

**LANGUAGE BARRIERS IN US HEALTHCARE:
RESEARCH IN LIMITED ENGLISH PROFICIENCY
PATIENT EXPERIENCE AND HEALTH OUTCOMES**

Honors Thesis

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Abstract

This review covers literature published to the National Library of Medicine from 2010-2021 on the use of Spanish and other non-English languages used in healthcare settings in the United States. Despite the National Culturally and Linguistically Appropriate Service (CLAS) Standards created by the Department of Health and Human Services (HHS) in 2010, it is well-documented that patients with limited English proficiency (LEP) still receive lower quality care. The studies reviewed indicate a lack of standardization in the use of interpretation services and other intervention strategies can increase patient satisfaction, as well as a tendency to underutilize these services when available. Further research must be done on how to promote the use of interpretation services among healthcare providers, how LEP patients navigate topics around mental health, and perspectives of how interpretation services should be used from LEP patients themselves.

Keywords: LEP patient health, LEP patient satisfaction, interpretation services, language barrier

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Language Barriers in US Healthcare

There are millions of Spanish speakers in the U.S. and many report speaking English less than “very well.” When seeking healthcare, these patients are known as LEP (Limited English Proficiency) patients. LEP has been widely documented as a barrier to healthcare in the US. Research shows that having limited English proficiency skills while seeking health care in hospitals leads to decreased patient satisfaction and poorer health outcomes. The Spanish-speaking population comprises the majority of patients with LEP in the United States, but there are also patients with LEP who speak other languages, including Hindi, French, Chinese, Japanese, Arabic, and Portuguese.

It is impossible to exclude language from other factors such as socioeconomic status and race when discussing health disparities and patient outcomes. There is data on differences in health risks and health outcomes for Hispanics as a population and for LEP patients as a population, yet not enough data about the health risks and outcomes of Hispanics who have identified themselves as LEP. Hispanics represent the majority of patients with LEP, with one in three reporting not speaking English well. In addition, there are other social-economic factors that may also affect the health of Hispanics, such as poverty (one in four Hispanics live below the poverty line) and education (one in three Hispanics have not completed high school) (Centers for Disease Control and Prevention, 2015). While there is not one single universal way to define “high quality healthcare,” the commonly accepted components include thorough communication between patient and provider; accurate evaluation of the patient; accurate diagnoses; appropriate treatments; and comprehensive information and instruction matching the patient’s health literacy. Institutions within the United States healthcare system constantly strive to attain high quality healthcare for all patients.

Spanish is the second most common language spoken in the United States. Most interventions to improve outcomes for LEP focus on increasing providers' proficiency in Spanish, cultural training for healthcare providers, and increasing the availability of in-person Spanish interpretation services. Global connectivity and the increased ease of travel and immigration serve to only increase the linguistic diversity in the United States and the pressure to improve these services and eliminate the disparity between LEP patients and English-speaking patients. The population of LEP patients in the United States continues to grow. About 1 in 6 people living in the country are Hispanic, and by 2035, this could be almost 1 in 4 (Centers for Disease Control and Prevention, 2015).

This review synthesizes and analyzes a collection of sources published in the National Library of Medicine (PubMed) from 2006 to 2021 which (a) include keywords "LEP patient", "interpretation", and "language barrier"; and (b) focus heavily on themes of language barriers, quality of care, and patient satisfaction. The goal in this review is to build a comprehensive picture of the relationship between language competency and LEP patients' health care experiences and outcomes. To create this picture, the synthesis seeks to identify answers to the following two questions: (a) In what ways do language barriers affect the care quality and satisfaction for LEP patients in the United States?; and (b) What is the nature of the current services put in place to alleviate language barrier struggles for these patients? Research analysis is broken into two sections: (a) Implications of language barriers in healthcare settings; and (b) Implications of current LEP language services and protocols.

Implications of Language Barriers in Healthcare Settings

Language barriers can naturally disrupt one of the main methods for ensuring that high quality care is provided: communication. When communication is inadequate or

inaccurate between patient and provider, patient health outcomes, satisfaction, and safety may be negatively affected.

Major healthcare settings where language barriers can present themselves include hospitals, emergency departments, outpatient clinics, private practices, long-term care facilities, hospice centers, and urgent care departments. The general operations and patient populations of these different types of settings vary greatly, meaning that language barriers may present a unique set of challenges in each one.

