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## Language Barrier

### The Case

A previously healthy 10-month-old girl was taken to a pediatrician's office by her monolingual Spanish-speaking parents when they noted that their daughter had generalized weakness. The infant was diagnosed with iron-deficiency anemia. At the time of the clinic visit, there were no Spanish-speaking staff or interpreters available. One of the nurses spoke broken Spanish and in general terms was able to explain the girl had "low blood" and needed to take a medication.

The parents were thankful for the attention and nodded in understanding. The pediatrician wrote the following prescription in English:

Fer-Gen-Sol iron, 15 mg per 0.6 ml, 1.2 ml daily (3.5 mg/kg)

The parents took the prescription to the pharmacy. The local pharmacy did not have a Spanish-speaking pharmacist on staff, nor did they obtain an interpreter. The pharmacist attempted to demonstrate proper dosing and administration using the medication dropper and the parents nodded in understanding. The prescription label on the bottle was written in English.

The parents administered the medication at home and, within 15 minutes, the 10-month-old vomited twice and appeared ill. They took her to the nearest emergency department, where the serum iron level 1 hour after ingestion was found to be 365 mcg/dL (therapeutic levels are 60-180 mcg/dL). She was admitted to the hospital for intravenous hydration and observation. Serial serum iron levels and electrolytes were monitored. She was asymptomatic for the remainder of the hospitalization and discharged the following day with no apparent sequelae.

Upon questioning, the parents stated that they had administered a household tablespoon of the medication, approximately 15 ml or 43 mg/kg (a 12.5-fold overdose). At the time of discharge from the hospital, the nurse counseled the parents on proper dosing through a hospital interpreter.

### The Commentary

by Glenn Flores, MD

Unfortunately, cases in which language barriers cause compromised quality of care and preventable medical errors may become increasingly common in the United States. Almost 50 million Americans speak a primary language other than English at home, and 22.3 million have limited English proficiency (LEP), defined as a self-rated English-speaking ability of less than "very well."<sup>(1)</sup> The last decade witnessed a 47% increase in the number of Americans speaking a non-English language at home and a 53% increase in the number of LEP Americans.<sup>(2,3)</sup> Between 1980 and 2000, both of these populations more than doubled, whereas the overall US population increased only

25%.<sup>(2)</sup> Unfortunately, nearly half of LEP patients needing medical interpreters do not get them <sup>(4)</sup>, and only 23% of hospitals provide training for staff on working with interpreters.<sup>(5)</sup> Americans' foreign language skills are dismal: less than half of US high school students are enrolled in foreign language courses.<sup>(6)</sup>

In the case description, we are told that neither bilingual staff nor interpreters were available for this clinic visit. Having access to trained medical interpreters or bilingual providers facilitates optimal communication, patient satisfaction, and outcomes and reduces interpretation errors for LEP patients and their families.<sup>(7)</sup> In addition, a Title VI guidance memorandum issued by the Department of Health and Human Services (DHHS) Office of Civil Rights states that the denial or delay of medical care for LEP patients due to language barriers constitutes a form of discrimination and requires recipients of Medicaid or Medicare to provide adequate language assistance to LEP patients.<sup>(8)</sup> This case underscores the importance of having appropriate language services available for LEP patients and their families, particularly in settings with high volumes of LEP patients.

This case also highlights the dangers of using ad hoc interpreters, defined as family members, friends, untrained staff, or strangers from the waiting room or the street. Ad hoc interpreters are significantly more likely to commit interpretation errors in general and, in particular, errors with potential or actual negative clinical consequences.<sup>(9)</sup> Ad hoc interpreters are less likely to tell patients about medication side effects and more likely to misinterpret or omit questions asked by physicians.<sup>(7)</sup> Moreover, their use results in significantly lower patient and physician satisfaction than other interpretation strategies.<sup>(7)</sup>

It is especially dangerous for children to interpret. They frequently are embarrassed by and tend to ignore questions about menstruation, bowel movements, and other bodily functions and are more likely to make interpretation errors with potential or actual clinical consequence.<sup>(7)</sup> One study comparing hospital interpreters and ad hoc interpreters, for example, found that when an 11-year-old sibling interpreted during a pediatric visit, 84% of the 58 errors she committed had potential clinical consequences.<sup>(9)</sup> Child interpreters also are less likely to have complete command of two languages, and their use may result in parents avoiding discussion of sensitive subjects such as domestic violence, sexual issues, or drug and alcohol abuse. The dangers of children interpreting prompted a bill currently being considered by the California State Assembly (AB 775 [2005]) which would ban using children as medical interpreters.

The disaster that occurred in this case also could have been averted had the pharmacy provided appropriate language services. Not enough attention has been paid to language barriers and patient safety in pharmacies and prescription labels. A recent study of all 161 pharmacies in the Bronx, NY (a borough with a large Spanish-speaking population) revealed that 31% could not provide prescription labels in Spanish, such labels were provided only if the patient requested them, and the computer program at one chain pharmacy could not translate common prescription terms such as "dropperful" or "for thirty days."<sup>(10)</sup> Work by our research group showed that about half of Milwaukee pharmacies never, or only sometimes, can print non-English-language prescription labels, prepare non-English-language information packets, or orally communicate with LEP patients; almost half are dissatisfied with their LEP patient communication; and 1 in 9 pharmacies use family members or friends to interpret.<sup>(11)</sup> A bilingual pharmacist, interpreter, or computer translation software could potentially have prevented the patient safety mishap in this case, underscoring the critical role pharmacists [See related [Perspective](#)] can play in overcoming the adverse clinical consequences of language barriers.

