language barriers. Findings also revealed significant associations between patient perceptions on asking questions and being involved in their medical decisionmaking when their physicians were rated as having better Spanishspeaking ability. Stronger communication skills and language concordance may predict shared decision-making in communication when patients are involved in their medical care. Physicians who were rated as having better Spanish-speaking ability were more satisfied with the history-taking process. This finding implies it is easier to ask questions and gather information from patients when patients and doctors are comfortable speaking the same language, unless an interpreter is present. Interestingly, physicians rated as having better Spanish-speaking ability were more likely to say they could not understand all the patients wanted to say, suggesting physicians with lower Spanish-speaking ability should be cautious and accept the limits of personal language skills. It is important for physicians to be aware of potential communicative barriers between physicians and patients.

However, the reason that other aspects of physician's style (e.g., warmth, enthusiasm, and empathy) were uncorrelated with their Spanish-speaking ability is unclear. These aspects of the interaction do not seem fundamentally different from some of the elements that were correlated with Spanish language ability (e.g., physician's connection to the patient). There was, however, some consistency in that being able to understand and the ability to take the history effectively (and perhaps without frustration) were all linked to language proficiency.

Research Questions 2 and 3 examined differences in patient and physician satisfaction based on total amount of speech in Spanish in visits. Based on several measures of patient perceptions, patients were more satisfied with physician informationgiving and had marginally greater perceptions of choice when at least 99.6% of the visit was conducted in Spanish. This finding supports previous research showing Spanish-speaking patients were more satisfied with providers who spoke Spanish fluently (Eskes et al., 2013). Findings of this study provide a more nuanced view of specific aspects of satisfaction associated with more communication in the patients' preferred language. Physicians were more satisfied with use of time in the visit when less than 99.6% of the visit was conducted in Spanish, which suggests despite their language proficiency, physicians may still wish to spend more time with their patients, particularly when they are communicating in their second language of Spanish. It might also be that because the physicians can communicate better with their Spanishspeaking patients, they are more aware of issues they should discuss but do not have enough time for.

Again, it is somewhat surprising that other aspects of the relationship did not significantly differ between the two groups (i.e., those in which the physician spoke more vs. less Spanish). The preferences of their physicians, likelihood to recommend, and overall care ratings, were not different across patients in these two groups. Physicians in these two groups (i.e., more vs. less Spanish) were not differentially satisfied with data collection processes, with their patients, or confident in their ability to understand and be understood. This, along with similarly

surprising failures to identify correlations between proficiency and perceptions/satisfaction suggest future studies may glean important information if they focus more explicitly on the extralinguistic and other nonverbal aspects of the interaction in addition to the language itself.

#### Strengths and limitations of the study

This study provides a valuable addition to the literature because it uses the contextualized approach of audiotaping communication between Spanish-speaking patients and their physicians and linking these to self-reported outcomes of patient and physician satisfaction. This is, however, a correlational study; third variables, such as past interactions and longer relationships between some patients and their physicians could play a role in patient satisfaction with care. The possible confounding of racial and language concordance could also have affected physician and patient communication. Another possible limitation is that since these medical encounters were judged by raters who were not present in the medical visit, important nonverbal cues such as facial expressions and body movement cues could not be evaluated. Although videotaping of medical visits to assess communication between physicians and patients is ideal, it is not always feasible.

Additional limitations include the physicians did not judge their own language ability (neutral raters did), and the amount of Spanish spoken was not timed objectively but instead judged subjectively. These limitations also indicate that global ratings may not be an ideal measure for the assessment of physicianpatient communication. Interrater reliabilities of low or moderate size are another limitation of this study. Although low reliability of items on a measure can be one reason for low validity, a minimum level of interrater reliability is not a requirement for adequate validity (Rosenthal, 2005). One explanation for this may be that different raters were reacting to different, yet still pertinent, aspects of the communication they were rating (Rosenthal, 2005). This research could be extended by creating even more reliable and valid measures by reducing and focusing the rating items. Our approach did not identify whether the provider or patient stopped speaking Spanish in those interactions in which less Spanish speaking occurred, as the purpose and intent of English communication in these visits could have been very different depending on who initiated the language change. However, there were relatively few encounters on the truly "low" end of Spanish language use. Despite this, some interesting associations were identified and are almost certainly underestimated, as many medical encounters are more inconsistent with regard to the use of the patient's first language.

## Conclusion and implications for improving health care communication

These data, despite their heavy weighting toward Spanishlanguage use, support the recommendation that health care should be delivered with language concordant clinicians when possible. Language concordance is not always possible, and interpreters can improve communication in medical encounters among Spanish-speaking patients and their English-speaking physicians. To the extent that cultural sensitivity is woven into language-concordant care, additional improvements to health communication may be achieved. Physicians who are more aware of the Latino culture as well as the values and beliefs that can affect patients' health may be able to more effectively communicate with their Spanish-speaking patients; further studies seem warranted to explore the degree to which these factors might be layered on top of language proficiency itself.

Future studies could collect data on physicians' perceptions of their communication in Spanish-language patient visits and their degree of exposure to diverse populations and self-rated degree of cultural sensitivity. Ideally, future research would involve physician self-assessment of language proficiency when speaking with Spanish-language patients (Diamond et al., 2014). Although this study examined physician satisfaction generally, it did not gather information on how long physicians had known Spanish, how often they used Spanish in their practice, and other related details. Videotaping visits between Spanishlanguage patients and their physicians would allow collection of more extensive nonverbal communication data to complement the verbal communication elements studied here.

Language-concordant care is one element of effective communication for patients with limited English proficiency. It is necessary to explore the association of effective communication with satisfaction and medical outcomes.

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