LEP Patients Have Poorer Health Outcomes than English-Speaking Patients

In a systematic review, Diamond, Izquierdo, Canfield, Matsoukas, and Gany (2019) looked at 33 different studies based on four outcome areas: quality of care, satisfaction with care/communication, medical understanding, and mental health. Seventy-six percent (25/33) of the studies reviewed showed that language-concordant care, care in which both the care provider and patient speak the same language to a high level of proficiency, leads to better healthcare for LEP patients in at least one of the four outcome areas. Three of the studies reviewed showed that language-concordance leads to better quality of care in the treatment of diabetes. Of the three studies regarding cancer treatment and prevention, one found that breast cancer patients with language-concordant care were more likely to receive radiation therapy; another found that patients with language-concordant care were more likely to participate in colorectal cancer screening; and one found no statistically significant difference. In other studies reviewed, Diamond et al. found that patients who received language-concordant care better understood their diagnoses, were more likely to report health problems, and were more satisfied with their care and communication in a hospital setting.

Overall, the impacts of language-concordant care for LEP patients were demonstrated to be widespread and positive. Diamond et al. note that for the three studies

reviewed that showed LEP patients to have more negative outcomes with language-concordant care (two of which showed that the patients were less likely to have colorectal screening if they had language-concordant care), the results may have been due to the patients' better understanding the risks involved; feeling as though they had more autonomy; potentially poor study designs; or a lack of true language-concordancy.

Centers for Disease Control and Prevention published an online fact sheet with statistics around the health of the Hispanic population in the United States (2015). Statistics include that: the Hispanic death rate is 24 percent lower than non-Hispanic whites; Hispanics are 50 percent more likely to die from diabetes or liver disease than non-Hispanic whites; Hispanics have 23 percent more obesity; and Hispanics undergo 28 percent less colorectal screening. Reversely, Hispanics have 35 percent less heart disease and 49 percent less cancer than English-speaking whites. Compared with United States-born Hispanics, foreign-born Hispanics have half as much heart disease, 48 percent less cancer, and 29 percent less high blood pressure.

Bauer and Alegría (2010) conducted a systematic review in an effort to examine the impact of language proficiency and interpreter use on psychiatric care, a less explored area of LEP care. Bauer and Alegría reviewed 26 articles, organizing their findings based on three categories: experiences wherein patients were seen without interpreters; experiences wherein patients were seen with ad hoc interpreters; and experiences wherein patients were seen by language-concordant providers. One study conducted evaluations of Spanish-speaking schizophrenia patients using the Brief Psychiatric Rating Scale, once in English, then once in Spanish, without interpreters present. The study found that patients answered questions about symptoms differently in each language, endorsing certain symptoms in English but denying them in Spanish. In English, patients were also more likely to speak in the past tense about their symptoms. These results may have been influenced by

characteristics of speech, but are still suggestive that a language barrier significantly affects the ability to diagnose mental health disorders.

Bauer and Alegría (2010) reviewed a German study evaluating Turkish patients, which found that a German-speaking psychiatric trainee and a bilingual (Turkish and German) psychiatric trainee disagreed on the diagnosis for 4 percent of German patients, but 19 percent of Turkish patients. The study speculated, like in the last, that acculturation and linguistic differences may be connected to this diagnostic uncertainty, rather than merely their language proficiency. A study reviewed from Switzerland found that in two circumstances – when an ad hoc interpreter was used, and when nurses reported on poor communication during initial health screenings – patients usually reported physical symptoms but few psychological symptoms. Another two studies found that psychotic LEP patients scored lower on ratings of self-disclosure in English than Spanish during audiotaped evaluations, and that ad hoc interpreters caused errors due to inadequate language proficiency, as well as their “normalization” of the patients’ disordered thoughts due to a lack of psychiatric knowledge.

In a 2021 study, LEP patients in California were found to be less likely to receive preventative care. Gulati and Hur (2021) analyzed a full set of aggregated data from the 2018 California Health Interview Survey, a large population-based survey. Across 21,177 participants, 8.2 percent had LEP. Findings showed that compared to participants who spoke proficient English, LEP participants were less likely to have a place they often went when sick other than the ER; and that they were less likely to attend a preventative care visit in the past year. The results also indicated that LEP participants were less likely to need to see a medical specialist, and less likely to delay necessary care, than non-LEP participants.

The research done by Diamond et al. (2019) and Bauer and Alegría (2010) collectively reflect some ways in which LEP patients receive inadequate, lower quality health care. Diamond et al. presented 33 studies which reflected that patients with language-concordant care were more likely to pursue or participate in certain medical treatments, better understood their diagnoses, were more communicative in their health problems, and were more satisfied with their hospital care. Diamond et al. note in their conclusion that although the studies they reviewed were of good quality, none had included standardized assessments of provider language skills. This presents a barrier to understanding what LEP patients experience when seeking care, and poses the question of how fluent a provider must be in a language to be considered able to provide language-concordant care – a topic which must be further explored in research.

