Bridging Language and Cultural Barriers between Physicians and Patients

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SYNOPSIS

Objective. This study explored a group of primary care physicians' use of various methods to bridge language and cultural barriers between themselves and their patients and the physicians' perceptions of the availability and quality of these methods.

Methods. The authors mailed a questionnaire to 495 primary care physicians in the Greater Bay Area of northern California, an area chosen for its ethnically diverse population. Respondents were asked to estimate how many patients they saw per week, how many encounters they had per week with non-English-speaking patients, and how often they used each of six interpretation methods. They were also asked to assess the availability and quality of interpretation services.

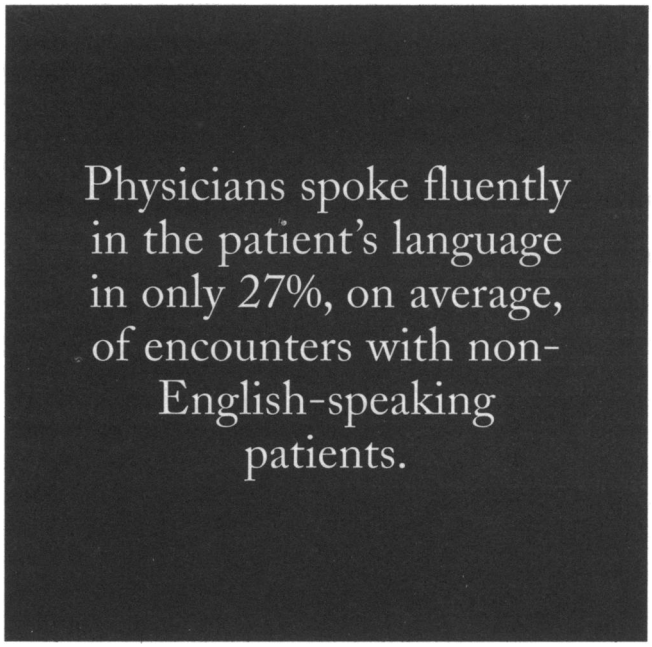
Results. Physicians reported that, on average, 21% of visits were with non-English-speaking patients. Trained medical interpreters or the AT&T Language Line were used, on average, in fewer than 6% of these encounters, and no interpreters were used in 11%. In 27% of encounters with non-English-speaking patients, the physician could speak the patient's language, in 20% interpretation was done by a staff member who had no formal interpretation training, and in 36% a family member or companion of the patient interpreted. Physicians who had access to trained interpreters reported a significantly higher quality of patient-physician communication than physicians who used other methods ($P<0.0001$).

Conclusions. In an area of great ethnic diversity where physicians who had access to the services of trained interpreters reported a significantly higher quality of patient-physician communication, the low rates of use of trained interpreters suggest that factors other than quality, such as costs, preclude greater use of these services.

According to the 1990 Census, more than 31 million residents of the United States, approximately 12% of the population, do not speak English fluently.[1] The number of non-English-speaking people living in this country is expected to grow at a rate faster than the growth of the whole population.[1] When a physician and patient do not share a common language or culture, communication difficulties may compromise the patient's care, potentially resulting in worse health

outcomes, especially among patients with complex or chronic medical problems.[2–16]

Health care providers have turned to a variety of resources to address a growing demand to bridge language and cultural barriers. Some institutions and group practices employ trained medical interpreters to provide on-site services. Some may use commercial services, such as the AT&T Language Line, which is available by phone and provides 24-hour interpretation in more than 120 languages. Clinicians also call on other staff members—from professional to secretarial to custodial staff—who have no formal training in interpretation, or they enlist the help of a family member or companion of the patient.



Uncertainty remains about the best way to bridge language and cultural barriers. Trained interpreters and the AT&T Language Line are more costly than using untrained staff or family members, but the quality of interpretation may suffer when untrained interpreters are used, placing the patient at risk for medical mishaps due to misunderstandings and the clinician at risk for medical malpractice suits.

