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ABSTRACT

Objective: Language barriers during inpatient medication management can occur during medication reconciliation on admission, discharge, and hospitalization. Understanding inpatient clinicians' experiences with language barriers and use of interpreters can help inform interventions aimed at improving prescription management with Limited English Proficient (LEP) patients. Our objective was to examine clinicians' experiences with language barriers around inpatient medication management.

Methods: We used semi-structured interviews with pharmacist technicians, pharmacists, nurses, and physicians working in a tertiary care hospital. We used the constant comparison method to guide data collection and analysis.

Results: We interviewed 14 providers. Nurses and physicians perceived lack of time to use formal interpreters, particularly during busy or night shifts. Clinicians strongly preferred virtual and in-person interpreter services over telephonic services, and highlighted communication challenges with patients with low health literacy, concerns about the quality of interpretation, and inconsistencies in the use of translated materials.

Conclusions: Ensuring access to formal interpreters during all shifts, translation of materials into the patient/caregiver's language, and access to in-person/virtual services would improve quality of care for LEP patients.

Practice Implications: Current laws require use of interpreters, but do not provide for their reimbursement, resulting in suboptimal use. Reimbursement for interpreter services may increase their availability.

1. INTRODUCTION

Approximately 8.6% of the population in the U.S., or 25 million people, have Limited English Proficiency (LEP), defined as speaking English less than “very well”[1]. Individuals with LEP are particularly vulnerable to barriers associated with access to high-quality healthcare, are more likely to lack health insurance, live below the poverty line, have lower health literacy, and have less than a high school education compared to those with English proficiency [2]. Individuals with LEP may experience significant communication barriers with healthcare professionals which can result in adverse outcomes [3, 4]. Communication errors can occur when healthcare providers use informal interpreters such as family members or non-qualified staff [5]. Use of trained, formal interpreters is associated with improved quality of care and patient satisfaction [6]. Yet due to a variety of barriers, including lack of perceived need, time, and availability, medical professionals may not always use formal interpreters [7, 8]. A 2019 study found that fewer than 60% of patients with LEP reported that their medical provider always explained things in a way they could understand [9]. As a result, patients with LEP are more likely to have serious adverse events during hospitalization, have a longer length of stay in the hospital, and have a higher risk of 30-day hospital readmissions compared to non-LEP patients [10-13].

Language barriers in medication management can occur during medication reconciliation on admission or discharge and during inpatient medication administration, leading to serious safety and quality concerns [5, 14-17]. One study in a Dutch hospital found that nurses sometimes skipped safety protocols regarding double-checking names and birth dates prior to administering medications in patients with language barriers [15]. Nurses also had a difficult time measuring pain levels in patients with language barriers, opting for visual inspections or skipping pain assessments. These practices could lead to a systematic undertreatment of pain among patients with language barriers [18]. Moreover, medications often change significantly during and after hospitalization, requiring important communication exchanges with patients and caregivers [14, 16]. This important information exchange can be significantly hampered in the presence of language barriers. In a study of 308 Spanish-, Chinese- and English-speaking patients across

two hospitals, researchers found that LEP patients were less likely to understand discharge instructions, including the category or purpose of discharge medications [14].

While some studies have examined perceptions and experiences with language barriers in the inpatient setting, few have examined clinicians' experiences with language barriers specifically around medication management in the hospital. Moreover, few studies have examined inpatient pharmacists' experiences with language barriers. This study is part of a larger study examining intrahospital medication management and post-discharge patient counseling [19]. The objective of this specific study was to describe clinicians' perspectives about linguistic and cultural barriers to providing medication management, education, and counseling to LEP patient and caregivers.

2. METHODS

Setting

The study was conducted among pharmacist technicians, pharmacists, nurses, and physicians, working in a tertiary hospital in Southern California. California has one of the highest proportions of LEP residents in the U.S. Nearly 24% of Californians – 1 in 4 – are LEP [20], and 44.6% of California residents report speaking a language other than English at home. In Los Angeles County, where this study took place, the proportion of residents who are LEP in some communities is higher than 50% [20]. The tertiary community-based hospital where this study took place has 886 licensed beds and 90,000 emergency department visits, 49,000 admissions, and 17,000 inpatient and 13,000 outpatient surgeries per year. The hospital offers the use of a virtual teleconferencing interpreter service called the MARTTI (My Accessible Real-Time Trusted Interpreter).

