

Use of Communication Technologies to Cost-Effectively Increase the Availability of Interpretation Services in Healthcare Settings

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Abstract

Poor patient-provider communication due to limited English proficiency (LEP) costs healthcare providers and payers through lower patient use of preventive care, misdiagnosis, increased testing, poor patient compliance, and increased hospital and emergency room admissions. Scarcity of bilingual healthcare professionals and prohibitive interpretation costs hinder full implementation of language service despite federal and state laws requiring their provision. We review recent published literature and unpublished data documenting the use of telephonic and video interpretation methodologies to improve healthcare communication with LEP persons. For example, a cooperative of nine California public hospitals and their associated community clinics, psychiatric facilities, skilled nursing facilities, and public health departments have implemented shared video interpretation services with video/voice-over Internet Protocol call center technology that automatically routes requests for interpretation in 15 languages to a pool of 30 full-time interpreters and 4 trained bilingual staff. For organizations seeking to initiate or expand their language services, the Internet provides access to translated documents, promising practices, step-by-step guides, planning tools, and research briefs. Such recent technological advances make

provision of language services—to respond to federal and state mandates and improve access and quality of care to LEP persons—more feasible than is widely believed. Increased government and foundation support, and collaboration among provider organizations themselves can catalyze these efforts.

Key words: business administration, economics, policy, telecommunications

The Impact of Language Barriers

Individuals who have a “limited ability to read, write, speak, or understand English” have limited English proficiency (LEP).¹ The 2000 Census found that over 47 million U.S. citizens or residents aged 5 years and above spoke a language other than English at home, and the percentage of people with LEP grew from 4.8% in 1980 to 8.1% in 2000.² The number of LEP persons is projected to grow by 67 million to an estimated 19% of Americans by 2050.^{2a} Our aim is to briefly review the literature documenting the need for and cost of language services in healthcare settings, and to present information on innovative uses of communication technologies to cost effectively provide these services.

There is a growing body of research documenting the adverse impact of language barriers on access to and quality of care.³ Persons with LEP have greater difficulty accessing managed care systems^{4,5} and use fewer preventive services such as cancer screening, immunization, eye and dental examinations, and others.⁶⁻¹⁰ Even after controlling for literacy, health status, health insurance, regular source of care, ethnicity, and economic indicators, researchers find that LEP persons make fewer physician visits and receive fewer preventive services.¹¹⁻¹³

Language barriers result in poor understanding of diagnosis, treatment, and medication instructions^{14–19}; poor understanding of and compliance with recommendations for treatment and follow-up^{20–23}; a significantly greater likelihood of a serious medical event²⁴; and lower patient satisfaction.^{25,26}

U.S. federal and state laws require the provision of language services. Title VI of the 1964 Civil Rights Act stipulates that no person “on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or subject to discrimination under any program or activity receiving federal financial assistance,” thus prohibiting recipients of federal funds from providing limited or lower quality services to persons with LEP.²⁷ To ensure equal access, Title VI requires that all recipients of federal funds—Medicaid agencies, managed care plans, and hospitals—provide language assistance, free of charge. Title VI has been reinforced over the years by numerous federal and state rulings.^{1,28}

Despite these requirements, the lack of financial resources prevents adequate provision of language services. Typically, third-party payers, including state Medicaid programs, do not reimburse for interpreters; services must be provided within existing capitation rates. A 2002 survey of state Medicaid agencies showed that only nine states had implemented any claiming mechanism for language services.²⁹

Some managed care and provider organizations self-fund central interpreter and language services, while other organizations expect individual providers to obtain their own.

Organizations that fund their own services—sometimes with help from private foundations—do so because they view language services as part of their mission, because of legal mandates, or because of accreditation requirements of the Joint Commission on Accreditation of Healthcare Organizations.³⁰

Cost Offsets and Implementation of Language Services

Research indicates that the cost of providing language services may be recouped through reduced testing, shorter visits, and better compliance with treatment and follow-up instructions. Interpreted LEP patients, compared to English-speaking and noninterpreted LEP patients, had the shortest emergency department (ED) stays; had the fewest tests, intravenous catheters, and medications; were more likely to follow-up in a clinic and less likely to return to the emergency department; and had the lowest overall charges.^{31,32} Physician-patient language barriers increased the cost of ED visits by an estimated \$38 per visit due to additional testing and longer ED stays.³³ In the inpatient setting, Spanish-speaking patients with a

language-concordant provider had lower costs (\$92 per patient) than those without a language-concordant provider.³⁴ The Office of Management and Budget’s estimates that interpretation services increased costs by about \$4 per patient medical encounter—representing a premium of 0.5% based on an average cost of \$856 per medical visit³⁵—supporting research findings that provision of language services is cost effective.³⁶

To bridge the gap between patient and provider, bilingual providers are preferred. Language concordance between patient and provider is associated with greater patient satisfaction and interpersonal care,³⁷ increased compliance and cost-effective use of emergency care services for asthmatic patients,²² better patient comprehension and physician-patient agreement on health behavior recommendations,^{38,39} and improved self-reported well-being and functioning for patients with hypertension or diabetes.⁴⁰

In the absence of bilingual clinicians, professionally trained interpreters can provide high-quality culturally competent language services,^{41–43} resulting in improved patient understanding,⁴⁴ greater patient satisfaction,⁴⁵ and better quality as measured by receipt of preventive care and the number of prescriptions written and filled.⁸

However, bilingual providers and interpreters are relatively scarce, even for the most common languages.^{45,46} Further, it is not economically feasible for individual hospitals or clinics to provide professional interpreters for potentially dozens of languages.^{47–49} Recent developments in communication technologies, however, can be harnessed to use existing bilingual providers and interpreters more efficiently.

Using Technology to Increase the Availability of Interpreter Services

Recent technological developments in video and telephonic interpretation offer communication that more closely resembles a face-to-face encounter with a bilingual clinician or interpreter and allow scarce resources to be used more effectively and efficiently.^{50–52} We describe their effects on patient care access, efficiency, quality, and effectiveness highlighting their ability to improve access to high-quality interpreter services and, after initial capital investments have been made, to improve efficiency.

ACCESS

Use of telephonic interpretation, typically provided by a commercial service such as Language Line, has increased mainly because it is easy to use and rapidly provides access to interpreters for numerous languages, thereby reducing wait times sometimes associated with face-to-face interpretation.^{53–56} For example, doctors can easily

access telephone interpretation services from the patient bedside or exam room using a cell phone with quality speakers.⁵⁷ Hospitals or clinics may also be equipped with dual handsets phones for remote simultaneous medical interpretation, also known as “UN-style” interpretation, in which the interpreter is located somewhere outside the exam room and interprets at the same time as she or he hears the original speech.⁵⁸ Telephone interpreting is best suited to simple exchanges and short appointments not requiring visual communication.⁵⁹

Call center technology provides the same access benefits as commercial telephone services, but at potentially lower cost. Interpretation services may be available almost any time and in a number of languages, depending on the size of the call center. For example, in Northern California, the Santa Clara Valley Medical Center’s call center handles 90% of typical interpretation requests, totaling more than 150,000 annual patient encounters.⁶⁰

Videoconferencing provides the rapid access of telephone interpretation, but also allows visual communication, more closely resembling face-to-face interpretation. Pooled video interpretation has been extensively tested in the Healthcare Interpreter Network, a cooperative of nine California public hospitals and their associated community clinics, psychiatric facilities, skilled nursing facilities, and public health departments. These hospitals utilize video/voice-over Internet Protocol call center technology (supports video and voice calls using a broadband Internet connection instead of a regular or analog phone line) to automatically route interpretation requests in 15 languages to a pool of 35 full-time trained interpreters and bilingual staff. Providers in participating facilities can reach a trained interpreter in an average of 12 s. When no interpreter is available, calls roll to a commercial language service guaranteeing that nearly every interpreter request can be met 24/7 in under 1 min from every point of patient care within participating hospitals and clinics. Specialized interpretation skills, such as mental health or American sign language (ASL), are also available. The system now routes over 10,000 requests for interpretation per month with no scheduling or dispatching required.^{30,61}

EFFICIENCY

Telephone or video interpretation can reduce system inefficiencies that drive up costs. For example, face-to-face interpreters often charge for a minimum of 2 h to compensate for travel time and expenses.⁵⁵ Travel delays related to face-to-face interpretation for unscheduled visits, such as in the Emergency departments, result in frustrating waits for patients and providers alike and may reduce the time available for the patient visit.⁵³ When the patient is a

“no-show”—a more frequent event in mental health settings—the interpreter must still be paid. The difficulty of scheduling three parties (patient, provider, and interpreter) results in greater miscommunication over appointment times and, hence, more missed appointments.⁵⁵

Although commercial telephone interpretation has gained wide popularity due to its ease of use, a significant drawback is its high cost.⁶² Among surveyed community health centers, cost was the main reason that commercial telephone interpretation services were rarely used.⁵⁴ The Office of Management and Budget estimated that the average cost of telephone interpretation was \$132 per hour (\$2.20 per minute) compared to \$10 to \$32 per hour for a staff-salaried interpreter.³⁵ The cost of telephonic interpretation can be reduced for larger organizations by implementing call centers that use staff interpreters. Compared to face-to-face interpretation, the interpreter’s productivity is greatly increased by reducing the walking/waiting time. The computerized call center system allows costs and interpretation time in each language to be tracked for use in later analysis and resource allocation decisions. The cost of call center interpretation is approximately one-third the cost of face-to-face hospital-based interpreters.⁶⁰

Videoconferencing technologies provide the closest approximation to face-to-face interpretation while offering the productivity of remote interpretation. Like call centers, videoconferencing allows interpreters to spend more time interpreting and less time walking and waiting. Pooling interpreters across facilities realizes economies of scale as demonstrated in a 2001 Michigan pilot program linking the Grand Rapids Metropolitan Hospital with community-based providers and a shared interpreter bank.⁵⁹

Exchange of visual information makes video interpretation especially useful for ASL and mental health interpretation, which can be very costly. Savings in ASL interpretation alone have more than paid for installation of video interpretation networks in some hospitals (M. Paras, pers. comm., April 2009). One average-sized California county mental health department estimated savings of approximately \$80,000 in 2008 if just half of their LEP clients had used a video interpreter pool.⁵⁵

Drawbacks of call centers or video interpretation are the large initial investment in setup and equipment costs, as well as necessary ongoing support from the organization’s IT and telecom departments. These costs, which have recently dropped significantly due to new technological innovations, may be recouped through greater efficiency in service provision (M. Paras, pers. comm., April 2009). To reduce the burden on any one organization and guarantee an adequate pool of language resources, clinics and hospitals may combine

resources for initial setup and staffing. The larger the network and interpreter pool, the greater its capacity to efficiently meet all language needs.⁶⁰

Compared to face-to-face interpretation, remote interpretation does not currently support the writing of prescriptions in non-English languages. However, new collaborations with companies such as Polyglot Systems that offer products like “Meducation” (accessible at www.pgsi.com/Products/Meducation.aspx) will allow access to a database of translated written prescriptions to be deployed in pharmacy applications (M. Paras, pers. comm., April 2009).

QUALITY

Patient and provider satisfaction with remote interpretation methods has been mixed. With telephonic interpretation, patient satisfaction was found to be lower than face-to-face interpretation,⁶³ and the loss of visual information sometimes reduced interpretation quality.⁵⁹ Patient satisfaction and quality of interpretation was improved with use of a dual handset phone and remote simultaneous medical interpretation in which interpretation occurs simultaneously with original speech.^{58,59} Videoconferencing technologies were tested in clinical trials in California, where they were well received by patients, providers, and interpreters.⁵⁹ In mental health settings too, patients and providers were highly satisfied with video interpretation and found the technology easy to use, reliable, and with good picture quality.⁵⁵

Use of telephonic or video interpretation can improve quality of care simply by increasing access to professional interpreters. Due to the time and effort required to locate a face-to-face interpreter, especially for uncommon languages, community health centers frequently use family and friends as interpreters.⁵⁴ This practice is discouraged due to poor translation quality, patient privacy, or ethical considerations especially when minor children are asked to interpret for their parents or if abuse or domestic violence is suspected.⁵⁴ In other cases, patients go without interpretation; one study found that LEP women reported pretending they could understand the doctor simply because they did not have time to wait for an interpreter.⁵³

By easing scheduling constraints and increasing the frequency of visits for LEP patients, telephonic and video interpretation improves quality of care. With face-to-face interpretation, the difficulty of scheduling patient, provider, and interpreter often results in longer gaps between appointments than clinically recommended.⁵⁵ This may be especially important for patients with chronic conditions or mental health diagnoses, for example, who take medications requiring frequent monitoring.

