Published in final edited form as:

J Surg Res. 2016 February ; 200(2): 514–522. doi:10.1016/j.jss.2015.09.033.

Preoperative consent for patients with limited English proficiency

Darshan N. Patel, MEd, MA^a, Elliot Wakeam, MD, MPH^b, Margaux Genoff, BS^c, Imran Mujawar, MBBS, MS^c, Stanley W. Ashley, MD^d, and Lisa C. Diamond, MD, MPH^{c,e,f,*}

^aCooper Medical School of Rowan University, Camden, New Jersey

^bDivision of General Surgery, Department of Surgery, University of Toronto, Toronto, Ontario, Canada

^cDepartment Psychiatry and Behavioral Sciences, Immigrant Health and Cancer Disparities Service, Memorial Sloan Kettering Cancer Center, New York, New York

^dDivision of General and Gastrointestinal Surgery, Department of Surgery, Brigham and Women's Hospital, Boston, Massachusetts

^eDepartment of Medicine, Memorial Sloan Kettering Cancer Center, New York, New York

^fDepartment of Healthcare Policy and Research, Weill Cornell Medical Center, New York, New York

Abstract

Background—Informed consent is important for limited English proficient (LEP) patients undergoing surgery, as many surgical procedures are complicated, making patient comprehension difficult even without language barriers. The study objectives were to (1) understand surgeons' preoperative consenting process with LEP patients, (2) examine how surgeons self assess their non-English language proficiency levels using a standardized scale, and (3) identify the relationship between self assessed non-English language proficiency and surgeons' self-reported use of interpreters during preoperative informed consent.

Materials and methods—A thirty-two item survey assessing surgeons' reported preoperative informed consent process, with questions related to demographics, level of medical training, non-English language skills and their clinical use, language learning experiences, and hypothetical scenarios with LEP patients.

*Corresponding author. Memorial Sloan Kettering Cancer Center, 485 Lexington Ave, 2nd Floor, New York, NY 10017. Tel.: +1 646 888 8061; fax: +1 929 321 1520. diamondl@mskcc.org (L.C. Diamond).

Authors' contributions: E.W., L.D., S.A., D.N.P., and M.G. made significant contributions to the study conception and design. L.D., I.M., and D.N.P. were responsible for the data analysis. E.W., S.A., and M.G. contributed to data acquisition. All authors listed made substantial contributions to the interpretation of the data, drafting the article, critically revising it, and had final approval of the version attached.

Disclosure

The authors reported no proprietary or commercial interest in any product mentioned or concept discussed in the article.

Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.jss.2015.09.033>.

Results—Surgeons who were not fluent in non-English languages reported they often used those limited skills to obtain informed consent from their LEP patients. Many surgeons reported relying on bilingual hospital staff members, family members, and/or minors to serve as *ad-hoc* interpreters when obtaining informed consent. If a professional interpreter was not available in a timely manner, surgeons more frequently reported using *ad-hoc* interpreters or their own nonfluent language skills. Surgeons reported deferring to patient and family preferences when deciding whether to use professional interpreters and applied different thresholds for different clinical scenarios when deciding whether to use professional interpreters.

Conclusions—Surgeons reported relying on their own non-English language skills, bilingual staff, and family and friends of patients to obtain informed consent from LEP patients, suggesting that further understanding of barriers to professional interpreter use is needed.

Keywords

Language barriers; Physician–patient communication; Informed consent; Health disparities

1. Background

Informed consent is an integral part of patient-centered health care [1]. It is a dialogue during which information is exchanged between patients and health care providers, requiring at a minimum that both parties are competent and can communicate either directly or with the guidance of an interpreter [2,3]. It is the physician's obligation to ensure that patients understand the purposes, procedures, alternatives, benefits, and risks of medical treatments to make informed decisions about their health care [4,5]. Despite this responsibility, research has shown that physicians dominate informed consent discussions and frequently use more complex medical language than their patients comprehend [6]. Moreover, the informed consent procedure can be further compromised by language barriers [7].