Study Participants

Participants were recruited from March 2021 to August 2021. We aimed to interview clinicians involved with medication management in the hospital, whether this

included medication reconciliation, review, patient/caregiver education and counseling, or administration. We interviewed inpatient pharmacists, pharmacist technicians, nurses, and physicians.

We used a variety of methods to recruit research participants, including direct emails, using lists provided by managers or available through an employee directory, messages in email-based announcements, and flyers in nursing break rooms. We also aimed to use referrals when possible (i.e., snowball sampling). We emailed potential participants a total of three times. We experienced significant challenges in recruitment, as the study was started during the Omicron wave of the Covid-19 pandemic, when the hospital experienced extremely high census numbers. To increase enrollment, we reached out to contacts in the hospital, including hospital leaders, to increase awareness of the study. To increase participation, we advised potential participants that the interviews could take place before or after work or during their drive to work. The study was reviewed and approved by the health system's Institutional Review Board.

Data Collection and Analysis

We used the constant comparison method detailed by Corbin and Strauss to guide our data collection and analysis.[21] Two interviewers (MSK and JCB) conducted the interviews together, except for a few cases where logistical circumstances made it difficult to coordinate, in which case MSK conducted the interview. Both MSK and JCB identify as Latino/a. Interviews were recorded either via phone recordings using the Tape-A-Call phone recording app or using Zoom software and were professional transcribed and checked for accuracy.

As part of our interview guide (Appendix 1), we asked questions about cultural and linguistic barriers around medication management in the hospital and during post-discharge phone calls. We asked about experiences and use of formal in-person, phone, and virtual interpreter services, and experiences counseling and educating patients and their caregivers about medicines during and post-hospitalization. Our interview guide was piloted during the first few interviews, and we updated our interview guide after each set of 2-3 interviews as we gained insight into potential

lines of inquiry. For example, as we gained insight into perceptions about the use of virtual interpreter services in our first few interviews, we included additional questions in our interview guide to ask specifically about these services. After each interview, we debriefed and began compiling preliminary lines of inquiry and themes, for example, comparing and contrasting experiences between and among interviewee types.

We used Dedoose (Los Angeles, CA: SocioCultural Research Consultants, LLC) to code and analyze the data. We used open, line-by-line coding on the first five transcripts to create a codebook. This entailed coding each line with a code describing the excerpt. We used process coding, which applies a gerund (e.g. *Finding it difficult to deprescribe if the patient had a diagnosis of anxiety)* to each excerpt. We used phrases with gerunds (words ending in "ing") to code the data in order to capture and processes described by the study participants. The objective of using this type of coding is to reduce bias from the researcher, as the code becomes a description of what the participant is feeling, experiencing, doing, or perceiving [22]. We then grouped the initial codes into potential themes to create a codebook, which we applied to the rest of the transcripts. Following Corbin and Strauss,[21] we compared and contrasted clinicians' experiences with language barriers and use of formal and informal interpreters. For example, we compared experiences with different interpretation services – in-person, virtual, and telephonic – and how clinicians in different roles – nurse, physician, pharmacist, pharmacist technician – used formal and informal interpreters in different situations. To compare themes by interviewee types, we exported preliminary themes from Dedoose into Word documents, grouped them by interviewee type (e.g., pharmacist, nurse, physician) and compared perspectives and experiences. During the writing process, we were also able to further compare and contrast experiences.

3. RESULTS

We interviewed 14 providers, including 1 pharmacy technician, 6 pharmacists, 3 nurses, and 4 physicians as part of this study. Data on the interviewees is included in Table 1. Our interviewees were 64% female and had a median of 9.5 years of

work experience after clinical training (range: 6-21). Interviews lasted 60-90 minutes. We identified six major themes across our qualitative data.

1. **Perceptions of lack of time and urgent issues leading to the use of informal interpreters by physicians and nurses, while pharmacists preferred formal interpreters**

Nearly all clinicians noted that the presence of language barriers in patient-clinical communication took extra time, particularly when clinicians used formal interpreters. Clinicians described language barriers lengthening the time it takes to conduct medication reconciliation on admission and educating and counseling patients and their families during hospitalization and at discharge.