Language barriers were first identified as a patient safety issue in 2003.<sup>(9)</sup> Very little research has been conducted on language barriers as a cause of medical errors, so we do not know how common such errors are, nor what kinds of errors occur in inpatient and outpatient settings. A recent study revealed that Spanish-speaking pediatric inpatients requesting an interpreter had more than double the odds for serious medical events compared with patients not requesting an interpreter.<sup>(12)</sup> A major problem is that data are not routinely collected on patients' English proficiency and the primary language spoken at home. Recent analyses of 80 federal statutes, regulations,

policies, and procedures revealed no statutes that expressly prohibit collection of patients' primary language data; however, none of the regulations require or even mention collecting such data, either. (13)

High-profile cases are accumulating of medical errors due to language barriers. Lack of an interpreter for a 3-year-old girl presenting to the emergency department with abdominal pain resulted in several hours' delay in diagnosing appendicitis, which later perforated, resulting in peritonitis, a 30-day hospitalization, and two wound site infections. (14) A resident's misinterpretation of two Spanish words (*se pegó* misinterpreted as "a girl was hit by someone else" instead of "the girl hit herself" when she fell off her tricycle) resulted in a 2-year-old girl with a clavicular fracture and her sibling mistakenly being placed in child protective custody for suspected abuse for 48 hours. (14) Misinterpretation of a single Spanish word (*intoxicado* misinterpreted in this case to mean "intoxicated" instead of its intended meaning of "feeling sick to the stomach") led to a \$71 million dollar malpractice settlement associated with a potentially preventable case of quadriplegia. (15)

What can clinics, hospitals, and pharmacies do to ensure that adequate language services are available for LEP patients and their families? The [Table](#) details the various options available. In situations where LEP patients are encountered infrequently, or for rare language groups, the most cost-effective options might include telephone interpreters, language bank cooperatives shared with other practices, community-based organizations, or trained volunteers from local universities. (16) For clinics and hospitals caring for larger LEP populations, trained interpreters, bilingual clinicians, trained bilingual staff, translation of frequently used written materials, telephone interpreters, and telemedicine linkups should be considered. Pharmacies should have computer translation software for printing prescription labels and translated written materials regarding instructions, side effects, and warnings available in all commonly encountered non-English languages. Bilingual staff or interpreters would additionally ensure optimal quality of care, and telephone interpreters may prove useful for pharmacies with low numbers of LEP patients and for rare language groups. For more information on issues such as providing language services in smaller group practices, implementing cost-effective language services when resources are limited, developing an individualized language services access plan, and addressing multiple language needs, readers can consult the *Health Care Language Services Implementation Guide*, which will soon be released by the US Department of Health and Human Services.

Even when medical interpreters and bilingual staff are available, a few simple steps may help clinicians and interpreters reduce medication errors for LEP patients. Before being discharged from the clinic, hospital, or pharmacy, LEP patients and their families should always be asked to repeat back the name, dose, dose frequency, duration of administration, and possible adverse reactions for all prescribed medications and therapies. For optimal safety, especially when medication dosing is potentially confusing, LEP patients and/or families should perform a practice or actual dosing of the medication (with liquid medication syringes marked at the appropriate dosing level) under the observation of the clinician and pharmacist. Such directly observed dosing has been shown to enhance safety and accuracy even when language barriers exist. (17) Detailed written materials about medications and their dosing can be prepared in the patient's language using translators or computer software available to clinicians and pharmacists. As with patients who speak English, patient safety is greatest for LEP patients when provider-patient communication is optimized.

### Take-Home Points

- Optimal communication, patient satisfaction, and outcomes and the fewest interpreter errors occur when LEP patients and their families have access to trained medical interpreters or bilingual providers.
- Clinicians should ask patients and parents about the primary language spoken at home, assess English proficiency, and obtain a trained medical interpreter for those who have LEP.
- All clinics, hospitals, and pharmacies should have policies and procedures in place and know what to do when LEP patients need language services.
- Medication labels and instructions should always be available in the patient's and family's primary language.

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## Table

**Table. Suggested Options for Providing Adequate Language Services to Limited English Proficiency (LEP) Patients**

Interpretation of Spoken Word	Translating Written Patient Information Materials	Translating Prescription Labels
Bilingual providers	Professional translation	Professional translation
Trained medical interpreters	Computer translation software	Computer translation software
Telephone interpreter services	Computer translation downloads from federal Web sites†	
Bilingual staff		
Language bank cooperative or group purchasing of interpreter services by practices/clinics		
Trained members of community-based organizations		
Remote simultaneous interpreters*		
Trained volunteers from local universities		
Telemedicine linkups to interpreters		
Foreign language immersion courses for clinicians and staff		

\*Patient and/or family members and clinician use headphones to communicate via an offsite interpreter.

†For example, see:

<http://www.healthfinder.gov/espanol/>