

DISPARITIES IN MINORITY HEALTHCARE AND IMPLICATIONS FOR THE FIELD OF
AUDIOLOGY

Capstone Project

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ABSTRACT

In recent years the minority population in the United States has grown to represent nearly a third of the total population. With this tremendous growth, the healthcare field must be prepared to meet the unique needs of this population to ensure the provision of appropriate and effective care to all patients. However, the research continues to demonstrate great disparities in minority healthcare in terms of both access to care and quality of services. Examples of disparities involving access to healthcare include lack of insurance coverage, insufficient access to medical specialty services, and lack of access to regular care. Examples of disparities in quality of care received include poor or reduced services resulting from cultural or linguistic barriers between patient and provider. As participants in hearing health care, audiologists must find ways to overcome obstacles in providing services to minorities so that all patients may receive the best care possible. In order to do this, audiologists must first gain an understanding and awareness of the overall extent of the stated disparities in the healthcare field. They must then look specifically at how these disparities impact the field of audiology. Only then can they successfully and effectively develop approaches to provide appropriate hearing health care to all patients regardless of race, ethnicity, religion, gender and socio-economic factors.

DEDICATION

I would like to dedicate this paper to my parents. Their overwhelming patience and support has made my time here at OSU possible.

ACKNOWLEDGMENTS

I would like to express my gratitude to the Ohio State University and the faculty who have helped me throughout my tenure here. I am honored to become a graduate of such a well-respected university.

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CHAPTER 1

Introduction

Access to healthcare and quality of services should be equal for all citizens in the United States regardless of race, ethnicity, religion, gender, and other cultural and socio-economic factors. However, throughout history, inequalities in minority healthcare have been well documented and continue to persist today despite numerous efforts to minimize them (Wienick et al. 2000). As the minority population in the United States continues to grow, it is increasingly important that all medical professionals work together to provide the most appropriate and effective care to their patients so that equal services can be obtained by all patients.

The American Medical Association (AMA) states a zero tolerance position towards racially or culturally based disparities in healthcare (AMA, 2010). As members of the medical field, audiologists share in this responsibility to provide equal and appropriate services to all patients, regardless of race, ethnicity, religion and other factors. The code of ethics of the American Speech-Language-Hearing Association (ASHA) requires that audiologists show “sensitivity to cultural and linguistic differences that affect the identification, assessment, treatment and management of communication disorders/differences” (ASHA, 2004). This clearly identifies the specific responsibility of audiologists to educate and prepare themselves to

work appropriately and effectively with individuals from all backgrounds to ensure they provide the best possible care to all patients.

A minority may be described as anyone who identifies themselves as different from the majority in the United States based on “ethnicity, race, religious beliefs, sexual orientation, socioeconomic levels, regionalisms, age-based peer groups, educational background, and mental/physical disability” (ASHA, 2004). More specifically, a racial minority been defined according to the U.S. government as those of Black/African American, American Indian/Alaska Native, Asian, or Hawaiian/North Pacific Islander heritage (USCB, 2007). An ethnic minority has been described as an individual who does not share in the universal identity or heritage of the majority (Banks, 1996). Issues discussed in this paper regarding minority healthcare focus primarily on disparities for these ethnic and racial minorities. However, discrimination in the healthcare field is documented throughout the literature for all minority groups mentioned by ASHA (2004).

As stated above, the need for healthcare equality for minority individuals is especially important today due to the tremendous growth this population has exhibited in recent years. According to the United States Census Bureau (USCB), the minority population reached approximately 100.7 million in the year 2007(USCB, 2007). This number is almost one-third of the U.S. population today and is expected to comprise half of the total population by the year 2050 (USCB, 2007). Although no specific literature is available to quantify the minority make-up of audiology patients, one can assume that the minority population of the US is also reflected in the overall population of audiology patients, and is too growing.

Several theories are offered throughout the research to explain why disparities in healthcare for minorities exist despite overall attempts to provide equal services to all (Garner et al., 1979; Ramkissoon, 2001; Brach & Fraser, 2000). Researchers generally agree that the problem is complex, stemming from numerous factors, both subjective and objective. The majority of issues in culturally or racially based healthcare disparities can be grouped into one of two categories: problems in access to healthcare, and problems in quality of care received.

Recognized explanations for the problems in access to healthcare for minorities include geographical restraints, lack of financial resources, lack of access to regular care, inability to access specialty services, and lack of insurance coverage (Goldberg et al., 2004; Fryer et al., 2000). Perhaps the most established of these explanations is the unequal distribution of wealth in the United States, seemingly correlated to race and ethnicity (USCB, 2007). If medical costs are prohibitive, individuals of lower income levels will have trouble accessing adequate healthcare. The implementation of federally funded programs, such as Medicaid, has helped to decrease the lack of access to healthcare but has far from eliminated it.

Theories explaining the causes for unequal quality of healthcare for minorities have drawn attention to cultural mismatches between patient and practitioner and the negative impact they can have on the delivery of healthcare. More specifically, this research explores how an individual's cultural background can influence their beliefs regarding an illness' cause and appropriate treatment, which ultimately affect their healthcare outcomes (deAndrade & Ross, 2005; Levy, 2002; Uba, 1992). Quality of care research specific to audiology focuses on the effect that linguistic barriers can have on the collection of test results (Ramkissoon, 2001). When test results cannot be completely or accurately obtained, quality of care will suffer.

The overall findings of the research reviewed in this paper show that an individual's cultural background may have a significant impact on their healthcare outcomes. These disparities in minority healthcare may be minimized if practitioners can demonstrate sensitivity and understanding of their patients' individual needs and find ways to adapt their practices to meet the unique cultural needs of minority patients. As with any patient in the general healthcare setting, patients in audiology have the expectation that their hearing healthcare needs will be met in the most appropriate and efficient way. As stated by ASHA and the AMA, all healthcare providers have a responsibility to meet these expectations regardless of any cultural barriers that may exist. Therefore, audiologists have a duty to understand how and why these inconsistencies in healthcare delivery occur for minority patients so that the necessary steps can be made to avoid them.