> *I feel like I really try my best using an interpreter with every interaction, I try my best to do that. But it just takes so much longer and so that makes it difficult. [physician]*

Physicians and nurses described several factors leading to the use of *ad hoc* interpreters such as family members and non-trained bilingual staff. These included little time to find an interpreter, full workloads, and urgent/acute patient needs. Clinicians noted being aware of the potential communication errors associated with using informal interpreters, but that external circumstances led them to select sub-optimal choices. Nurses working night shifts noted that even with the availability of the virtual interpreter service, it was not always possible to find an interpreter who spoke the patient's language, highlighting the need to find an *ad hoc* interpreter:

> *Clinician: We have the MARTTI that we use at night. I know day shift has a language line, but for us it's mainly the MARTTI or trying to get a family member that speaks English that can translate to the patient for us is another option that we use that.*
>
> *Interviewer: And what have your experiences been using the MARTTI, for example?*
>
> *Clinician: For the most part they're good. There's been times where we couldn't find someone who speaks the language, which was kind of frustrating and we just kind of had to like deal with it, but for the most part that's good... But, thankfully a lot of family members they understand and they make themselves available, like call me at any time, even though we try not to, but we have to, we would. [nurse]*

Pharmacists noted that they aimed to use formal interpreters as often as possible, particularly when giving discharge and post-discharge instructions about medication management. They were highly aware of the potential for medication-related communication errors and used interpreter services both during hospital admission and post-discharge phone calls.

> *I will always use an interpreter because it's when you're explaining medications... I want to make sure the patient understands what I'm saying. And then I always make them teach it back to me. So, I always at the end of the call, I was wrapped up being like, "Okay, so, I want to make sure that you understand what I, I discussed today. Can you tell me how you're gonna do this? Or can you please tell me which medications you are gonna stop taking?" And so, I have them repeat it back to me with the interpreter so that I know that they understood me and that there was nothing lost in translation? [pharmacist]*

2. Clinicians reported patient concerns regarding the trustworthiness of interpreters and healthcare professionals

Issues of patients' perception of trustworthiness of both interpreters and healthcare professionals came up several times in our interviews. In some cases, clinicians reported that patients and their families explicitly preferred to use family members for interpretation given a lack of trust in formal interpreters. They perceived that particularly older patients felt fear during their hospitalization and had lower levels of health literacy, so they deferred medication management to their families. The complexity and amount of the information given to patients and their families during hospitalization and at discharge was overwhelming to patients.

> *A lot of patients also want their family member to be translators. They prefer it... I don't love it because I don't know what the family member is interpreting from what I'm seeing, and then telling them that, where at least with the translator I know they're seeing exactly what I'm saying. So really I don't know. And most of the time the patients defer to what their families want to do. Even if you directly say, "I'm asking you, what do you want to do?" "Whatever my daughter wants." [pharmacist]*

While most clinicians did not feel as though there were cultural barriers when speaking to patients and their families about medications, others found that some patients and/or their families were less willing to trust healthcare providers. One pharmacist explained that they worked to be non-judgmental and focused on establishing trust when working with specific populations:

Clinician: There is a cultural barrier. I would speak to Russian-speaking patients in a very different way than I would speak to somebody who is American. Or who is not Russian… So most Russian patients I've met say they have a strong belief about something, and it's very difficult to change it. And they also have a trust issue. Maybe they got traumatized by you know living in Russia with a government… you can't even trust anyone. So they have their doctor that they trust too. They try to reference their doctor or at least talk to doctor and get his okay on that. And then they can reference that in my conversation and say, "Well, doctor so and so approved this, and they would like you to try." It's like we work as a team, and we're aware of other doctors and they're communicating. You have to really establish trust with the patient. [pharmacist]

3. Clinicians expressed strong preferences for in-person and virtual interpreter services over phone-based services

Generally, clinicians perceived that in-person and virtual translation services were substantially better than phone-only services. During the height of the Covid-19 pandemic (2020-2021), the health system switched to the virtual translation service in the inpatient setting in order to reduce the number of people interacting with patients. While some clinicians found that while having the virtual translation service was convenient and efficient, others felt that important non-verbal communication was lost in translation. Study participants noted that hearing difficulties in older adult patients made it challenging to use phone and virtual translation services, which led to frustration across both patients and clinicians.

What I have found helpful in these discussions about medication management, expectations, side effects, why I'm prescribing this and not the other one, is I've actually found it to be very helpful to have an in-person interpreter, because I think language, culture, body language, all factor in to understanding a patient and their family's response to what I'm saying. And that often gets lost in a computerized MARTTI translator, because one, I don't know if you've seen these MARTTI screens. I mean, it's just tiny little box video, you know, so like they see like part of the patient and the patient barely sees their face. And then in the corner, it's like, my face is there. It's just really hard, I think, to read -- but I found an in-person interpreter so much more helpful, in that setting. [pharmacist]

I will say that in the last year or two it's been better because we have the ability through the interpreter services of video conferencing much easier and quicker and it doesn't take too much time to set it up. I think we're better at it now, at being able to convey the information in the language that they

would understand and get their point across. I would say we've improved significantly within the last year or two. [physician]

Interviewer: And what's been your experience with the MARTTI?

