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Language Barriers and Interpretation Methods in Physical Therapy: Best Practices Review and Nevada Survey

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Bachelor of Science in Health Ecology and the Honors Program

by

Michelle N. Bowman

Dr. Daniel Cook, Thesis Advisor

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Abstract

Language barriers in health care have been found to have negative impacts on quality of care provided to patients with limited English proficiency (LEP). The purpose of this study was fourfold: to review research on interpretation methods in physical therapy, to appraise the legal context, to search for policy guidelines, and to assess the existence of and response to language barriers in physical therapy clinics in Washoe County, Nevada. The author analyzed the scientific and government literature and then conducted an Internet survey of practitioners. Professional interpreting was found to be the best practice based on research in medical settings, but it was not clear whether or not professional interpreting was the best practice within the physical therapy setting as well. The survey of local clinics, completed by 22 physical therapists, revealed that language barriers between LEP patients and providers did exist to some extent and were perceived by therapists to be detrimental to treatment outcomes. The survey also found that ad hoc (untrained) interpreters were the most commonly used method of interpretation. Barriers to providing professional interpreters reported by clinics included the clinic or provider not having advanced knowledge of the patient's LEP status, cost and time constraints, and negative attitudes toward the therapist's responsibility to provide language services. The results of this study suggest that more research is needed to accurately assess the role of language barriers and to establish the best practices for interpretation methods in physical therapy settings. Once best practices are established, policy guidance should be distributed to physical therapists and clinics in order to increase knowledge and awareness of the issue of language barriers and strategies to overcome them.

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Language Barriers and Interpretation Methods in Physical Therapy: Best Practices Review and Nevada Survey

The United States is a linguistically diverse nation. The most recent data from the 2005-2009 American Community Survey reveal that nearly 20% of people 5 years of age and over living in households in the United States speak a language other than English (U.S. Census Bureau, 2009a). The same report estimates that 8.6% of the population 5 years and over speak English less than 'very well.' Both in the state of Nevada and in Washoe County the percentage of the population who speaks English less than 'very well' is higher than the national average, at 12.9% and 9.8% respectively (U.S. Census Bureau, 2009b). In fact, in the state of Nevada 2.7% of households are 'linguistically isolated,' which means that all members of the household over 14 years of age have at least some difficulty with English (U.S. Census Bureau, 2009c). In health care settings, limited English proficiency can lead to language barriers, which for the purposes of the present research are defined as "having difficulty or an inability to verbally communicate with a patient because the medical provider and patient do not speak or fully comprehend the same language" (Span, 2006, p. 19). Such difficulties often have negative effects on various aspects of health care.

Language barriers in health care are associated with problems such as decreased access to care, lower patient and provider satisfaction, and increased risk of negative health outcomes (Cheng, Chen, & Cunningham, 2007; Ngo-Metzger et al., 2007; Gadon, Balch, & Jacobs, 2007; Ku and Flores, 2005). As the U.S. Department of Health and Human Services Office of Minority Health explains, providing culturally and linguistically appropriate services (CLAS) is the key to addressing and overcoming

language barriers and decreasing health disparities (U.S. Department of Health and Human Services [U.S. HHS], 2001). Linguistic competency, including offering language services to limited English proficient patients, is a component of the broader concept of cultural competency in health care. The Office of Minority Health defines cultural competence as follows:

> 'Culture' refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities (U.S. HHS, 2001 p. 131).

Both linguistic and cultural issues are important to consider in health care policy and practice. The present study will explore the concept of language barriers and linguistically appropriate care in physical therapy.

In its report establishing the standards that should be used to provide CLAS, the Office of Minority Health defines a limited English proficient, or LEP, individual as someone who "cannot speak, read, or understand the English language at a level that permits him or her to interact effectively with clinical or non-clinical staff at a healthcare organization" (U.S. HHS, 2001). Utilizing language services, such as health translating and interpreting during encounters with LEP patients is one way that health providers can decrease the negative effect of language barriers. Interpreting is defined as "the process of understanding and analyzing a spoken or signed message and reexpressing that message faithfully, accurately and objectively in another language, taking the cultural and social context into account" (National Health Law Program, 2006, p. 117). Translating is

differentiated from interpreting in that with translation, the message is produced in writing while with interpretation the message is produced orally (National Health Law Program, 2006, p. 116). It is interesting to note that the words "translator" and "translation" are often used, mistakenly, to refer to both oral and written communication (National Health Law Program, 2006, p. 116). While both translation and interpretation play an important role in communication in health settings, the present research focuses on oral interpretation and does not explore the issue of written translation.

The responsibility to provide language services is explicitly established and confirmed by legislation such as the Civil Rights Act of 1964 or President Clinton's Executive Order 13166 as well as by policy guidelines from agencies such as the U.S. Department of Health and Human Services and the American Physical Therapy Association (Civil Rights Act of 1964; Exec. Order 13,166, 2001; U.S HHS, 1980; U.S. HHS, 2001; U.S. HHS, 2003; American Physical Therapy Association [APTA], 2008; APTA, 2010). Aside from the legal documents and policy guidelines, language services are essential in health care because language barriers can decrease the quality of health care through "poor exchange of information, loss of important cultural information, misunderstanding of physician instruction, poor shared decision-making, or ethical compromises" (National Health Law Program, 2006. p. 11). Thus, health care providers, including physical therapists, have legal, ethical and practical obligations to provide their patients with the most appropriate language services possible.

One of the main components of language services in health care is oral interpretation during encounters between the provider and patient. An interpreted health

encounter typically involves a patient and provider as well as a third individual who relays messages between the patient and provider in their respective languages. Sometimes, the health provider serves as the interpreter and simply speaks to the patient in the second language rather than using a third individual to interpret the message. There are many types of interpreting; they can generally be separated into two categories: professional interpreting and ad hoc interpreting. A professional interpreter has "appropriate training and experience," is "able to interpret consistently and accurately," and "adheres to a code of professional ethics" (National Health Law Program, 2006, p. 120). Professional interpreting includes both in person and telephonic services provided by trained medical interpreters. An ad hoc interpreter is defined as "an untrained person" such as a family member or friend of the patient or a bilingual staff member of the health organization who is asked to interpret during the health encounter but "may not have sufficient language capability or knowledge of medical terminology and confidentiality issues to function adequately" as an interpreter (National Health Law Program, 2006, p. 111). The main difference between professional and ad hoc interpreting is that professionals are typically trained in the techniques and ethics of health care interpretation while ad hoc interpreters often have no specific training for their role as interpreter. It is important to study the benefits and challenges of using professional versus ad hoc interpreters in health care and physical therapy in order to determine the most appropriate interpreting method for a given setting.

A majority of the research and guidelines regarding language barriers and the utilization of interpretation services in health originate from the field of medicine.

However, dissertations by Cheryl Hickey in 2001 and Lashandra T. Span in 2006 explored this topic within the field of physical therapy specifically. The two studies found, by surveying physical therapists, that language barriers did exist in physical therapy clinics and that these barriers negatively affected patient care and even treatment outcomes in the states of California and Florida. Both authors pointed out the relative lack of research coming from the physical therapy perspective and the need for further study of language barriers in the therapy setting. The lack of language barrier research in the field of physical therapy leads to several questions that the present study hopes to address.

