

# Satisfaction with Telephonic Interpreters in Pediatric Care

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**Objectives:** To compare satisfaction among Spanish-speaking mothers who did and did not use telephonic interpreters during pediatric visits, and to examine resident physician attitudes about telephonic interpreter use.

**Design, Setting, Participants and Interventions:** Anonymous surveys were administered to 98 mothers limited in English proficiency and presenting for well-baby visits in an urban university hospital-affiliated practice. Pediatric visits were performed by 24 non-Spanish-proficient pediatric residents. The first 46 women (baseline cohort) received routine services, including ad-hoc interpretation or no interpretation; the second 52 women (intervention cohort) used a dual-headset telephonic interpreter service.

**Outcome Measures:** Mothers completed postvisit interviews assessing overall satisfaction, comfort and ease of communication. Pediatric residents completed self-administered questionnaires assessing attitudes about and experience with telephonic interpretation.

**Results:** The intervention cohort overwhelmingly rated telephonic interpretation as "very helpful" (94%), indicating the visit would have been "harder" without the service (98%). Significantly more intervention cohort mothers reported it was "very easy" to communicate with the physician (83% vs. 22%,  $P < 0.01$ ), they understood "all" that the physician told them (97% vs. 80%,  $P < 0.05$ ) and they were "very satisfied" with the clinic overall (85% vs. 57%,  $P < 0.05$ ). Almost all intervention cohort mothers (96%) reported a preference to use telephonic interpretation at their subsequent visit; however, only one-third of residents believed their patients would prefer to use the telephonic interpreter in the future.

**Conclusions:** Mothers who used telephonic interpretation reported significantly greater communication and overall satisfaction compared to mothers in routine care. Pediatric residents substantially underestimated their patients' desire to use telephonic interpreters.

**Key words:** patient-physician relationship ■ physician satisfaction ■ language ■ communication

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Language barriers between provider and patient are a primary cause of health disparities in the United States.<sup>1</sup> An extensive body of research documents the negative impact of language barriers on healthcare utilization, healthcare costs, quality of care and patient satisfaction.<sup>2-7</sup> The problem of language barriers in medical settings continues to grow in conjunction with a national increase in patients who have difficulty communicating with providers in English. In the 1970 census, 9.6 million U.S. residents spoke a language other than English at home; by 2000, this number had risen dramatically to 45 million, >10 million of whom were limited in English proficiency (LEP).<sup>8</sup> As medical institutions struggle to provide quality medical care to this growing population, they are bound by Title VI of the Civil Right's Act of 1964, which prohibits discrimination "on the grounds of race, color or national origin" and by local laws, which guide how interpreter services are to be provided in a patient's primary language.

To bridge communication gaps for LEP patients, many medical settings rely on untrained bilingual staff or other ad-hoc interpreters such as friends and family. However, studies have documented that these methods result in inaccurate interpretations and decreased patient satisfaction.<sup>9,10</sup> In contrast, several studies have indicated that interpreters can mitigate some of the negative effects of language barriers in healthcare.<sup>10-13</sup> For example, in a large-scale retrospective study, LEP patients in an HMO demonstrated increased office visits, prescription writing, prescription filling and rectal exams after initiating a professional interpreter program.<sup>11</sup> Another retrospective study found that LEP diabetic patients who were routinely provided with professional interpreters achieved *better* health outcomes than patients who spoke the same language as their providers.<sup>13</sup> The authors sug-

gest that these surprising outcomes may have been promoted by highly comprehensive interpreter policies in the study's home state and at the two study institutions.

With evidence mounting that professional interpretation improves health outcomes for LEP patients, a critical next step in promoting culturally competent care is investigating the impact of various interpretation methods on patient-provider communication and satisfaction.<sup>14</sup> Only a handful of interpreter studies have investigated these key service outcomes, and the results are mixed. Some have found that in-person interpretation yields greater patient communication and satisfaction than telephonic interpretation,<sup>12,15</sup> whereas others report that physicians and patients prefer telephonic service<sup>16</sup> and that patient satisfaction following telephonic interpretation is equivalent to satisfaction following language concordant medical care.<sup>10</sup> Our study is one of the very first to investigate professional interpreter services in a nonacute pediatric continuity care setting.