Language barriers are a growing problem in health care as the United States continues to diversify linguistically. Over 60 million Americans speak a language other than English at home, and approximately 8.5% of the American population has limited English proficiency (LEP) or speak English less than “very well” [8]. Language barriers lead to poor comprehension of medical treatments [9,10]. When professional medical interpreters or truly bilingual physicians facilitate communication, LEP patients are more likely to understand their diagnosis and treatment plan and receive care comparable with that of their English-speaking counterparts [9,11,12].

Federal regulations mandate provision of language assistance by a competent interpreter during encounters with LEP patients [13], including the consenting process, yet research has demonstrated that there is little enforcement of these mandates [14]. LEP patients are less likely to have documentation of informed consent for medical procedures [1]. Clinicians often choose *ad-hoc* interpreters, such as family members, bilingual support, or nursing staff, or are “getting by” with their own limited non-English skills instead of using professional interpreters [9,15–17]. Clinicians cite time constraints and lack of interpreter availability as reasons why they underuse professional interpreters [16,18,19]. The underuse of professional interpreters is normalized in medical practice [16], putting patients at risk for

consenting to procedures they do not truly understand. Although language barriers are a part of a greater problem of health inequity for patients from the nondominant culture, health disparities due to poor communication are more easily measured and can be successfully eliminated by effective interventions and policy changes.

Informed consent is especially important for patients undergoing surgery, as many surgical procedures are complicated, making patient comprehension difficult even without language barriers. To help inform potential interventions, we focused on the surgical informed consent process and sought to (1) understand surgeons' behaviors surrounding the preoperative consenting process with LEP patients, (2) examine how surgeons self assess their non-English language proficiency levels using a standardized scale, and (3) identify the relationship between self assessed non-English language proficiency and surgeons' self-reported use of interpreters in the presurgical consenting process.

2. Methods

2.1. Design and participants

We developed a survey assessing surgeons' behaviors during the preoperative informed consent process. The survey was initially pilot tested with five surgeons from diverse specialties who acted as key informants and provided focused feedback on each question to test proper interpretation. They provided feedback on face validity, item phrasing, and guidance on how to assess surgeons' behaviors through LEP patient scenarios. The 32-item survey took approximately 10 min to complete and included questions related to demographics, level of medical training, non-English language skills and their clinical use, language learning experiences, and reactions to hypothetical scenarios with LEP patients (Appendix). The survey was conducted anonymously to decrease response bias because we were asking surgeons about their compliance with hospital policy. The final survey was reviewed and approved by the Partners Human Research Committee. The survey was then administered between October 2013 and January 2014 through a secure online tool, Research Electronic Data Capture (REDCap) [20] and made available via email to the medical staff and trainees of all surgical specialties at an academic medical center in Boston, MA.

The hospital's policy on interpreter services states that family and friends of patients should not be asked, suggested, or encouraged to interpret for LEP patients in non-life-threatening situations, unless the patient declines a professional interpreter. The hospital strictly prohibits the use of minors as interpreters [21]. The hospital provided language services for LEP patients and has a policy in place regarding the use of interpreters. The hospital has 25 staff interpreters who cover the major languages requested by LEP patients (e.g., Spanish, Portuguese, Russian, Chinese, Haitian Creole, American sign language, Somali, and Vietnamese). In addition, the hospital has a contract with a large telephone interpreting company that provides access to interpreters in over 200 languages 24 h per day, 7 d per week. This high-quality service is convenient to access throughout the hospital.

2.2. Measures

Surgeons were asked to rate their non-English language skills using the adapted Interagency Language Roundtable (ILR) scale for physicians, which has been described in a previous publication [22]. Participants were considered fluent if they self rated as “excellent” or “very good” and nonfluent if they self rated as “good”, “fair,” or “poor” [23].

Additionally, the method of language assistance the surgeon selected in the hypothetical scenarios presented was noted. The options included using one’s own non-English language skills, calling a professional interpreter, using an *ad-hoc* (untrained) staff member, and, in situations where the patient was accompanied by family, the patient’s adult family member or child.