No research has been published on what interpretation methods physicians use in encounters with non-English-speaking patients and how physicians view the availability and quality of these services. We surveyed primary care physicians in an ethnically diverse area, the Greater Bay Area of northern California, asking them how many non-English-speaking people they see, the percentage of visits in which the patient and physician needed the assistance of another person to facilitate verbal communication, and the perceived availability and quality of interpretation services.

Methods

Our target population consisted of physicians identified as practicing primary care in three Greater Bay Area counties in northern California: Alameda, San Mateo, and Santa Clara Counties. These counties include Oakland, the eighth largest city in California, San Jose, the third largest city in the state, and populations that are diverse in terms of age, ethnicity, and income. In an attempt to locate every primary care physician practicing in these counties, we compiled a list of physicians using several sources: local telephone directories; 1991–1992 rosters from the Santa Clara Medical Society, the San Mateo Medical Society, the American Association of Family Physicians, and the Directory of Diplomates of the American Board of Family Practice; and lists of primary care clinics and community health centers.

From these sources, we obtained the names and addresses of 495 primary care physicians in the three-county area. In June 1995, we mailed a questionnaire to each physician with a cover letter explaining the purposes of the study. After two weeks, we mailed a second questionnaire to those who did not respond to the first mailing, and two weeks later we mailed a third questionnaire to the remaining nonresponders. This was followed by as many as six attempts to reach nonresponders by telephone.

The questionnaire asked physicians to provide information on their age, sex, ethnicity, and type of practice; the number of patients they saw per week on average; the percent of these patients who did not speak English; the languages spoken by physicians, other staff, and patients; and the methods used to communicate with non-English-speaking patients. The questionnaire offered the following six choices of communication methods: speaking fluently in the patient's language, using a trained medical interpreter, using other staff who had no training in interpretation, using the AT&T Language Line, enlisting the help of a family member or companion, or "making do" when other methods are not available.

We also asked each responding physician to rate his or her "level of satisfaction with the *availability* of [his or her] interpretation services" on a 7-point Likert scale, with a rating of 1 representing "not satisfied" and a rating of 7 representing "very satisfied." We then asked each physician to rate his or her "level of satisfaction with the *quality* of [his or her] interpretation services" on a 7-point Likert scale, with a rating of 1 representing "not satisfied" and a rating of 7 representing "very satisfied." Respondents were also invited to write in comments on the reasons for their ratings.

Differences in responses between mail and phone responders were assessed using t-tests for continuous variables (such as age) and chi square tests for polytomatous variables (such as gender). We tested whether reported frequency of use differed across the six methods using the Wald test with five degrees of freedom. We assessed differences in respondents' ratings of the availability and quality of the six interpretation options using a two-sided t-test at the 0.05 significance level.

Results

We mailed 495 questionnaires to primary care physicians in the three-county area; 162 responded to the first mailing, 41 to the second mailing, and 5 to the third mailing. Another 93 completed the questionnaire over the phone. In total, 301 physicians completed the survey, for a response rate of 61%. Because whether physicians completed or failed to complete the mailed questionnaire may have reflected differences in their practices, we report the results separately for the 208 physicians who mailed back their questionnaire and the 93 who completed the survey by phone.

The majority of the 301 respondents were in solo practice or group practice, with a small number working in staff model health maintenance organizations, community health clinics, urgent care clinics, indigent (free care) clinics, or providing services in local jails (see Table 1). The median age of the respondents was 48 (mean 51; SD = 12), 64% were men, and 71% were non-Hispanic white. Only 24% reported having no facility in a language other than English. The language most commonly spoken other than English was Spanish.

Mail and phone responders did not differ significantly in age, ethnicity, or fluency in a language other than English. Physicians who completed the survey by mail were more likely to be in solo practice than those completing the survey by phone (Table 1).