Clinician: It takes so much longer… At least I feel it takes much longer than doing it in person versus the MARTTI. It could be a lag in what they're hearing or what the patient is hearing… It's not a huge screen, that's for sure. And sometimes, the sound is not amazing. [pharmacist]

Clinicians generally agreed that phone-based interpretation was the least desirable option, as it was time-consuming and did not allow for the ability to convey or observe non-verbal communication.

But the translator is often not there in-person. If it's over the phone, so they can't really read the patient either, you know? They can't see the expressions of the patients, which may seem like "What? Like what are you, what are you saying?". So they're just like a deer in headlights, they don't understand anything. Like, when I'm there talking to them and going over things with Spanish speaking patients, like I can see their expressions. So I know if they're following or not. I know if they're paying attention or not. I also know like if something kind of rubs them the wrong way that I can kind of introduce it in a different angle. [pharmacist]

I felt over the phone interpreters were not as good because it was harder to convey the message. You've got to hand the phone to this or do the speakerphone and they couldn't hear as well and things got lost and the patients feels a little frustrated with the process, especially if they were hard-of-hearing. [physician]

4. Clinicians noted specific communication challenges in patients with low health literacy

In addition to language barriers, clinicians also noted significant communication barriers related to low health literacy. Study participants expressed concern that both clinicians and interpreters sometimes resorted to overly complex clinical language which made it difficult to understand oral or written medication information. They also worried that interpreters used language that was overly complex and that even though the interpretation was technically correct, that it wasn't well understood by the patient. They valued interpreters who could use "simpler" language that could be understood by patients with lower health literacy.

I think sometimes we tend to speak above the level that people understand and they don't know what you're talking about. And they don't want to show their ignorance and so they'll just say yes to everything and they don't really

understand what's going on. We always talk about writing things at a third or fifth grade level so that it can be understood by most patients. And so I think that's the most important thing is making sure that if we do write things down and translate it, that it's written at a level that can be understood by the majority of the patients and not speaking above their heads. [physician]

Um, I think sometimes like not language barrier, but just like healthcare knowledge barrier may exist. Patients just have a hard time understanding how the medication works or what the issue is that I'm talking about. [pharmacist]

Also just having translators that are just a little bit more keen on reading patients, and knowing like when to kind of, not "dumb down," the lingo, but just use simpler terms... And some of these patients are... they just, they just get lost when they hear all those words. [pharmacist]

5. **Bilingual and multi-lingual clinicians worried about the quality of interpretation used by formal interpreters**

Clinicians in our sample who were themselves bilingual or multi-lingual also voiced concerns about whether their words were being translated accurately, whether it was using the correct tone of voice or even the choice of words, which could change the intended meaning. For pharmacists, they were concerned about the message being conveyed, whereas one nurse was particularly concerned that emotions such as empathy were not always completely conveyed.

I do think there's some things that do get lost in translation. Like I speak Spanish, and so I've heard some of my colleagues do some of education with translators... and you know, definitely the verbiage that they use would not be the same verbiage I would have used with that patient. [pharmacist]

6. **Clinicians described Inconsistency in the translation of documents to the patients' and/or caregivers' preferred language**

Clinicians, particularly pharmacists, noted that while it was possible to offer discharge paperwork in multiple languages, they found that the use of translated documents was inconsistently used. They expressed concern that there was not a consistent workflow to ensure that the paperwork, which details the medications that have changed during hospitalization, was printed in the patient's primary language.

I think we could have more discharge paperwork printed out in their primary language would be helpful. I think a lot of times... the nursing staff will print it in English, or it's just pre-populated in English. And sometimes I see them in

Spanish, and sometimes I see them in Russian. And then I wonder, like, how that was made for this patient and not for others that speak same languages? [pharmacist]

4. DISCUSSION AND CONCLUSION

4.1 Discussion

In this qualitative descriptive study of clinicians working in a tertiary hospital in Southern
California, we found the use of informal interpreters when perceiving lack of time and high workloads among nurses and physicians, issues of trust from patients around both formal interpreters and healthcare professionals, strong preferences for virtual and in-person interpreter services over telephonic services, communication challenges with patients with low health literacy, concerns about the quality of the interpretation, and inconsistency in the use of translated materials.