Surgeons were asked how they would obtain informed consent from a patient with no English skills who presented in three hypothetical scenarios (See Fig. 1 for schematic). First, a patient presented alone to the emergency department with an acute surgical problem, which required surgery within 4–6 h. Second, a patient who required the same type of acute surgical intervention presented to the emergency department with a spouse who spoke some English and a fully bilingual child. Third, the patient presented with the same family members to a clinic visit needing an elective procedure.

To assess whether time constraints and interpreter availability played a role in the surgeons’ responses to the scenarios, each hypothetical scenario was presented in two ways: with a professionally trained in-person interpreter arriving in <15 min or >15 min. This time interval was based on previous studies, which measured compliance with the National Standards for Culturally and Linguistically Appropriate Services in Health Care (CLAS standards) [24,25].

Surgeons were also asked to provide open-ended responses to describe other situations in their practice where they needed to decide between using an interpreter or their own non-English language skills.

2.3. Analysis

We conducted bivariate comparisons to describe the relationship between non-English language fluency and the socio-demographic and language variables collected. These were conducted using χ^2 and Fisher exact test (where appropriate) for categorical variables and *t*-tests for continuous variables. A *P* value of <0.05 was considered statistically significant. Subgroup analysis was conducted for physicians who provided ratings for their non-English language skills based on the adapted ILR scale. The proportion of physicians (along with binomial 95% confidence intervals) for each of the four modes of consent was estimated in the three pairs of surgical scenarios, irrespective of language fluency and then by non-English language fluency (fluent *versus* nonfluent). The data were analyzed using SPSS version 22 (SPSS, Inc., Chicago, IL), SAS version 9.2 (SAS Institute, Inc., Cary, NC), and R software (R Foundation for Statistical Computing, Vienna, Austria).

The study team qualitatively analyzed the open-ended survey responses for emerging themes using the constant comparative method [26]. Data analyses were performed by a subset of

the research team (D.N.P., M.G., I.M., and L.D.). Disagreements in coding were discussed until a consensus was reached.

3. Results

3.1. Characteristics of respondents

The survey had a 33.1% response rate (158 of 477). Table 1 lists the demographic characteristics of respondents. More attending surgeons ($n = 93$; 59%) participated than fellows, residents, interns, and midlevel providers ($n = 65$; 41%). Respondents were primarily in the gynecologic surgery specialty ($n = 59$, 37%), followed by general surgery ($n = 32$, 20%), orthopedic surgery ($n = 32$, 15%), and other specialties (44, 28%). Most respondents were white ($n = 124$, 79%) and spoke English as a first language ($n = 130$, 84%). There were no significant differences in age, gender, race, ethnicity, level of training, other languages spoken, and English as first language between surgeons who used the ILR scale to rate their non-English language skills and those who did not.

3.2. Non-English language use

About one-third of respondents ($n = 50$, 32%) reported using their own non-English language skills to consent patients for surgery. Of the non-English languages spoken, Spanish was the most common ($n = 71$; 83%), followed by French and/or Haitian Creole ($n = 10$, 12%), Mandarin ($n = 2$, 2%), German ($n = 1$), Hindi ($n = 1$), and Swedish ($n = 1$)—with the majority reporting fluent proficiency ($n = 30$, 63%). Most respondents who reported fluency in a non-English language reported rarely or never using an interpreter for that language ($n = 20$, 67%).

Table 2 looks specifically at the experience of surgeons who use their non-English language skills with patients ($n = 48$). Fluent speakers of a non-English language reported using their language skills when interacting with patients more often than nonfluent speakers ($P < 0.001$), although nonfluent speakers also reported using their skills at least some of the time. Those surgeons who reported using their non-English skills during medical training in an international setting tended to report fluent proficiency.