Table 1. Characteristics of primary care physicians responding to a mailed questionnaire, three California counties, 1995

			Response category			
	All (N=301)		Mail (n=208)		Phone (n=93)	
Characteristic	Number	Percent	Number	Percent	Number	Percent
Sex						
Male	234	78	158	76	76	82
Female	67	22	50	24	17	18
Ethnicity						
Non-Hispanic white	214	71	148	71	66	71
Hispanic/Latino(a)	9	3	6	3	3	4
African American	12	4	6	3	6	6
Asian or Pacific Islander	60	20	44	21	16	17
Native American	3	1	2	1	1	1
Other	3	1	2	1	1	1
Ability to speak one or more languages other than English						
Fluent	126	42	85	41	41	44
Minimal	102	34	81	39	21	23
None	73	24	42	20	31	33
Languages spoken other than English by respondents who spoke a language other than English (*n*=228 respondents)[a]						
Spanish	107	47	82	49	25	38
Chinese	16	7	14	8	2	3
Vietnamese	13	6	8	5	5	8
Russian	12	5	9	5	3	5
Other[b]	106	47	73	44	33	50
Practice type						
Solo	103	34	58	28	45	49[c]
Group (2–5 physicians)	54	18	28	14	26	28
Group (>5 physicians)	60	20	40	19	20	21
Staff model health maintenance organization	12	4	11	5	1	1
Other[d]	72	24	71	34	1	1

[a]Percentages do not sum to 100% because 26 respondents reported speaking more than one language in addition to English.

[b]Other language include Portuguese, Tagalog, Japanese, Farsi, Indian/Hindi, Laotian, Cambodian, and Mien.

[c]Difference between mail and phone responders significant at 0.05 level.

[d]Other includes community health clinics, urgent care clinics, indigent (free care) clinics, or jails.

The median number of patients that respondents reported seeing per week was 100 (mean 101; range 10 to 200). Ninety-two percent of respondents reported seeing at least one non-English-speaking patient per week, and, on average, respondents reported that 21% of all encounters were with patients who spoke minimal or no English (see Table 2). Respondents reported treating varying percentages of patients who spoke no English at all, from none to a high of 75%, with a mean of 12%. In addition, respondents reported treating a range from none to 75% (mean 9%) of patients who had minimal ability to converse in English.

Respondents reported that an average of 49% of non-English-speaking patients had private health insurance and 30% had public insurance, with the remainder having no insurance. Phone responders were more likely than mail responders to see patients with private insurance and less likely to see patients who spoke no English (Table 2).

Communication with non-English-speaking patients. Table 3 shows the percent of physicians reporting use of each of six methods of communicating with their non-English-speaking patients.

Table 4 shows the means of respondents' estimates of the percentages of encounters in which each interpretation method was used. On average, physicians spoke fluently in the patient's language in only 27% of encounters with non-English-speaking patients. Thus, the physician and patient could not speak the same language in an estimated 15% of all patient encounters (percentage of encounters with patients who were not fluent in English [21%] multiplied by the percentage of encounters in which the physician was not fluent in the patient's language [73%]). Fewer than 6%, on average, of encounters with non-English-speaking patients involved either a trained medical interpreter or the AT&T Language Line. Respondents reported making do without any formal interpretation method in approximately 11% of encounters with non-English-speaking patients. Mail responders were significantly less likely than phone responders to report relying on family members or friends and significantly more likely to use trained interpreters (Table 4), which may reflect the fact that more mail responders worked in community health clinics seeing a more recent immigrant population.

Physicians with bilingual ability reported a larger percentage of patients who were non-English-speaking (Pearson correlation coefficient [R] of 0.52 between physicians' ability to speak languages other than English and percentage of visits with a non-English-speaking patients). Vietnamese-speaking patients were more likely than other non-English-speaking patients to be seen by a physician who spoke their language ($P<0.05$), and Chinese patients were least likely to be seen by a physician who spoke their language.

