POPULATIONS AT RISK

Interpreter Services, Language Concordance, and Health Care Quality

Experiences of Asian Americans with Limited English Proficiency

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BACKGROUND: Patients with limited English proficiency (LEP) have more difficulty communicating with health care providers and are less satisfied with their care than others. Both interpreter- and language-concordant clinicians may help overcome these problems but few studies have compared these approaches.

OBJECTIVE: To compare self-reported communication and visit ratings for LEP Asian immigrants whose visits involve either a clinic interpreter or a clinician speaking their native language.

DESIGN: Cross-sectional survey—response rate 74%.

PATIENTS: Two thousand seven hundred and fifteen LEP Chinese and Vietnamese immigrant adults who received care at 11 community-based health centers across the U.S.

MEASUREMENTS: Five self-reported communication measures and overall rating of care.

RESULTS: Patients who used interpreters were more likely than language-concordant patients to report having questions about their care (30.1% vs 20.9%, $P < .001$) or about mental health (25.3% vs 18.2%, $P = .005$) they wanted to ask but did not. They did not differ significantly in their response to 3 other communication measures or their likelihood of rating the health care received as “excellent” or “very good” (51.7% vs 50.9%, $P = .8$). Patients who rated their interpreters highly (“excellent” or “very good”) were more likely to rate the health care they received highly (adjusted odds ratio 4.8, 95% confidence interval, 2.3 to 10.1).

CONCLUSIONS: Assessments of communication and health care quality for outpatient visits are similar for LEP Asian immigrants who use interpreters and those whose clinicians speak their language. However, interpreter use may compromise certain aspects of communication. The perceived quality of the interpreter is strongly associated with patients' assessments of quality of care overall.

KEY WORDS: Asian Americans; immigrant health; interpreters; language barriers; communication.

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According to the 2000 Census, 18% (47 million) of U.S. residents speak languages other than English at home, up from 14% in 1990.¹ Nearly half of these individuals have difficulty speaking and understanding English. Compared with proficient English speakers, fewer patients with limited

English proficiency (LEP) have regular sources of health care² and receive routine preventive services.³ They report medication complications at higher rates⁴ and are less satisfied with clinician communication⁵ and their health care overall.⁶ Concerns about difficulty communicating cause many LEP patients to avoid care when sick.⁷

Studies show that interpreter services improve health care experiences and outcomes of LEP patients.^{8–11} Most of this research has considered Spanish-speaking patients, comparing clinical interactions using interpreters to those with language barriers because of lack of interpretation. Some have included a comparison group of English-speaking patients. Few studies have explored perhaps the optimal situation—clinicians who speak patients' native, nonEnglish languages.^{11,12} None of these have specifically addressed Asian American immigrants, among the fastest growing minority groups in the U.S., and who report relatively high levels of dissatisfaction with health care.^{13–16} Although interpreters certainly have some benefit in clinical interactions, whether they allow for truly effective communication and high quality care from the patient's perspective remains unclear.

In this observational study exploring patients' perceptions of care, we surveyed LEP immigrant Chinese and Vietnamese patients visiting community-based health centers serving Asian populations. Some patients had seen clinicians who spoke their native language, while others had interacted through interpreters. We examine 2 main research questions: Do patients whose clinicians speak their native language report better communication and overall care than do patients who use interpreters? and for visits involving interpreters, how do patients' ratings of interpreter quality relate to their assessments of clinician-patient communication and overall quality of care?