First, to what extent are language barriers affecting physical therapy encounters and outcomes in geographical areas other than those studied by Hickey (2001) and Span (2006)? Second, how are physical therapists addressing language barriers between them and their LEP patients? More specifically, do therapists utilize professional or ad hoc interpretation services during encounters with LEP patients? In general, professional interpreters have been found to provide more accurate interpretations and contribute to fewer interpretation errors than ad hoc interpreters in medical encounters (Flores, 2005). Since it is unknown whether or not physical therapists more often use professional or ad hoc interpreters, the appropriateness of language services being provided cannot be assessed. In order to create guidelines and policies that are effective in the physical therapy setting and to improve care provided to LEP patients, more baseline data is needed on language barriers experienced and interpretation services utilized by physical therapists. The purpose of this study is to determine the existence of and response to

language barriers in physical therapy practices in Washoe County, Nevada. First, existing research on language barriers and methods of interpretation in health care are reviewed. Second, new survey data from a small sample of physical therapists is collected and analyzed. The results of this research add to existing knowledge of language barriers in physical therapy and provide an exploratory analysis of how therapists in Washoe County confront language barriers with LEP patients.

Literature Review

The literature available regarding language barriers and language services in health care is abundant. For this review, a search of scientific databases (PubMed, CINAHL, Health Reference Center Academic, and Proquest) was performed using key terms such as "linguistically appropriate service," "language barriers," "limited English," "language services," "medical interpretation," "physical therapy" and "physiotherapy." In addition to published research articles found during the database search, legislation, policy guidelines and reports created by U.S. government health agencies, private organizations and the American Physical Therapy Association were also consulted. An attempt was made to exclude studies that did not seem applicable to the physical therapy setting or did not focus mainly on linguistic issues (versus cultural competency issues) in health care. Only the most recent clinical studies (dated 2000 and forward) were analyzed for the literature review.

One of the most relevant collections of articles was found in the *Journal of General Internal Medicine* supplement on the topic of language access in health care. This supplement contained many studies on various interpretation methods (professional

and ad hoc) and their relative success or lack of success in medical settings, provider perceptions of language barriers and attitudes regarding interpreter use, as well as an article that summarized the "legal framework" for providing language services in health care (Gany et al., 2007a; Gany et al., 2007b; Jacobs, Sadowski, & Rathouz, 2007; Gadon et al., 2007; Chen et al., 2007). It is important to understand the legal and ethical framework as well as existing policy guidance that outline the health provider's responsibility to provide appropriate language services to LEP patients. Clear legal and ethical obligations create a basis for policy change and make it more likely that a provider will follow a given recommendation, especially if the recommendation involves providing a service that could increase time or monetary burdens faced by a provider or health organization. Once a legal and ethical framework has been established, it is possible to analyze how well providers in a variety of health settings are responding to guidelines and whether or not the best possible language services are being utilized. The following review will discuss the legal and ethical basis as well as existing policy guidelines and then will summarize the studies regarding specific interpretation methods and outcomes.

Legal Obligations to LEP Patients

Publications on health providers' legal and ethical responsibility to offer language services to limited English speaking patients are abundant (Civil Rights Act of 1964; Exec. Order 13,166, 2001; U.S HHS, 1980; U.S. HHS, 2001; U.S. HHS, 2003; American Physical Therapy Association [APTA], 2008; APTA, 2010). As Chen et al. (2007)

explains, the legal responsibility to provide LEP patients with language services is based on Title VI of the Civil Rights Act of 1964, which states:

> No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. (Civil Rights Act of 1964)

The Department of Health and Human Services makes the application of the Civil Rights Act to language access in health care explicit by stating, "No person may be subjected to discrimination on the basis of national origin in health and human services because they have a primary language other than English" (U.S. Department of Health and Human Services [U.S. HHS], 1980). The legal responsibility to provide language services to LEP patients is also confirmed by President Clinton's Executive Order 13166, titled *Improving Access to Services for Persons with Limited English Proficiency* (Executive Order No. 13,166, 2001). This order makes it clear that all recipients of federal funds, such as Medicare or Medicaid funds, as well as all programs of federal agencies must provide equal access to services for limited English proficient (LEP) persons (Chen et al., 2007). Title VI of the Civil Rights Act of 1964 and Executive Order 13166 serve as the two key legal documents that, in theory, guarantee language services to limited English proficient individuals in health care settings.

In order to assist health providers comply with the legal responsibility to provide appropriate language services, government agencies and private organizations have published national standards and policy guidelines that connect law to policy. The *National Standards for Culturally and Linguistically Appropriate Services in Health Care*, published by the U.S. Department of Health and Human Services Office of

Minority Health, contains fourteen standards recommended for adoption by health care organizations and providers (2001). Standards number four and six cover the obligation to provide health interpreters. Standard four states that organizations must offer and provide language services "at no cost to each patient/consumer with limited English proficiency at all points of contact, in a timely manner during all hours of operation" (U.S. HHS, 2001, p. 10). Standard six states that language assistance provided to LEP patients by interpreters and bilingual staff must be competent and that family and friends should not be used as interpreters unless specifically requested by the patient (U.S. HHS, 2001, p. 12). The national standards are an important first step in creating unified recommendations for health care organizations and providers in regards to language services for LEP patients.

The Department of Health and Human Services Office of Civil Rights document, *Guidance to Federal Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons*, further clarifies which health organizations and providers are required by law to provide language services to LEP patients and also gives criteria for the extent of services that must be provided based on the organization or provider resources and on patient needs (U.S. HHS, 2003). The policy guidance states that types of providers covered by the legal requirements to provide language services include "physicians and other providers who receive Federal financial assistance from HHS" (U.S. HHS, 2003, p. 47311). The document explains that organizations and providers should consider four factors when

determining the extent of language services they can and should offer to LEP patients. The four factors are:

> 1. The number or proportion of LEP persons eligible to be served or likely to be encountered by the program or grantee
> 2. The frequency with which LEP individuals come in contact with the program
> 3. The nature and importance of the program, activity, or service provided by the program to people's lives
> 4. The resources available to the grantee/recipient and cost (U.S. HHS, 2003, p. 47314).

According to the HHS Office of Civil Rights guidance, physical therapists and clinics that receive federal financial assistance such as Medicaid, SCHIP, or Medicare (as well as other types of federal funding) are legally responsible for providing language services. The extent of services they are obligated to provide is based on the four previously mentioned factors. For example, if a physical therapist sees a significant number of LEP patients regularly (factors one and two), provides therapy that is essential for daily functioning (factor three), and is part of a clinic that receives Medicare payments and has a large enough budget to support several offices in the region (factor four), it would be reasonable to say that this therapist should be utilizing some sort of professional interpretation with their LEP patients. There is a legal precedent for the provision of language services in physical therapy settings, but as Chen et al. point out, "the reality is that many healthcare providers are not aware of their responsibility, have not prioritized the issue, or have not been held accountable through consistent enforcement of these laws" (2007, p. 363).

The U.S. Department of Health and Human Services is not the only organization to have published guidance on providing language services in health care. The National

Health Law Program (NHeLP), a pubic interest law firm, published the *Language Services Resource Guide for Health Providers* in 2008. This guide describes the background of and research on language services in health care, discusses how to develop a needs assessment and language services plan, and provides resources on the use of tools and symbols for multilingual environments and on how to find interpreting and translation services. The guide explains five elements of an "effective language services plan":

1. Identifying LEP individuals who need language assistance
2. Language assistance measures
3. Training staff
4. Providing notice to LEP persons
5. Monitoring and updating the LEP plan (National Health Law Program, 2006, p. 24).

Creating a language services plan is an important step in any health care organization. Also included in the guide are extensive evaluation tools that allow organizations to assess their current provision of language services and identify strengths and weaknesses of policy and practice. The guidance on how to create language service policies and procedures in a health care organization available in this publication is overwhelming (almost two hundred pages of information and links to further resources are included) but extremely useful in the assessment and planning of language services. What is not clear is whether or not health providers and administrators are aware of this guidance and actually have the time and resources to put it to use. Publications on the legal, ethical and practical aspects of linguistically appropriate care in health are abundant; the next area of concern is the application of this guidance to clinical settings.