The main objective of this study was to compare healthcare satisfaction among LEP mothers using telephonic interpreters to LEP mothers using ad-hoc interpreters or no interpretation during a well-infant visit. We hypothesized that patient understanding and satisfaction would be greater in the telephonic interpreter cohort. The study also examined physician attitudes toward telephonic interpretation. Based on conversations with pediatric residents, we hypothesized that residents would underestimate patient preferences for utilizing professional interpreters.

## METHODS

### Study Setting

This study took place at an academic pediatric practice in an urban, predominantly Hispanic, low-income community. The community includes the largest Dominican population in the United States, as well as many recent immigrants from Spanish-speaking Caribbean and Central American countries. Of approximately 22,000 pediatric visits yearly, 90% of patients have public insurance and 71% are Hispanic. Use of trained interpreters at the study site has historically been extremely rare. Providers not fluent in Spanish have traditionally relied on their own variable Spanish skills, combined with ad-hoc interpreting by bilingual colleagues, office staff, and the children and adult family members of patients. In March 2002, the medical center initiated a contract with Pacific Interpreters phone bank. Pacific Interpreters Inc. provides immediate telephone access to professional medical interpreters in >200 languages. However, subsequent to the Pacific Interpreters contract, the interpreter service remained vastly underutilized due to lack of buy-in by providers and the inconvenience of a single-handset system. During the course of this study, dual headsets were installed to make telephonic interpreters more accessible.

### Study Participants

Study participants included 98 Spanish-speaking mothers presenting for a first or second well-infant visit who reported having minimal or no English proficiency. Participant physicians were all pediatric residents at the practice who were not fluent in Spanish.

### Study Design

During the first half of the study when single-handset telephonic interpretation was available but rarely used, study data were collected on 46 LEP mothers who relied on ad-hoc interpretation methods that were the standard of care (baseline cohort). Subsequently, a dual-headset telephone system was installed throughout the practice to facilitate and increase use of telephonic interpreters. Study data were then collected on a second cohort of 52 LEP mothers who participated in this service (telephonic cohort). Professional medical interpreters supplied by Pacific Interpreters performed the telephonic interpretations. The interpretations were consecutive in nature (e.g., the interpreter first listens, then interprets), as opposed to simultaneous. Mothers were recruited in the waiting room prior to their pediatric visit. The research assistant also verified the English proficiency of each patient with several questions: country of origin; primary language; language used most frequently at home; and language preferred with family, friends and for reading a newspaper. In keeping with the characteristics of the study population, many waiting Hispanic mothers were Spanish dominant but could communicate comfortably in English; these mothers were not eligible for the study. Spanish-only mothers were approached by a part-time research assistant who worked one to two afternoons per week; all who were approached consented to participate. Mothers in both cohorts completed questionnaires administered by the same bilingual research assistant immediately after the visit and received a baby bib or rattle as reimbursement.

The physician sample was recruited from all pediatric residents providing medical care on site during the course of the study, excluding bilingual residents. Residents were included if they stated that they had ever used a Spanish interpreter. All 24 eligible residents agreed to participate; all 24 treated the baseline cohort, and 18 of these also treated the telephonic cohort and subsequently completed physician rating scales. At the end of the study, participating residents were given an anonymous, self-administered, mail-in questionnaire. Eighteen returned completed questionnaires. Data collection spanned 11 months. The institutional review board of the university hospital approved the study.