3.3. Surgeons' reported behaviors in obtaining informed consent for LEP patients ($n = 48$)

Figure 2 shows the modes of communication reported by surgeons in the three scenarios regardless of fluency. The modes of communication were professional interpreter use, use of the surgeon's own non-English language skills, use of untrained staff or family members as interpreters, and the potential use of a child as an interpreter. In all scenarios, when a professional interpreter was available within 15 min, they were more likely to be used than other modes of communication, but when the wait was >15 min, surgeons preferred their own non-English language skills over waiting for an interpreter. Surgeons were more likely to rely on children as interpreters in the acute surgery scenarios, when interpreters were not immediately available, and also used them in the other scenarios but to a lesser extent. The use of untrained staff and family members also increased when the wait for an interpreter was >15 min. However, surgeons used untrained staff or family members more in elective surgical situations compared with acute surgical scenarios.

Figure 3 shows the effect of fluency on the different modes of communication. Surgeons who reported fluency in non-English languages relied more heavily on their own language skills compared with nonfluent physicians, and this difference became more pronounced in scenarios where waiting for a professional interpreter would take >15 min (Fig. 2A). This reliance was strongest when the patient had acute needs but persisted in nonemergent settings. Nonfluent surgeons consistently reported using their non-English language skills, even when a professional interpreter was readily available. This reliance on their own non-English language skills was most frequent (80%) when there were no bilingual family members accompanying the patient and waiting for a professional interpreter would take >15 min (Fig. 2A). Nonfluent surgeons used professional interpreters (in-person or by telephone) to obtain informed consent from LEP patients more frequently than fluent surgeons, but this difference was less pronounced when there were family members (including minors) present, and in elective surgical scenarios (Fig. 2B). Neither fluent nor nonfluent surgeons reported using untrained staff to obtain consent when a professional interpreter was available within 15 min in acute surgical scenarios, but untrained staff were used by nonfluent surgeons when a professional interpreter was not readily available in this scenario (Fig. 2C). Fluent surgeons only used untrained staff or family members to obtain consent in elective surgery when the professional interpreter was not readily available. This scenario (elective surgery when professional interpreter not readily available) was also when nonfluent surgeons most frequently (22%) used untrained staff or family members to obtain consent; they continued to use them, but to a lesser extent (6%–12%), in other scenarios (Fig. 2C). Twenty-nine percent of nonfluent surgeons reported they would use a minor to interpret the consent for an acute surgery if a professional interpreter was not available within 15 min compared with only 10% of fluent surgeons (Fig. 2D). Eleven percent and 7% of nonfluent and fluent surgeons, respectively, reported that they would use a bilingual minor to obtain consent even if a professional interpreter was available in <15 min. They continued to use bilingual minors in elective surgical scenarios, but to a lesser extent.

When asked to provide open-ended responses to describe other situations in their practice where they needed to decide between using an interpreter or their own non-English language skills, two themes emerged. The first was one of deferring to patient and family preferences. One surgeon wrote, “I always offer the patient an interpreter and very rarely do Spanish speaking patients prefer it.” Another wrote, “For some rarer languages where I do not speak the language and no interpreter is readily available a family member usually starts translating. I usually do not feel comfortable with this situation, but even offering the interpreter is difficult since the person translating the request is usually the same family member who is annoyed that you won’t use them and get the visit going.”

A second theme that emerged from responses involved applying different thresholds for different clinical scenarios. Surgeons seemed to create their own thresholds for when they would request professional interpretation, instead of applying a standard policy. One surgeon wrote, “never in situations where I am obtaining consent. My Spanish is good enough to get a decent [history and physical examination] and explain simple concepts, but I want someone fluent to help me gain consent.” Another wrote, “I think [using family or staff members as interpreters] is effective, the communication seems good and the patients seem

to understand and seem pleased with the personal direct communication. Same for the staff at our hospital. If it is not working I backtrack and get more qualified help.”