Bauer and Alegría's systematic review reflects the communication barriers LEP patients face in their care, and suggests (a) that psychiatric assessments conducted in a non-native language could be less reliable, and (b) that language barriers significantly affect the ability to diagnose mental health disorders. The review highlights, though, that acculturation and linguistic characteristics play a role in language barriers faced in patient-provider discussions – not just language proficiency. Cultural linguistic factors may impact patients' communication in a way which affects their care, just as general language proficiency does, and should be further studied apart from basic language comprehension.

The CDC statistics (2015) reflect clear disparities between the Hispanic and white populations in the United States. Interestingly, the Hispanic population sees higher rates of health problems which are specifically associated with preventative measures, including diabetes and obesity; versus the health problems which they have lower rates of than the white population, including cancer and heart disease. As the participation in preventative health measures largely depends on provider communication and instruction, these

statistical trends indicate that a lack of quality patient-provider communication may be a large factor driving poorer health outcomes in Hispanic patients. Colorectal screening, undergone 28 percent less by the Hispanic population, is also greatly dependent on a provider's communication and instruction.

Additionally, statistics showing that foreign-born Hispanics have significantly less heart disease, cancer, and high blood pressure than United States-born Hispanics further support the notion that United States healthcare operation and communication systems have some kind of detrimental impact on the Hispanic population's health and healthcare decisions. Research must be done on comparing foreign-born and United States-born Hispanic health, in an effort to identify ways in which the United States healthcare system negatively influences United States-born Hispanic health outcomes. Gulati and Hur's research (2021) reflects that LEP patients may be less likely to attend preventative care visits, which provokes the same question of how healthcare operation and communication systems affect LEP patient choices.

Nurses as Frontline Communicators with LEP Patients

Gerchow, Burka, Miner, and Squires (2021) produced a scoping review of qualitative research involving the nursing workforce and language barriers, finding that across 16 countries included in the studies, nurses had similar experiences when dealing with language barriers, applying similar strategies and facing similar increased stress. Gerchow et al. highlighted four major themes among the studies: Interpreter Use and Misuse, Barriers to and Facilitators of Quality Care, Cultural Competence, and Interventions. Language barriers were shown to universally increase stress and workload for nurses. Gerchow et al. found that while nurses generally preferred professional, in-person interpretation, they often relied on other methods of communication. When using interpreters, nurses reported improved care and patient involvement in decision-making and

discharge planning. However, one study reported that nurses would speak to the interpreters rather than the patients and would have less personal conversations. Multiple studies showed that bilingual nurses felt additional stress when they had to take on the role of both nurse and interpreter. Non-language-concordant patients spent less time with nurses and had trouble providing a detailed health history. Results showed that the nurses' own culture impacted care delivery and that nurses understood the ties between language and culture.

Nurses play an important role in LEP patient care, safety, and satisfaction and are often the first healthcare provider that a patient makes contact with. The way that nurses interact with and decide to communicate with LEP patients can make a large difference in their quality of care. Gerchow et al. note that most published research involving nurses and language barriers is exploratory, with few focusing on interventions. Nurses generally interact with patients much more frequently than physicians and other acute care providers, making research on the nurse-patient relationship incredibly important.

Insights of Patient Perspectives

Brooks et al. (2016) conducted focus groups with 22 LEP Spanish-speaking adults and concluded predominant themes of lack of interpreter availability, fear of disclosing limited English language skills, and language-discordant providers overestimating their LEP patients' English proficiency. Data was collected through focus groups with participants, then transcribed and analyzed. Many of the participants reported feeling as though they received "poor care." The main solution this article calls for is for more interpretation services, saying that there is often "inadequate or insufficient access." Brooks et al. note that there have been few studies that examine the experiences of LEP patients and their perception of their own quality of care.

Steinberg, Valenzuela-Araujo, Zickafoose, Kieffer, and DeCamp (2016) conducted a study which found that mothers experienced frustration in their healthcare and reported “suboptimal accommodations” for language barriers. The research team conducted two separate sets of Spanish-language interviews with immigrant Latina mothers in urban settings, most of whom had two to three children and were of Mexican descent. The first interview set included 38 participants from Detroit, Michigan; the other set included 10 participants from Baltimore, Maryland. Interviews lasted between 25 and 90 minutes and mostly took place in participants’ homes by a bilingual, bicultural, “experienced” Latina interviewer with community knowledge. After asking the US Census Bureau question, “How well do you speak English?” to ascertain LEP status (speaking English “less than very well” qualifies an LEP patient), a range of questions were asked around the participants’ experiences in healthcare settings. Steinberg et al. do not include the set of questions asked in their research, but discuss the six themes which emerged in great depth. Themes include: the “battle” of managing language barriers, preference for bilingual providers, negative bias toward interpreted encounters, “getting by” with limited language skills, fear of being a burden, and stigma and discrimination experienced by LEP families.