### Patient and Physician Measures

The patient questionnaire assessed mothers' experience with the telephonic interpretation service as well as other interpretation methods they may have used pre-

viously. Single ordinal items were used to assess patient perceptions regarding several features of the well-baby visit: satisfaction, comfort level with physician, and ease or difficulty in communication. These items contained standard four-point answer sequences ranging from “very” and “somewhat” (satisfied, comfortable, easy) to “somewhat” and “very” (dissatisfied, uncomfortable, difficult). The range of variation shifted for items regarding perceived helpfulness of the interpreter equipment (“very,” “somewhat,” “a little,” “not at all”) and, for those not using equipment, whether patients thought that telephonic interpretation would have made the visit “easier,” “harder” or “made no difference.” A five-point sequence was used to assess how much of the physician’s speech was understood by the patient (“all,” “most,” “some,” “a little,” “none”) as well as patient perceptions of how much of their own speech was understood by the physician.

The patient questionnaire was developed specifically for this study following a review of the relevant literature and input from experienced clinical interviewers with expertise in cultural competency training. Spanish translation and back-translation of the patient questionnaire was overseen and approved by the translation office of the hospital’s internal review board. Both the English and Spanish questionnaires were piloted with parents of newborns prior to study initiation. The measure exhibited excellent face validity and patient acceptability during the pilot phase, and thus no revisions were made.

Pediatric residents were mailed a self-report questionnaire that assessed their own attitudes regarding telephonic interpretation as well as their perceptions of patient attitudes and experiences. The six items elicited physician assessments of the helpfulness and usability of the telephonic interpreter service and their impressions of patient satisfaction with the service.

## Statistical Analysis

Univariate and bivariate statistical analyses were conducted utilizing SPSS® PC version 11. Tests of group differences were conducted using the Chi-squared statistic. Because the physician sample was small, analysis of these data was limited to univariate statistics.

## RESULTS

### Respondent Characteristics

**Patient sample.** Most mothers (77%) were born in the Dominican Republic, with 20% born in a Central or South American country. The mothers sampled were representative of the general LEP patient population at the study site. Virtually all women stated that Spanish was their primary language and that they preferred using Spanish at home (98%), with friends (96%) and to read a newspaper (99%). Mothers’ ages ranged from

14–43, with a mean of 28 years (SD=5.8). The interview occurred at the first newborn visit for more than three-quarters of patients, with the remainder occurring at the second visit. About one-fifth of the sample had previously been to the clinic with another child, but none had used telephonic interpretation. A few (13%) had used telephonic interpretation elsewhere during medical visits; of these, the vast majority reported that it had been “very useful.” There were no significant differences between the two study cohorts on any of these respondent characteristics.

**Physician sample.** Sixteen of the 18 physicians who returned questionnaires were female. The sample included seven interns, five postgraduate year (PGY)-2s, three PGY-3s, two respondents who declined to state their title and one attending physician who had been a resident. Nearly all stated that, during the year prior to the study, they relied on ad-hoc interpretation to communicate with Spanish-speaking parents. About one-third had prior experience with telephonic interpretation via speakerphones or dual headsets.

### Patient Ratings of Telephonic Interpreter Use

Overall, mothers in the telephonic cohort rated the experience as positive. Nearly all (94%) rated the service as “very” helpful, with no reports of “not helpful at all”. Moreover, when asked to imagine what talking with the doctor would have been like *without* the interpreter service, all but one respondent (98%) endorsed “harder” rather than “easier” or “no difference.” Interestingly, among those in the baseline cohort, 46% reported that telephonic interpretation would have made the visit “easier,” 17% endorsed “harder,” 30% “no difference,” and 7% “do not know.”

### Patient Ratings of Communication and Satisfaction

Table 1 presents descriptive statistics on key communication and satisfaction variables for each cohort. There were several important differences between the cohorts, with each difference favoring the use of telephonic interpretation. With regard to communication, 83% of the telephonic cohort versus 22% of the baseline cohort reported that it was “very easy” to communicate with the doctor ( $P<0.01$ ). Although most patients reported that they understood “all” of the physician’s speech, this was somewhat more common among those who used telephonic interpretation (97%) than those who did not (80%,  $P<0.05$ ). When asked how much the physician understood what *they* said, the difference is pronounced: nearly everyone in the telephonic cohort (92%) reported that the doctor understood “all,” compared to 67% of the baseline cohort ( $P<0.01$ ). With regard to satisfaction, the vast majority of the interpreter group (85%) but only a small majority of the baseline group (57%) reported

being “very satisfied” with the clinic overall ( $P<0.05$ ). Finally, nearly all the telephonic cohort (96%) indicated that they would choose to utilize telephonic interpretation again during their next visit. As importantly, half of the baseline cohort (52%) indicated that they would want to use telephonic interpretation on a subsequent visit ( $P<0.01$ ).