Respondents who were younger than age 50 were somewhat more likely than those older than 50 to report having at least minimal competency in a language other than Eng-

Table 2. Means of physicians' reports of percentages of encounters, by patient characteristics, three California counties, 1995

Characteristic	All (N=301) Mean percent	Response category: Mail (n=208) Mean percent	Response category: Phone (n=93) Mean percent
Age			
Child (<14 years)	15	16	14
Adolescent (14–18 years)	12	11	13
Adult (19–64 years)	49	49	50
Older adults (>65 years)	24	24	23
English-speaking ability			
No English spoken	12	14	6[a]
Minimal English spoken	9	10	9
Language spoken by non–English-speaking patients			
Spanish	61	62	51
Chinese	13	14	12
Vietnamese	10	11	22
Russian	3	3	3
Other	17	5	12
Health insurance status of non-English-speaking patients			
Private	49	42	65[a]
Public	30	32	24
None	21	26	11

[a]Difference between mail and phone responders significant at 0.05 level.

Table 3. Percentage of physicians reporting use of a method of communicating with non–English-speaking patients, three California counties, 1995

Method	All (N=301) Percent	Response category: Mail (n=208) Percent	Response category: Phone (n=93) Percent
Physician speaks fluently in patient's language	37	40	32
Trained medical interpreter	12	16	2
Other staff without interpretation training	47	47	47
AT&T Language Line	2	2	1
Family or companion asked to interpret	73	70	78
Make do without any formal interpretation method	37	41	31

NOTE: Percentages do not add to 100% because some respondents used more than one method in their practices.

lish and to report speaking fluently in a language other than English with their non-English-speaking patients, although these differences were not statistically significant.

Written comments. Physicians' written comments about the availability and quality of interpreter services were reviewed independently by two of the authors (JCH, HI) before the numerical ratings were analyzed. Each comment was assigned to one of four categories: *(a)* "positive" for comments that described favorable qualities of their interpretation options; *(b)* "negative" for comments that described unfavorable qualities; *(c)* "mixed" for comments that described both favorable and unfavorable qualities; and *(d)* "other" for comments not related to the qualities of interpretation options. Of 162 comments, 44 were positive, 52 negative, 30 mixed, and 36 fell into the "other" category

Positive comments pertained, in general, to a perception that use of family members and untrained staff were adequate to bridge language and cultural barriers. One respondent wrote that he or she was "rarely faced with problems of translation because the family is usually adequate." Others wrote, "You manage," "Family/friends work quite well," "Patients seem satisfied," "Office staff does adequate job," and "Nursing staff is bilingual." One respondent wrote that the AT&T Language Line was quite useful because of the large number of languages it covers.

Negative comments pertained to the limited availability of interpreters, resulting in long waits. There was no significant difference between solo or group practices and staff-model HMOs in the availability of interpreters. One physician reported, "Trained interpreters are excellent, helpful, and I enjoy working with them. However, they are slow to respond; they are overworked, and the interpreter service is understaffed." One reported having "Hispanic staff but not Chinese or Vietnamese." Concern was also raised about the use of untrained interpreters, especially nonmedical staff.

Table 4. Means of physicians' reports of percentages of encounters in which each communication method was used, three California counties, 1995

Method	All respondents (N=301)[a] Mean percent	Response category: Mail (n=208) Mean percent	Response category: Phone (n=93) Mean percent
Physician speaks fluently in patient's language[b]	27	30	21
Trained medical interpreter[c]	5	7	1
Other staff without interpretation training[d]	20	19	22
AT&T Language Line[e]	<1	<1	<1
Family or companion asked to interpret[f]	36	30	48
Make do without any formal or informal interpretation method[g]	11	13	7

[a]Difference in percentage use of methods significant ($P<0.0001$; F-test with five degrees of freedom = 62.
[b]Difference between mail and phone responders significant ($P< 0.08$).
[c]Difference between mail and phone responders significant ($P< 0.01$).
[d]Difference between mail and phone responders significant ($P< 0.48$).
[e]Difference between mail and phone responders significant ($P< 0.99$).
[f]Difference between mail and phone responders significant ($P< 0.001$).
[g]Difference between mail and phone responders significant ($P< 0.05$).