Interpretation Methods and Quality of Care

If health providers are legally and ethically obligated to provide language services, including interpreters, what types of interpreting services are the most appropriate for their patients? In other words, what are the evidence-based best practices regarding language services in health care? Glenn Flores conducted a systematic review of medical studies regarding the impact of interpreting services on quality of care (2005). Based on the analysis of 36 studies that analyzed the impact of interpreter services on quality of health care including components such as "communication issues, patient satisfaction and processes, outcomes, complications and use of health services," Flores made two important observations based on the 36 studies of health interpreters and quality of care (2005, p.258). First, when an LEP patient needed an interpreter and one was not provided, quality of care was negatively impacted. Second, when untrained, ad hoc interpreters such as family members, friends, and medical or non-medical staff were utilized over trained professional interpreters, the quality of care provided to LEP patients was lower. Specific issues when using ad hoc interpreters included higher risk of the interpreter making errors or omissions when relaying messages between provider and patient that had clinical consequences and decreased patient satisfaction with care (Flores, 2005, p. 294). Flores' review concluded that the use of trained, professional interpreters resulted in the best treatment outcomes and quality of care (2005, p. 295). Additional studies confirmed the fact that professional interpreters were more appropriate than ad hoc interpreters in medical settings (Gany et al., 2007a; Gany et al., 2007b; Moreno, Otero-Sabogal, & Newman, 2007; Regenstein, 2007).

While the literature discussed above suggests that professional interpreters are the recommended best practice for overcoming language barriers in health care, some recent research has indicated that professional interpreters are not the only way to successfully provide linguistically appropriate care to LEP patients. In regards to treatment outcomes and satisfaction, professional interpreters are preferred over ad hoc interpreters, but when resources are limited ad hoc interpreting may be a provider's only practical option (Larrison, Velez-Ortiz, Hernandez, Piedra, & Goldberg, 2010). A recent study on ad hoc interpreters in community health centers found that ad hoc interpreting may in fact be a successful method for providers with limited resources to improve health encounters with limited English speaking patients while still maintaining patient satisfaction and quality of care (Larrison et al., 2010).

For this study, individuals who were observed interpreting for family and/or friends in the waiting room of the clinic were recruited. Three were eventually hired in dual role positions as medical file clerks and interpreters. The hired individuals had minimal, if any, formal training in interpretation within medical settings and therefore were considered to be ad hoc interpreters. Larrison et al. surveyed staff, interpreters and clients at the health centers and found that there were both challenges and benefits of employing ad hoc interpreters in dual role positions. One of the biggest challenges faced by the dual role staff interpreters was interpreter stress regarding workload and expectations of clerical duties and interpretation services (Larrison et al., 2010, p. 400). It is logical that hiring a single individual in a dual role position could create problems of over commitment, time management and stress. However, the ad hoc interpreters did

reflect that they were satisfied with the closeness developed with clients they interpreted for. Also, LEP patients revealed high satisfaction with health services provided by the health centers in this study (Larrison et al., 2010, p. 399).

Based on this exploratory study, more research is needed regarding the potential of ad hoc interpreters as a strategy for health providers with limited resources to provide language services to their LEP patients. A majority of the research consulted concludes that professional interpreting is the more appropriate method to improve quality of care for LEP patients due to issues such as accuracy of message interpretation and confidentiality issues (Flores, 2005). However, it is important to note that much of this research took place within emergency or acute medical settings rather than community health center, rehabilitation or physical therapy settings. Perhaps providing ad hoc interpreters with minimal training could give clinics and providers with limited resources access to quality language services at a lower cost than hiring professional interpreters.

To summarize, the literature reflects that the 'gold standard' in health care interpreting is professional interpretation. The majority of the studies consulted found professional interpreting to be the most appropriate method in medical settings (Flores, 2005; Gany et al., 2007a; Gany et al., 2007b; Moreno, Otero-Sabogal, & Newman, 2007; Regenstein, 2007). These studies did not explore interpreting services in the physical therapy setting, so it is possible that although professional interpreting is the 'gold standard' in medical settings, it is not necessarily the best or most appropriate method in physical therapy settings. A thorough analysis of the benefits and challenges of professional interpreting versus ad hoc interpreting in the physical therapy setting is

needed in order to establish an interpreting 'gold standard' specific to physical therapy practice.

LEP Patients in Physical Therapy

The publications discussed above provide a background on the obligations of health providers to offer language services to their limited English proficient patients and the evidence on which methods of interpreting are most successful in overcoming language barriers. In the physical therapy setting specifically, guidelines and research have been published although limited in quantity and scope. Publications by the American Physical Therapy Association regarding language services are available for download on the APTA website; however, access is limited to members of the association. Since not all therapists are members, it may be that the publications have limited distribution. For the present study, despite extensive searching of scientific databases, very few research studies were found relating to language barriers or language services within the physical therapy setting. Only three studies were found: two large-scale studies that confirmed the existence of language barriers and negative effects of not having formal interpretation during the health encounter, and one study from Australia that revealed the negative attitudes held by a small sample of therapists regarding the use of interpreters (Hickey, 2001; Span, 2006; Lee, Lansbury, & Sullivan, 2005). The following sections will summarize the research available to the physical therapy community found by this review.

American Physical Therapy Association publications regarding language services.

The American Physical Therapy Association (APTA) makes its recommendations regarding linguistically appropriate care apparent in two documents, in the APTA *Code of Ethics* (2010) and more explicitly in the document titled *Provider Responsibilities for Patients with Limited English Proficiency* (2008) (APTA, 2010; APTA, 2008). In the *Code of Ethics*, Principle #1 states that therapists should "respect the inherent dignity and rights of all individuals" and specifies that a therapist should act respectfully toward all patients regardless of many factors, including nationality and ethnicity (APTA, 2010, p. 1). Principle #2 also applies to limited English speaking patients, emphasizing the importance of being "trustworthy and compassionate in addressing the rights and needs of patients" and also specifically states that therapists should provide services using "behaviors that incorporate the individual and cultural differences of patients" (APTA, 2010, p. 1). The *Code of Ethics* makes it clear in its first two principles that a therapist is ethically obligated to provide quality services to all patients regardless of nationality, ethnicity and culture. It follows that language, an essential component of one's background and culture, is a factor that should not lead to discrimination or decreased quality of services provided to patients.

Another APTA publication, *Provider Responsibilities for Patients with Limited English Proficiency*, explains in more detail the obligations therapists and clinics have to provide language services to LEP patients (APTA, 2008). This document describes how a therapist can determine the extent of their obligation to provide language services, based

on the Department of Health and Human Services guidelines described above. The APTA applies HHS guidelines to physical therapy practice and explains the options providers have in choosing the type of language service provided, such as in person interpreting, telephone interpreting, or the use of community volunteers as ad hoc interpreters. It is even recommended that a therapist refer a patient to another provider "if the patient would have access to better language services" (APTA, 2008, p. 3). Further, the APTA affirms that community volunteers and family members as interpreters can be appropriate in certain situations but that a provider should be aware of challenges such as the limited knowledge of medical terminology and confidentiality issues when ad hoc interpreters gain knowledge of private patient information (APTA, 2008, p. 3). Finally, and perhaps most importantly, this publication offers a list of five components of an "effective" LEP policy for providers and clinics that are similar to guidelines suggested by the National Health Law Program in its *Language Services Resource Guide* (as discussed above):

> 1. Information about the way in which language assistance will be provided, including the type of language services available.
> 2. How staff can obtain these services.
> 3. How staff should respond to written, oral, and telephonic communications from LEP patients.
> 4. Process for assessing the competency of interpreters and translation services.
> 5. Description of the process by which notice will be provided to LEPs who have been identified by the four factor test as needing these services (APTA, 2008, p. 4).

The guidelines on creating effective policy should help providers move from awareness to practice in regards to offering appropriate language services. The two APTA publications described above emphasize the ethical and legal obligations that physical therapists have to provide LEP patients with appropriate language services and also

provide advice on how to meet this obligation. It is apparent that the legal and ethical guidelines and best practices regarding linguistically appropriate care in medicine also apply to the physical therapy setting specifically.