The groups did not differ on several items pertaining to patient perceptions of the physician. Both groups perceived the physicians to be “very competent,” “very” respectful toward the mother and have “a lot” of interest or concern for the child. Satisfaction with the doctor was extremely high in both groups, although a small difference emerged between groups in level of comfort with the physician: 97% in the telephonic group versus 87% in the baseline group ( $P<0.1$ ) reported being “very comfortable.”

### Physician Ratings of Telephonic Interpreter Use and Beliefs about Patient Communication and Satisfaction

Resident response to the telephonic interpreter service was positive overall, although substantially less enthusiastic than the patient sample. Half of the residents rated the service “very helpful” and half “somewhat helpful.” Similarly, half reported that the service enhanced the doctor–patient relationship; one-quarter reported that it made no difference, and one-quarter reported that it was inhibitory. When asked to compare ease of communication with and without the service, the vast majority (83%) indicated that, overall, it was easier to talk with LEP patients when using telephonic interpretation. The majority of residents also reported that patients understood “all” they said during visits when the service was used; in contrast, only one resident indicated that patients understood “all” she said during visits

without telephonic interpretation. Also, residents generally believed that their patients were more satisfied with visits when using the service: only one-quarter indicated that the equipment “made no difference” to patient satisfaction. However, only one-third of residents stated that patients would prefer to use the service during future well-baby visits, and nearly half stated that they “didn’t know” what patient preference would be.

### DISCUSSION

In this study, both mothers and physicians reported that remote telephonic interpretation via dual headset improved pediatric services. Mothers who received the telephonic interpretation service uniformly endorsed its helpfulness, and they reported significantly greater communication with the physician and overall satisfaction with the visit than mothers who did not use the service. Among mothers using ad-hoc interpretation only, about half reported that visits would be improved if telephonic interpretation were used. Moreover, most residents reported that the service enhanced communication with LEP patients.

These results are in keeping with those of Lee et al., who found that LEP patients using telephonic interpretation via speakerphone had equivalent satisfaction scores to patients who spoke the language of the provider.<sup>10</sup> However, our results stand in contrast to studies by both Kuo and Fagan and Garcia et al., which report lower patient satisfaction with telephonic interpretation compared to ad-hoc methods.<sup>12,15</sup> There are a number of possible reasons for this discrepancy. Both prior studies were conducted in settings where face-to-face professional interpretation was frequently available; thus, patients likely had prior experience using in-room interpretation and may have become habituated to personal contact with interpreters. In contrast, in Lee et al. as well as the current study, trained in-room interpreters were

**Table 1. Experiences of mothers who used and did not use telephonic interpreters**

|   | Telephonic Cohort<br>(n=52) | Baseline Cohort<br>(n=46) | P Value |
|---|-----------------------------|---------------------------|---------|
| Communication with Doctor                     |                             |                           |         |
| Very easy overall                             | 83%                         | 22%                       | <0.01   |
| Understood <i>all</i> of what doctor said     | 97%                         | 80%                       | <0.05   |
| Doctor understood <i>all</i> that mother said | 92%                         | 67%                       | <0.01   |
| Perceptions Regarding Doctor                  |                             |                           |         |
| Very competent                                | 94%                         | 87%                       | <0.10   |
| A <i>lot</i> of concern for child             | 98%                         | 91%                       | NS      |
| Very respectful                               | 98%                         | 100%                      | NS      |
| Very comfortable with                         | 97%                         | 87%                       | <0.10   |
| Overall very satisfied with                   | 97%                         | 94%                       | NS      |
| Overall very satisfied with clinic            | 85%                         | 57%                       | <0.05   |
| Would use telephonic interpreter next time    | 96%                         | 52%                       | <0.01   |