One physician wrote that at his or her hospital "housekeepers who speak English poorly and who have no medical terminology do the bulk of our interpretation." Though comments about trained interpreters were generally positive, several respondents raised concerns about the quality of services offered by professional interpreters.

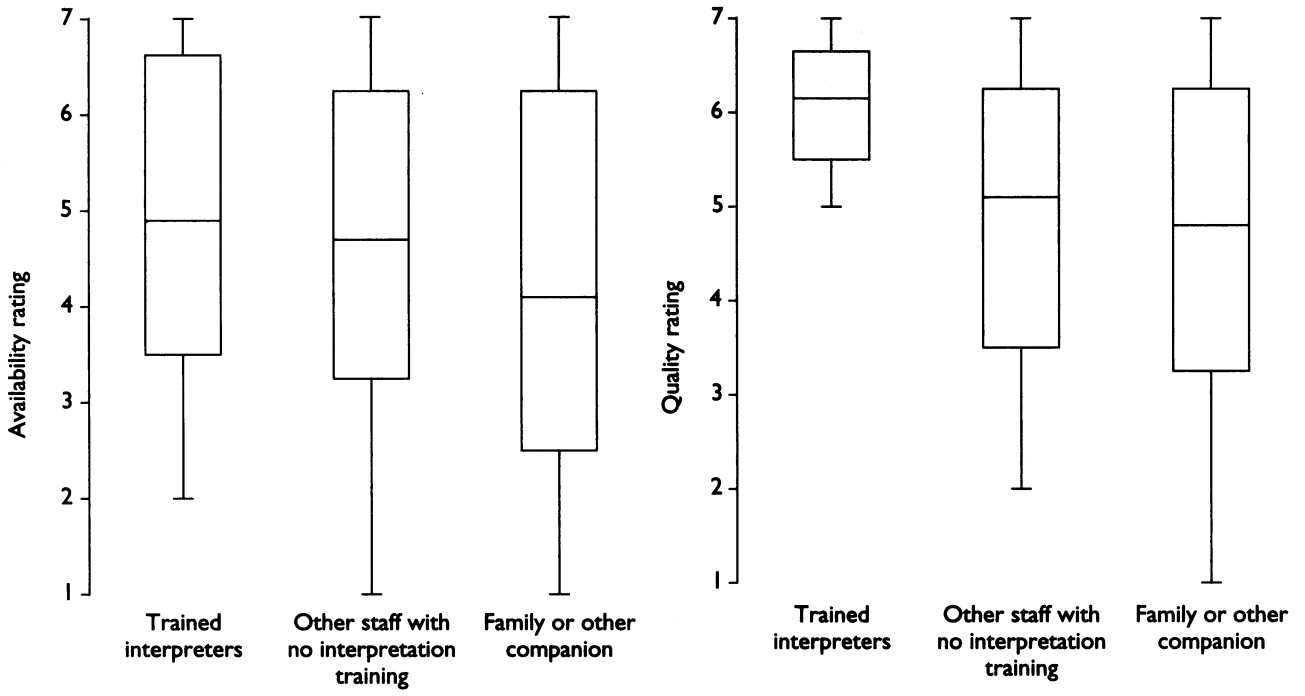
Among those giving mixed responses, some commented that although the system was not ideal, it was perhaps the best achievable given the financial and logistic constraints in their settings: "Not perfect, but it works." "Sometimes availability is good, other times not." "The quality of care was not affected in the last 15 years of practice." "Can't improve the system because you need trained interpreters and the government can't give them for free." A few respondents commented that bridging language barriers was not the responsibility of the provider. Others said that they deliberately avoided situations in which they would encounter non-English-speaking patients. Several said they were unaware of what interpretation resources were available to them.