METHODS

From January to March 2002, we mailed surveys to all patients 18 years and older of Chinese or Vietnamese ethnicity who had visited 1 of 11 community-based health centers within the previous 30 days. We obtained patients' self-reported ethnicity and language preference from the health centers' administrative databases. These 11 centers in Boston, Chicago, Houston, Los Angeles, New York, Oakland, Seattle, and

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Worcester, represented a convenience sample identified through the Association of Asian Pacific Community Health Organizations (AAPCHO). We sent all surveys in both English and in Vietnamese, Cantonese-, or Mandarin-Chinese. Details about the survey design and psychometric properties appear elsewhere.¹⁷ Briefly, the 81-item survey assesses patients' perspectives and health care experiences using questions similar to those in Picker Institute¹⁸ and Consumer Assessment of Health Plan Study (CAHPS®)¹⁹ surveys. These have been widely used and validated in diverse patient populations. Through focus groups and extensive pilot testing, we tailored our survey to reflect the unique perspectives of Chinese and Vietnamese immigrants.^{17,20} Of 4,410 surveys sent, respondents completed and returned 3,258 (74%).

Defining Communication Groups

Based on survey responses, we categorized patients into 2 groups: those using interpreters ("interpreter group"); and

those whose clinician spoke their native language ("language-concordant group"). The survey asked respondents, "Did you use one of the clinic's interpreters on your most recent visit?" To determine language concordance among patients who did not use an interpreter we asked 2 questions: "What language are you most comfortable speaking?" and "On your last visit what language did your doctor or nurse speak to you in?" If the languages were identical (and not English), we considered them "language concordant." As shown in the Figure, we excluded patients who were language discordant with their clinician but said they did not need an interpreter (7.9%), many of whom spoke English. We also excluded patients who stated that an interpreter was not available (2.6%), and those who spoke languages other than Cantonese, Mandarin, or Vietnamese, or for whom language concordance could not be determined (4%). Finally, we excluded patients who stated that English was their primary language or that they spoke English "very well" (2.1%).

FIGURE 1. Study groups and exclusions.

Main Outcome Measures

We asked patients 5 questions assessing their perceptions of the quality of their communication with their clinician during the most recent visit: (1) whether the doctor or nurse gave them enough time to explain the reason for their visit; (2) how much of the time their doctor or nurse provided understandable explanations; (3) whether patients had questions about their care they wanted to ask but did not; (4) whether they had questions about their mental health (stress, anxiety, or sadness) they wanted to ask but did not; and (5) whether the doctor or nurse gave them as much information about their health and treatment as they wanted. All questions except Question 2 sought “yes/no” responses. For Question 2, we combined responses to create a dichotomous outcome (“always” or “sometimes/never”).

We also asked patients to rate their health care overall during their most recent visit and to rate their interpreter. We dichotomized responses from the 5-point Likert scale, combining “excellent” and “very good” as high ratings of quality and “good,” “fair” and “poor” as suboptimal ratings. We did not consider “good” to represent optimal care. However, an alternative analysis, including “good” with “excellent” and “very good,” did not substantively change the outcomes. For a secondary analysis, we divided the group that used interpreters ($n=1,362$) into 2 subgroups: a group that rated their interpreters highly ($n=769$) and a group that rated their interpreters less favorably ($n=570$) (Fig. 1). We removed 23 (1.7%) patients who did not answer the interpreter-rating question.

Control Variables and Analysis

The survey asked respondents about their age, sex, education level, primary language, country of origin, years of residency in the U.S., and English proficiency (speaks English “very well,” “well,” “not well,” or “not at all”). We also asked respondents whether or not they saw their usual clinician, how they rated the clinician (5-point scale from “poor” to “excellent”), the reason for the visit (“new problem,” “follow-up visit,” “regular check-up,” or “other”), and their health status (5-point scale).

