"The difference between the right word and the almost right word is the difference between lightning and the lightning bug."—Mark Twain

If 77-year-old Guadalupe has never had a seizure in her life, why has she just been discharged from the hospital after a seizure medication overdose? To answer that question, let us retrace the steps of an elderly Spanish-speaking patient through her clinical encounters at a family medicine residency. Reviewing the chain of events that unfolded, we explore vital communication challenges—language barriers, limited health literacy, and disjointed inter-provider communication that are encountered daily in clinical settings. The combination of being unable to communicate symptoms, misunderstanding medication instructions, and having fragmented primary care culminated in this patient's super-therapeutic doses of seizure medication and hospitalization. Guadalupe's experience may compel providers to examine the value of effective communication in patient care, both in medical education and practice.

Language Barriers

Guadalupe is one of an estimated 47 million people in the United States who speak a language other than English at home. Many are limited English proficient (LEP) and have a limited ability to read, speak, write, or understand English. As a Latina, Guadalupe is also part of the largest and fastest growing minority group in the United States. In California, one in five Latinos speaks Spanish at home, yet one study found that only 26% of California's primary care doctors report Spanish fluency. Roughly 70% of California Latinos (9 million) may require an interpreter when seeking medical care unless their doctor speaks Spanish fluently.

LEP status can lead to delays in patient care, poor adherence to treatment regimens, excess use of emergency rooms, and higher health care costs. The Health and Human Services Guidelines state that LEP patients should have access to professional interpreters or competent bilingual staff—and family members should not be used except at the patient's request. But the reality is that many physicians rely on ad hoc interpreters (medical assistants, receptionists, janitors, family members) despite evidence that this can lead to errors and poor outcomes. This is especially a problem in academic settings where residents sometimes try just “getting by.” Common reasons residents decide not to use interpreters include time constraints, inconvenience, and no perceived value in clinical decision making.

Guadalupe's resident doctor did not speak Spanish and did not document use of an interpreter. Guadalupe misunderstood the seizure medication adjustment and continued to take the double-strength prescription as before, giving her three times the intended daily dose. Two months later, she was taken to the emergency room with altered mental status and admitted to the hospital with seizure medication levels requiring immediate dialysis.

What steps can be taken to ensure that LEP patients have access to adequate interpreters? One approach is to convince the next generation of resident physicians of the benefits of

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using professional interpreters and the risks involved when doing anything less. At the same time, senior residents and attendings can model appropriate interpreter use during clinical training so that routine interpreter use will be normalized and carried forward to future practice.

**Limited Health Literacy**

Even when accounting for language barriers, we must still consider the problem of inadequate health literacy. National Assessment of Adult Literacy finds that as many as nine out of 10 adults may lack sufficient skills to manage their health and prevent disease. Starting with adults who graduate from high school or obtain a general equivalency diploma (GED), average health literacy increases with each level of higher educational attainment. This problem is compounded in the Latino community, where only 55% of Hispanics have a high school diploma, and only 10% have a bachelor’s degree. Further, it has been shown that those with limited health literacy have problems with oral communication, made worse with language barriers.

Guadalupe’s lack of health literacy became evident when she was seen by a bilingual third-year resident after her hospitalization. While taking a history, the resident discovered that Guadalupe never had a seizure in her life. Instead, the patient described having temblores, which in Spanish means tremors. When Guadalupe mentioned these ongoing tremors, other physicians mistakenly believed these were seizures and continued prescribing what they thought was appropriate medication. Aside from thinking the pills she took were for tremors, Guadalupe did not understand basic medication instructions like “two times daily” instead of “three times daily.” She is not alone; more than 95 million people have literacy levels below what they need to understand even basic written health information such as how often to take a medicine.

How can family medicine residents learn to offset patients’ lack of health literacy and still provide effective competent care? Residents can ask more open-ended questions and use the “teach-back” method where patients are asked to restate “in their own words” their understanding of the treatment plan. Again, professionally trained interpreters must be used whenever possible, especially for LEP patients like Guadalupe who lack accurate vocabulary to describe their disease. Training programs can also encourage residents to look beyond the exam room to the community. One promising idea is collaborating with educators who already work with the general population and incorporating health topics into the curriculum of adult school classes, GED classes, English as a second language classes, and high school classes.

**Disjointed Inter-provider Communication**

In addition to language and literacy barriers, Guadalupe’s story exemplifies the gap in communication between primary doctors and consultants. Early in her care, a resident interviewed Guadalupe and consulted a neurologist whose notes never appeared in Guadalupe’s primary care chart. Although the neurologist recommended stopping seizure medication and treating only for her known Parkinson’s, the primary care resident did not have this information, leading to misdiagnosis and subsequent hospitalization. Disjointed communication between primary doctors and consultants is all too common and can lead to poor health outcomes.

Poor continuity between primary doctors further exacerbates this problem. An ever-present challenge in academic centers is constant resident turnover through rotations and graduation. Guadalupe saw five different family medicine residents over 3 years in her primary clinic. Every time patients transition doctors there is potential for a breakdown in information transfer.

What steps can be taken to avoid vital lapses in communication between various doctors who care for patients in teaching programs? Utilizing electronic medical records could facilitate an inquisitive resident’s ability to access the note where the neurologist recommended seizure medication be stopped. Incorporating telemedicine and specialty outreach clinics bridges the gap by “bringing” specialists to the primary care clinic where close proximity to the primary doctor may result in more timely and accurate diagnoses (tremors not seizures). As residency clinics begin to shift toward Patient-centered Medical Homes that include these innovations, residents may have the necessary resources and interdisciplinary cooperation to manage and follow through with collaborative treatment plans.
Lessons Learned

Let’s turn back the clock and envision how Guadalupe’s case might unfold in a health care system prepared to meet complex communication challenges. When she first enters her primary clinic, her language proficiency is assessed, and she is assigned a professional interpreter. Using an interpreter to take a complete history, the family medicine resident understands that Guadalupe has never had anything like seizures. Rather, when she describes “temblores,” it is clear that her “tremors” are likely due to her known Parkinson’s disease. This ongoing symptom is added to the problem list of her clinic’s electronic medical record. After a teleconference between neurologist, resident, and Guadalupe, the decision is made to simply treat with Parkinson’s medication. Recognizing Guadalupe’s limited health literacy, the resident is careful to ask open-ended questions about her concerns. She also asks Guadalupe to “teach back” what she understands about Parkinson’s disease and her medication regimen. Guadalupe returns regularly to her medical home for scheduled visits and preventative care with her family doctor.

Guadalupe’s experience makes a compelling case for health care providers to recognize how language, health literacy, and inter-provider communication are so vitally interconnected in quality patient care. Here we envisioned how Guadalupe’s case could have unfolded in a residency Patient-centered Medical Home. When these strategies are incorporated into medical education and practice, it’s not too late to learn from existing shortfalls, move forward, and model high-quality care that is rewarding to family medicine residents and provides the care our patients deserve.

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