Research on language barriers in the physical therapy setting.

In the first major study of language barriers in physical therapy, completed by Cheryl Hickey in 2001, physical therapists practicing in lower socioeconomic counties in California were asked to complete a survey regarding their perception of the presence and impact of language barriers. Surveys were collected from 921 participants out of a sample size of 2000. Over 70% of the responders reflected that limited English proficient LEP individuals (speaking minimal or no English) comprised 5 to 25% of their caseloads, also 95.8% of responders stated that they had encountered language barriers in their practice (Hickey, 2001, p. 71-72). Participants reported that, on average, when an interpreter was needed one was readily available only 51% of the time (p. 73). When asked about the type of interpreter available for use in the physical therapy clinic, respondents stated that a professionally trained interpreter or remote interpreting service (such as telephone interpreting service) was available about 16% of the time (p. 74). Ad hoc, non-professional interpreters such as office staff, patient family members, or patient friends were available 57% of the time. A physical therapy aid was available to interpret 20% of the time. The study found that ad hoc, untrained interpreters did a majority of interpreting in the represented physical therapy clinics.

The questionnaire in Hickey's study also asked about which type of interpreting was preferred by the physical therapist. It is interesting to note that 22.7% of responders

preferred professionally trained interpreters and 31.9% preferred adult family members serving as interpreters. This is an interesting preference due to the fact that studies have found professional interpreters to be more accurate than ad hoc interpreters in the medical field (Flores, 2005). Comments regarding physical therapists' preference to use ad hoc family member interpreters included the insight that "family members were readily available, they knew the patient's personality, history, and home environment, and could also help the patient comply with the treatment requirements" (Hickey, 2001, p. 75). While studies in the field of medicine have indicated that ad hoc interpreters are not as appropriate as professional interpreters, perhaps in the physical therapy setting, there may be benefits (lower cost, higher availability) of using adult family members as interpreters. Finally, Hickey found that physical therapists experienced significantly less bonding and more frustration when treating LEP patients when an interpreter was not available (p. 77). The provider frustration expressed in the survey suggests that interpreter use may increase not only patient satisfaction during treatment encounters but provider satisfaction as well. Therefore, it is important to find out whether or not physical therapists in other geographical areas have access to and are utilizing interpreters when they are faced with language barriers.

In 2006, Lashandra T. Span conducted another study regarding language barriers in physical therapy practices located in Florida, collecting data from 113 participants. Span found that 69.9% of therapists participating in the study agreed that treatment outcomes with LEP patients were not as successful as outcomes with English proficient patients (p. 63). Forty-four of the therapists (38.9%) reported having access to

interpreting services only 0 to 10% of the time and 73.5% reported having difficulty accessing interpreting services when needed (p. 70). The study also found that many therapists feel using family members (82.4%) or friends (77%) to interpret was a "good option"; however, some comments from therapists revealed concerns regarding accuracy of interpretation when using untrained ad hoc interpreters (p. 73). This study confirmed Hickey's findings that many therapists consider the use of ad hoc interpreters an appropriate and practical option for overcoming language barriers. What remains to be studied is whether or not using ad hoc, untrained interpreters in the physical therapy setting maintains quality of care and is an effective and appropriate strategy when treating LEP patients.

In a small study conducted in Australia, six hospital physical therapists were interviewed to explore attitudes regarding health care interpreters and their services (Lee et al., 2005). The authors found attitudes to be "mostly negative" (p. 51). The therapists revealed that family interpreters were preferred over professional services, and that nonverbal communication or a bilingual staff member was typically used when family members were not available to interpret (p. 163). The main barriers to using professional interpreters were a lack of trust about the accuracy of interpreted messages, fear of decreased independence and autonomy in the therapist's practice, time constraints and perceived costs of providing professional services (p. 163-164). The attitudes regarding the use of professional interpreters were generally negative, but it is important to consider the sample size of the study. With only six participants, results cannot be generalized to all physical therapists; however, the attitudes revealed by Lee et al. do provide insight on

potential barriers to providing appropriate language services in physical therapy. Understanding therapists' attitudes toward the use of professional interpreters is important in order to create language service policy guidelines that are well supported and accepted by the physical therapy community.

Hickey, Span and Lee et al. found that language barriers did exist in physical therapy and that therapists often had limited access to professional interpreting services and frequently used ad hoc interpreters or no interpreters at all. Unfortunately, published research is limited on the subject of language barriers and interpreter use within the specific setting of physical therapy. Despite a thorough search of allied health and medicine research databases, studies on health interpreting in physical therapy were essentially non-existent. Although existing research is limited, the APTA Research Agenda, described by Goldstein et al., identifies several areas of research for development that could encourage studies on language barriers and language services in physical therapy (2011). The Research Agenda recommendations include goals such as "identifying contextual factors (eg, personal and environmental) that affect prognosis; determining the relationship between student cultural competency and clinical decision making; and determining disparities in the access to and provision of physical therapy and their impact on outcomes" (p. 171-173). The need for research has been established and time will tell whether or not the physical therapy community is able to provide more data regarding language barriers and interpretation methods (as a component of cultural competency and quality of care) in therapy settings. Additional research would lead to increased awareness of the challenges and strategies for overcoming language barriers

between physical therapists and their patients. The survey described below contributes to and expands on existing research in physical therapy regarding language barriers.

Survey Methods

Following the literature review, the Language Barriers and Interpretations Methods in Physical Therapy Survey (Appendix A) was created to collect data on the existence of language barriers experienced by local physical therapists. The survey was designed based on issues raised by the literature analysis that were determined to merit further exploration. Specific issues included the caseload percentage of LEP patients seen by physical therapists, the methods of interpretation used during encounters with LEP patients, barriers to providing professional services and specific effects of language barriers on the physical therapy encounter. The survey was limited to five questions in order to decrease the time commitment of potential therapist participants. A complete list of licensed physical therapists practicing in Washoe County, Nevada was obtained through the Nevada State Board of Physical Therapy Examiners. The list consisted of the name and business address of each individual physical therapist, sorted by business address zip code. The business address listed with each physical therapist name was used to compile a database of 44 outpatient physical therapy clinics and associated phone numbers. The survey aimed to collect data from outpatient physical therapy practices rather than therapy practices or departments housed within larger health organizations, so physical therapists practicing within hospital settings were excluded from the survey recruitment.

Phone calls were made to 44 outpatient physical therapy clinics and the Phone Recruitment Script (Appendix B) was followed to obtain e-mail addresses of physical therapists, to be sent the survey link directly, or e-mail addresses of clinics, to be sent the survey link for forwarding to clinic therapists. E-mail addresses of individual therapists or clinics were recorded in an excel spreadsheet as they were received during the recruitment phone calls. After the phone call recruitment of e-mail addresses, potential participants and clinics were sent the Survey Invitation E-mail (Appendix C), which contained the link to the survey. In total, the Survey Invitation E-mail and link to the survey was sent to 41 e-mail addresses (including both individual therapist and clinic addresses). Because some clinics requested that the survey link be sent to a central e-mail address for distribution, it is not known exactly how many individuals received the Survey Invitation E-mail and survey link.

Recipients of the recruitment e-mail had until August 15th, 2011 to complete the survey. Upon following the link, they were directed to the Survey Introductory Statement (Appendix D), which served as informed consent. The survey consisted of 5 questions and was expected to take no longer than five to ten minutes to complete. After the survey, participants viewed a thank you letter and their participation in the study was complete. The survey was created and conducted through SurveyMonkey.com. The Institutional Review Board at the University of Nevada, Reno approved the research protocol in May of 2011 (Appendix E).