In our small sample, we found the highest reported regular use of formal translation services in pharmacists, followed by physicians and nurses. Nurses and physicians perceived the use of formal interpreters as more time-intensive than informal interpreters and often turned to these options when perceiving a lack of time, or a heavy workload. Nurses may face particular challenges in that they must assess and communicate with patients and their families numerous times throughout their shift during short encounters, which may make the use of formal interpreters more challenging. We found that these issues might be more pronounced during night shifts, as interpreters may not always be available. These findings align with other studies that have found low use of formal interpreters among nurses [23]. Similarly, others have found that physicians often underuse professional interpreters [24]. Lack of time, inability to find interpreters during night shifts, and time-limited encounters were reasons why resident physicians did not use formal interpreters, findings similar to our study. Ensuring that interpreter services are available in numerous languages during night shifts and training clinicians on the importance of using such services – even in seemingly unimportant situations – is critical to preventing important safety and communication errors.

Clinicians in our sample expressed strong preferences for in-person or virtual interpreter services compared to phone-based services. The ability to read non-verbal communication was cited as a critical factor. Others have also found a strong preference for in-person interpretation. Lee *et. al*. found that physicians and nurses preferred in-person interpreters for complex discharges, as they were able to read the faces of patients when explaining discharge instructions [25]. Coleman *et. al*. also noted that while clinicians appreciated the efficiency of phone-based interpreter services, they strongly preferred in-person interpretation, as they could use body language to assess understanding [26]. Indeed, non-verbal communication has been described as critical for communication, as it can help foster a sense of mutual engagement.[27] Body movements are often used to support or reinforce verbal communication – and in some cases, can substitute for limited language commonalities between speakers. Our findings point to the importance of using in-person or virtual interpreter services that allow clinicians, interpreters, patients, and their families to view non-verbal communication. As telemedicine technology improves, having large screens and high-quality cameras can ensure that this type of communication is not lost when interpreting. Moreover, as clinicians in our sample and others have noted, interpretation is even harder when patients have hearing difficulties. Hospital staff should employ the use of voice amplifiers and other assistive devices to ensure that LEP patients are engaged in their care. Additionally, health systems might compare and select other types of technology services that are better suited to older adults with hearing or visual disabilities.

We found that clinicians in our sample were sometimes concerned with the quality or accuracy of the interpretation. Others have also found that clinicians are sometimes wary that interpreters may not understand medical terminology or may use different phrases or terms, leading to incorrect interpretation [23, 28]. Interpretation involves more than oral translation from one language to another and includes expressing similar meanings, tone, and non-verbal communication [29]. This can present a challenge when interpreters are not from the patients' country of origin or region, as languages and their dialects can vary substantially across and even within countries.

Another important issue in translation is that there may not be an exact match for a concept in two languages, requiring additional description from the part of the interpreter [28]. For example, medical procedures may not have perfect conceptual translations, leading interpreters to use description to refer to the procedure instead of a single term [28]. Interpreters may also serve as cultural brokers, explaining important assumed contextual information either to the patient and their family or to the clinical team that may not be obvious to the recipient [28]. Conflict between medical professionals and interpreters may occur when the medical professional views interpreters in a narrow role (i.e., solely acting as an oral translator) and interpreters perceive that they are playing multiple roles (i.e., serving as linguistic and cultural brokers). Implementing effective training for medical professionals on cultural humility a process of "committing to an ongoing relationship with patients, communities, and colleagues" requiring "humility as individuals continually engage in self-reflection and self-critique" [30, 31] and the various roles played by trained interpreters could reduce such conflict.

Pharmacists in our sample also noted that they were concerned when discharge paperwork was not provided in the patients' preferred language. As medication changes and follow-up appointments are outlined in this paperwork, it is critical that patients can understand clinicians' instructions. Several hospitals have implemented interventions aimed at ensuring that discharges are provided in cultural and linguistically tailored manners. One such intervention conducted at the University of New Mexico found that a quality improvement project using a new template aimed at ensuring that patients received discharge instructions in their language led to substantial reductions in 30-day readmissions and 30-day emergency department visits.[32] Another study conducted in Seattle, Washington randomized LEP parents of children undergoing surgery to either receiving usual discharge instructions or usual discharge instructions and a card with audio instructions, similar to greeting cards with recordings [33]. In this pilot study, parents found the cards useful and were able to share the recordings with multiple family members who may not have been present at the discharge.