Using bivariable analyses, we examined differences in patient characteristics and main outcomes between the 2 main groups of interest: those who used an interpreter and those who had language-concordant providers. We performed similar analyses for the interpreter group alone, comparing patients who rated the interpreter highly with those who gave lower ratings. Adjusting for sociodemographic- and health-related covariates, we used multivariable logistic regression to determine relationships between groups (interpreter- or language-concordant) and the communication- and visit-rating outcomes. We ran similar logistic regression analyses for the interpreter subgroup, with interpreter rating (high vs low) as the main covariates of interest. We investigated whether certain subgroups of patients benefit more than others by having a language-concordant clinician; these analyses used interaction terms involving health status (dichotomized as “excellent” or “very good” vs “good,” “fair,” or “poor”) and English proficiency (some vs none). All analyses used SAS-callable SUDAAN software to account for complex sampling design and clustering by clinic site and primary language.^{21,22}

RESULTS

Patient Characteristics

The 2,715 study subjects had a mean age of 53.4 years; 67.5% were female; and mean residence time in the U.S. was 11.4 years (range 1 to 66 years). The majority (63.5%) spoke Cantonese-Chinese, with 22.1% speaking Vietnamese and 14.3% speaking Mandarin-Chinese. Almost all (93.6%) spoke English “not well” or “not at all;” 62.9% reported 9 or less years of education and 50.8% noted “fair” or “poor” health. Roughly half (51.4%) described their last visit as a regular check-up, while 35.7% reported follow-up visits. The majority (85.2%) saw their usual provider. Table 1 compares characteristics of the interpreter- and language-concordant groups. Interpreter users were slightly younger and had lived less time in the U.S. than language-concordant respondents. They were also significantly more likely to speak Vietnamese as their primary language, to speak no English, and to have completed less than 10 years of education. Sex, self-reported health status, whether the patient saw their usual clinician, and their rating of the clinician did not differ significantly between the 2 groups. Significantly different proportions of respondents used interpreters across the 11 clinic sites, with a median of 45% and a range of 18% to 89%.

Table 1. Baseline Characteristics of Patients by Study Group ($n=2,715$)

Characteristics	Interpreter Group ($n=1,362$)*	Language-Concordant Group ($n=1,353$)*	P Value†
Age, mean (SD), y	52.0 (16.2)	54.4 (15.9)	.015
Female (%)	66.7	68.1	.59
Primary language (%)			<.001
Chinese (Cantonese)	57.0	68.5	
Chinese (Mandarin)	13.3	15.0	
Vietnamese	29.7	16.5	
Time in the U.S., mean (SD), y	10.5 (7.7)	12.2 (8.2)	<.001
English proficiency (%)			<.001
Not at all	47.4	39.9	
Not well	49.1	51.5	
Well	3.6	8.6	
Education (%)			<.001
No school	9.6	5.6	
1 to 5 y	28.2	24.3	
6 to 9 y	29.9	27.7	
10 to 12 y	23.2	24.9	
13 to 16 y	7.2	12.9	
17+ y	2.1	4.6	
Health status (%)			.23
Excellent	5.1	3.1	
Very good	16.0	19.8	
Good	27.3	27.5	
Fair	45.1	43.2	
Poor	6.5	6.4	
Reason for visit (%)			.02
New problem	12.1	11.0	
Follow-up visit	34.1	36.8	
Regular check-up	51.3	51.5	
Other	2.5	0.7	
Saw usual clinician (%)	86.5	84.3	.29
Rating of clinician (%)			.96
Excellent/very good	57.4	57.6	
Good/fair/poor	42.6	42.4	

*Weighted percentages using SUDAAN to account for sampling design.

†Statistical significance determined using chi-square (categorical variables) or Student t-test (continuous variables).

Table 2. Communication- and Visit-rating Responses for Patients who Used an Interpreter or Whose Clinician Spoke their Native Language