Following the methodology of Brooks et al. (2016) and Steinberg et al., researchers may consider conducting more qualitative, interview-based studies with LEP patients regarding language barrier experiences. While the Brooks study is limited in the amount of information it provides, what it does provide is novel. There has been little research on the LEP patient’s perception of whether interpretation services are difficult to access, as these services are typically used at the provider's discretion. Participants also felt that their ability to understand English was overestimated. This is problematic because care providers report underusing interpretation services, indicating that there is even less communication than previously thought. The fear of disclosing limited English skills is another barrier that

needs more research. While this fear may pose a barrier for patients looking to request interpretation services, more standardized procedures of determining when interpretation services are necessary may eliminate any disparities this fear causes. In the Steinberg research, participants reported more negative experiences overcoming language barriers in specialty care, emergency care, and other child health services than in primary care. Steinberg et al. notes that for most participants, increased satisfaction with primary care compared with other health care was related not just to better accommodation of language needs by primary care providers, but to more familiarity and comfort with the system of primary care. The opposite was the case with specialty and emergency care – mothers reported less access to language services, as well as an unfamiliar healthcare setting which “magnified” the challenges.

In 2020, Stephen and Zoucha conducted an integrative review to find gaps in the literature involving experiences of Spanish-speaking, LEP parents whose children are patients. They reviewed 36 research studies, and wrote that “Future research is needed to explore the cultural values, beliefs, and experiences of Spanish speaking parents with LEP and the role of nurses and to inform culturally congruent nursing care, research, and policy” (p. 30). These studies reflect the necessity for future discussions on access to language services, but also around the comfort and orientation of LEP patients facing unfamiliar healthcare settings.

Cultural congruence is another topic deserving of dedicated research. Steinberg et al. interviewed an LEP mother who reported a specific desire for ethnically concordant providers, as opposed to any Spanish-speaking provider. She said, “If he is Latino, that would be a lot better” (p. 1322). Research should be done around the effects of clinical staffs’ cultural competency, not just their linguistic competency, on LEP patient experience.

LEP Patient Experiences in Pediatric Emergency Departments

Hartford et al. (2019) explored the use of interpreters in pediatric emergency departments using a cohort study methodology. It was conducted in the ED (emergency department) of Seattle Children's Hospital from 2015-2016. The hospital was equipped with telephones for interpretation in every room, four mobile video interpretation devices, and one in-person Spanish interpreter during peak hours. The study allowed bilingual providers to provide care in a foreign language if they passed the Clinician Cultural and Linguistic Assessment, though very few of the ED providers had the certification. Of all of the LEP patient encounters, only 45.4 percent showed evidence of having received interpretation. Interpretation was less likely to be used for patients with less severe symptoms or need for intervention, and less likely to be used during peak hours of the day. Interpretation services were more likely to be used for younger pediatric patients than older pediatric patients. Hartford et al. also found that pediatric LEP patients were more likely to be administered to the ICU within 24 hours of admission than English-speaking patients. This is suggestive that providers are more likely to miss issues of clinical severity with LEP patients than English-speaking pediatric patients in the beginning of ED visits. At the same time, LEP patients who did not receive interpretation services were less likely to be admitted than English-speaking patients, suggesting that these patients are less likely to receive any appropriate care at all.

The hospital marked all patients who said their preferred language for receiving care was not English as LEP patients. This may have influenced the data by counting patients who ideally would prefer to have care in another language, but were fluent and confident receiving care in English without interpretation services, in the same category as patients with insufficient English proficiency who did not receive any interpretation

services. Access to interpretation services also depended on the language spoken, with Cantonese- and Spanish-speaking families the most likely to receive interpretation.

Portillo et al. (2021) conducted a cross-sectional study on care for pediatric LEP patients between the ages of 0 to 21 from January 2017 to June 2018. Of the 63,601 visits to the ED during the study period, 20 percent were LEP patients. The authors found that discharged LEP patients had an increased likelihood of returning to the ED department within 72 hours of an initial visit, with 4.53/100 revisits by LEP patients and 3.55/100 revisits by English-speaking patients.

The categorization process Hartford et al. used raises concerns about what criteria should be necessary for a patient to be deemed LEP. Not all patients who mark their preferred language as non-English are necessarily non-fluent in English nor require interpretation services. Even with these potentially inaccurate LEP markings, less than half of the LEP patients from this study received interpretation services. In Portillo et al.'s research, the statistically significant revisit rates for LEP patients suggest that having non-language-concordant care increases the likelihood that patients have issues of clinical severity overlooked or receive insufficient care in pediatric EDs. The National Culturally and Linguistically Appropriate Service Standards (CLAS), developed by the United States Department of Health and Human Services, provides a blueprint meant to improve the quality of LEP patient care. It states that organizations should "inform all individuals of the availability of language assistance services clearly and in their preferred language," and set "linguistically appropriate goals, policies, and management accountability."