The survey collected the following data: what percentage of the therapist's caseload was limited English speaking (LEP); which interpretation methods the therapist

used when treating LEP patients and which interpretation methods the therapist used *most* frequently; the greatest barrier to utilizing professional interpreting services; the therapist's perception of the effect language barriers had on the patient-provider relationship and treatment outcomes of LEP patients (a comparison between LEP patient treatment encounters and English proficient patient encounters).

For data analysis, an excel spreadsheet was downloaded from SurveyMonkey.com that contained all responses submitted. No identifiers were connected to responses at any phase of the study. Data was qualitatively analyzed and the results of the survey were examined for common themes and outliers and compared to results of previous studies on language barriers in health care and in physical therapy. The data were used to analyze the current existence and impact of language barriers in physical therapy clinics in Washoe County and to develop recommendations for further research and improvement of language services within this specific health setting and geographic area.

Survey Results

By collecting data from physical therapists in Washoe County about language barriers and interpretation methods during treatment encounters, the present study can begin to answer the following questions: Are language barriers a significant problem in this setting and county? If so, how are therapists attempting to overcome such barriers? Which interpretation methods (professional versus ad hoc) are being used with LEP patients? What is the biggest challenge (such as cost or time constraints) in providing professional interpreting services when necessary? And finally, how do treatment

encounters differ between LEP and English proficient patients? By providing answers to these questions, the present study contributes to the existing knowledge on language barriers in physical therapy and also provides new insight into challenges that therapists and clinics face in providing the best possible interpreting services to their LEP patients.

Distribution of the five-question Language Barriers and Interpretation Methods in Physical Therapy Survey (Appendix A) yielded 22 responses. The list of licensed physical therapists in the state of Nevada received from the Nevada Board of Physical Therapy contained 250 therapists, so the 22 respondents represented around 8% of all licensed physical therapists in Nevada. During recruitment of e-mail addresses, certain clinics requested that the link be sent to a main address to be forwarded internally. For this reason, it was not possible to track the total number of potential participants who received the link to the survey. Also, since identifying information was not collected from participants, it was not possible to determine if many therapists from one clinic completed the survey or if each of the 22 participants represented a unique clinic. If it is the case that several therapists from one clinic completed the survey, the results may be biased towards that clinic's specific resources and perspectives regarding language barriers and interpretation methods. The small sample size and inability to determine how many clinics were represented in the survey responses means that this study should be interpreted as exploratory rather than representative of the physical therapy community of Washoe County as a whole. Despite these limitations, some important observations can be made based on the survey results and comments made by participants.

Percentage of caseload represented by LEP patients.

The first survey question asked, "As an estimate, limited English proficient (LEP) patients represent what percentage of your total caseload?" Table 1 below gives total response counts and percentages for this question. Nine participants (40.9%) estimated that LEP patients constituted less than 5% of their caseload, and eleven participants (50%) estimated that LEP patients constituted between 5 and 14% of their caseload. The remaining two participants (9.1%) chose the 15 to 24% range as the best estimate for the percentage of LEP patients in their caseload. It is clear that physical therapists in Washoe County are seeing limited English speaking patients; however, it is difficult to assess the accuracy of these estimates for two main reasons. First, the question did not specify a specific time period, such as within the past year, the past five years, or the entire career of the therapist. Therapists who have experienced an increase or decrease in the percentage of LEP patients over the course of their career may have been unsure of how to answer the question. Second, unless the therapist and/or clinic happened to have data available on patient characteristics such as English language proficiency, the estimates given were based solely on the therapist's memory and ability to quantify their caseload make-up. Therefore, the accuracy of the estimates given is unknown. Despite its limitations, this question confirms that yes; physical therapists in Washoe County do treat LEP patients at least some of the time.

Table 1		
Question 1: Percentage of caseload represented by LEP patients		
Answer Options	Response Percent	Response Count
Not sure	0.0%	0
Less than 5%	40.9%	9
5%-14%	50.0%	11
15%-24%	9.1%	2
25%-49%	0.0%	0
Greater than 50%	0.0%	0
Totals (N=22)		22

Methods of interpretation used when treating LEP patients.

The second and third survey questions aimed to find out which interpreting methods the therapists had used before and which one method they used most frequently. All participants had used patient family member or friend ad hoc interpreters, sixteen participants (72.7%) had used bilingual health provider interpreters (physical therapists or physical therapist assistants/technicians), and twelve (54.5%) had used bilingual staff member interpreters (non-health professionals such as reception staff). Seven participants (31.8%) confirmed that they had used professional in person interpreters, while only two (9.1%) had used professional phone interpreters. Also, two participants had used technology/machine-based interpreting assistance (cell phone applications, internet translators, etc.). One participant commented that at his or her clinic there were two bilingual staff members who interpreted for Spanish-speaking patients when needed and that patients were asked to bring a family member or friend to assist if these two staff members were unavailable. Tables 2 and 3 give total response counts and percentages for these two questions. Results of this question show that many therapists have used ad hoc interpretation but few have used professional services when treating LEP patients.

Patient family member or friend ad-hoc interpreters were the most frequently used interpretation method among the survey participants. Over half (13 responses) of the therapists used this method most frequently out of all the methods, while only one therapist used a professional interpreter most frequently. Some participants used bilingual health provider interpreters (four responses, 18.2%) or bilingual staff member interpreters (three responses, 13.6%) most frequently. An interesting comment made by one participant was that his or her choice of interpreter was mostly due to "not always having advanced knowledge that the patient does not speak or understand English well." This is a factor that would surely affect a provider's ability to offer language services. Without previous knowledge of the patient's English language proficiency, a provider may not be able to provide appropriate language services at the time of the visit. In questions two and three, ad hoc interpreting by family and friends of the patient and interpreting done by clinic employees were the two most widely used methods.

Table 2

Question 2: Methods of interpretation used when treating LEP patients (all methods utilized at least once)

Answer Options	Response Percent	Response Count
Professional in person interpreters	31.8%	7
Professional phone interpreters	9.1%	2
Patient family member or friend ad-hoc interpreters	100.0%	22
Bilingual health provider interpreters (physical therapists or physical therapist assistants/technicians)	72.7%	16
Bilingual staff member interpreters (non-health professionals such as reception staff)	54.5%	12
Technology/machine-based interpreting assistance (cell phone applications, internet translators, etc.)	9.1%	2
Other (please describe in comments section below)	13.6%	3
Totals (N=22)		64
Note. Participants were able to choose more than one option for this question.		

Table 3		
Question 3: Methods of interpretation used when treating LEP patients (method utilized most frequently)		
Answer Options	Response Percent	Response Count
Professional in person interpreters	4.5%	1
Professional phone interpreters	0.0%	0
Patient family member or friend ad-hoc interpreters	59.1%	13
Bilingual health provider interpreters (physical therapists or physical therapist assistants/technicians)	18.2%	4
Bilingual staff member interpreters (non-health professionals such as reception staff)	13.6%	3
Technology/machine-based interpreting assistance (cell phone applications, online translators, etc.)	0.0%	0
Other (please describe in comments section below)	4.5%	1
Totals (N=22)		22

Barriers to providing professional interpreting services to LEP patients.

In question four, participants were asked what the greatest barrier to providing professional interpreting services to LEP patients was. Nine participants (40.9%) stated that the greatest barrier to providing professional interpreting services was lack of awareness of professional language services available in Washoe County. Five participants (22.7%) felt that the cost of providing professional language services would create a burden on their clinic, and four (18.2%) noted that during an average patient visit they did not have time to utilize professional language services. Two participants stated that they always use professional interpreting services. The comments section of question four provided interesting insight into attitudes regarding the responsibility of providing language services to LEP patients. One therapist stated, “They live in an English speaking country and should learn English.” Another participant echoed this attitude, stating, “I believe it is the client’s responsibility to have/arrange to have an interpreter if they do not speak or understand English; they signed up for insurance benefits with an

English based system in America." Similar to commentary from question three, a comment was made with question four that many times another person makes the appointment for a patient in English and does not indicate that the patient has limited English proficiency so the provider is unable to arrange appropriate language services in advance. Lack of advanced knowledge by providers that a patient is LEP is a challenge that was overlooked in the creation of the survey and is a relatively simple problem that could be fixed with consistent policy regarding how to find out patient LEP status before the initial appointment. The comments and the question responses showed that the main barriers to providing professional interpreting services among the participants were awareness of professional services in the community, time and money constraints, the lack of advanced knowledge regarding LEP status, and negative attitudes regarding the responsibility to provide language services to LEP patients.

Table 4

Question 4: Barriers to providing professional interpreting services to LEP patients

Answer Options	Response Percent	Response Count
Not applicable, I always use professional interpreting services with LEP patients	9.1%	2
I am unaware of the availability of professional language services in Washoe County	40.9%	9
There are too few professional language services available in Washoe County	0.0%	0
Using professional services would create a cost burden for me and/or the clinic in which I practice	22.7%	5
During an average patient visit I do not have time to utilize professional language services	18.2%	4
Other (please explain in comments section below)	9.1%	2
Totals (N=22)		22

The effect of language barriers on treatment encounters with LEP patients.

The final question of the survey asked participants to compare treatment encounters with LEP patients to treatment encounters with English proficient patients. Only two participants (9.1%) felt that there was virtually no difference between the two types of treatment encounters. All other participants found at least one major difference between treatment encounters with LEP patients and encounters with English proficient patients, including longer total treatment time (ten responses, 45.5%), less successful treatment outcomes (ten responses, 45.5%) and lack of patient understanding of treatment plans and home exercise instructions (nineteen responses, 86.4%). In addition, fifteen participants (68.2%) found treatment encounters with LEP patients to be more professionally challenging than encounters with English proficient patients. Comments made along with question five provided more detail on the challenges faced by therapists when treating LEP patients. For example, one participant observed that language dialect and education level were two factors that further complicate patient-provider communication with LEP patients. Another observation was that longer treatment sessions or similar length sessions occur with LEP patients in comparison to English proficient patients, but that "less is covered" during the session due to the interpretation required. This "delays the session and sometimes the apparent understanding of the treatment plan/home program" and is "especially difficult if the patient brings a minor to interpret." Responses to this question confirmed that, according to the therapist perspective, language barriers do often have a negative effect on treatment length and even outcomes.

Table 5		
Question 5: The effect of language barriers on treatment encounters with LEP patients		
Answer Options	Response Percent	Response Count
There is virtually no difference between the two types of treatment encounters	9.1%	2
Treatment encounters with LEP patients, on average, result in longer total treatment time	45.5%	10
Treatment encounters with LEP patients, on average, result in less successful treatment outcomes	45.5%	10
I believe that LEP patients do not always understand their treatment plans and home exercise instructions (when applicable)	86.4%	19
I find treatment encounters with LEP patients to be more professionally challenging than encounters with English proficient patients	68.2%	15
Totals (N=22)		56
Note. Participants were able to choose more than one option for this question.		

Summary of survey results.

The five-question survey found that, among the sample of 22 participants, physical therapists in Washoe County do treat LEP patients at least some of the time and that treatment encounters with these patients are generally more challenging and have less favorable outcomes than treatment encounters with English proficient patients. The response, “less favorable treatment outcomes,” means that in some cases LEP patients in physical therapy may experience less successful recovery and poorer health than English proficient patients. In the physical therapy setting, language barriers exist to some extent and are perceived to be detrimental to treatment outcomes. These findings are consistent with previous research on language barriers in health care.

Participants in this study reported that while many methods of interpretation have been utilized, the most common method used in treatment encounters is patient family member or friend ad hoc interpreters. The frequent use of family member or friend ad hoc

interpreters is consistent with previous research in the physical therapy setting by Hickey (2001) and Span (2006), discussed above, who both found that ad hoc interpreters were more available and even preferred by therapists. Participants recognized that time and cost constraints were significant barriers to providing professional interpreting services, and two added commentary reflecting a negative attitude toward the responsibility to provide such services. These results are similar to the previous study on therapist attitudes toward interpreters conducted by Lee et al. (2005), which found that negative attitudes and time and cost constraints affected therapists' willingness to utilize professional interpreters in their practice. Finally, the present study's finding that therapists do perceive negative consequences of language barriers on treatment encounters with LEP patients is consistent with previous research in physical therapy and medical settings. Overall, the findings of the Language Barriers and Interpretation Methods in Physical Therapy Survey both confirm and expand on existing research on this topic.

Discussion

The results of the literature review and survey suggest that, while the legal and ethical obligations to provide language services to LEP patients are clearly applicable to the physical therapy setting, more information is needed in order to establish evidence-based best practices within this setting. In other words, the best practices for providing language services in physical therapy are still unclear. Utilizing the four factors outlined in U.S. Department of Health and Human Services policy to determine the extent of language services that providers should offer LEP patients require data that have yet to be

collected on a large enough scale from physical therapy practices. For example, the first and second factors call for knowledge of the number or proportion of LEP patients encountered as well as the frequency of such encounters; however, the literature review uncovered only two large-scale studies regarding language barriers or LEP patients in physical therapy settings. In general, it is unknown how many LEP patients are being seen in physical therapy clinics and how frequently they are seen. The survey revealed that caseload percentages of LEP patients among the 22 Washoe County therapist participants ranged from less than 5% to 24%, but these data need to be confirmed on a larger scale in order to influence policy and best practices guidance within physical therapy.

Factor three requires that providers analyze the "nature and importance" of the health care service to the patients' lives (U.S. HHS, 2003, p. 47314). In order to understand the importance of therapy outcomes and the specific effects of language barriers in physical therapy, studies of clinical outcomes of therapy encounters with LEP patients need to be performed. There are limited data regarding the potential clinical importance of overcoming language barriers in physical therapy. Could it be that language barriers are not as potentially dangerous or as detrimental to treatment outcomes in physical therapy settings as in other medical settings, such as hospital emergency rooms? While the literature and the survey results both indicate that language barriers do have negative consequences for physical therapy encounters in general, the relative importance of the therapy outcomes on the lives of LEP patients is still unclear. The final factor considers the resources of the provider or clinic; this topic has not been addressed

as of yet in the physical therapy community. An analysis of resources, both monetary and administrative, is essential in creating policy goals that providers and clinics are realistically able to achieve. Survey results did indicate that cost is a perceived barrier to providing professional interpreting services (5 responses, 22.7%), so the cost burden of providing interpretation is an issue that needs further exploration. The four factors provided by the U.S. HHS are intended to help guide policy, but it seems that the physical therapy community does not have enough data available to utilize them well. A further understanding of the scope of the issue of language barriers and language services in physical therapy is needed in order for best practices to be established.

Despite a lack of established evidence-based best practices for providing language services in physical therapy, the literature and survey results do indicate that therapy encounters with LEP patients may benefit from the utilization of some sort of interpretation service. A common theme found in the literature and survey results was the potential benefit of and even preference for using ad hoc interpreters in resource-limited health settings. It is important to consider the challenges and disadvantages of using ad hoc interpreters (mainly regarding the quality of interpretation by untrained individuals) that have been found by many researchers in medicine (Flores, 2005; Gany et al., 2007a; Gany et al., 2007b; Moreno, Otero-Sabogal, & Newman, 2007; Regenstein, 2007). Although there are challenges such as accuracy of interpreted messages and confidentiality of patient information, certain types of ad hoc interpreting may be able to provide a lower cost language services solution to resource limited therapists and clinics. Limited research has been done on how ad hoc interpreters can be provided with just

enough training to overcome the risks found in previous studies (Flores, 2005; Gany et al., 2007a; Gany et al., 2007b; Moreno, Otero-Sabogal, & Newman, 2007; Regenstein, 2007). Also, there has not been any large-scale research on outcomes of ad hoc interpretation in the physical therapy setting specifically. The use of ad hoc interpreting in physical therapy is a relatively unexplored topic that could possibly influence the development of establishing the best practices for language services in physical therapy.