Communication- and Visit-rating Question	Interpreter Group % (n=1,362)*	Language-Concordant Group % (n=1,353)*	Unadjusted Odds Ratio (95% CI)†	Adjusted Odds Ratio (95%CI)‡
Did the doctor or nurse you saw allow you enough time to explain the reason for your visit? (yes)	94.7	94.2	0.9 (0.5, 1.6)	0.8 (0.4, 1.6)
On your most recent visit, how much of the time did your doctor or nurse explain things in a way you could understand? (always)	61.1	67.8	0.8§ (0.6, 0.96)	0.8 (0.6, 1.1)
Did you have any questions about your care or treatment that you wanted to ask but did not? (yes)	30.1	20.9	1.6§ (1.2, 2.1)	1.6§ (1.1, 2.3)
Did you have any questions about your mental health, such as stress, anxiety, or sadness that you wanted ask but did not? (yes)	25.3	18.2	1.5§ (1.1, 2.0)	1.4§ (1.0, 2.0)
Did the doctor or nurse that examined you give you as much information about your health and treatment as you wanted? (yes)	89.0	87.8	1.1 (0.8, 1.7)	1.1 (0.7 to 1.8)
Overall, how would you rate the health care you received at this clinic during this most recent visit? (excellent/very good)	51.7	50.9	1.0 (0.8, 1.3)	1.0 (0.6, 1.7)

*Weighted percentages using SUDAAN to account for sampling design.

†Odds ratios use language concordant group as reference.

‡Adjusted for age, sex, education, primary language, English proficiency, time in U.S., health status, reason for visit, usual clinician, rating of clinician.

§Statistically significant.

CI, confidence intervals.

Communication and Visit Ratings

Table 2 compares communication and visit ratings between the interpreter- and language-concordant groups. The first 2 columns represent weighted percentages of patients who responded affirmatively. The third and fourth columns show unadjusted and adjusted odds ratios (ORs) comparing patients who used interpreters to language-concordant patients (the reference group). In unadjusted analyses, significantly more patients who used interpreters reported having questions about their care and questions about their mental health that they wanted to ask but did not, compared with patients with language-concordant providers. These differences remained significant after adjusting for covariates. Significantly more patients who used interpreters reported that their clinician always explained things in a way they could understand, but this difference lost statistical significance after adjustment. The 2 groups did not differ significantly in their responses to the other 2 communication questions—having enough time to explain the reason for their visit, and getting as much information as they wanted about their health and treatment. The overall ratings of care also did not differ significantly between the 2 groups. We performed stratified analyses for each clinic site separately and found no substantive variation across the 11 sites. All point estimates and confidence intervals (CIs) were consistent with the direction of the main results.

We used interaction terms in our models to explore whether the patient's health status or English proficiency level affected the relationship between mode of communication (interpreter- or language-concordant clinician) and communication outcomes. We found no significant differences for healthier versus sicker patients. However, for patients who spoke no English, the OR for having questions about care that they did not ask (interpreter- vs language-concordant group) was higher than for patients who spoke some English (OR 2.5 vs 1.1, $P=.03$). In analyses of how often clinicians provided explanations patients could understand, nonEnglish speakers displayed a similar pattern of greater communication difficulty with interpreters, but with marginal significance ($P=.07$). Analyzing separately by English proficiency showed no significant association with other communication questions or visit ratings.

Interpreter Rating

For analyses involving only patients with interpreters, 98.3% answered the interpreter-rating question: 57.4% provided high ratings ("excellent" or "very good"), while 42.6% gave lower ratings ("good," "fair," or "poor"). With few exceptions, these 2 groups displayed similar demographic characteristics. However, healthier patients, those who saw their usual clinician, and patients who rated their clinician highly gave significantly higher ratings to their interpreters.

Patients who rated their interpreters highly reported significantly better communication in all 5 areas (Table 3), but only 2 differences remained significant after adjusting for covariates. Patients who rated their interpreters highly also rated the health care they received at the visit more highly (unadjusted OR 19.1, 95% CI 12.3 to 29.5). As some patients may tend to give higher ratings in general, we adjusted for "rating of clinician" to correct for this. This produced a less dramatic, but still highly significant association between interpreter rating and visit rating (OR 4.8, 95% CI 2.3 to 10.1).