4. Discussion

Our study found that surgeons who were not fluent in non-English languages reported they often used those limited skills to obtain preoperative informed consent from their LEP patients. We observed that many surgeons reported relying on bilingual hospital staff members, family members, and/or minors to serve as *ad-hoc* interpreters when obtaining preoperative informed consent, in spite of their hospital’s written policy. This may reflect a lack of awareness of the hospital’s written policy. We found that if a professional in-person or telephone interpreter was not available in a timely manner, surgeons more frequently reported using *ad-hoc* interpreters or their own nonfluent language skills. Additionally, surgeons reported deferring to patient and family preferences when deciding whether to use professional interpretative services and expressed different thresholds for clinical scenarios when deciding whether to use professional interpreters, which has been shown in prior research [16].

Research has shown that clinicians’ use of their nonfluent language skills can negatively influence patient care, as it has the potential to lead to miscommunication and misinterpretation of critical clinical information. Although many health care organizations have policies regarding the use of interpreters in place, few institutions set standards for clinicians to hold them accountable [27]. Health care institutions should work to ensure all physicians are familiar with the hospital policies and federal regulations regarding language services for LEP patients and implement standards for physician non-English language proficiency [10,23]. Ensuring that physicians are educated around these standards and understand how they will be held accountable would likely help physicians make better decisions about using professional interpreter services with LEP patients.

Untrained bilingual staff and family members may seem like an easy and reasonable alternative to using a professional interpreter, but this practice can lead to adverse events for LEP patients [28–31]. This is especially true with the use of minors as *ad-hoc* interpreters, as children and young adults may not possess the education or competence to provide true informed consent for their adult family members [32]. The United States Department of Health and Human Services Office of Minority Health has issued guidance on this matter and has stated firmly that family members or friends should not be used as interpreters unless specifically requested by the patient, and after being informed of free interpretive services. Minors should never be used as interpreters [33]. Even with this guidance, surgeons in our study reported that they would use minors as interpreters in hypothetical situations to obtain informed consent. This may reflect a lack of awareness surgeons have about the institutional policy or, perhaps more concerning, a disregard to the policy as a whole.

Surgeons qualitatively reported applying different thresholds for different clinical scenarios when deciding how they would consent their LEP patients. Time was an important variable in influencing surgeons’ decisions to use a professional interpreter. Surgeons reported

different behaviors during the informed consent scenarios when a professional interpreter was not available in a timely manner. However, even when a trained telephone interpreter was available for immediate needs, some practitioners still reported they would use *ad-hoc* interpreters. This suggests perhaps that a shift of norms, more robust training [18,19], and advancements in technology [34] are needed to help improve uptake of professional interpreters via telephone, video, or other means. Furthermore, the creation and implementation of protocols for obtaining informed consent from LEP patients may help guide surgeons in their decision making.

4.1. Study limitations

Although this study has important implications for the care of LEP patients in the surgical setting, there are some important limitations to consider. The survey had a low response rate and sample size, limiting the strength of associations that we could derive from our analysis. However, studies have shown that survey response rates among physicians are notoriously low and our results are in line with previously reported response rates for physician surveys [35,36]. Although there were no funds for incentives, future research could use monetary incentives to improve the response rate for this population. Furthermore, there may have been selection bias of the participants, favoring those with a particular interest in the LEP patient population. Participants who are interested in language barriers may have an understanding for the implications of using their non-English language skill and may have provided answers that were in line with institutional policies rather than their actual practices with patients. However, despite this potential bias, respondents still openly reported behaviors in contravention of institutional policy, such as those regarding the use of minors. Our survey did not address surgeons' awareness of hospital policy, but it is possible that the use of minors reflects a lack of awareness of the policy. This suggests that our results may in fact be an understatement of the problem. The study participation was limited to one academic medical center in an urban setting, which may not be representative of national physician and patient demographics. However, our findings do offer insight in to the behaviors of surgeons during preoperative informed consent, and, thus, can be helpful in developing interventions for improvement.