Perhaps the most useful information collected in the Language Barriers and Interpretation Methods in Physical Therapy Survey explains specific barriers to providing professional interpreting services. Understanding these barriers from the therapists' perspective is necessary in order to create policy guidance that therapists and clinics will actually utilize. One of the simplest barriers mentioned, not having advanced knowledge of LEP status of patients, could be easily addressed in policy guidance. Clinics and therapists could create consistent procedures that add one question to each initial contact with a patient (or person calling on behalf of the patient): what is the patient's level of English proficiency and preferred language? A simple study could be done to explore the most efficient and accurate way to indicate and record a patient's LEP status at the time their initial appointment is scheduled, and the results could be shared within the physical therapy community. Adding one small step to intake procedures may be a solution to this barrier.

Two other barriers to providing professional interpreting services are cost and time constraints. Cost and time barriers are not nearly as simple as the previously mentioned lack of advanced knowledge barrier. Money and time are limited resources in

health care practice, and if a provider does not understand the clinical importance of providing a service such as interpretation that may increase both the cost and time of a given encounter, it is unlikely that the provider will be willing to expend money and time to utilize the service in their practice. The perception by physical therapists (as reflected in the present survey as well as the surveys of Hickey in 2001 and Span in 2006) that professional interpreters are expensive and time consuming is one reason the role of ad hoc interpreters should be further studied. Ad hoc interpreting is a possible method of providing interpretation services at a lower cost. Another way to address time and cost barriers is to increase knowledge and awareness regarding potential benefits of using interpretation services and potential risks of allowing language barriers to persist. Increased knowledge and awareness among physical therapists could increase their willingness to spend time and money creating effective language services policy in physical therapy clinics. Comments made reflecting the perspective that LEP patients should bear the burden of providing language services or learning English show a basic lack of understanding of the ethical and legal obligations all health care providers have regarding linguistically appropriate care.

Increasing sensitivity to linguistic and cultural aspects of physical therapy care is an important step if therapists and clinics are going to create language services policy that improves care despite potential increases in cost or time of the therapy encounter. Perhaps local American Physical Therapy Association chapters could sponsor information sessions on language barriers and cultural sensitivity training in physical therapy. In addition, community health education organizations such as Area Health

Education Centers could disseminate information on language barriers and linguistically appropriate care to local physical therapists and clinics. An ideal publication or informational presentation would include information on the legal and ethical obligations to provide language services, the evidence-based best practices for providing such services in physical therapy and resources on language services available in the community. Increased knowledge and awareness is fundamental to improving cultural and linguistic sensitivity and driving policy change regarding language services in physical therapy.

Conclusion and Recommendations

The overarching purpose of research on language barriers and interpretation methods in health care is to find out how health providers and health organizations can offer the best possible language services to limited English proficient patients in a given treatment setting. Overcoming language barriers in physical therapy is of importance to patients, who seek quality treatment services, and therapists, who are legally, ethically and practically obligated to provide such quality services. As discussed in the literature review, research, law and policy guidance from a variety of scholars, agencies and organizations all confirm the importance of providing appropriate interpreting services to LEP patients. The remaining question is how this wealth of information and expectations regarding language barriers and health interpretation translate to the physical therapy setting.

The results of the literature review and survey of Washoe County, Nevada physical therapists lead to the following observations and recommendations. First, more

research is needed to accurately assess the effects of language barriers (such as specific impact on recovery and health status) and to establish the best practices for interpretation methods in physical therapy settings. Within this research, ad hoc interpreting should be explored thoroughly as a potential solution for resource limited clinics and therapists. Second, physical therapists need to be better informed and aware of issues regarding language barriers, interpretation methods and policy guidance. Future studies could focus on therapists' awareness of clinical guidelines regarding linguistically appropriate care. Establishing the physical therapy specific best practices in language services and informing the physical therapy community are important steps to ensure that a patient's care is not compromised based on his or her level of English proficiency. The issue of language barriers and interpretation methods in physical therapy needs to be addressed thoroughly in research, policy and practice to ensure that quality of care is maintained and therapy outcomes are equal for limited English speaking and English proficient patients alike.

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Language Barriers and Interpretation Methods in Physical Therapy Survey

1. As an estimate, limited English proficient (LEP) patients represent what percentage of your total caseload?

Please select your best estimate:

- ◯ Not sure
- ◯ Less than 5%
- ◯ 5%-14%
- ◯ 15%-24%
- ◯ 25%-49%
- ◯ Greater than 50%

Comments (optional)

2. During treatment encounters with LEP patients, which interpretation method(s) have you utilized (currently or in the past)?

Please check all that apply:

- ☐ Professional in person interpreters
- ☐ Professional phone interpreters
- ☐ Patient family member or friend ad-hoc interpreters
- ☐ Bilingual health provider interpreters (physical therapists or physical therapist assistants/technicians)
- ☐ Bilingual staff member interpreters (non-health professionals such as reception staff)
- ☐ Technology/machine-based interpreting assistance (cell phone applications, internet translators, etc.)
- ☐ Other (please describe in comments section below)

Comments (optional)

Language Barriers and Interpretation Methods in Physical Therapy Survey

3. Of the interpretation methods you indicated above, which do you use most frequently with LEP patients?

Please select one:

- ◯ Professional in person interpreters
- ◯ Professional phone interpreters
- ◯ Patient family member or friend ad-hoc interpreters
- ◯ Bilingual health provider interpreters (physical therapists or physical therapist assistants/technicians)
- ◯ Bilingual staff member interpreters (non-health professionals such as reception staff)
- ◯ Technology/machine-based interpreting assistance (cell phone applications, online translators, etc.)
- ◯ Other (please describe in comments section below)

Comments (optional)

4. In your opinion, what is the greatest barrier to providing professional interpreting services to your LEP patients?

Please select one:

- ◯ Not applicable, I always use professional interpreting services with LEP patients
- ◯ I am unaware of the availability of professional language services in Washoe County
- ◯ There are too few professional language services available in Washoe County
- ◯ Using professional services would create a cost burden for me and/or the clinic in which I practice
- ◯ During an average patient visit I do not have time to utilize professional language services
- ◯ Other (please explain in comments section below)

Comments (optional)

Language Barriers and Interpretation Methods in Physical Therapy Survey

5. In your experience, how does an average treatment encounter with a limited English proficient (LEP) patient compare to an average treatment encounter with an English proficient patient?

Please check all that apply:

- [ ] There is virtually no difference between the two types of treatment encounters
- [ ] Treatment encounters with LEP patients, on average, result in longer total treatment time
- [ ] Treatment encounters with LEP patients, on average, result in less successful treatment outcomes
- [ ] I believe that LEP patients do not always understand their treatment plans and home exercise instructions (when applicable)
- [ ] I find treatment encounters with LEP patients to be more professionally challenging than encounters with English proficient patients

Comments (optional)

Phone Recruitment Script

Language Barriers and Interpretation Methods in Physical Therapy
Recruitment Script
Phone calls to Washoe County clinics for physical therapist e-mail collection

Introduction

Honors Thesis:
Language Barriers and Interpretation Methods in Physical Therapy
Conducted by:
Honors Student Michelle Bowman, Student Researcher
Assistant Professor Daniel Cook, Principal Investigator
School of Community Health Sciences, University of Nevada, Reno

Short description of study

As part of this research project, we are collecting data on the existence of language barriers experienced between physical therapists practicing in Washoe County and their limited English-speaking patients. We are also trying to find out which types of language interpretation services are used by the physical therapists. To do this, we are conducting a short online survey of only 5 questions.

Survey information

The survey will be conducted via SurveyMonkey.com, an online survey provider. It should take no longer than 10 minutes to complete and the physical therapist's responses will be submitted confidentially. Responses will not be saved with identifying information such as e-mail address or IP address.

Ask for e-mails

In order to send out the survey link, we are asking therapists to voluntarily provide their e-mail addresses. The e-mails will not be shared with any third party and will be deleted from our records upon termination of the study. Could you please find out if the therapists at your clinic would be willing to provide their e-mail addresses for this study?

Follow up directions if necessary

Call back, leave message, set up phone appointment with clinic administrator, etc.

Thank you!

Survey Invitation E-mail

Language Barriers and Interpretation Methods in Physical Therapy
Survey Link E-mail Invitation

To: [e-mails collected during phone recruitment will be sent BCC]
From: Daniel Cook, PhD <UNRPTStudy2011@gmail.com>

Subject: UNR PT Survey 2011 - Please Complete

Body:

You have recently provided us with your e-mail address in order to be invited to participate in a study titled Language Barriers and Interpretation Methods in Physical Therapy, conducted by Assistant Professor Daniel Cook, Ph.D. and Honors Student Michelle Bowman at the University of Nevada, Reno.

We are collecting data on the existence of language barriers experienced between physical therapists practicing in Washoe County and their limited English-speaking patients. We are also trying to find out which types of language interpretation services are used by these physical therapists. To do this, we are conducting a short online survey of only 5 questions. We would greatly appreciate your participation in this survey, which will take between 5-10 minutes to complete.

Here is a link to the survey:
http://www.surveymonkey.com/s/UNRPTSTUDY2011

The survey will be open until August 31, 2011. You may follow the link and take the survey at any time, and your responses will not be connected to your name, e-mail address or IP address. Responses will remain confidential. Please reply to this e-mail address UNRPTStudy2011@gmail.com with any questions.

Thank you for your time and participation!

Language Barriers and Interpretation Methods in Physical Therapy Survey

UNIVERSITY OF NEVADA, RENO SOCIAL BEHAVIORAL INSTITUTIONAL REVIEW BOARD
CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF STUDY: Language Barriers and Interpretation Methods in Physical Therapy
INVESTIGATOR(S): Daniel Cook, Ph.D., PI and Michelle Bowman, Student Investigator

PURPOSE
You are being asked to participate in a research study on language barriers and interpretation methods in physical therapy services. The purpose of this study is to reveal the evidence-based recommendations regarding interpretation methods in health care and to compare these recommendations to current practice norms in the physical therapy setting. This research study will provide professionals in the field of physical therapy with an overview of linguistic issues in health care, focusing specifically on interpretation methods and outcomes.

PARTICIPANTS
You are being asked to participate because you are a physical therapist licensed in the state of Nevada and your business address, as listed by the Nevada Physical Therapy Examiner's Board, is within Washoe County. The total number of physical therapists being asked to participate in this study is 250.

PROCEDURES
If you agree to participate in this research study, you will be asked to complete the Language Barriers and Interpretation Methods in Physical Therapy Survey hosted by SurveyMonkey.com located at the following online address: http://www.surveymonkey.com/s/UNRPTSTUDY2011. You were asked to share your e-mail address with the student investigator in order for you to be e-mailed the survey link. The survey will provide the researchers with information regarding the existence of language barriers and the use of different interpretation methods in physical therapy practice within Washoe County. The survey consists of 5 questions and will take approximately 5-10 minutes to complete.

DISCOMFORTS, INCONVENIENCES, AND/OR RISKS
Participation in this study presents no more than minimal risk of harm. Survey questions will not ask you to provide information about specific patients. This is an anonymous survey and you will not be asked for any identifying information. Your e-mail address will not be used for any other purpose other than distribution of the survey link and will be permanently erased upon completion of the study. The privacy policy of SurveyMonkey.com ensures that any information collected from survey participants will not be shared with any third party other than the survey creator. There will be no connection between your identity and your responses to the survey questions. However, there may be unknown or unforeseen risks associated with your participation in this study.

BENEFITS
There may be no direct benefits to you as a participant in this study. However, the anticipated benefits to the field of physical therapy and to limited English proficient individuals include a better understanding of the prevalence and impact of language barriers in physical therapy as well as increased knowledge regarding the methods of language interpretation used by physical therapists in Washoe County.

CONFIDENTIALITY
Your identity will be protected to the extent allowed by law. You will not be personally identified in any reports or publications that may result from this study.

COSTS/COMPENSATION
There will be no cost to you nor will you be compensated for participating in this research study.

Language Barriers and Interpretation Methods in Physical Therapy Survey

QUESTIONS

You may ask about your rights as a research subject or you may report (anonymously if you so choose) any comments, concern, or complaints to the University of Nevada, Reno Social Behavioral Institutional Review Board, telephone number (775) 327-2368, or by addressing a letter to the Chair of the Board, c/o UNR Office of Human Research Protection, 205 Ross Hall / 331, University of Nevada, Reno, Reno, Nevada, 89557. Please e-mail UNRPTStudy2011@gmail.com if you have any further questions or would like a copy of the study results.

CLOSING STATEMENT

I have read this consent form or have had it read to me.

This consent form has explained the study to me and all of my questions have been answered. I have been told of the risks or discomforts and possible benefits of the study.

If I do not take part in this study, my refusal to participate will involve no penalty or loss of rights to which I am entitled. I may withdraw from this study at any time without penalty [or loss of other benefits to which I am entitled].

I have been told my rights as a research subject, and I voluntarily consent to participate in this study. I have been told what the study is about and how and why it is being done. All my questions have been answered.

By clicking the next button below and completing the Language Barriers and Interpretation Methods in Physical Therapy Survey that follows, I agree to the closing statement as written above.

Thank you for your time and consideration of participating in this research study.

University of Nevada, Reno

Office of Human Research Protection
205 Ross Hall / 331, Reno, Nevada 89557
775.327.2368 / 775.327.2369 fax
www.unr.edu/ohrp

Certification of Approval
Social Behavioral
Institutional Review Board

Date: May 17, 2011

To: Daniel Cook, PhD
School of Community Health Sciences / 0274

CC: Michelle Bowman
Division of Health Sciences / 0136

UNR Protocol Number:	**S10/11-112**
Protocol Title:	**Language Barriers and Interpretation Methods in Physical Therapy**
Sponsor Protocol Number:	**N/A**
Sponsor:	**None**
VA Research:	**No**
Flag VA Medical Record:	
UNR Assurance Number:	**FWA00002306**
IRB Number:	**IRB00000216**
Action Item:	**New Protocol: Social Behavioral**
Level of Review for Action:	**Expedited / Minimal risk**
Expedited Category:	**7**
Review Period:	**12 months**
Final Approval Date:	**May 17, 2011**
IRB Action Date:	**May 2, 2011**
Expiration Date:	**May 1, 2012**

This approval is for:
Protocol application, as revised, 05/11/11
Recruitment email invitation and telephone script, both as revised, undated
Information sheet, as revised, 05/11/11
Research instrument, online survey, as submitted, 05/11/11

PI responsibilities

- Continuing projects must be reviewed and approved prior to the expiration date.
- Proposed changes must be reviewed and approved by the IRB prior to initiation, except when necessary to eliminate apparent immediate hazards to subjects. Such exceptions must be reported to the IRB at once.
- Any unanticipated problems which may increase risks to human subjects or unanticipated adverse events must be reported to the IRB within 10 days of becoming aware of the issue.
- When the project has been completed, please submit a closure request 10 days after project completion to the IRB.

Please reference the protocol number above on all related correspondence with the IRB. If you have any questions, please contact Valerie Smith at 775.327.2368.

Chair, Vice-Chair, or OHRP Designee

Cert_exp