DISCUSSION

This study provides a unique window on the perceptions of Asian Americans with LEP regarding both clinician-patient communication and quality of care. We surveyed patients seen at community-based health centers serving large Asian immigrant populations that use many Chinese and Vietnamese-speaking clinicians and also provide interpreters when needed. In this setting, we could compare the experiences of LEP patients using clinic interpreters to those involving perhaps the gold standard for communication—linguistic concordance between patient and clinician. Our findings show that interpreter services compared favorably with language-concordant clinicians for some but not all aspects of communication, and that overall ratings of care were the same.

We found that patients using interpreters had questions they did not ask about their health care in general, and about their mental health specifically, more often than patients with language-concordant clinicians. Other investigators have shown that Spanish-speaking patients using interpreters ask

Table 3. Communication- and Visit-rating Responses for Patients who Rated their Interpreters “Excellent/Very Good” Versus “Good/Fair/Poor”

Communication- and Visit-rating Question	Patients who Rated Interpreter Excellent or Very Good % (n=769)*	Patients who Rated Interpreter Good, Fair, or Poor % (n=570)*	Unadjusted Odds Ratio (95% CI)†	Adjusted Odds Ratio (95% CI)‡
Did the doctor or nurse you saw allow you enough time to explain the reason for your visit? (yes)	98.4	89.1	7.6§ (3.3, 16.9)	12.8§ (3.3, 50.1)
On your most recent visit, how much of the time did your doctor or nurse explain things in a way you could understand? (always)	78.6	40.4	5.4§ (3.8, 7.9)	3.6§ (2.2, 6.0)
Did you have any questions about your care or treatment that you wanted to ask but did not? (yes)	22.5	39.1	0.5§ (0.3, 0.7)	0.8 (0.4, 1.4)
Did you have any questions about your mental health, such as stress, anxiety, or sadness that you wanted ask but did not? (yes)	21.5	30.3	0.6§ (0.4, 0.9)	1.3 (0.6, 2.5)
Did the doctor or nurse that examined you give you as much information about your health and treatment as you wanted? (yes)	94.2	82.8	3.4§ (1.8, 6.3)	1.3 (0.5, 3.7)
Overall, how would you rate the health care you received at this clinic during this most recent visit? (excellent/very good)	80.5	17.8	19.1§ (12.3, 29.5)	4.8§ (2.3, 10.1)

*Weighted percentages using SUDAAN to account for sampling design.

†Odds ratios use low-rated interpreter group as reference.

‡Adjusted for age, sex, education, primary language, English proficiency, time in U.S., health status, reason for visit, usual provider, rating of clinician.

§Statistically significant.

CI, confidence intervals.

fewer questions and express fewer concerns than English-speaking patients; furthermore, clinicians more often ignore comments of Spanish speakers.²³ While office visits with professional interpreters do not necessarily take longer,²⁴ interpretation can impose time pressures,^{24,25} giving patients fewer opportunities to ask questions within the same amount of time. Use of interpreters may also compromise rapport between patients and clinicians,²³ and their presence may inhibit patients' questions, particularly about sensitive topics such as mental health.

Despite these potential communication barriers, overall ratings of care did not differ between the interpreter- and language-concordant groups. This important finding suggests that, from the perspective of LEP Asian Americans, the quality of care delivered through interpreters equals what they would receive from clinicians who speak their language. Other researchers also reported similar levels of satisfaction comparing Latino patients who used interpreters to a group who either spoke English or whose clinicians spoke Spanish. In that study, patients using family or ad hoc interpreters (e.g., other patients, untrained staff) reported lower satisfaction.¹¹ In previous studies, ethnic concordance between patients and clinicians was associated with higher patient satisfaction for Asian Americans and other groups.^{26,27} While our study did not specifically address clinician ethnicity, linguistic concordance strongly suggests ethnic concordance, particularly for these languages. However, our findings did not support an association with satisfaction, possibly because we examined ratings of specific visits rather than satisfaction with the clinician and because we did not directly ascertain clinician ethnicity.