Quality ratings. The Figure shows our quantitative analysis of respondents' quality ratings of three types of interpreters: trained interpreters, medical staff without interpretation training, and patients' friends or family members. On average, respondents reported similar levels of availability across the three methods. Those using trained interpreters rated the quality of interpretation services significantly higher than those using the other two types of interpreters ($P<0.001$). Using a multiple regression analysis, we found no significant differences across the three methods in ratings of the quality of interpretation services after controlling for differences in physician age, gender, ethnicity, and practice setting.

Discussion

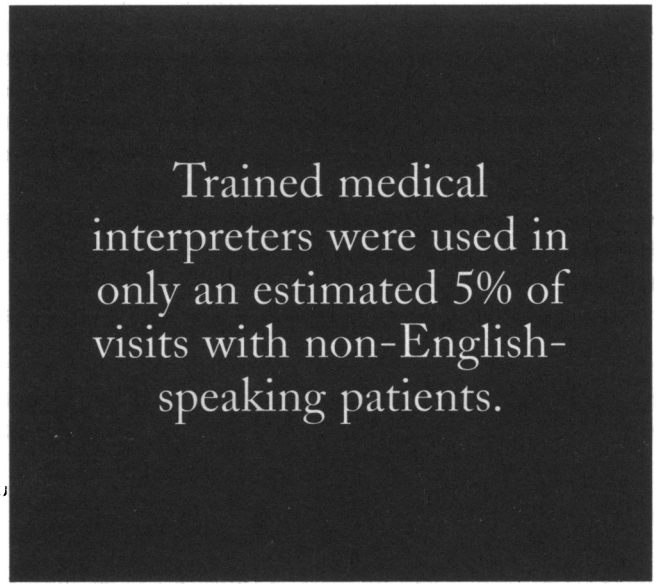
This study reveals that in a large metropolitan area of the western United States, different-language medical encounters were common and the in almost half of these encounters, no interpretation services were available or provided. The findings of this study are consistent with those of other studies[2-16] showing that language and cultural barriers are a common concern in clinical practice. As expected, primary care physicians in the Greater Bay Area saw a large number of non-English-speaking patients. Physicians reported not sharing a common language with the patient in an estimated 15% of patient encounters, yet trained medical interpreters were rarely available for these visits.

Figure. Boxplots of availability and quality ratings of three interpretation methods: use of trained medical interpreters, use of staff members who have not been trained as interpreters, and using a patient's family member or other companion



NOTE: A rating of 7 represents "very satisfied," and a rating of 1 represents "not satisfied." The lower portion of each box shows the 25th percentile of the distribution, and the upper portion shows the 75th percentile. The lower portion of each line shows the 5th percentile of the distribution, and the upper portion shows the 95th percentile. The horizontal line within each box shows the mean.

Trained interpreters or the AT&T Language Line were used in only an estimated 6% of encounters with non-English-speaking patients. Factors other than quality—such as the cost of a service or lack of reimbursement mechanisms for such services—may affect the low rates of use of these methods. Respondents' written comments suggest that some physicians were unfamiliar with the range of communication methods available to them and the comparative advantages and disadvantages of these methods. These data suggest that physicians may benefit from efforts to increase awareness about various options to bridge language barriers. A recent symposium sponsored by the Kaiser Family Foundation, the Health Care Financing Administration, and the Congressional Office of Civil Rights should provide much-needed information for physicians and policy makers on problems of bridging language and cultural barriers in health care.[17]