Remote interpretation through video or telephone may also provide increased privacy, in some situations, compared to face-to-face interpretation. With telephone interpretation, the interpreter does not see the patient, and a video camera can be turned off or covered if needed.⁵⁹ Absence of a third party in the room—the interpreter—can help patients feel more willing to disclose sensitive or emotionally disturbing information.^{55,65,66}

EFFECTIVENESS

To ensure the effectiveness of any interpretation services, and especially interpretation through communication technologies, provider and staff training is essential. Even when professional language services are available, many providers and staff fail to use them.⁶⁷ In a multiyear project to improve healthcare access to Latinos with LEP, convincing providers to use available interpreters was a significant barrier in all 10 demonstration sites.⁶⁸ Providers with limited bilingual capability believed that their own language skills were adequate and an interpreter would interfere with provider-patient rapport, that patients could be adequately diagnosed and treated using hand signals and clinical tests, or that use of families and friends as interpreters was culturally preferable than professional third-party interpretation. Some providers had had negative experiences in the past, including lengthy waits for an interpreter or the inability to find qualified interpreters.

Training physicians to work effectively with interpreters—by speaking in short, clear sentences and avoiding medical jargon—also improves communication and increases time available for patients to ask questions or make statements.⁶⁹ Providers with interpreter training were more satisfied than others with their ability to communicate with LEP patients.⁷⁰

Broad recommendations to increase effectiveness of all types of language services are (1) involve providers in the design and adoption of language services to better gain their acceptance, (2) train providers early in their careers to work with interpreters, and (3) develop a formal routine training program for all staff, describing the resources available for interpretation services, situations when an interpreter should be called, when it is inappropriate to proceed without an interpreter, and procedures for accessing an interpreter.^{56,68}

Ethical Concerns: Patient Confidentiality

Many ethical issues arise in the course of providing interpretation services, which are covered elsewhere.^{64,71} Interpretation through telehealth technologies, however, raises unique challenges related to patient confidentiality. To assure confidentiality, telemedicine video and telephone devices must use hospital-grade encryption processes

and calls may not be recorded. All interpreter video stations must be carefully located to assure confidentiality; stations may not be placed in areas with public access. Similar precautions are required for location of telephone interpreters. Interpreters working in call centers or video-interpretation pools are typically hospital employees and therefore have received training in patient confidentiality (M. Paras, pers. comm., April 2009). Commercial telephone interpretation providers are bound by their business agreements with healthcare providers to abide by Health Insurance Portability and Accountability Act standards and implement safeguards to protect patient information.⁷²

Using the Internet to Share Materials and Expertise

The Internet has dramatically transformed the ability to share information, experience, materials, and technical expertise, thus reducing the time and cost that organizations must spend “reinventing the wheel” when seeking to initiate or expand their language services. The U.S. Office of Civil Rights maintains a language Web site with links to documents, references, and promising practices from federal agencies, state and local governments, and nongovernmental organizations (accessible at www.hhs.gov/ocr/lep/). Another online federal compendium, the LEP Interagency Web site, provides similar information (accessible at www.lep.gov/resources/resources.html). A number of foundations, nonprofit organizations, and adjunct governmental state-level agencies have also developed extensive resources, including descriptions of successful models of language access in a variety of settings (e.g., state and local government initiatives, innovative practices by managed care organizations and community-based organizations, and educational models), and materials such as translated brochures and posters, guides, planning tools, and research briefs.

Information for the development of provider and staff training programs includes private interpreter organizations, such as CultureSmart*; hospital networks such as the Healthcare Interpreter Network (accessible at <http://hcin.org>); and major individual hospitals and healthcare organizations that have developed their own in-house training programs, such as New York University’s Center for Immigrant Health (accessible at www.med.nyu.edu/cih/index.html) and Massachusetts General Hospital (accessible at www.massgeneral.org/interpreters/working.asp).

The availability of these resources on the Internet allows the experience and work of these organizations to be easily accessed by others and tailored to fit the needs of their own limited English populations.

Conclusions

Barriers to providing language services—costs and shortage of personnel—are more easily overcome through the use of recent technological developments in videoconferencing, call centers, and the Internet, which allow resources to be shared across networks of providers and organizations. The use of these technologies can be catalyzed by increased government and foundation support, and by healthcare organizations themselves through participation in communication and information-sharing networks and development of training programs for all staff in the appropriate use of these technologies.

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*A comprehensive program is offered nationwide by CultureSmart, a privately held organization specializing in medical interpreter training, that includes provider and staff training on how to work effectively with medical interpreters (www.culturesmart.org/index.php).

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