Our study has some limitations. As we note in the discussions, we interviewed clinicians during the Omicron wave of the Covid-19 pandemic while hospitalizations

were unusually high in Southern California and when clinicians may have felt symptoms of burnout [34], factors which may have influenced our participants' responses. Recent high hospital census numbers may have led clinicians to be less likely to use formal interpreters during busy times, and these experiences may have been reflected in the responses. Additionally, symptoms of burnout could potentially make it more psychologically challenging to add another task to the list – calling an interpreter – which could have also been reflected in the responses.

4.2 Conclusion In conclusion, our study highlights areas where interpretation could be improved for patients with LEP, including ensuring formal interpreters are available during all shifts, materials are translated into the patient/caregiver's language of choice, and in-person and virtual services are provided when appropriate.

4.3 Practice Implications

A variety of federal and state laws in the U.S. require the use of interpreter services for patients who are LEP, but few laws have addressed reimbursement, leading to inadequate implementation. Federal laws also require language assistance for LEP individuals among entities that receive federal funding for healthcare services [35, 36]. In California, where our study took place, state law requires that hospitals have interpreters, either on site or via telephone or video 24 hours per day, at no cost to the patient [37]; these laws have also been implemented in other states [38]. California state laws also require healthcare facilities to note the patient's principal spoken language in the medical record, provide language assistance services for language groups that comprise 5 percent or more of the geographical area served by the hospital, post notices that advise patients and their families of the availability of interpreters, and notify employees of their commitment to provide interpreters [38]. However, despite these state and federal laws, repeated studies have found that interpretation services are not always adequate or available, with for-profit hospitals less likely to offer language services than non-profit hospitals [39]. A 2018 report found that only 56 percent of hospitals offered linguistic or translation services [40]. Moreover, research has found that experienced clinicians may model to trainees that adequately addressing language barriers is not a high

priority, reflecting an overall culture in medicine of not recognizing the importance of high-quality interpretation [41]. These findings point to the need for increasing incentives or reimbursement for hospitals and health systems to offer high-quality interpretation services and the need for increased training for medical professionals on the importance of interpreter services.

With very few exceptions [42], health care organizations and providers must pay for the cost of interpreter services, which may range from $30 to $400 per patient encounter [43]. Previous reports have estimated that interpreter services cost $6-$7 per patient (in 2022 dollars), when averaged across all patients (including those that do not need interpreter services) [42]. Insurers and others have argued that these costs should be incorporated into operating costs, but these costs may fall disproportionately on safety net systems or other health systems or providers who see many LEP patients [42]. Ensuring interpretation services are adequately funded and reimbursed will be critical to making sure they are offered in services with different levels of resources. For example, policies to ensure that insurers reimburse providers for interpreter services per visit or per unit of time could ensure that trained, certified interpreters were available at all times [42, 43]. Other have argued that allowing providers to modify insurance/payor reimbursements when LEP patients are treated is another way of incorporating the additional cost and complexity of caring for LEP patients [42]. Increasing providers' awareness of the importance of using interpreter services – for example, access to interpreter services decreases hospital expenditures and readmission rates – is another important consideration. One study found that readmission rates decreased by five percentage points for LEP patients when there was convenient access to interpreter services [44]. Another challenge has been the certification of language interpreters, to ensure high-quality interpretation. A few states have required qualification, certification, or registration with a government authority to ensure a standard of quality, but not all states have implemented such standards [45].
In short, considering reimbursement policies and/or other incentives to increase the use of high-quality interpreter services could reduce an important barrier to their provision.

Finally, as hospital admissions and discharges can be overwhelming and filled with substantial amounts of information, providing materials in the patient/family's preferred language has the potential to influence long-term comprehension. Guidelines for using interpreters in healthcare include using brief sentences, avoiding medical jargon and idiomatic expressions, and ensuring that there are enough pauses to allow for interpretation [46]; ensuring that clinicians of all types receiving adequate training will be critical for improving quality of care in persons with LEP.

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Table 1. Characteristics of clinical participants included in the semi-structured interviews

Clinician type, n (%)	
Pharmacist or pharmacist technician	7 (50%)
Nurse	3 (21%)
Physician	4 (29%)
Gender, n (%)	
Female	9 (64%)
Male	5 (36%)
Years of clinical practice, (median, range)	9.5 (6-21)