5. Conclusions

Surgeons rely on their own non-English language skills, bilingual staff, and family and friends of patients to obtain preoperative informed consent with LEP patients. Surgeons' behaviors varied depending on the clinical scenario and circumstances in which the patient presented. Our findings show that surgeons' behaviors often deviated from national and hospital policies on delivering culturally and linguistically appropriate services, suggesting that further understanding of barriers to professional interpreter use is needed.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

The authors thank the study participants.

D.N.P. was supported during this research by the Medical Student Summer Fellowship Program at Memorial Sloan-Kettering Cancer Center. E.W. was supported by an Arthur Tracy Cabot fellowship at the Center for Surgery and Public Health, Department of Surgery, Brigham and Women's Hospital during the time this study was conducted. L.D. was supported by funding from the National Cancer Institute (P30 CA008748, R21 CA168489).

References

1. Schenker Y, Wang F, Selig SJ, Ng R, Fernandez A. The impact of language barriers on documentation of informed consent at a hospital with on-site interpreter services. *J Gen Intern Med.* 2007; 22(Suppl 2):294. [PubMed: 17957414]
2. Brenner LH, Brenner AT, Horowitz D. Beyond informed consent: educating the patient. *Clin Orthop Relat Res.* 2009; 467:348. [PubMed: 19057974]
3. Clark S, Mangram A, Ernest D, Lebron R, Peralta L. The informed consent: a study of the efficacy of informed consents and the associated role of language barriers. *J Surg Educ.* 2011; 68:143. [PubMed: 21338973]
4. Berg, JW.; Appelbaum, PS. Informed consent: legal theory and clinical practice. Oxford, New York: Oxford University Press; 2001.
5. Faden, RR.; Beauchamp, TL.; King, NMP. A history and theory of informed consent. New York: Oxford University Press; 1986.
6. McCarthy DM, Leone KA, Salzman DH, Vozenilek JA, Cameron KA. Language use in the informed consent discussion for emergency procedures. *Teach Learn Med.* 2012; 24:315. [PubMed: 23035998]
7. Carter-Pokras O, O'Neill MJF, Cheanvechai V, Menis M, Fan T, Solera A. Providing linguistical appropriate services to persons with limited English proficiency: a needs and resources investigation. *Am J Manag Care.* 2004; 10:29.
8. Selected social characteristics in the United States. 2012 American Community Survey 1-year estimates. U.S. Census Bureau's American Community Survey Office: US Census Bureau; Washington, DC: 2012.
9. Baker DW, Parker RM, Williams MV, Coates WC, Pitkin K. Use and effectiveness of interpreters in an emergency department. *JAMA.* 1996; 275:783. [PubMed: 8598595]
10. Wilson E, Chen AH, Grumbach K, Wang F, Fernandez A. Effects of limited English proficiency and physician language on health care comprehension. *J Gen Intern Med.* 2005; 20:800. [PubMed: 16117746]
11. Flores G. The impact of medical interpreter services on the quality of health care: a systematic review. *Med Care Res Rev.* 2005; 62:255. [PubMed: 15894705]
12. Karliner LS, Jacobs EA, Chen AH, Mutha S. Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. *Health Serv Res.* 2007; 42:727. [PubMed: 17362215]
13. Common language access questions, technical assistance, and guidance for federally conducted and federally assisted programs. Federal Coordination Compliance Section, Civil Rights Division: U.S. Department of Justice; Washington, DC: 2011.
14. Chen AH, Yudelman MK, Brooks J. The legal framework for language access in healthcare settings: title VI and beyond. *J Gen Intern Med.* 2007; 22:362.
15. Burbano O'Leary SC, Federico S, Hampers LC. The truth about language barriers: one residency program's experience. *Pediatrics.* 2003; 111:569.
16. Diamond L, Schenker Y, Curry L, Bradley E, Fernandez A. Getting by: underuse of interpreters by resident physicians. *J Gen Intern Med.* 2009; 24:256. [PubMed: 19089503]
17. Yawman D, McIntosh S, Fernandez D, Auinger P, Allan M, Weitzman M. The use of Spanish by medical students and residents at one university hospital. *Acad Med.* 2006; 81:468. [PubMed: 16639205]