This study has a number of potential limitations. Despite our extensive efforts to contact physicians, it is possible that physicians who see non-English-speaking patients or who find the subject interesting were more likely to respond to the survey. According to the American Board of Family Practice, there were approximately 4600 physicians certified in family practice in the 58 California counties in 1995. Although estimates are unavailable of the numbers of such physicians per county, the total suggests that our study reached a large portion of the physicians who would have been eligible to participate in the study. Conservatively assuming that the physicians who did not respond to the survey (39% of 495) saw *no* non-English-speaking patients, the percentage of visits estimated to involve non-English-speaking patients still exceeds 12% (= [100% - 39%] response rate x 21% visits with non-English-speaking patients). Also, although phone responders were more likely to be in solo practice than mail responders, there were no significant differences in the two groups' reports of the availability and quality of interpretation methods.

Since the study relies on respondents' self-report, the most reliable findings are likely to be the physicians' ratings of their personal satisfaction with the quality of patient encounters. Subjective and self-reported estimates of the number of non-English-speaking patients seen by primary care physicians and of the patients' English-speaking fluency should be interpreted with caution. In addition, rates of visits with non-English-speaking patients may be higher in some parts of the country and lower in others. Our survey was limited to physicians practicing in one three-county area. Other studies have already documented the need for and use of interpreter services across the country, although they have tended to focus on hospital settings.[18–22] By attempting to sample all primary care physicians in a single, ethnically diverse geographical area where many patients speak languages other than English, we were able to make the observation that even physicians who might have had a large demand for such services still have a low rate of use of trained interpreters. Last, only a small number of physicians in this study used the services of trained interpreters. Despite our having controlled for physician characteristics such as practice setting, the possibility cannot be excluded that respondents' assessment that trained interpreters provided the highest quality service may reflect unobserved differences in physician characteristics rather than actual differences in quality between interpretation methods. These data, however, are consistent with many behavioral studies[2–15] that suggest the quality of interpretation is enhanced when a trained interpreter is involved in the encounter.

New techniques for bridging language and cultural barriers are emerging, including the use of computers and cellular phones to increase the availability and quality of interpretation for non-English-speaking encounters. One such system, developed at Stanford University, is called "remote-simultaneous interpretation" and uses modern cellular phone technology to link interpreters trained in the techniques of *simultaneous* interpretation to situations where medical interpretation is needed, including physician office visits, hospitals, nursing homes, patients' homes, and phone triage encounters.[23] In the first randomized trial of interpretation services, performed in a well-baby clinic, Hornberger et al. found that when remote-simultaneous interpretation was used, patients talked more than when an interpreter was in the room and the number of interpretation errors was reduced without the visit length being extended.[23] Moreover, physicians and patients were more satisfied with the quality of the encounter. We hypothesize that remote-simultaneous interpretation facilitates direct communication and rapport between the physician and patient since communication does not have to be routed through another person. Additional studies of this method are underway to assess whether it: *(a)* enhances the appropriate use by patients of phone triage and primary care clinics as alternatives to urgent care or emergency clinics, *(b)* increases the efficiency of seeing patients in busy outpatient

primary care clinics, and *(c)* is cost-saving or cost-effective in comparison to other interpretation options. The role of these and other methods for bridging language and cultural barriers in various health care settings requires systematic evaluation, which ideally would involve comparisons in randomized clinical trials. For example, a new county-sponsored managed care plan in Santa Clara County has decided that providers to patients insured by MediCal will have 24-hour access to trained interpreters providing remote interpretation in more than 100 languages. Whether such widespread access will be feasible and cost-effective remains to be shown.

Outcome studies of other methods designed to bridge language and cultural barriers are needed to help physicians and health care organizations make informed decisions about how to respond cost-effectively to the large and growing number of non-English-speaking patients. The present study suggests that even in an area that has large numbers of such patients, the problem of bridging language and cultural barriers is unresolved. Moreover, the fact that a high percentage of the physicians in the study reported being able to communicate in languages other than English does not mean that there are no language or cultural barriers impeding effective communication.

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