CHAPTER 2

Recognizing Health Disparities for Minorities

If audiologists are to uphold the zero tolerance position towards minority health disparities declared by ASHA and the AMA, they must take appropriate steps to prepare themselves to provide culturally competent services. In order to do this, a general understanding is necessary regarding what types of disparities exist in minority healthcare and how extensive these disparities are. Research that reports minority healthcare disparities in the overall field of healthcare is abundant. Unfortunately, research of this type is much more limited in the field of audiology. Therefore, in order to gain an understanding of what obstacles may be encountered in the provision of care for minority patients in the field of audiology, audiologists first must evaluate the research available regarding disparities in the overall healthcare field. They may then use their understanding of the disparities in the overall healthcare field to infer how these disparities may also impact the field of audiology.

Disproportionate access to healthcare and lower quality of services for minority groups has been reported throughout medical history for several years (DHHS, 1985; Mayberry et al., 2000; Weinick et al., 2000). In 1985, The United States Department of Health and Human Services (DHHS) released its Report of the Secretary's Task Force on Black and Minority Health, one of the first attempts to raise awareness regarding racial discrimination in the medical field. This report compared several areas of healthcare and disease rates for minority groups (including African-Americans, Hispanics, American Indians and Asian/Pacific Islanders) to the

non-minority group (whites) between 1979 and 1981. The report confirmed that minority groups experienced 60,000 “excess deaths” compared to whites within the three year time span. The term “excess deaths” referred to the number of total deaths within the population that would not have occurred had mortality rates equaled those of the non-minorities after groups were matched for age and sex specific factors. Mortality rates were found to be especially disproportionate in the areas of cancer, cardiovascular disease, cirrhosis of the liver, diabetes, homicide and unintentional injury, and infant mortality.

In 2000, Mayberry et al. published a follow-up study to the DHHS report, attempting to demonstrate how the healthcare field has changed, if at all, since the DHHS report was completed. The results of their study were mixed. While overall access to healthcare had increased for all US citizens, the improvements for minority groups were relatively minimal.

A study by Weinick and colleagues (2000) further confirmed Mayberry’s findings. Weinick et al. found that from 1977 to 1996 there was an overall increase in health insurance coverage among U.S. citizens of approximately 2.2%. However, the rate of health insurance coverage among Hispanics actually decreased during this twenty year span. Furthermore, they found that the overall rates of coverage for Hispanics and African Americans were consistently less than half of what it was for whites.

Other studies have demonstrated the discrepancies in healthcare access for minority groups in specific medical specialty areas. Flores & Vega (1998) researched access to pediatric healthcare among different minority groups and found that 26% of Latino children were uninsured compared to only 10% of white. They also found that Latinos were far more likely to experience inconsistent coverage compared to those in the non-minority group. The Mayberry

study, discussed earlier, found that access to healthcare in areas such as diabetes management and cancer screenings was equal among all races. However, access to HIV/AIDS management, cancer surgery and cardiac care services for minorities was much lower for minority groups. Drum et al. (1998), studied dental care access for minorities and reported that Hispanics, African-Americans and Native Americans consistently experienced a higher number of dental carries and permanent tooth extractions due to a lack of access to primary dental care. Tooth decay and periodontal disease rates were also found to be much higher among minority groups.

Other research studies have also confirmed these considerable disparities found in healthcare access, demonstrating how widespread the disparities are (Gornick et al., 1996; Hannan et al., 1999; and Waidmann & Rajan, 2000). As audiologists attempt to understand the extent of these disparities, they must also look at the possible reasons why the disparities exist. As mentioned before, these disparities can generally be grouped into one of two categories: issues in access to healthcare and issues in quality of care received. These categories will be discussed in further detail below with emphasis on specific areas of interest in the literature.

Disparities in Access to Healthcare: Medicaid

Access to healthcare is an individual's ability to obtain services related to the prevention, treatment and management of illness. This refers to both the availability of healthcare personnel and supplies as well as the ability to pay for those services (. As discussed previously, there are several factors that may inhibit access to healthcare such as geographical restraints, lack of financial resources, lack of access to regular care, and lack of insurance coverage (Goldberg et al., 2004; Fryer et al., 2000). Of these, financial restraints seem to be the most established reason for the lower access to healthcare for minorities. This is tied to the unequal distribution of

wealth among U.S. citizens which seems to be heavily correlated to race and ethnicity (USCB, 2009). Many individuals belonging to minority groups, such as African-Americans and Hispanics, experience lower annual incomes compared to members of the non-minority population (USCB, 2009). These citizens who fall within the lower brackets of financial income will qualify for a federally funded program known as Medicaid.

According to the U.S. Department of Health and Human Services, Medicaid is a state administered program available to low-income individuals and families who could otherwise not afford healthcare costs on their own. It is funded jointly by the state and federal governments. The program pays an agreed-upon amount for healthcare services directly to the providers after health services have been rendered. The overall goal of Medicaid is to provide all individuals equal opportunity to access healthcare so that disparities in healthcare are minimized (DHHS, 2010).

Although the overall goals of Medicaid are promising, there are several shortcomings of the program. For reasons which will be discussed, many physicians do not accept Medicaid as reimbursement, which makes it difficult for individuals under Medicaid to acquire services. Garner and colleagues (1979) reported that only 42% of a representative sample of physicians in Mississippi participated in the Medicaid program. Perloff et al. (1995) found that less than half of Medicaid participating providers surveyed were accepting all Medicaid patients, and only about one-third of surveyed primary care physicians were accepting all Medicaid patients.

The reasons for such low participation rates in the Medicaid program are numerous. In the Garner et al. (1979) study, the number one reason reported by healthcare providers for not accepting Medicaid was low reimbursement. As stated above, Medicaid will pay practitioners an

agreed-upon amount for services rendered. Garner et al. (1979) argue that this agreed-upon reimbursement rate is sometimes so low that healthcare providers who participate in the Medicaid program must sometimes provide services for free or even at a cost to their practice. Berman and colleagues (2002) demonstrated this issue in their study which found that states with greater compensation for services had higher provider participation in the program. For example, North Dakota had relatively higher reimbursement rates and had a participation rate of 96%, while Tennessee, a state with poor reimbursement, had a participation rate of only 19.6%.