not available at the study site. Further, Kuo and Fagan measured satisfaction with a previsit questionnaire that relied on patient recall of a prior medical visit, which may have biased the results in favor of ad-hoc interpretation by family and friends. Finally, in the Garcia et al. study, it is not clear how many of the telephonic group accessed the interpreter via speakerphone, as opposed to a standard phone. Without the use of dual headsets or speakerphone, provider and patient must pass a single handset back and forth, a burden that likely diminishes satisfaction with telephonic interpreters.

The findings from resident questionnaires are in accord with previous studies that document important provider misperceptions and knowledge gaps about interpreter use, as well as reluctance by residents to use available interpretation services.<sup>17-19</sup> Although a majority of residents acceded several benefits to using the telephone interpreter (ease of communication, patient understanding and satisfaction), half reported that it did not enhance the doctor-patient relationship, and nearly two-thirds underestimated patient preference for telephone methods. Physician attitudes about professional interpretation play a central role in efforts to remedy language discordance in medical services, and this area warrants further investigation.

This study has several limitations. First, assessment of language proficiency in both the patient and resident samples relied on self-report. A more precise measure of language ability would shed additional light on the need for and impact of interpreter services, as well as contribute to practice guidelines about using interpretation with LEP patients. For example, one recent study reports significant language barriers even in Hispanics who stated that they spoke English.<sup>20</sup> Second, because only six of 18 physicians reported prior experience with telephonic interpreter use, it was not possible to draw conclusions about the effect of prior experience on physician attitudes toward telephonic interpretation. Third, the study did not assess the impact of interpreter services on pediatric outcomes such as maternal knowledge about newborn care or adherence to well-child visit schedules. Fourth, patients were not randomly assigned to study conditions, so systematic cohort differences related to attitudes about or need for interpreter use cannot be ruled out. Fifth, although the study had a nested design, there were not a sufficient number of observations per cell (patients nested within physicians) to model clustering effects. Despite these limitations, potential sampling bias was reduced for several reasons: 1) because patients were assigned to cohort based on time of presentation for care rather than preference for interpretation services; 2) no one refused to participate in the study; 3) the study took place over the course of a year, minimizing potential history effects; 4) both cohorts had little prior experience with professional interpreters. Moreover, patient attitudes were assessed immediately after

the doctor visit, a strategy that eliminates bias from retrospective recall.

Study findings are timely and relevant to clinical practice. As the immigrant population of the United States continues to increase, the need for empirically based decisions regarding interpreter use in health services is growing daily. This study supports a line of research suggesting that whereas telephonic interpretation has the potential to cross language barriers in healthcare and provide benefits to LEP patients, physicians may be reluctant to use available services and are generally unaware of patient preferences in this area. Nevertheless, despite resident underestimation of patient preference for these services, increases in telephonic interpreter use that began during the course of this study have been sustained in the clinical practice. When the accessibility of professional interpreter services was increased by installing dual headsets, many residents immediately began using them for both study and nonstudy patients, and telephonic interpreter use has continued to grow annually. Knowledge of preliminary results of this study also enhanced sustainability: Many residents who initially believed that telephonic interpretation presented a barrier to creating a productive working relationship with parents were subsequently convinced to try out the service when presented with empirical evidence of parent preferences. Finally, we note that following the conclusion of this study, many hospital clinics replaced the dual headset systems with speaker phones, which are now preferred by most providers.

These results have significant implications for the well-baby visit in ambulatory pediatric care. It is essential that new mothers understand information and instructions from their pediatricians and feel confident that their doctors comprehend what they are saying. Likewise, in order to provide patient-centered and culturally competent care, physicians must understand the experiences and concerns of mothers. Finally, patient satisfaction with medical care has been shown to have a direct impact on patient adherence and is therefore critical to competent medical care.<sup>21,22</sup> Telephonic interpretation directly supports these critical dimensions of health service delivery for LEP patients.

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