Implications of Current LEP Language Services and Protocols

When communicating with an LEP patient, care providers are faced with several options, including ad hoc interpretation, video interpretation services, telephone interpretation services, in-person interpretation services, and using language concordant

care providers. When these services are not readily available and convenient, or they are not perceived to be so, providers will forgo using any outside communication aids at all. The first legislation to address services for LEP patients was the Civil Rights Act of 1964, which required providers receiving federal funds to take reasonable steps to make their programs and services accessible by LEP patients. Today, most states have implemented the government's national CLAS standards. The Affordable Care Act (2010) mandated that insurers providing coverage to areas with large LEP populations provide translated versions of all key insurance documents.

There is limited evidence as to the association between recent health reforms and improvements in patient-provider communication, or in decreases in linguistic disparities for LEP patients. Berdahl and Kirby (2019) analyzed reports from the Household Component of the Medical Expenditure Panel Survey (MEPS) – a national survey that collects information on healthcare access, use, expenditures, and experiences – in order to analyze how patient-provider communication has changed for LEP patients since the Affordable Care Act. Leading up to the Affordable Care Act, between 2006 and 2010, LEP individuals reported lower scores each subsequent year for “Doctors always explained things clearly”; “Doctors always showed respect”; and “Doctors always listened carefully.” After 2010, though, the scores for these three statements began to steadily increase. This reflects that the Affordable Care Act may have had positive impacts on patient-provider communication systems for LEP patients. However, it is important to note that LEP individuals were still at a significant disadvantage compared to English-speaking survey participants in 2015 on the three measures examined.

Lack of Standardization in LEP Services in the United States

Joseph, Garruba, and Melder (2018) conducted a wide scope systematic review of articles involving the use of telephone and video interpreter services compared with in-

person services in healthcare. They found that current evidence does not ultimately suggest there is one particular interpretation mode that is superior to others. The review included eight studies, five of which used telephone interpretation services and three of which used video interpretation services. The review measured patient satisfaction levels for different interpretation services. There was evidence of higher satisfaction with trained interpreters compared with ad hoc or telephone interpreters, but there was no difference in satisfaction between having an in-person trained interpreter, trained telephone interpreter, or bilingual physician interpreter. Higher levels of satisfaction were reported for trained telephone interpreters than for in-person interpreters or an external telephone interpreter service.

Silva et al. (2020) conducted an interview-based study around end-of life conversations with twelve professional Spanish and Chinese medical interpreters. In semi-structured interviews, six areas were explored: medical interpreters' perceived comfort level during end-of-life interpretation; perception of interpreter role; communication practices perceived as barriers to effective communication; communication practices felt to facilitate effective communication; concrete recommendations on how to best use medical interpreters; and received training needs/perceived training needs. While there were many qualitative components to this study, the most significant results included that (a) interpreters reported the need to frequently translate the meanings of things within specific cultural contexts, beyond literal interpretations; and (b) interpreters collectively recommended staff and family pre-meetings and debriefings before and after end-of-life conversations with patients to maximize effective communication.

Patel et al. (2016) conducted a study on surgeons' preoperative consenting process with LEP patients and found that surgeons often opted to not use professional interpretation services. The study issued a 32-item survey to surgeons about their preoperative informed consent process that included topics such as self-assessments of their non-English language

proficiency levels and their clinical use, language learning experiences, and hypothetical scenarios with LEP patients. The survey results found that surgeons frequently relied on their own language skills to communicate with LEP patients, even when they did report being fluent in those languages; and relied on bilingual hospital staff members, and both adult and minor family members of the LEP patients, to serve as ad hoc interpreters. They were more likely to use these methods if professional interpreters were inconvenient, and many times let the patients decide for themselves if they would like to have access to interpretation services.

Squires et al. (2017) conducted an exploratory analysis of patterns in language-concordant home health care visits. In at-home care settings, the available tools for healthcare providers to communicate with LEP patients are even more limited. The simplest method for communication between at-home care providers and LEP patients is to match patients with bilingual care providers, as there is a lack of access to professional interpretation services away from in-patient care settings. Squires et al. found that among 238,513 LPE patient home care visits within a two-year period, only 20 percent of visits were language-concordant.