Among patients who used interpreters, those who rated their interpreter highly were much more likely to rate the overall care provided highly, even after adjusting for rating of the clinician and other potential confounders. This finding demonstrates the crucial role interpreter quality plays in the way these patients perceive their health care. It supports findings of our previous focus-group study in which “quality interpreter services” represented 1 of 3 major themes that distinguished

Asian Americans' self-described dimensions of quality care from those of whites.²⁰ Patients' ratings of interpreters were also highly associated with 2 aspects of communication—feeling they had time to explain the reason for their visit and understanding clinicians' explanations.

We found that patients who spoke no English at all had questions that they did not ask through interpreters more often than patients who spoke some English. This suggests that language-concordant providers might best serve nonEnglish speakers, while patients who speak some English may do equally well with interpreters. However, English proficiency did not significantly affect other communication outcomes or visit ratings, so these results need further study. While we anticipated that sicker patients would do better with language-concordant clinicians, this was not the case. This negative finding suggests that interpreters can facilitate communication effectively even for complex medical visits.

Our findings have important implications for health care policy and practice. They support the idea that high quality care for LEP patients depends on high-quality interpreter services when language-concordant providers are not available.²⁸ This involves rigorous interpreter training, clinician training on working with interpreters,^{29,30} and assessment of interpreter quality.³¹ Relying on family members and ad hoc interpreters is unacceptable.¹¹ During visits, clinicians and interpreters should avoid appearing rushed and should give patients opportunities to explain the purpose of their visit and to ask questions about their care. They should also reassure patients about confidentiality, particularly with sensitive topics such as mental health. To prevent incorrect interpretation and misunderstanding, they should speak in short, clear sentences, avoiding slang expressions and medical jargon.^{32,33} Pausing frequently to check on patients' understanding (and at times asking them to repeat back what they heard) could highlight and avoid any miscommunication that has occurred.^{33,34}

Our study has important limitations. We only examined the patients' perceptions of communication, which may differ

from clinicians' perceptions or objective methods of analysis. Nevertheless, patients' perceptions are important measures of patient-centered care. Patient-clinician communication is complex, and our survey assessed only selected aspects. A different method of analysis, such as videotaped encounters, might have uncovered other important differences between interpreter- and language-concordant communication (e.g., nonverbal communication).^{23,35} Also, we only had a single item to assess quality of care, although this is a commonly used measure.^{18,19}

We do not have specific data on clinician characteristics that may differ between language-concordant and nonconcordant clinicians. For example, language-concordant clinicians could have different communication styles or better rapport because of cultural similarity. While we could not adjust for these as potential confounders, adjusting for ratings of clinicians did not change the outcomes substantively. We also have no direct information about interpreter characteristics or accuracy, although we know all were clinic interpreters, not family members. Our results may not generalize to other linguistics groups in other settings. However, our findings parallel those from similar studies of Spanish speakers.^{8,11,23} Finally, the cross-sectional design does not allow for causal conclusions about the efficacy of interpreter services. Future research should examine characteristics that determine interpreter quality and interventions to improve it.

Communication is central to ensuring care that is safe, effective, patient-centered, timely, efficient, and equitable—the Institute of Medicine's 6 “pillars of quality.”³⁶ Research suggests that LEP patients experience lower quality care across these dimensions compared with English-speaking patients.^{2–6,23,25,37–39} Our study indicates that high-quality interpreter services play a crucial role in LEP Asian American patients' perceptions of good communication and high-quality care. Recent clarifications of Title VI of the U.S. Civil Rights Act of 1964 specify that LEP patients receiving federally funded services are legally entitled to interpreters when language-concordant clinicians are unavailable.⁴⁰ However, many practices (particularly smaller, nonhospital-based practices) struggle to offer either of these options.^{37,41,42} With the growing cultural and linguistic diversity in the U.S. and other countries, assuring high-quality care will require health care systems to implement effective and efficient strategies to provide high-quality, professional interpreter services for those who need them.

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