18. Lee KC, Winickoff JP, Kim MK, et al. Resident physicians' use of professional and nonprofessional interpreters: a national survey. *JAMA*. 2006; 296:1050. [PubMed: 16954482]
19. Karliner LS, Perez-Stable EJ, Gildengorin G. The language divide. The importance of training in the use of interpreters for outpatient practice. *J Gen Intern Med*. 2004; 19:175. [PubMed: 15009797]
20. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform*. 2009; 42:377. [PubMed: 18929686]
21. Brigham and Women's Hospital Interpreter Services Policy #1.6.4. Revised May 2012.
22. Diamond LC, Luft HS, Chung S, Jacobs EA. "Does this doctor speak my language?" Improving the characterization of physician non-English language skills. *Health Serv Res*. 2012; 47:556. [PubMed: 22091825]
23. Diamond L, Chung S, Ferguson W, Gonzalez J, Jacobs EA, Gany F. Relationship between self-assessed and tested non-English-language proficiency among primary care providers. *Med Care*. 2014; 52:435. [PubMed: 24556893]
24. Diamond LC, Wilson-Stronks A, Jacobs EA. Do hospitals measure up to the national culturally and linguistically appropriate services standards? *Med Care*. 2010; 48:1080. [PubMed: 21063229]
25. National standards for culturally and linguistically appropriate services in health care. U.S. Department of Health and Human Services - Office of Minority Health; 2001.
26. Patton, MQ. Qualitative research and evaluation methods. Thousand Oaks, Calif: Sage Publications; 2002.
27. Hunt LM, de Voogd KB. Are good intentions good enough? Informed consent without trained interpreters. *J Gen Intern Med*. 2007; 22:598. [PubMed: 17443367]
28. Divi C, Koss RG, Schmaltz SP, Loeb JM. Language proficiency and adverse events in US hospitals: a pilot study. *Int J Qual Health Care*. 2007; 19:60. [PubMed: 17277013]
29. Elderkin-Thompson V, Silver RC, Waitzkin H. When nurses double as interpreters: a study of Spanish-speaking patients in a US primary care setting. *Soc Sci Med*. 2001; 52:1343. [PubMed: 11286360]
30. Flores G, Abreu M, Barone CP, Bachur R, Lin H. Errors of medical interpretation and their potential clinical consequences: a comparison of professional versus ad hoc versus no interpreters. *Ann Emerg Med*. 2012; 60:545. [PubMed: 22424655]
31. Flores G, Laws MB, Mayo SJ, et al. Errors in medical interpretation and their potential clinical consequences in pediatric encounters. *Pediatrics*. 2003; 111:6. [PubMed: 12509547]
32. Levine C. Use of children as interpreters. *JAMA*. 2006; 296:2802. [PubMed: 17179456]
33. Koh HK, Gracia JN, Alvarez ME. Culturally and linguistically appropriate services—advancing health with CLAS. *N Engl J Med*. 2014; 371:198. [PubMed: 25014685]
34. Tuot DS, Lopez M, Miller C, Karliner LS. Impact of an easy-access telephonic interpreter program in the acute care setting: an evaluation of a quality improvement intervention. *Jt Comm J Qual Patient Saf*. 2012; 38:81. [PubMed: 22372255]
35. Asch S, Connor SE, Hamilton EG, Fox SA. Problems in recruiting community-based physicians for health services research. *J Gen Intern Med*. 2000; 15:591. [PubMed: 10940152]
36. VanGeest JB, Johnson TP, Welch VL. Methodologies for improving response rates in surveys of physicians: a systematic review. *Eval Health Prof*. 2007; 30:303. [PubMed: 17986667]

Fig. 1.
Surgical scenarios in clinician survey.

Fig. 2. Surgeons' modes of communication with LEP patients ($n = 48$).

Fig. 3.