Google Translate is a popular machine translation tool, which medical staff are known to use for patient interpretation. Khoong, Steinbrook, Brown, and Fernandez (2019) conducted an in-depth analysis of 100 ED discharge instruction papers, taking each sentence and categorizing them into diagnosis explanations, follow-up instructions, medication instructions, return precautions, or greetings. Use of medical jargon, atypical use of normal words (ex. “positive test result”), colloquial English, and general readability score were analyzed as well. Khoong et al. used Google Translate to translate every sentence into both Spanish and Chinese, then bilingual translators translated the text back into English. The team used a rating system of “clinically non-significant”, “clinically

significant”, and “life-threatening potential harm” for all inaccurate translations. Of 647 sentences, eight percent of Spanish and 19 percent of Chinese sentences were inaccurately translated. Few of the inaccurate translations had potential for clinically significant harm: in Spanish, 15 (28 percent) of 53 inaccuracies; in Chinese, 50 (40 percent) of 125 inaccuracies. None showed life-threatening potential harm.

It is largely up to the provider to assess whether professional interpretation services are necessary or not, and the availability and convenience of these services fluctuates. Interpretation services can be incorrectly utilized and underutilized. Although LEP patient satisfaction is shown not to be significantly higher with one single mode of interpretation, trained interpreters result in higher patient satisfaction than ad hoc interpreters, and this preference must be taken into account in the development of LEP service protocols and standards. Silva et al.’s research emphasizes the importance of using professional interpreters who thoroughly understand the cultural nuances of the language and can successfully interpret their meanings to English, beyond basic literal interpretation. Cultural nuance in linguistics, as discussed earlier, is an important area deserving of additional study in relation to LEP patient satisfaction and health outcomes. When clinicians have cultural and linguistic knowledge beyond basic language proficiency, patient experience is positively affected. This concept must be explored and prioritized by United States health organizations in the development of LEP patient approaches.

Patel et al.’s research on surgeons is incredibly informative of the process in which surgeons determine whether professional interpretation services are necessary and demonstrates a tremendous lack of procedure, while Squires et al. shows the lack of standardization in at-home care settings. The authors note that there is no research on “the right ‘dose’ of bilingual home care visits to optimize home care outcomes and establish a standard of care” for LEP patients. Certainly, having only 20 percent of visits be language-

concordant is alarmingly low. More research is needed around language-concordance in more narrowed settings, including but not limited to surgical departments and at-home care. Khoong's research did not include any examples of the written content it analyzed in Google Translate, nor explain its criteria for its coding system in depth. Due to this lack of context, the percentage of "inaccurate" translations cannot be taken into account too heavily, although the article presents a worthwhile concept: if the impacts of medical jargon and colloquial English are kept in mind and actively avoided, Google Translate can be a useful tool when established interpretation services are unavailable.

Access to Services

Lee et al. (2017) conducted a study involving the installation of bedside telephones which offered telephone interpretation to LEP patients, providing more rapid access to services. 238 participants, a collection of both Spanish and Chinese speaking LEP patients, were included. They were all patients undergoing invasive procedures on the cardiovascular, general surgery, or orthopedic surgery floors. Results showed that the LEP patients with access to the bedside interpreter telephones were better able to give informed consent than LEP patients without. However, even with the intervention, LEP patients still showed a decreased ability to give consent overall versus English-speaking patients. The researchers suggest that this persistent disparity may be further improved by the increased use of language concordant care as well as educational interventions for clinicians.

One criticism of the study by Forrow and Kontrimas (2017) pointed out that although bedside telephone interpretation service is convenient, which therefore may increase the use of the services by care providers, the positive results of the study may also have been caused by the promotion and education of the new interpretation services among hospital staff. As cited earlier, care providers are largely responsible for determining when professional interpretation services are to be used. The increased ability to give consent

shown by LEP patients during the study may have very well been the direct result of patient and staffs' increased awareness and motivation to use these systems. The study largely cites the convenience of the bedside services to be a major factor, but other studies have already demonstrated that even when interpretation services are readily available and convenient, they are still underutilized.

More research is needed on the impacts of promotion among care providers and staff in order to truly understand the impact that providers have on the ability to acquire consent from LEP patients. Access to translation and interpretation services often depends on the language the service is requested for, with Spanish being the most common native language for LEP patients. Often, telephone is the most easily accessible service for communicating with LEP patients, especially those who speak less commonly known languages. The availability and speed at which services are available has been shown to be an important factor, making telephone interpretation services favorable. Research has yet to be done on telephone interpretation availability and effectiveness per language; as well as the effects of institution-wide promotions on the frequency of service use.

Ad Hoc Interpretation Leads to Communication Failures

Schenker, Pérez-Stable, Nickleach, and Karliner (2011) conducted cross-sectional research to evaluate interpreter use for clinical encounters in the hospital. After a thorough recruitment process, 234 California-based LEP patients, all Spanish or Chinese speaking, were inducted as participants. Over two six-month periods within two years, surveys were conducted and asked the participants about their interpreter experiences, including who did the interpretation, and if there was no interpretation, what the reason was. Overall, the study deemed the use of an interpreter "infrequent". Only 43 percent of participants said they were asked if they would like interpretation services at any point. Schenker et al. found that using a family member, friend, or fellow patient as an ad hoc interpreter was

common, occurring 28 percent of the time during admissions and 18 percent of the time with nurses. Less than 20 percent of the participants reported that physicians spoke their language well, six percent reported that nurses spoke their language well, and 38 percent of patients reported that they either “got by” without an interpreter during their time with nurses, or didn’t speak at all.

Diamond, Tuot and Karliner (2012) conducted a similar study focused on staff as opposed to patients: the team surveyed physicians and nurses who reported ever speaking Spanish with patients on a general medicine hospital floor. 68 physicians and 65 nurses participated and represented a mix of varying Spanish proficiency. The study separates the types of interactions physicians had with their patients into categories such as “Presenting Information to Patients,” “Obtaining Information from Patients,” and “Difficult Conversations.” Physicians and nurses were surveyed to see when they chose to use a professional interpreter, ad hoc interpreter, or no interpreters. Physicians with low-level Spanish proficiency reported frequently using ad hoc interpreters for information-based scenarios; physicians with medium proficiency reported higher rates of using their own Spanish for information-based scenarios, lower rates of professional interpreter use, and almost no use of ad hoc interpreters; physicians with high-level Spanish proficiency almost always reported using their own Spanish skills; and 82 percent of nurses, who all had low-level Spanish proficiency, usually used ad hoc interpreters and their own Spanish skills.

Ad hoc interpretation can very easily lead to misinterpretations and has been shown to be an ineffective method of communication for LEP patients. In Bauer and Alegría’s research (2010) cited earlier, ad hoc interpreters were found to be potentially detrimental to LEP patients’ healthcare quality as a result of both their inadequate language proficiency and lack of health science knowledge. Diamond et al. (2012) showed that physicians and nurses use a range of interpretation methods without any structured decision process,

highlighting the need for policy and procedure around the use of language skills in clinical care. More research is needed around clinicians' non-English language proficiency and how it is assessed. Interview-style studies may provide insight into the decision-making process nurses and physicians use with regard to their LEP patients. Schenker et al.'s research reflects how common the use of ad hoc interpreters is versus professional interpreters. LEP patients "just getting by," another trend uncovered by Schenker et al. (2011), is an alarming trend and must be explored through a qualitative lens.

COVID-19 and LEP Patient Experiences

Kucirek et al. (2021) presented a qualitative synthesis of patient stories, uncovered by frontline trainees at the University of California San Francisco, highlighting the challenges LEP patients have faced in the hospital during the COVID-19 pandemic, particularly their social isolation and vulnerability. The use of tablets and phones was discussed as highly effective in providing information to LEP patients' families, and comfort to LEP patients. Through the stories are themes of insufficient interpreter use, ad hoc interpretation failures, and a lack of pandemic-related media in preferred language.

Kucirek et al.'s synthesis of patient stories reflects that the challenges which LEP patients regularly face have been exacerbated during the COVID-19 pandemic. Interpreters have been deemed "non-essential" personnel during the pandemic, and have largely been eliminated from healthcare settings in order to reduce the risk of transmission of the COVID-19 virus, and to save on personal protective equipment (PPE). Kucirek et al. asserts that "increasing the routine use of professional interpreters during clinical care is not enough," and that LEP patients deserve an experience in which "all clinical conversations are translated into their preferred language *and* they have opportunities to connect socially throughout their stay" (p. 788). The concept of social connection is greatly

overlooked in research. General socialization and connectivity is a large part of patient experience, comfort and satisfaction.

One effect of the COVID-19 pandemic has been a rise in mental health disorders, such as generalized anxiety, and a subsequent emphasis on the importance of mental health. Mental health is an area of care that is particularly difficult for LEP patients to receive. Understanding the nuance of language becomes increasingly important as the subject moves away from issues with tangible evidence, such as physical health issues, and moves towards more subjective topics such as feelings and relationships. This is a large area in need of creative brainstorming on the institutional and national levels.

Financial Downfalls

Karliner, Pérez-Stable and Gregorich (2017) investigated the financial impacts of an intervention involving more convenient access to professional interpreters for patients over 50 years of age with LEP in a hospital setting. The study found that despite the increased cost of providing more interpreter services for LEP patients, the reduction in readmissions from these patients actually resulted in monthly savings of more than \$150,000.

Interpretation services are perceived to be very expensive, which is one of the main reasons cited by providers when asked why they choose to forgo them. However, the cost of providing LEP patients with less than adequate care adds more financial burden to the health care system than interventions to increase quality of care for LEP patients. Innovative brainstorming should be done to introduce more budgeting plans which prioritize LEP services and research.

Conclusion and Discussion

Language barriers cause obstacles for LEP patients across every type of healthcare setting and in all steps of the patient journey. LEP patients are statistically shown to have

poorer health outcomes and face settings in which interpretation services are underutilized or improperly used via harmful ad hoc interpretation.

A lack of standardization in LEP language services and implementation procedures is reflected throughout a large amount of research, in which physicians, nurses, and other clinical staff, usually without Spanish language proficiency, have the control to decide when and how services are used – when they are available and convenient. Access is a major issue for LEP patients, particularly in specialty and emergency care settings. Also problematic is that patients with issues of clinical severity are more likely to receive interpretation in the ER than other LEP patients. While logical, this bias implies that LEP patients with more visibly apparent issues might be favored for interpretation services over patients with more “invisible” issues.

Looking at LEP patients’ and parents’ perspectives provides researchers with valuable insight into why effective language accommodation remains a challenge within healthcare systems, particularly during the COVID-19 pandemic. The pandemic has brought an increased emphasis on the importance of mental health and relationships. The research of Bauer and Alegría (2010) on the distinct lack of research and interventions available for LEP patients for mental health issues is of particular concern.

Nurses’ linguistic and cultural competencies in particular should be assessed, considering their role as frontline communicators. Cultural competency is a recurring theme in LEP patient research and may be just as important as general language competency in a patient’s resulting comfort, satisfaction, and overall experience. A part of being a professional medical interpreter is receiving cultural competency training, which may be lacking from nurses and other acute care providers who rely on their own language skills to communicate with LEP patients.

These research contents provide insight as to the relationship between language competency and health care outcomes for LEP patients. A lack of standardization and proper, regular implementation of LEP language services is proven to foster healthcare settings which fail in providing LEP patients with high quality care.

Language barriers are not only a problem in healthcare for the United States. Issues with understanding the language in a healthcare setting can occur anywhere in the world and there are many countries that cannot effectively provide care to people who do not speak the language due to lack of resources.

Hiring more physicians in the U.S. who can fluently speak Spanish and have training in medical interpretation is the most efficient and cost-effective way to solve language barrier issues in the United States. Medical Spanish, as well as cultural competency, should be incorporated into the curriculum at medical schools as a way to dismantle barriers.

At the institutional level, national CLAS standards should be considered and applied in all facets of LEP care. Special attention should be paid to the consistent promotion of LEP services, among the institution's patients and staff, and the surrounding community at large. Budgets must not exclude any LEP services. Karliner et al. showed that providing more services to LEP patients can lead to significant savings for hospitals (2017). This information alone should serve as adequate motivation for promoting the appropriate use of interpretation services in healthcare settings.

There are many aspects of LEP care that require more research to be understood. Future research should focus on the role which acculturation and linguistic characteristics play in language barriers. This data will be useful for understanding the effectiveness of care providers who use their own, varying skills in a language to communicate in place of a professionally trained interpreter. It will also help to better understand how different LEP

patients differ from one another; if perhaps it is more critical for Chinese-speaking LEP patients versus Spanish-speaking LEP patients to have access to professional services rather than have providers rely on their own skills, for example.

More data needs to be collected on the perspectives of LEP patients themselves. It needs to be known how United States healthcare operation and communication systems may impact the Hispanic population's health and healthcare decisions. Are Hispanics generally more or less likely to agree to treatments based on the kind of interpretation they receive? Does interpretation method affect how patients follow after-care instructions?

LEP patients' perception of interpretation services and accessibility also needs to be assessed. Are LEP patients under the perception that professional interpretation services are simply not available or do they believe that these services may be available but are not accessible or are being withheld from them?

It is essential that criteria for defining LEP patients is standardized and that there is a standard way to assess a care provider's skill in another language. It is possible that the study from Hartford et al. (2019), that defined patients with LEP as any patient who wrote that they preferred a different language on the check-in form, may have had a different population of LEP patients if they were defined instead on the rating of their own English skills. It is also inappropriate to completely rely on a provider's self-assessments in another language as an accurate indicator of their skill and ability to communicate with patients.

Other areas of importance for future research include language-concordance in more narrowed settings, including but not limited to surgical departments and at-home care; the impacts of institution-wide service promotions on the frequency of service use; and the decision-making process nurses and physicians use with regard to their LEP patients.

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