Another reason that might deter a healthcare provider from participating in the Medicaid program is the excessive amounts of paperwork necessary to treat these patients. This factor was listed as the number two reason given by providers who do not accept Medicaid in the Garner (1979) study. Additional deterring factors reported by providers included patient abuse of the program, poor administration of the program and federal encroachment into the healthcare system resulting in compromised quality of medical care. While many healthcare providers understand and recognize the benefit of the Medicaid program for families from a lower socio-economic status, the benefits of serving this population simply do not outweigh the cost for most providers. Therefore, patients on Medicaid experience extremely limited sources for receiving necessary medical care, and are many times put on a waiting list at primary care facilities who do accept Medicaid. According to the Garner et al. (1979) study, patients looking for services at specialty care facilities may experience an even more difficult time finding providers who accept Medicaid. Gardner et al. found that specialty physicians were almost half as likely to participate in the Medicaid program as compared to primary care physicians.

Disparities in Quality of Healthcare: Cultural and Linguistic Barriers

Research focusing on subjective reasons for quality of care disparities in minority healthcare has reported largely on how an individual's cultural views regarding medicine may influence patient-clinician relationships and healthcare outcomes (deAndrade & Ross, 2005; Levy, 2002; Uba, 1992). Cultural views regarding the cause and treatment of illness are typically dictated by one's background, including physical, social and linguistic attributes. These cultural views may not always coincide with the western medicine typically practiced by healthcare professionals in the United States. Therefore, as professionals working in a medical environment based on western medicine, audiologists must be aware of these factors when encountering a patient whose cultural beliefs regarding healthcare do not match the western model of medicine. They must, furthermore, be prepared to provide appropriate and effective treatment to these patients in a culturally sensitive manner. In audiology, specifically, providers must be aware of cultural factors that may influence the hearing healthcare and audiological treatment of our patients.

Differing cultural views regarding the cause and treatment of disease have been researched and reported in the literature for a variety of cultures. Some report attitudes that differ only slightly from those of western medicine, while others differ drastically. For example, Uba (1992) described a Southeastern Asian culture who attributed serious and chronic illness to factors such as a weakening of nerves, an imbalance between yin and yang, an obstruction of chi (life energy), being cursed by an offended spirit, failure to be in harmony with nature, or punishment for immoral behavior. Occasionally, they reported utilization of western medicine for mild illnesses that they believed to be organic in nature and that could be cured by fast-acting antibiotics. However, for the treatment of more serious and/or chronic diseases caused by the

elements above, they relied almost exclusively on traditional healing methods dictated by their culture. Overall, it is the belief of this culture that most serious and chronic illnesses are non-organic in nature and, accordingly, the treatment that is necessary is one that will address a nonorganic cause. Of these traditional healing methods, the use of religious healers (shamans), herbal remedies and rituals were among the most common.

In a study by Salas-Provance & Erickson (2002), slightly different beliefs were found among individuals of the Hispanic culture. This culture, they explained, tended to attribute illness to such things as an imbalance of hot and cold, having flies in the house, premonitions during pregnancy, past transgressions and a type of hexing called the “evil eye”. Other studies also report on the hot and cold imbalance theory of illness among various Mexican cultures and also add such factors as “bad air,” frightening situations and stress to common causes of disease and illness (Martinez and Martin, 1996; Castro et al., 1984). The Mexican culture was found to have slightly higher utilization of western medicine than some other cultures, but still rely heavily on traditional healing methods for the treatment of more severe or chronic illnesses. These treatments include such things as herbal remedies, religious and spiritual healing known as “spirit cleansing” and ritual *limpia*, which is used to expel negative or evil charges that the patient has picked up (Salas-Provance and Erickson, 2002).

Individuals of the Ethiopian culture reportedly also blame elements such as the evil eye and imbalances between hot and cold for many medical abnormalities, but also add that exposure to wind may cause aches and pains, sexually transmitted diseases are a consequence of urinating under a full moon, hepatitis occurs when a bat or a bird flies above your head, and excessive sunlight can cause earaches (Hodes, 1997). Their traditional healing methods include the use of traditional healers or consumption of holy water, as well as more specific practices such as

uvulectomy to prevent suffocation during pharyngitis in babies, the extraction of lower incisors to prevent diarrhea, the incision of eyelids to prevent or cure conjunctivitis, and the act of “cupping” to relieve chest pain.

Although there is little in the literature reporting on specific cultural beliefs regarding the cause of auditory pathology, one can assume that any of the conditions or factors mentioned above may be believed to cause hearing loss or deafness in its respective culture. deAndrade & Ross (2005) reported the views of a South African culture regarding their beliefs about the cause and appropriate treatment for hearing loss. They found that, within this culture, the supernatural was often thought to be the cause as well as the cure for deafness. Audiologists must therefore be aware that these differences in beliefs regarding the cause of illness may also reflect their belief about the etiology of their hearing loss. These beliefs, in turn, may affect the audiological interventions the patient is willing to accept to treat their hearing loss.

Many examples have been provided regarding the differences in cultural beliefs regarding cause of illness that inherently influence the resulting treatment. However, audiologists must also be aware that while a culture may share western-based beliefs regarding the cause of an illness, their ideas about the treatment of an illness may still differ. This idea relates specifically to individuals of the Deaf culture, a culture that has ties to the field of audiology yet has fundamentally different opinions regarding hearing healthcare. Individuals of the Deaf community agree with the views of western medicine regarding the various causes of hearing loss. However, their views regarding treatment (or non-treatment) are based in their own cultural beliefs and are quite different from the view of western medicine. This is because individuals of the Deaf culture embrace their deafness as a difference on which their culture is based, rather than considering it a medical disability that requires treatment. Therefore, many

will reject treatment from an audiologist, some viewing it as a threat to their culture. Many Deaf individuals will even pray that their children will be born deaf, as they believe this will allow them to share in the culture of the Deaf community (Levy, 2002). This difference in cultural beliefs between audiologists and their Deaf patients may cause frustration from both parties. The audiologist may see it as their goal, and even their ethical duty, to treat their patient's communication disorder so that they can become successful members of the "hearing" culture, whereas the Deaf individual's goal is to maintain his or her deafness and, thus, their cultural identity (Meador & Zazove, 2005).

As has been shown, a large contributing factor to the lack in utilization of western medicine among various cultural groups can be attributed to the differences in beliefs regarding the cause and appropriate treatment for illness. Uba (1992) offered an extended explanation for this by commenting on the distrust of western medicine by various cultural groups. Individuals in these groups, she explained, may seek western health care only after more traditional techniques of treatment have been tried and failed. The resulting delay in seeking western medicine may mean that treatment is provided too late and therefore is not successful. "From the patient's perspective, someone he or she knew sought western health care and died." She states that many of these individual's may consequently associate western medicine with death. The result of these occurrences is an overall distrust of western medicine that Uba (1992) suggests may not be completely warranted.

Another largely documented barrier in the delivery of quality healthcare for minorities is the implication that language barriers between patient and practitioner may have on the provision of services (Jacobs et al.,2004). When language barriers exist between patient and practitioner, misunderstandings can occur which can, in turn, cause errors in proper diagnosis and treatment

of medical ailments. Misunderstandings may also cause patients to unintentionally disregard or misinterpret directions regarding prescriptions, treatment instructions or follow-up requests. In the least, the inability to communicate effectively due to a language barrier may negatively affect the overall healthcare experience by causing undue stress and frustration for both the patient and practitioner. The use of interpreter services is considered necessary when language barriers exist in the healthcare field, however, in certain circumstances testing procedure which rely on English proficiency of the patient may still be negatively affected (Langdon, 2002; Ramkissoon, 2001).

Examples of these types of circumstances can be found abundantly in the field of audiology (Ramkissoon, 2001). This is due to the fact that aspects of the basic audiological test protocol rely on the English proficiency of the patient. When audiologists are confronted with a patient whose native language is not English, these aspects of the assessment may be difficult or impossible to obtain, even if interpreter services are available.

One of the largest obstacles audiologists face when attempting to do an audiological assessment of patients with differing linguistic backgrounds is speech testing. Two of the most commonly used speech tests in audiology are the speech recognition threshold (SRT), and the word recognition score (WRS) (ASHA, 1988). These two tests are part of the basic audiological test protocol for all patients and give clinicians vital information regarding hearing status. When these test results cannot be obtained due to a language barrier, essential information related to the diagnosis and treatment of hearing loss is lost.

The SRT is a test that obtains the lowest sound intensity level at which a listener can just begin to recognize spoken words. Two major functions of the SRT are to confirm pure tone

thresholds of the audiogram and to help determine how hearing aids should be programmed if the patient requires them (ASHA 2008). In the United States, this test is typically presented in English, based on the first language of the audiologist performing the test (Ramkissoon, 2001).

The WRS is a test that obtains the percentage of words a listener can correctly identify at a pre-determined supra-threshold level. This score is used for a variety of different reasons, including the identification of retro-cochlear pathology, the prognosis for success with amplification, the verification of hearing aid benefit, and the detection of possible pseudohypoacusis (ASHA, 2008). In the United States, this test is also typically administered in English.

The SRT and WRS are two of the more commonly used tests used in audiology that depend on the patient's proficiency with the English language. However, there are numerous other tests in audiology that use spoken English stimuli, and the administration of these tests may also be compromised when linguistic barriers exist. Speech audiometry results are not considered to be accurate or valid if the patient is not tested in his or her first language (Ramkissoon, 2001). Therefore, when confronted with a patient who has limited proficiency in English, these important speech tests are usually just omitted from the test protocol, resulting in the loss of important audiological information. It is not practical to expect all clinicians to be skilled in the language of the patient in order to both produce the words of the test (if using monitored live voice), and to determine whether the patient has repeated the stimulus correctly. Therefore, even if testing is administered in the patient's native language via pre-recorded CD, the audiologist may not be able to accurately determine if the word was repeated back correctly if the audiologist is not familiar with that language (Ramkissoon, 2001). If audiologists are to provide appropriate and equal care to all of our patients, and abide by the guidelines stated by

ASHA and the AMA regarding minority healthcare, alternative methods of testing for these linguistically diverse individuals must be evaluated so that accurate and complete diagnostic testing can be performed.

CHAPTER 3

Research Evaluation: Overcoming Cultural Disparities in the Delivery of Healthcare to Minorities

Whether the reason for healthcare system underutilization stems more from a difference in beliefs or an inability to access services, it is evident that there is a need for increased cultural awareness and competency among healthcare providers regarding such issues if the zero tolerance positions stated by ASHA and the AMA are to be upheld. Once an awareness of these disparities within the healthcare setting has been reached, and possible causes for these disparities have been examined, solutions that will allow us to overcome these disparities must then be evaluated.

As discussed, the problem of inequality in the healthcare system is complex and can be subjective in nature. Therefore, it may be unreasonable to believe that all biases in medicine can be eliminated. However, several suggestions have been proposed throughout the literature to minimize these inequalities as much as possible. These suggestions will be explored in detail below.

Brach and Fraser (2000) discussed the need for increased cultural awareness among medical professionals and outlined nine specific ways to meet the need for cultural competency in the healthcare field. Of these suggestions the use of an interpreter, the implementation of multicultural educational curricula in the medical field, and the implementation of traditional

healing methods into treatment plans are particularly relevant to the issues outlined in this paper. These ideas, along with others found in the literature, will be discussed in detail as they pertain to the medical field as well as the field of audiology.

First, Brach and Fraser (2000) suggest the use of interpreter services when a language discrepancy between patient and clinician exists. The use of interpreters, he argues, is essential in ensuring that important medical information is communicated effectively. According to ASHA (2004), the use of an interpreter or translator is necessary when a language barrier exists between patient and clinician. Furthermore, the ASHA position paper stipulates that the “knowledge of two languages is not sufficient to qualify someone as an interpreter. Interpretation and translation are complex processes requiring in-depth knowledge of two languages and two cultures, familiarity with specific vocabulary, and understanding of procedures used in a given profession” (Langdon, 2002). This idea reflects the use of a cultural broker, an individual who has competency in both the linguistic and cultural backgrounds for whom they are translating. The National Center for Cultural Competence (2003) also supports the use of a cultural broker and argues that only cultural brokers have knowledge about the historical, social, economic, and generational issues within a culture. For this reason, they suggest that the use of a cultural broker is most appropriate because their knowledge in these areas will help a clinician relate to his or her patient in a more appropriate and culturally sensitive manner. Through the help of a cultural broker, a clinician will not only be able to bridge the linguistic gap between herself and the patient, but may also be able to gain an understanding of the patient’s cultural perspectives which may influence how they make their medical decisions. Having this knowledge can be essential when determining the best treatment plan for that individual patient. The use of a cultural broker may also help to avoid any misunderstandings

that may unintentionally be generated due to cultural differences. It is therefore important that audiologists understand that cultural and linguistic differences are not equivalent, and the use of a cultural broker is the optimal way to effectively overcome both cultural and linguistic barriers in order to communicate health related information.

Langdon (2006) reported specifically on the use of interpreter services within the field of audiology and speech language pathology. She discussed unique knowledge and skills that are desired in an interpreter being utilized in the field of communication disorders. First, she discussed the need for an interpreter to have basic knowledge of communication disorders and hearing loss in order to effectively translate specific medical terminology relating to hearing loss and amplification to the patient. Next, she stressed the fact that an interpreter must also have knowledge and skills related to effective communication strategies used when speaking to and interpreting for the hearing impaired. Langdon also agreed with the idea suggested above, that a cultural broker may be beneficial in audiology. More specifically, she stressed the particular need for the use of a cultural broker anytime an audiologist works with an individual of the Deaf culture. This need, she explained, is based on the differences that the Deaf individual may have regarding family relationships, educational expectations of individuals within their culture, understanding and acceptance of various disabilities and differences in general medical beliefs.

The need for cultural competency training programs within the medical field is the second recommendation offered by Brach and Fraser (2000). They report that the goal of these programs is to increase cultural awareness, knowledge, and skills leading to changes in staff behavior and patient-staff interactions. Brach and Fraser's idea of implementing cultural competency training programs within the medical field is certainly not unusual. Other studies have recently examined the implementation and perceived benefit of such programs. For

example, Jaurez et al. (2006) assessed the effectiveness of a yearlong multicultural curriculum on a group of second-year family medicine students. The curriculum focused on developing cultural humility by increasing student awareness of potential cultural differences regarding medicine. After completing the curriculum, it was shown that the students demonstrated more mutual respect for patients of non-traditional backgrounds, more partnership with patients in treatment planning and agenda setting, more concern with patient perceptions related to their illness, and an increased awareness of how their own personal beliefs, values and biases may impact the quality of care given. Numerous other studies have shown similar benefits of cultural competency education and further prove that these types of training programs are beneficial and necessary in preparing students in all specialties to work in an increasingly diverse medical environment (Godkin & Savageau, 2001; Culhane-Pera et al. 1997).

Another consideration Brach and Fraser (2000) suggest is the need for medical professionals to coordinate elements of traditional healing alongside the use of western based medical care when necessary. As previously discussed, many cultures rely on more traditional forms of healing in order to overcome illness and chronic disease, and the healthcare provider must take this into consideration. Brach and Fraser (2000) suggest that the compromise of healthcare providers to incorporate traditional methods of healing into their treatment regimen may enhance mutual respect and trust between patient and provider. This may, in turn, increase the chances that patients will adhere to prescribed treatment recommendations and follow-up. In audiology, this may imply speaking with patients about alternative therapies in conjunction with prescribed audiological treatment for the management of their hearing loss if the patient expresses such desire. In no way should audiologists minimize the need for appropriate methods of audiological treatment, whatever they may be. However, they should be willing to recognize

the cultural drive for some patients to seek alternative treatments and be willing to incorporate these methods into the treatment plan if it will not negatively affect the patient's wellbeing.

Other pertinent topics that have been explored by Brach and Fraser, as well as others in the literature suggest that cultural considerations in healthcare can be addressed through use of community health workers, the recruitment and retention of minority staff, the inclusion of family and community members in treatment decisions, the use of culturally competent health promotion, and the administrative and organizational accommodation based on cultural needs of the community and patient caseload (Brach & Fraser, 2000; Campbell, Brennan & Steckol, 1992).

In order to gain an understanding of our patient's cultural beliefs regarding traditional healing methods, Kleinman (1980) published a series of eight questions that he believed every clinician should ask of their patients during the initial case history. These eight questions are meant to assess the patient's views regarding specific culturally-based details of their illness that a healthcare provider may not typically inquire about. The answers to these questions, he states, may provide useful information regarding the patient's healthcare beliefs. An awareness of these beliefs may then lead to a better understanding of the patient and increased cooperation between patient and provider.

Kleinman's questions, which focus on general medical evaluation of disease, can be manipulated to be effectively used in the context of patients seeking audiological services. For example, Kleinman (1980) suggests asking patients such things as "what do you think has caused the problem?" and "why do you think it started when it did?" In audiology, these questions can be made more specific to hearing healthcare by asking "what do you think has caused you to lose

your hearing?” and “why do you think your hearing loss started when it did?” These questions can help audiologists determine whether their patient has views about their illness that may, for example, include non-traditional beliefs regarding evil spirits and/or negative elements of nature. Audiologists may use these questions to gain a better understanding of their patient’s beliefs regarding their hearing loss as well as to help determine what types of audiological treatment they may be willing to accept.

As mentioned previously, linguistic barriers in audiology should ideally be addressed through use of a cultural broker (Langdon, 2002). However, the literature has discussed that accommodating linguistic differences in the fields of audiology can be complicated since some aspects of the basic audiological test battery rely on the patient’s ability to reproduce English stimuli (Ramkissoon, 2002). Therefore, utilization of interpreting services for these specific test situations offers limited help. For these specific circumstances, audiologists must evaluate the research related specifically to barriers in speech testing methods in audiology. Fortunately, research related to this topic seems to be one of particular interest in the field and studies have been performed to evaluate alternative clinical methods for obtaining speech testing scores for non-native speakers of English (Ramkissoon, 2002; Cummins 1981).

One of the more popular and accepted research studies by Ramkissoon (2002) and colleagues suggests that SRT testing of non-native speakers of English should be obtained through “digit speech recognition” testing. This type of testing is carried out in the same manner as the typical SRT, by presenting stimuli to the patient at progressively lower intensity levels until threshold is determined. However, instead of using the typical two-syllable spondee stimuli, the numbers 1-10 (excluding the number 7, as it is disyllabic) are presented in pairs. For example, the stimuli could be “six-two”, “three-eight”, “one-five”, etc. (An example of a digit

word list is included in the appendix). When presented in pairs, these numbers mimic the two-syllable spondees used in traditional SRT testing. The theory behind this method is that non-native speakers are typically more familiar with numbers than they are with spondees. As stated by Cummins (1981), new language learners presumably acquire knowledge of digits early on because transactions involving numbers and money are a necessity in daily life situations. Of course, as Ramkissoon (2001) points out, the ability of the speaker must be evaluated for familiarity with English digits before testing is carried out. However, an individual who is relatively unfamiliar with the English language will most likely have the greatest chance of being familiar with digits, as opposed to other English stimuli.

In order to test the validity of the digit speech recognition test on non-native speakers of English, Ramkissoon (2002) and colleagues studied a group of twelve non-native speakers of English. First, each patient's pure tone average (PTA) was determined by taking the average of the patient's pure tone thresholds at 500 Hz, 1 kHz, and 2 kHz. Each subject was then administered the traditional SRT test and the digit speech recognition test. Finally, results from the SRT and the digit speech test were then compared to the patient's PTA to determine the degree of correlation. Traditionally, the SRT and the PTA must be within 5dB of each other in order to demonstrate test validity. The results of the study revealed that the Spanish-speaking participants demonstrated greater correlation with their PTA when administered the digit speech recognition test. Lower correlation was found when the patients were administered the traditional spondee list in English. These results indicated that that digit speech recognition testing was most appropriate and valid as a measure of speech recognition threshold for non-native speakers of English, when compared to the traditional English spondee stimuli. This study by Ramkissoon (2002) and his colleagues is the most recent and most referenced data on

digit speech recognition testing of non-native speakers of English. However, the use of digit recognition to test speech reception ability in non-native speakers of English is not new and has been researched and validated numerous times by other professionals in the field. (Rudmin, 1987; Brinkmann, 1997; Siegenthaler, 1964)

Other methods of obtaining SRT for non-native speakers of English have also been examined. Spondee lists in other languages have been created that attempt to have similar validity compared to the English spondee word list. For example, Harris (2007) and his colleagues developed a digitally recorded spondee CD for native speakers of Taiwan Mandarin. Ramkisson (2001) warns, however, that if the audiologist is not familiar with the language being evaluated, accurate scoring may be difficult since the audiologist is responsible for determining whether the word has been repeated back correctly by the patient. This may be difficult for the audiologist if they are not familiar with the words being repeated and the various sounds of the language.

Others have suggested using only a subset of the English spondee word list that includes only those words which are pre-determinedly known by the patient. Ramkisson (2001) however, points out that audiologists using this method must be aware that reducing the set size of words being presented may decrease the validity of the test and yield more sensitive SRT's than would be expected.

Another alternative is that a speech perception test be administered in place of the SRT. This test simply asks the patient to indicate whether the spoken word was heard, but does not require the patient to repeat the stimulus back to the audiologist. This test can give information about the ability of the speaker to hear that speech is present, but does not give much information

on the understanding ability of speech near threshold levels. Overall, the research has suggested that digit testing is the most valid alternative to obtaining SRT-equivalent results in non-native speakers of English.

The majority of the literature that evaluates speech testing methods in non-native English speakers has focused on methods of obtaining speech recognition thresholds (SRT). However, since the WRS is also traditionally obtained using English stimuli, it could be inferred that these scores may, as well, not be completely representative of the patient's actual word understanding ability when a language discrepancy exists between the patient and the test material. The research pertaining to word recognition scores (WRS), however, has been limited and inconclusive. Some studies have confirmed that non-native speakers of English perform poorer on word recognition testing when it is administered in their second language (Trimmis, 2007). However, some research argues that word recognition scores are not significantly affected enough to be considered invalid (Gat, 1978). This research suggests that, since the test is administered at levels which are pre-determined to be most audible to the patient, scores obtained using English stimuli on non-native speakers of English are reasonably representative of the audibility of the stimulus to the patient rather than their vocabulary knowledge (Gat, 1978).

In addition to the WRS and SRT, tests that are not typically part of the basic audiological test protocol may sometimes need to be administered in order to obtain a more thorough understanding of the patient's auditory abilities. Some of these tests include the Speech in Noise Test (SPIN), The Hearing in Noise Test (HINT), and some aspects of the central auditory processing test battery (CAPD) (Bilger et al., 1984; Nilsson et al., 1994; ASHA, 1995; Keith, 1986). These tests may be a necessary supplement to the basic audiological assessment protocol

in order to assist in the diagnosis and treatment of the patient. However these tests are administered in English as well, and rely on the patient's ability to repeat English stimuli. Therefore, a patient's limited English proficiency can have an effect on the test results (Lopez, 1997; Danhauer, 1984). Studies related to these tests are extremely limited, but one may assume that research in this area will soon surface out of the extreme necessity.

CONCLUSIONS

Mutual respect and understanding for healthcare concerns for all patients should always be of the utmost importance. Cultural minorities comprise nearly one third of the total population in the United States today, and that number is expected to grow rapidly within the coming years. For members in the audiology community, this means that patient populations will most likely include those from culturally diverse backgrounds. As professionals in the healthcare environment, the AMA and ASHA require that audiologists provide culturally competent services to all patients. This means that audiologists must take responsibility for these disparities seen in minority healthcare. The research has provided numerous examples to illustrate why every patient must be treated as an individual with unique needs and concerns. Furthermore, it has demonstrated that healthcare providers must consider how an individual's cultural background can persuade their healthcare outcomes. The information presented in this paper represents only a few of the major concerns with minority healthcare. Further research is needed in this area, particularly within the field of audiology, in order to fully understand why these disparities exist and how they may be overcome. With further research on this issue and a greater emphasis on cultural competency among healthcare professionals, these disparities in minority healthcare may begin to diminish.

LIST OF REFERENCES

- American Medical Association (2010). Report on racial and ethnic disparities in health care. B of T report 50-I-95. Available from <http://www.ama-assn.org/ama/pub/about-ama/our-people/member-groups-sections/minority-affairs-consortium/news-resources/raciaethnic-health-care-disparities/report-racial-ethnic.shtml> Retrieved on February 13, 2010.
- American Speech-Language-Hearing Association. (1988). Guidelines for determining threshold level for speech. *ASHA*, 30, 85-89.
- American Speech-Language-Hearing Association. (1995). *Task force on central auditory processing consensus development*, Washington, DC: The Association.
- American Speech-Language-Hearing Association. (2004). Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services [knowledge and skills]. Available from www.asha.org/policy. Retrieved on November 28, 2008.
- American Speech-Language-Hearing Association. (2008). Hearing Assessment. Available on www.asha.org/public/hearing/testing/assess.html. Retrieved on November 20, 2008.
- Banks, M. (1996). *Ethnicity: Anthropologic Constructions*. London/New York: Routledge.
- Berman, S., Dolins, J., Tang, S., Yudkowsky, B. (2002). Factors that influence the willingness of private primary care pediatricians to accept more Medicaid patients. *Pediatrics*, 110, 239-248.
- Bilger, S., Nuetzel, J., Rabinowitz, W., Rzeczowski, C. (1984). Standardization of a test of speech perception in noise. *Journal of Speech and Hearing Research*, 27, 32-48.
- Brach, C., Fraser, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical Care Research and Review*, 57, 181-217.
- Brinkmann, K., Richter, U. (1997). Ensuring reliability and comparability of speech audiometry in Germany. *Speech Audiometry*. San Diego, CA: Singular. 106-130.
- Campbell, L., Brennan, D., Steckol, K. (1992). Preservice training to meet the needs of people from diverse cultural backgrounds. *American Speech-Language Hearing Association*, 34(12), 29-32.
- Castro, F., Furth, P., Karlow, H. (1984). The health beliefs of Mexican, Mexican-American, and Anglo-American women. *Hispanic Journal of Behavioral Sciences*, 6, 365-383.

- Culhane-Pera, K., Reif, C., Egli, E., Baker, N., Kassekert, R. (1997). A curriculum for multicultural education in family medicine. *Family Medicine*, 29(10), 719-723.
- Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. Sacramento. CA: California State Department of Education. Office of Bilingual Bicultural Education.
- Danhauer, J., Crawford, S., Edgerton, B. (1984). English, Spanish, and bilingual speakers' performance on a nonsense syllable test (NST) speech sound discrimination. *Journal of Speech and Hearing Disorders*. 49, 164-168.
- deAndrades, V., Ross, E. (2005). Beliefs and practices of Black South African traditional healers regarding hearing impairment. *The International Journal of Audiology*; 44(9), 489-499.
- Drum, A., Chen, D., Duffy, R. (1998). Filling the Gap: Equity and access to oral health services for minorities and the underserved. *Family Medicine*, 30(3), 206-209.
- Flores, G., Vega, L. (1998). Barriers to health care access for Latino children: A review. *Family Medicine*, 30(3), 196-205.
- Fryer, G., Dovey, S., Green, L. (2000). Ther importance of having a usual source of healthcare. *American Family Physicians*, 62, 477-478.
- Garner, D., Liao, W., Sharpe, T. (1979). Factors affecting physician participation in a state Medicaid program. *Medical Care* , 17(1), 43-58..
- Gat, I., Keith, R. (1978). An effect of linguistic experience. Auditory word discrimination by native and non-native speakers of English. *Audiology*. 17(4), 339-345.
- Godkin, M., Savageau, A. (2001). The effect of a global multiculturalism track on cultural competence of preclinical medical students. *Family Medicine*, 33(3), 178-186.
- Goldberg, J., Hayes, W., Huntly, J. (2004). Understanding Health Disparities. *Health Policy Institute of Ohio*, 10.
- Gornick, M., Eggers, P., Reilly, T., Mentnech, R., Fitterman, L., Kucken, L., Vlaldeck, C. (1996). Effects of race and income on mortality and use of services among Medicare beneficiaries. *New England Journal of Medicine*, 335(11), 791-799.
- Hannan, E., van Ryn, M., Burke, J., Stone, D., Kumer, D., Arani, D., Pierce, W., Rafii, S., Sandborn, T., Sharman, S., Slater, J., DeBuono, B. (1999). Access to coronary bypass surgery by race/ ethnicity and gender among patients who are appropriate for surgery. *Medical Care*, 37 (1), 68-77.
- Harris, R., Nissen, S., Slade, K. (2007). Development of speech reception threshold materials for speakers of Taiwan Mandarin. *International Journal of Audiology*. 46, 449-458.
- Hodes, R. (1997). Cross-cultural medicine and diverse health beliefs; Ethiopians abroad. *Western Journal of Medicine*; 166, 29-36.

- Jacobs, E., Shepard, D., Suaya, J., Stone, E. (2004). Overcoming language barriers in healthcare: costs and benefit of interpreter services. *American Journal of Public Health*, 94(5), 866-869.
- Jaurez, J., Marvel, K., Brezinski, L., Glazner, C., Towbin, M., Lawton, S. (2006). Bridging the gap: A curriculum to teach residents cultural humility. *Family Medicine*, 38(2), 97-102.
- Keith, R. (1986). *SCAN: Screening test for auditory processing disorders in children*. San Antonio, TX: The Psychological Corporation.
- Kleinman, A. (1980). *Patients and Healers in the Context of Culture*. Berkeley, CA: University of California Press.
- Langdon, H. (2002). Language interpreters and translators: Bridging communication with clients and families. *The ASHA Leader*, 7(6), 14-15.
- Langdon, H. (2006). Utilizing services from an interpreter/translator in speech pathology and audiology: Position paper. *California Speech-Language Hearing Association; American Speech-Language Hearing Association*.
- Levy, N. (2002). Deafness, culture and choice. *Journal of Medical Ethics*, 28, 284-285.
- Lopez, S., Martin, F., Thibodeau, L. (1997). Performance of Monolingual and Bilingual Speakers of English and Spanish on the Synthetic Sentence Identification Test. *American Journal of Audiology*. 6, 33-38.
- Martinez, C., & Martin, H. (1996). Folk diseases among urban Mexican-Americans: Etiology, symptoms, and treatment. *Journal of the American Medical Association*, 196, 147-150.
- Mayberry, R., Mili, R., Ofili, E. (2000). Racial and ethnic differences in access to medical care. *Medical Care Research and Review*, 57(1), 108-145.
- Meador, H., Zazove, P. (2005). Health care interactions with Deaf culture. *Journal of the American Board of Family Practice*, 18(3), 218-222.
- National Center for Cultural Competence. *Guiding Principles for Cultural Broker Programs in Health Care Settings*. Georgetown University. Retrieved from www.ebasedtreatment.org/treatment/toolbox/cultural-competency/brokering/principles.
- Nilsson, M., Soli, S., Sullivan, J. (1994). Development of the Hearing in Noise Test for measurement of speech reception threshold in quiet and in noise. *Journal of the Acoustical Society of America*, 95, 1085-1099.
- Ramkissoon, I. (2001). Speech recognition thresholds for multilingual populations. *Communication Disorders Quarterly*. 22(3), 158-162.
- Ramkissoon, I., Proctor, A., Lansing, C., Bilger, R. (2002). Digit speech recognition thresholds (SRT) for non-native speakers of English. *American Journal of Audiology*. 11, 23-28.
- Rudmin, F. (1987). Speech reception threshold for digits. *Journal of Auditory Research*. 27(1), 15-21.

- Salas-Provance, M., Erickson, J. (2002). Disabilities as viewed by four generations of one Hispanic family. *American Journal of Speech-Language Pathology*, 11, 151-162.
- Siegenthaler, B., Ginger, A., William, E. (1964). Audiogram-average methods and SRT scores. *The Journal of the Acoustical Society of America*. 36, 589-593.
- Trimmis, N., Markatos, N., Malaperdas, K., Papdeas, E. (2007). Word recognition scores by native and non-native speakers of Modern Greek language. 10th Congress of the German Society of America.
- Uba, L. (1992). Cultural barriers to health care for Southeast Asian refugees. *Public Health Reports*, 107(5), 544-546.
- United States Census Bureau. (2007). *Press Release: Minority Population Tops 100 Million*. <http://www.census.gov/press-release/www/releases/archives/population/010048.html>
- United States Census Bureau. (2009). *Income, Poverty, and Health Insurance Coverage in the United States: 2008*. Retrieved from <http://www.census.gov/prod/2009pubs/p60-236.pdf>
- United States Census Bureau. *Projections of the population by sex, race, and Hispanic origins for the United States: 2010 to 2050*. Retrieved from www.census.gov/population/www/projections/summarytables.html
- United States Department of Health and Human Services. (1985). *Report of the Secretary's Task Force on Black & Minority Health. Volume III*. Washington, DC: Crosscutting issues in minority health: perspectives on national health data for minorities, minority access to health care, health education and information.
- United States Department of Health and Human Services. (2010). *Centers for medicare and medicaid services: Medicaid program overview*. Retrieved from <http://www.cms.gov/MedicaidGenInfo/>
- Waidmann, T., Rajan, S.(2000). Race and ethnic disparities in health care access and utilization: An examination of state variation. *Medical Care Research and Review* , 57(1), 55-84.
- Weinick, R., Zuvekas, S., Cohen, J. (2000). Racial and ethnic differences in access to and use of health care services, 1977 to 1996. *Medical Care Research and Review*, 57(1), 36-54.

APPENDIX 1

Digit Word List for Non-Native Speakers

Nine-four	Eight-five	Six-six
Five-one	Three-six	Eight-ten
One-ten	Four-six	One-four
Six-ten	Ten-nine	Nine-nine
Four-one	One-one	Four-three
Three-one	Six-four	Ten-ten
Eight-one	Five-two	Two-eight
Six-one	Two-one	Six-five
One-three	Nine-one	Three-ten
eight-nine	Two-six	Four-nine
Nine-ten	Nine-eight	One-two
Two-four	Five-ten	Five-three
Ten-four	Four-four	Three-five
Four-two	Three-four	Six-three
One-eight	Eight-eight	Two-two
Six-nine	Ten-one	Five-nine
Three-two	Six-eight	Nine-two
Two-nine	Eight-four	Three-three
Ten-five	One-five	Nine-six
Five-eight	Five-four	Two-five
Nine-five	Two-three	Ten-six
Ten-eight	Ten-three	Eight-three
Eight-six	Three-nine	Four-five
Ten-two	Nine-three	One-six
One-nine	Two-ten	Three-eight
Four-eight	Six-two	Four-ten
Five-six	Eight-two	Five-five