Effect of non-English language fluency on different modes of communication. (A) Use own non-fluent non-English skills, n (%). (B) Use professional interpreter, n (%). (C) Use ad-hoc untrained staff or adult family member, n (%). (D) Potential use of a child, n (%). N/A = not applicable.

Table 1Characteristics of respondents ($n = 158$).

Characteristics	<i>n</i> (%) or mean (SD)
Age	43 (13.4)
Gender	
Female	77 (49)
Race	
White	124 (78.5)
Black	7 (4.4)
Asian	20 (12.7)
Native Hawaiian or other Pacific Islander	2 (1.3)
Multiracial or other	5 (3.2)
Hispanic or Latino	8 (5.1)
Level of training	
Attending	93 (58.8)
Midlevel provider (Physician Assistant, Nurse Practitioner)	1
In-training (fellow, resident, or intern)	64 (40.5)
Specific other languages spoken	
Spanish	71 (82.6)
French/Haitian Creole	10 (11.6)
Other languages *	5 (5.8)
English as first language	130 (83.9)
Self-rated fluency in other language (ILR scale)	
Fluent	30 (62.5)
Not fluent	18 (37.5)
Medical work abroad for >6 mo	37 (23.4)
Use non-English language when consenting patients	50 (32.1)
Frequency of non-English language use	
About once per month	8 (16.7)
About once per week	6 (12.5)
About 2–3 times per week	12 (25.0)
About once per day	6 (12.5)
Several times per day	13 (27.1)
Frequency of interpreter use	
Never	15 (31.3)
Rarely	12 (25)
About half the time	7 (14.6)
Occasionally	4 (8.3)
Usually	8 (16.7)
Always	2 (4.2)

SD = standard deviation.

Due to rounding and missing data, percentages may not add up to 100.

* German, Hindi, Mandarin, and Swedish.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2

Characteristics of self-reported fluent *versus* nonfluent physicians who use their non-English language skills with patients ($n = 48$).

Characteristics	Nonfluent, n (%) or mean (SD)	Fluent, n (%) or mean (SD)	P values
Age	42.7 (9.2)	42.4 (14.6)	0.92
Gender			0.37
Female	7 (29.2)	17 (70.8)	
Male	11 (45.8)	13 (54.2)	
Race			0.34
White	15 (39.5)	23 (60.5)	
Black	0	0	
Asian	1 (14.3)	6 (85.7)	
Native Hawaiian or other Pacific Islander	1 (100)	0	
Multiracial or other	1 (50)	1 (50)	
Hispanic or Latino	0	5 (100)	0.14
Level of training			0.60
Attending	13 (43.3)	17 (56.7)	
In-training/midlevel provider	5 (27.8)	13 (72.2)	
Specific other languages spoken ($n = 46^*$)			1.00
Spanish	15 (38.5)	24 (61.5)	
French/Haitian Creole	1 (25)	3 (75)	
Other languages [†]	0	3 (100)	
English as first language	16 (42.1)	22 (57.9)	0.45
Medical work abroad for >6 mo	4 (21.1)	15 (78.9)	0.07
Frequency of non-English language use ($n = 45^{\ddagger}$)			<0.001
About once per month	5 (62.5)	3 (37.5)	
About once per week	5 (83.3)	1 (16.7)	
About 2–3 times per week	3 (25)	9 (75)	
About once per day	3 (50)	3 (50)	
Several times per day	0	13 (100)	
Frequency of interpreter use			0.01
Never	2 (13.3)	13 (86.7)	
Rarely	5 (41.7)	7 (58.3)	
About half the time	1 (14.3)	6 (85.7)	
Occasionally	2 (50)	2 (50)	
Usually	6 (75)	2 (25)	
Always	2 (100)	0	

SD = standard deviation.

Due to rounding and missing data, percentages may not add up to 100.

* Two participants did not report their non-English language skills.

[†] German, Hindi, Mandarin, and Swedish.

[‡]Three participants reported “other” for frequency of using their non-English skills.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript