ATTITUDES TOWARDS INTERPRETATION SERVICES
PROVIDED TO UNDERSERVED PATIENTS DURING CANCER
GENETIC COUNSELING SESSIONS IN THE PUBLIC HOSPITAL
SETTING: PERSPECTIVES FROM GENETIC COUNSELORS AND
INTERPRETERS

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of
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of Master of Science in Genetic Counseling

By
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CERTIFICATION OF APPROVAL

ATTITUDES TOWARDS INTERPRETATION SERVICES PROVIDED TO UNDERSERVED PATIENTS DURING CANCER GENETIC COUNSELING SESSIONS IN THE PUBLIC HOSPITAL SETTING: PERSPECTIVES FROM GENETIC COUNSELORS AND INTERPRETERS

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DEDICATION

I dedicate this thesis to the memory of my beloved father, whose influence and unconditional support always inspired me to fulfill my professional dreams.

You will always be in my heart.
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I would like to thank my mother and sisters, who have always been instrumental in every aspect of my life, their support and confidence in me has always kept me going. Thank you to my friends, who in one way or another supported me throughout this, my final academic endeavor.

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedication</td>
<td>iv</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vi</td>
</tr>
<tr>
<td>Abstract</td>
<td>viii</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1. Background</td>
<td>1</td>
</tr>
<tr>
<td>2. Purpose of the Study</td>
<td>14</td>
</tr>
<tr>
<td>Methods</td>
<td>17</td>
</tr>
<tr>
<td>1. Study participants and procedures</td>
<td>17</td>
</tr>
<tr>
<td>2. Qualitative data analysis</td>
<td>19</td>
</tr>
<tr>
<td>Results</td>
<td>22</td>
</tr>
<tr>
<td>1. Demographics of study participants</td>
<td>22</td>
</tr>
<tr>
<td>2. Qualitative Themes</td>
<td>24</td>
</tr>
<tr>
<td>Discussion</td>
<td>64</td>
</tr>
<tr>
<td>Practice Implications and Recommendations</td>
<td>78</td>
</tr>
<tr>
<td>Study Limitations</td>
<td>82</td>
</tr>
<tr>
<td>Future Studies</td>
<td>84</td>
</tr>
<tr>
<td>Conclusions</td>
<td>85</td>
</tr>
<tr>
<td>References</td>
<td>87</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
</tr>
<tr>
<td>A. Codebook for interpreters’ interviews</td>
<td>99</td>
</tr>
<tr>
<td>B. Subset of codes derived from larger study’s codebook for genetic counselors’ interviews</td>
<td>101</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demographics of Study participants (Interpreters)</td>
<td>34</td>
</tr>
<tr>
<td>2. Demographics of Study participants (Genetic Counselors)</td>
<td>35</td>
</tr>
</tbody>
</table>
ABSTRACT

The participation of medical interpreters during medical encounters is essential for limited English proficient (LEP) patients in accessing the healthcare services that they need and deserve, mainly by overcoming the communication barrier. However, interpreters’ involvement is accompanied by many challenges. Cancer genetic counseling entails the discussion of large amounts of complex information, frequently associated with a psychosocial component, which can result in overwhelming and, at times, confusing low health literacy LEP patients. The participation of a medical interpreter in such sessions incorporates another layer of complexity, especially if the interpreter is not familiar with key aspects of the genetic counseling encounter, and if interpreters and provider do not establish a collaborative relationship. Some literature is available in regards to the perspectives and experiences of providers working with medical interpreters in a variety of medical settings. Less is known about interpreters’ perspectives about working in bilingual healthcare settings, and to our knowledge, no studies have been done to evaluate interpreters’ points of view in terms of their participation in cancer genetic counseling encounters. For this reason, the aim of the present study was to gain in-depth knowledge about medical interpretation services in the context of hereditary cancer genetic counseling involving underserved patients, by conducting semi-structured interviews with 11 medical interpreters and 10 genetic counselors at two major public medical centers in San Francisco, California. Five themes were identified representing the overarching perspectives of medical interpreters and genetic counselors working with LEP patients: 1) Interpreters as
more than Conduits; 2) Challenges faced by Medical Interpreters during Cancer Genetic Counseling encounters; 3) Lack of respect/appreciation by providers; 4) Genetic Counselor “correcting” the interpreter; and 5) Trust as foundation of the Interpreter-Provider dyad. The findings of the present study identified key aspects of the interpreter and provider professional inner worlds, which allowed the development of strategies and practice recommendation to help overcome the many challenges inherent to the process of translation/interpretation in the cancer genetic counseling setting, thus ultimately promoting better service to the patients.
INTRODUCTION

Background

Limited English Proficiency and Health disparities in the United States

Medical care needs are generally invariant to the patient’s ability to speak a particular language. According to the U.S Census Bureau (2011), of 291.5 million people aged 5 and over, 60.6 million people (21% of this population) spoke a language other than English at home. The Census Bureau also reports that 381 languages are spoken in the U.S. From these, Spanish and Chinese represent the most common second languages (62% and 4.8%, respectively).

Over the last three decades, immigrants from Latin America, Asia, and elsewhere have expanded the population of minority residents beyond African Americans, making the U.S., once ‘white-dominant’, now increasingly multi-lingual and multi-ethnic (Lee et al., 2012). This growth in U.S. diversity has been recognized as pervasive and as such, the U.S is projected\(^1\) to become more racially and ethnically diverse in the coming years (Colby and Ortman, 2015). The Hispanic population is projected to increase from 55 million in 2014 to 119 million in 2060, when it would represent 29% of the U.S. population. The Asian population is projected to be the second fastest growing group. This group is projected to nearly double from 5.4% of the total population in 2014 to 9.3% in 2060 (Colby & Ortman, 2015).

Over 22% of the 60.6 million people that spoke other languages at home reported speaking English “not well” or “not at all” (U.S. Census Bureau, 2011). In

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\(^1\) “Projections illustrate possible courses of population change based on assumptions about future births, deaths, and net international migration” (Colby and Ortman, 2015).
the context of the health care setting these individuals are often referred to as limited English proficient (LEP) and are considered to have a limited ability to read, write, speak, or understand English (Office of Civil Rights, 2002). LEP individuals are more likely to live in a low-income household, have lower education levels and are significantly more likely to be uninsured compared to their English-proficient counterparts – nearly 21.7% of the uninsured population and 12% of the Medicaid population is LEP (Gonzales, 2014). The Affordable Care Act coverage expansions have provided new coverage options for many individuals with LEP. However, non-citizens, who account for a significant share of individuals with LEP, still face eligibility restrictions based on their immigration status (Kaiser Family Foundation, 2012).

LEP represents a significant barrier to accessing important benefits or services, including health services (LEP Guidance, 2016). Public and community health centers receive the largest number of uninsured, which closely parallels the population of LEP individuals treated in these safety net provider settings. (National Association of Community Health Centers, 2008; Seiber et al., 2009). Previous studies have shown that LEP contributes to difficulty in gaining access to care and represents a barrier to medical comprehension (Jacobs et al., 2003; Wilson et al., 2005). Jacobs et al., (2005) report that for minorities who do not speak English well or at all, language barriers probably contribute to poor health communication and consequently to disparities in both health care use and health outcomes. The persistent growth in the number of foreign-born residents and associated LEP
populations in the United States underscores the need for nation-wide efforts that lead to increase access to health care services and quality of care for LEP individuals, who currently are affected by significant health disparities (NIH fact sheet, 2010).

Health disparities are differences in health outcomes and their determinants between various segments of the population, as defined by social, demographic, environmental, and geographic attributes (Carter-Pokras & Baquet, 2002). According to the National Institutes of Health, (2011) by 1980 the average life expectancy in America reached 74 years—25 years longer than at the beginning of the 20th century. However, African Americans, Hispanic Americans, American Indians, Asian Americans, and Native Hawaiians/Other Pacific Islanders, who represented 25% of the U.S. population, continued to experience significant health disparities, including shorter life expectancy and higher rates of diabetes, cancer, heart disease, stroke, substance abuse, infant mortality, and low birth weight (NIH fact sheet, 2010). These racial/ethnic health disparities have been shown to result in part from differences in socioeconomic status, insurance status, type and availability of health care services, patient preferences, cultural factors, and limited English proficiency (Smedley et al., 2002; Shi et al., 2009).

Shi and colleagues (2009) showed that individuals with limited English proficiency were 34% less likely to have a health care visit compared to those who were proficient in English. It is important to keep in mind that low levels of competence in a country’s official language have often been correlated with other racial/ethnic, socioeconomic, and educational factors, which have been shown to be
negatively associated with patient participation in the medical visit (Epstein et al., 1985; Stivers & Majid, 2007; van Ryn, 2002; Raymond, 2014).

These findings reflect the challenges that individuals with LEP face in the health care system. As mentioned before, given the growing proportion of U.S. residents with limited English proficiency, health care settings need to better address potential language barriers, which in turn would promote increased access to underserved population.

**Medical Interpreters**

As the U.S. population diversifies and the LEP population grows, the need for medical interpretation in an increasing number of clinical settings is also on the rise. The use of professional medical interpreters has been shown to improve care for underserve patients (Flores, 2005; Karliner et al., 2007), not only by mediating information exchange between patient and clinician, but also by being an active co-participant in the medical visit, establishing rapport and communicating emotions (Raymond, 2014).

Mutual understanding between providers and patients is essential for achieving satisfactory health care outcomes (Grantmakers in Health (GIH), 2003). The circumstances under which many patients receive medical care can significantly impact the level of comprehension of the information provided by the health care team. Even for native English speaking individuals, the complexity of information coupled with the emotion and anxiety of illness create substantial opportunities for miscommunication, and even more so for individuals with limited English
proficiency. The latter was evidenced in a recent study conducted with a subset of the Spanish-speaking population from Rhode Island, U.S. (Brooks et al., 2016). By conducting focus groups with Spanish-speaking individual with LEP about their experiences with the health care system, Brooks and colleagues illustrated the frustration of the participants with navigating medical encounters in English. The author’s findings demonstrate that for some participants their ability to express themselves in English worsens during medical encounters due to stress and that providers sometimes don’t make an effort to understand their attempts to speak English. Perhaps the most crucial finding of this study was that patients sometimes express understanding to the provider, even when they do not actually understand.

Additionally, health literacy can act as a compounding factor in the limited level of understanding of medical information. Health literacy, as defined by Healthy People 2010, (2002) is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. It has been shown that 54% of Spanish speakers had inadequate or marginal health literacy (Gazmararian et al., 1999). Low health literacy among LEP patients can therefore influence communication and information understanding even when a medical interpreter is involved to overcome the language barrier. Numerous studies have shown that such gaps in understanding, influenced by limited English proficiency and/or low health literacy, contribute to recurrent medical visits, poor treatment adherence, and additional costs to the patient and health system (Divi et al., 2007; Flores et al., 2005; Karliner et al., 2010).
Although the use of medical interpreters has proven to be an effective way to bridge the gap between LEP patients and health care providers, their participation in language-discordant patient-provider interactions introduces a new layer of complexity. To be an effective medical interpreter, it is not sufficient to have bilingual skills, but rather requires an array of qualities in order to provide optimal interpretation services, including sufficient proficiency in both languages, mastery of the medical terminology in both languages, superior memory skills, the ability to negotiate a three-way conversation, and basic knowledge of cultural attributes that can influence health (GIH, 2003).

When interpreters lack some of these key characteristics, interpretation errors can occur and further hinder the patient-provider interaction, which can negatively impact the medical encounter and potentially generate adverse clinical consequences. Some of the most common interpreting errors reported in the literature include: omission of critical information, false fluency (i.e. use of incorrect word/phrase, or word/phrase that does not exist in a particular language), substituting word/phrases used by provider or patient, editorialization (interpreter provides his/her own personal views as the interpretation of a word/phrase used by provider or patient), addition of information not provided by provider or patient, and change of meaning (Flores et al., 2003; Pham et al., 2008; Jackson et al., 2011; Flores et al., 2012). In Flores and colleagues’ study conducted in the setting of pediatric encounters, omission of information was the most common interpreting error (52%), followed by false fluency
(16%), substitution (13%), editorialization (10%), and addition (8%) (Flores et al., 2003).

Additionally, Flores and colleagues (2003) reported that interpreters committed interpreting errors at a rate of 53% in this study. Jackson and colleagues, (2011) reported an interpreting error rate of 5% when studying professionally trained interpreters addressing a familiar topic with an established physician/patient dyad, a situation they deemed as a “best-case scenario”. This difference in interpreting error rates between emotionally charged provider/patient exchanges (e.g. pediatric encounters) and a medical encounter where no new diagnostic information was imparted and no emotionally laden topics were discussed may reflect the challenges that professionally trained medical interpreters face in different medical settings (Pham et al., 2008; Jackson et al., 2011).

Several studies have shown the importance of distinguishing between professional trained medical interpreters and ad hoc interpreters (an untrained person who is called upon to interpret, such as a family member interpreting for her parents, a bilingual staff member pulled away from other duties to interpret, or a self-declared bilingual in a hospital waiting-room who volunteers to interpret [NCIHC 2001]). The use of ad hoc interpreters has been demonstrated to be less effective, resulting in many interpretation errors that may critically compromise patient safety and ultimately prove to be life-threatening (Karliner et al, 2007; Flores et al, 2012; VanderWielen et al, 2014; Nápoles et al., 2015).
Medical Interpreter and Health care provider: A complex dynamic.

Interpreters traditionally have been conceptualized as conduits, a mechanical role that transfers information from one language to another neutrally and faithfully, and interpreters-as-conduits is found to be the dominant ideology in both interpreters' training programs and codes of ethics (Dysart-Gale, 2005). However, many studies have illustrated that the complexity of provider-patient interactions make the conduit model impractical, if not unrealistic (Angelelli, 2004; Dysart-Gale, 2007).

According to Hsieh and colleagues, (2010) the provider-interpreter relationship is distinctive from any other interprofessional relationships in health care settings. The authors put forth the idea that trust is one of the main foundations in the interpreter-provider dyad. Providers rely on interpreters to convey their voices, including their identities, emotions, and information to patients. In other words, interpreters have control over providers' identity and information management (Hsieh, et al., 2010). From the point of view of providers, when interpreters deviate from the conduit model, the relationship between them and the interpreter is jeopardized, as healthcare providers reported viewing the interpreters as “a neutral ‘translating machine’ that provides services without distorting their voice or compromising the quality of care (Leanza, 2005).

It has been well documented that interpretation services, even when provided by trained medical interpreters, can negatively impact the medical encounter. Anecdotal experience by the author of this paper and limited literature (Hudelson, 2005) suggest that providers’ limited knowledge of and skill in how to work
effectively with interpreters can also have a significant impact in the interpreter-mediated patient-provider interaction. A 2001 study showed that if providers and interpreters use certain strategies when working together, the outcome of the medical encounter can be strikingly different (Elderkin-Thompson et al., 2001).

Characteristics of successful encounters where misunderstandings did not occur included providers using simple sentence construction; providers and interpreters working slowly to understand and verify; careful attention to nonverbal cues; interpretation with minimal editing; and physician restatement of patients’ comments, with back-translation by interpreters to patients.

**Medical Interpreters’ Training.** Given the proven importance that accurate interpretation has in the health care setting involving LEP patients, medical interpretation requires specialized skills and formalized training. Currently, hospitals, community-based organizations, language agencies, and a few institutions of higher education are offering medical interpreter training programs (GIH, 2003). However, although a wide variety of organizations and institutions offer training, there are no minimum requirements, with some programs that certified trainees after only eight hours of instruction. This lack of consistency may compromise the reputation of qualified, properly trained interpreters.

In an effort to standardized foundational knowledge and skills for healthcare interpreters, The National Council on Interpretation in Health Care (NCIHC) developed minimum requirements for what needs to be taught and, more importantly, learned before a candidate can practice as a professional healthcare interpreter.
(NCIHC, 2011). The NCIHC found/determined that 40 hours of basic training was average among well-regarded training programs. Essential topics included instruction in interpretation skills and techniques; ethics of interpreting in health care encounters; a review of key medical terminology, basic clinical concepts, the workings of the American medical system; an overview of the role of culture and how to manage cultural issues; and professional interpretation issues (NCIHC, 2011).

Another aspect that may contribute to suboptimal interpretation is the lack of training in specific medical subspecialties. The findings of Flores and colleagues, (2003) and Jackson and colleagues, (2012) suggest that the training a medical interpreter receives can determine the effectiveness and quality of the services that she/he provides in different medical settings. This might be particularly true in settings where the medical encounter is accompanied by highly complex medical terminology, large amounts of information provided, and a significant emotional component.

**Medical Interpreters and Genetic Counseling**

The traditional genetic counseling model comprises an individualized counseling session that includes the presentation of information about genes, chromosomes, personalized risk assessment, and genetic testing and screening options, facilitation of decision making about genetic testing and/or screening, and provision of support to the patient (National Society of Genetic Counselors, 2005). The amount and complexity of the information provided can be overwhelming and difficult to grasp for many patients, and this is particularly true for LEP individuals,
especially those with low health literacy. The literature on the impact of interpreters in genetic counseling sessions is very limited. In the few relevant studies it is not the primary topic, but rather is included in a broader discussion of providing genetic services to culturally diverse, non-English speaking patient populations.

One study describes multiple communication problems related to the use of untrained interpreters, or reliance on clinicians’ own limited Spanish when providing prenatal genetic counseling to LEP Spanish-speaking patients (Hunt et al., 2007). However, this study was not limited to provision of services by genetic counselor; it also included physicians and social workers. In an analysis of the content and context of clinical communication between genetic counselors and pregnant Latina clients, Browner and colleagues (2003) found that the source of miscommunications impacting rapport building, trust, and mutual understanding was in part the result of inadequate translation. Saleh and colleagues (2009) explored the perceived challenges facing clinical genetics practitioners (including genetic counselors) in Australia. Focus groups conducted with 53 practitioners explored participants experiences providing services to culturally diverse groups and individuals, including working with interpreters. They found that most respondents experienced positive results working with health care interpreters, although at times this was a challenge for the family, as they preferred privacy and the use of family members as interpreters.

One study specifically addressed the influence of interpreters participating in clinical encounters where English-speaking clinicians offered amniocentesis to Spanish-speaking women (Preloran et al., 2005). The authors found that interpreters
appeared to have significant influence over patients’ amniocentesis decisions. They warn that interpreters should remain vigilant against intentionally or unintentionally abusing the power they hold in such situations and instead seek every means possible to enhance women’s ability to make informed reproductive decisions. It is important to clarify that of the staff serving as interpreters in Preloran and colleagues’ work, none had formal training in medical interpretation and interpreting was not a formal part of any of their jobs (receptionists, nurses, clerks, and other bilingual personnel). This highlights the importance of properly trained medical interpreters in such complex medical encounters.

**Medical Interpreters and Cancer Genetic Counseling.** Clinical encounters for cancer, particularly cancer genetic counseling sessions, can be particularly challenging. These sessions involve substantial educational and psychosocial components, often characterized by complex terminology, large amounts of information and education provided by the genetic counselors (Butow & Lobb, 2004; Roshanai et al., 2009).

The advent of rapid advances in genomic technology has resulted in genetic testing becoming common in clinical practice. This has posed a number of challenges for health care providers in terms of their ability to communicate complex information associated with current technologies and its associated implications in a way that is at an appropriate level for the patients to understand. Medical Interpreters face their own set of challenges, who in contrast to healthcare providers, do not
possess the training required to comprehend the complexity of the information
associated with the current technologies.

It is the responsibility of the healthcare provider to provide the information in
a way that is comprehensible by the patient, which in turn can make the translation
process easier for the interpreter. However, in a setting such as cancer genetic
counseling, where highly specific/complex information is conveyed, it will definitely
help if interpreters have at least a foundation on basic genetic information. Having
medical interpreters that are not familiar with genetic terminology can exacerbate
health care disparities for low-income, LEP patients if they are unable to benefit from
genetic risk assessment services due, in part, to the lack of medical interpreters
capable of effectively interpreting in these types of clinical encounters. A recent pilot
study investigated communication practices during hereditary breast cancer genetic
counseling with low-income immigrant Latina patients in a public hospital setting
(Joseph & Guerra, 2015). It showed that the quality of Spanish interpretation varied
significantly and at times was not adequate for the patient to fully access the benefits
of genetic counseling. Based on these findings, the authors highlighted the need for
strategies and interventions to deepen medical interpreters’ understanding of the
nature of the appointments and the technical language used during the genetic
counseling to ensure consistent high quality service.

Although there is considerable literature addressing the impact of suboptimal
interpretation services on the quality of health care in a variety of clinical encounters,
including pediatric and emergency room settings, it primarily involves the
perspectives of the health care providers and patients (Kaufert & Koolage, 1984; Flores et al., 2003; Dysard-Gale, 2007). Thus, despite their important contribution to our understanding of cross-cultural patient-provider communication, the voice of medical interpreters is surprisingly absent from the literature (Haffner, 1992; Faust & Drickey, 1986; Hudelson, 2005). To our knowledge, the present study is the first to address the topic of medical interpretation in the cancer genetic counseling setting, and more importantly, the first one to explore the experiences and perspectives of medical interpreters participating in this kind of clinical encounters.

**Purpose of Study**

A health care system that continues to face many challenges in providing adequate health care to LEP communities (*i.e.* rapid growth of LEP population, lack of bilingual providers, lack of access to interpreters) runs the risk of perpetuating health disparities among linguistically-challenged individuals.

Even though health disparities are the consequence of many compounding factors, the participation of trained medical interpreters in serving LEP individuals can facilitate access and potentially improve the quality of health care provided to this population. Although the providers’ medical expertise and interpreters’ cultural and linguistic expertise may appear to be complementary, their collaboration is a complicated process that warrants further investigation (Robb et al., 2006; Greenhalgh et al., 2007). Based on the proven benefits of interpreters’ participation in clinical settings, and the potential increased access to care by underserved patients, gaining a deep understanding of the views and perspectives of all of those involved in
language-discordant cancer genetic counseling sessions, especially the interpreters perspectives, would facilitate the development of strategies to help overcome the many challenges inherent to the process of translation/interpretation in this setting.

Drawing on data from both “Translating Cancer Genetics for the Safety Net Setting” (Susan G. Komen for the Cure; Joseph, PI) and “Effective Medical Interpretation for Cancer Genetic Counseling” (Avon Foundation, UCSF Give Breast Cancer the Boot fund; Joseph, PI) projects it has become clear that, for LEP patients, improving interpreters’ ability to function effectively in the genetic counseling setting would be key to improving communication in cancer genetics.

In this sense, the goal of the present study was to gain in-depth knowledge about medical interpretation services in the context of hereditary cancer genetic counseling involving underserved patients. One-on-one interviews were conducted with medical interpreters and genetic counselors at two major public medical centers serving ethnically diverse populations to explore their perspectives and experiences with medical interpretation services. Results from this study could help facilitate the development of strategies to help overcome the many challenges inherent to the interpretation process in such settings, thus ultimately promoting better service to the patients.

Study objectives

The specific objectives of the present study were:
● To identify specific challenges that medical interpreters encountered in working with genetic counselors and patients in the cancer genetic counseling setting.

● To assess the medical interpreters’ familiarity and comfort level with concepts and terminology relevant for cancer genetic counseling interpretation.

● To identify key challenges encountered by genetic counselors in working with interpreters during cancer genetic counseling sessions to elucidate genetic counselors’ strengths and limitations.

● To identify potential areas for training (both for interpreters and genetic counselors) to improve effective communication when working with medical interpreters.

● To propose practice recommendations for medical interpreters and genetic counselors to improve communication during genetic counseling encounters involving LEP patients.
METHODS

Study participants and procedures

This study utilized in-depth interview transcripts obtained from data collected for two larger studies titled “Effective Medical Interpretation for Cancer Genetic Counseling and Clinical Trials Discussions” and “Translating Cancer Genetics for the Safety Net Setting” led by Dr. Galen Joseph, Associate Professor in the Department of Anthropology, History and Social Medicine at the University of California, San Francisco. Dr. Joseph’s studies received IRB approval from the University of California, San Francisco’s Committee on Human Research (CHR) and the IRB from the two participating public hospitals. The projects were funded by the Avon Foundation for Women, UCSF’s Give Breast Cancer the Boot fund and by Susan G. Komen for the Cure, respectively. An IRB approved consent was obtained to collect demographic data from the participating interpreters participating in a survey. The protocol for the research presented herein was approved by the California State University, Stanislaus Institutional Review Board (Protocol #1516-021) on September 22, 2015.

The transcripts analyzed in this study included qualitative semi-structured in-depth interviews with 11 medical interpreters (all from one of the participating public hospitals) and 10 Masters level genetic counselors (from both participating public medical centers). Eligibility criteria for the medical interpreter participants were: 1) Were employed as professional medical interpreters, 2) provided interpretation services during genetic counseling appointments, and 3) provided their services in
either of three different modalities – in-person, telephone, and video medical interpreting (VMI). Eligibility criteria for the genetic counselor participants were: 1) board certified Masters level genetic counselors, and 2) provided services at two different California safety-net hospitals located in the Bay Area. These two safety-net hospitals are publicly owned and serve many patients who do not have medical insurance or who are covered by Medicaid or Medicare.

The interviews with medical interpreters were conducted by Dr. Galen Joseph, the principal investigator of the larger studies, as well as by Dr. Janice Ka Yan Cheng and MS. Claudia Guerra, both bilingual/bicultural research associates (Cantonese/Chinese and Spanish/Latina, respectively). In order to have a comprehensive understanding of the views and perspectives of medical interpreters, interviews included questions not only about their experiences working with genetic counselors in the setting of cancer genetics, but rather their experiences with other providers. The interviews with participating genetic counselors were conducted by Dr. Joseph. Interviews lasted between 60 and 90 min. Interviews were digitally recorded and professionally translated/transcribed verbatim for analysis. All interviewed participants were compensated for their time with a $50 gift card.

Demographic information was collected in the scope of the larger studies. Demographic data from participating interpreters was collected using a survey, while demographic data from participant genetic counselors was inferred from the interviews or by personal communication with Dr. Galen Joseph, who conducted the interviews with genetic counselors.
Qualitative data analysis

After being translated and transcribed by a professional transcriptionist, interview transcripts were uploaded into Atlas.Ti (v7), a qualitative data management package used for coding and analysis of text. Content analysis was used to code and analyze the data focusing on identifying 1) the challenges that interpreters and genetic counselors face when participating in patient-provider language discordant cancer genetic counseling encounters, 2) strategies used by interpreters and genetic counselors when working with each other, and 3) potential areas of communication improvement in cancer genetic counseling sessions with LEP patients requiring a medical interpreter. Content analysis is a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes. This type of research method is usually appropriate when existing theory or research literature on a phenomenon is limited (Hsieh & Shannon, 2005; Berg, 2007).

Coding procedures were as follows: First, each of the four coders read the interpreters’ interview transcripts independently. The primary coder for the interpreters’ interviews is the author of this paper who is a bilingual English-Spanish speaker. The remaining three coders are the principal investigator and two research associates involved in the aforementioned “Effective Medical Interpretation for Cancer Genetic Counseling and Clinical Trials Discussions” and “Translating Cancer Genetics for the Safety Net Setting” studies. Throughout the coding process the four coders met to compare and discuss coding methodology and patterns. All
transcripts were coded and analyzed separately. The four coders then discussed similarities and differences in the coding. Different perspectives were considered and reconciled by consensus. A codebook for the interpreters’ interviews was created by reaching agreement about the most relevant codes (Appendix A).

The genetic counselors’ interview transcripts were coded prior to the initiation of the present study. The author of this paper analyzed a subset of codes derived from the codebook created for the larger study involving the genetic counselor interviews (Appendix B). The excerpts associated with the following codes were iteratively reviewed and modified to fit themes arising from the content analysis: Communication challenges; Genetic counselor (GC) cross culture communication; GC strategies with interpreters; GC suggestions for training; Interpreter understanding of analogies; Interpreter understanding of terminology; Interpreter/GC request for clarification; Interpreter-technical difficulties; and Use of an interpreter/lack of.

As part of her clinical training, the author of this paper observed several genetic counseling sessions in which an interpreter was involved. This first-hand exposure to clinical encounters involving interpreters was instrumental during the data analysis process as it illuminated for her an understanding and appreciation of key themes that arose in the analytic process.

In addition, the author of this paper participated in the development of a training module for medical interpreters, primarily reviewing written material, power point presentations, and correcting Spanish translations. Subsequently, she attended a
pilot training workshop titled “Interpreting for Cancer Genetics: A workshop for interpreters in health care”, which was developed to address the problems in interpretation identified in the larger study (“Effective Medical Interpretation for Cancer Genetic Counseling and Clinical Trials Discussions”). This training was held at the same hospital where the interpreters that participated in the present study provide their services. A total of 23 medical interpreters attended this workshop. This opportunity allowed the author of this paper to gain valuable insight into the experiences, motivations, and challenges faced by the medical interpreters that participated in the present study.
RESULTS

Demographics of Study Participants

Interpreters

Seven (7) female and 4 male interpreters were interviewed (Table 1). Interpreters were from Southeast Asia (Vietnam and Cambodia), Mexico/Central America (Mexico and Guatemala), Eastern Europe (Poland), and the U.S. Of the two interpreters that were born in the U.S., one is of Mexican and El Salvadorian descent; the other U.S. born interpreter did not provide such information. For those born outside the U.S. (9 out of 11), the number of years in the U.S. ranged from 14 – 50 years (31 ± 16.5 years). The ages ranged from 40 to 65 years (56.5 ± 18.6 years).

Years of experience as medical interpreter among participants ranged between 2 and 35 years (13.5 ± 10.1 years). Level of education in country of origin varied widely among interpreters, while level of education in the U.S. was somewhat homogeneous amongst participants (see Table I), with the majority of the interpreters having some college or a college degree (9 out of 11) and two of them holding professional degrees in the U.S.

The majority of interpreters (7/11) reported feeling highly comfortable both speaking and understanding English, while three of them reported feeling medium comfort in these two domains (see Table I). The remaining interpreter only reported his level of comfort speaking English, which was self-reported as medium.
### Table 1. Demographics of Study participants (Interpreters)

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
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<td>Secondary or High School</td>
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</tr>
<tr>
<td></td>
<td>High</td>
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</tbody>
</table>

1 One interpreter did not report age. 2 If not born in the U.S. 3 One interpreter did not report this information. Interpreters born in the U.S. were excluded from this category. 4 One interpreter did not report self-rated level of comfort understanding in English.
Genetic Counselors

Demographic data from participating genetic counselor is presented in Table 2. All participant genetic counselors hold Masters degrees in genetic counseling from an accredited program in the U.S. Eight (8) female genetic counselors, and 2 male genetic counselors were interviewed. The majority of genetic counselors were White (8/10), one was African American, and one was Asian American/White. Years of experience as genetic counselor ranged from about 1 year to 11 years (4.35 ± 2.9 years).

Table 2. Demographics of Study participants (Genetic Counselors)

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<tr>
<td></td>
<td>Asian American/White</td>
<td>1</td>
</tr>
</tbody>
</table>

\(^1\) At the time of the interview

Qualitative Themes

In the following sections themes and sub-themes extracted from participant responses are described, and illustrative quotes are provided. Five themes were identified representing the overarching perspectives of medical interpreters and genetic counselors that have experience working with LEP patients in the setting of
cancer genetic counseling. These themes are: 1) Interpreters as more than Conduits; 2) Challenges faced by Medical Interpreters during Cancer Genetic Counseling encounters; 3) Lack of respect/appreciation by providers; 4) Genetic Counselor “correcting” the interpreter (Interpreters’ and Genetic Counselors’ perspective); and 5) Trust as foundation of the Interpreter-Provider dyad (Interpreters’ and Genetic Counselors’ perspective). Within some of these themes, recurrent sub-themes were found.

In the illustrative quotes and excerpts presented herein, healthcare providers titles (i.e. physician, nurse) will be indicated as providers in square brackets (unless otherwise specified). Of note, some interpreters referred to genetic counselors as “doctors”, in which case the word doctor was substituted for “genetic counselor” in square brackets. “INT” represents the voice of the interviewer. The voice of the study participant involved in a particular quote is represented with an ID number.

Interpreters were identified using a number (01 to 11) followed by ENG, CHI, or SP (according to the language in which the interview was conducted with that particular interpreter: English, Chinese, or Spanish, respectively) (e.g. 01_ENG). Genetic counselors were identified using the acronym GC followed by a number (01 to 10) (e.g. GC_01).

**Theme 1: Interpreters as more than Conduits**

Interpreters often expressed that they perceived themselves as having a role different from what is expected or taught during their formal training. Although they acknowledged being taught that their role is to be a strict/simple conduit between the
patient and provider, most interpreters in our study indicated that to serve the patients’ best interest, they also needed to serve as patients’ transient emotional support, advocates and cultural brokers.

**Interpreters as patients’ transient emotional support.** All interpreters in the present study indicated that based on their formal training and code of ethics they are expected to interpret following the conduit model of interpretation, which is considered the ideal model in this profession. They are expected to be an invisible participant and to reinforce the provider–patient relationship as the primary relationship in any given medical encounter. However, the majority of interpreters mentioned how their role goes beyond being simply conduits as it was challenging for most of them to remain unresponsive to patients’ emotional suffering. Interpreter 03_ENG expressed how following the conduit model of interpretation is not enough, and going beyond the expected conduit role is even necessary in some circumstances.

**INT (Interviewer):** And are there any differences between your official role and the role that you see yourself playing?

**03_ENG:** Because ideally as an interpreter you’re supposed to be invisible, not really there, you’re just a conduit but I can’t help, especially in person, to not react to the patient as well. Plus the relationship is supposed to be between the patient and the provider and I’m not there really, but it’s hard to not be there, like especially if I had something really awful, to not extend some sympathy... I had a really awful call – I don’t think it should've been done over the phone – where a patient had come into the Oncology Department
with pancreatic cancer and she had been told that it could be treated with chemotherapy and I got to tell her over the phone that nope, it can’t, and even with chemotherapy you’ve got a year. Without chemo, you’ve only got six months. And it just seemed really heartless to be doing that over the phone…’Cause that’s where I might have, you know, like given a pat or something.

INT: Yeah, right. And it’s hard to know

O3_ENG: Uh-huh, or to not react too because I’ve been in some difficult situations where you’re not supposed to react to the news but it’s so awful and, you know, I’ve cried in front of patients, [and] providers. [O3_ENG: Female Spanish Interpreter]

Similarly, interpreter 06_ENG recognized that it was expected from them to adhere to the conduit model of interpretation; however, she expressed how the reality of their job makes this model not practical or unrealistic.

06_ENG: So that’s the most important relationship, between the provider and the patient, so you’re just supposed to help them develop that relationship. But I’m going to be honest. Sometimes when you’re interpreting the person naturally gets a little close to you because you’re the one who speaks their language. It’s not supposed to be that way but sometimes that happens and – especially in a case where a person is getting bad news or going through a hard time. You’re not going to be like a robot so that they can have a relationship with the doctor when you know the person needs you to smile,
Female Spanish Interpreter, *emphasis added*

**Interpreters as Patients' Advocate.** Acting as a patient’s advocate was the role most frequently identified, explicitly and implicitly, by interpreters in this study. Interpreters claimed almost invariantly that their main motivation to become an interpreter was to be able to help LEP patients to access the care they need and deserve by bridging the differences in the provider–patient relationships/interactions, *i.e.* individual factors like educational background and socioeconomic status, and cultural differences (see section A.3), all of which influence a patient’s ability to obtain quality health care services. The following excerpts exemplify how interpreter 07_SP and 03_ENG see themselves as patients’ advocates.

**INT:** Now we're going to talk about your role as an interpreter and the training you have received. Um... how do you see your role, you just mentioned this, but how do you see your role as an interpreter.

**07_SP:** Well, my role is to be, to be the voice of the patient. It's to advocate for the patient. It's, also often advocate in the sense that the [provider] have a cultural understanding of the person, because the cultures are very different, often, from those of the doctor. And, and not just culture, uh, as far as a different country, but it's a difference of country, class, way of thinking, language. *There are so many things that you... try to work with when you're interpreting so that the patient is treated in the best way possible, with dignity, with respect, with... love.*
Interpreter 07_SP goes on to share how passionate she feels about being an interpreter, and she recognizes that in doing so she goes beyond the role she is expected to assume.

**07_SP**: … one of the things that I am passionate about in this work was to be there in person, to be able to have that human contact, direct contact with the patient…being able to be there to hold their hand, to give a hug, to hand them a Kleenex. (LAUGHS) *Little things that are not part of the interpretation* that sometimes I think, depending on how serious the topic is, it's better to have another person there. [07_SP: Female Spanish Interpreter; emphasis added]

Study participant 03_ENG also expressed how during interpretation she wants to make sure patients know they are receiving adequate care.

**INT**: So tell me about how you see your role or roles as an interpreter.

**03_ENG**: I think just a facilitator and sometimes, especially in person, I think just a little bit of reassurance to the patients. Because sometimes [providers] aren’t looking at the patients and the patient will be making eye contact with me and asking me the questions. So I think just reassurance and facilitator and hopefully transparency so that patients know that everything is out in the open and nothing’s being hidden from them or anything like that, and the translation is very accurate.

**INT**: Uh-huh. So when you’re on the phone and not in person, how does that reassurance [provided]?

**03_ENG**: Hopefully in my voice or just a few little comments before or after,
like, “Everything you say is really confidential” and just as much as I can put into my voice. [03_ENG: Female Spanish Interpreter]

Interpreters frequently expressed their willingness to take on some additional tasks, despite management discouragement, in order to help the patients to navigate the health care system, which can be a struggle for many LEP patients. For many interpreters, the goal of being an advocate is to empower a patient when they cannot obtain fair and equal health care services. In the following excerpt, interpreter 01_ENG expresses this sentiment.

**INT**: What are the differences between your official role and how you see your role?

**01_ENG**: Well... I think the official role it's mostly conduit, I mean just doing a good interpretation. But I just care for the patients and I often, I mean like I'm not supposed to take somebody's number and say, "Okay, I'll call you in half an hour and we'll call the clinic again and let's see." Or, "Let me try to get this information for you to, I'll call, call you back." Or go online and, because they need some information, and I just kind of, you know, go on Google and I try to find it for them. I try to call this number, and... It's not really expected of me, or, maybe it could be even discouraged in, you know, some ways, but I just, I just feel bad, you know. Like I try to be, you know, efficient, or, you know if I tell them, "Call tomorrow," I mean, they're going to go through the same thing, you know. And who knows whether they will ever, you know, find out where the appointment is, or make the appointment. [01_ENG:
Female Spanish Interpreter, who is originally from Poland]

Finally, some interpreters touched on certain aspects of the interpreter-provider dynamic and how this dynamic can impact the way an interpreter does his/her job. Specifically, one interpreter referenced how she doesn’t conform to the hierarchy standards that exist in the medical field when it comes to advocating for the patients.

08_SP: … So I think advocating for the patient is really, really important that we're understood and that we take the risk to do it. Because sometimes because we're embarrassed or because we're afraid the [provider] will be upset with us, we don't do it … I do do it. [08_SP: Female Spanish Interpreter]

**Interpreters as Cultural Brokers.** Some interpreters saw their role as not only bridging the communication gap, but also the cultural divide between provider and patient. When a patient and a provider have limited ability to communicate in the same language, it can be nearly impossible to provide quality, patient-centered care, often due to the lack of familiarity with cultural concepts that can affect the delivery of effective health care.

According to many interpreters, providers’ lack of cultural sensitivity became clear when discussing routine procedures, which in the patients’ culture may be unacceptable. In the following excerpt, which is unrelated to genetic counseling, interpreter 04_ENG commented on a case where this type of situation could have
made the patient feel uncomfortable, as the provider was not aware of the cultural impact the procedure being offered had on the patient based on her cultural beliefs.

**INT:** Okay. It sounds like your role is primarily in facilitating that communication.

**04_ENG:** And also you know, like cultural broker, too, another role, you know. There has been a case with a young woman and unmarried, the doctor said, “I’m going to do a pelvic exam for you, so I’m going to look in your cervix to see what’s going on. And the patient felt very uneasy, you know, because in our culture, Chinese culture, having a single woman, unmarried, never married before. I mean, they [are] concerned about the hymen, and virginity. Okay? If you do this it’s going to actually break the hymen, and you know it’s a really bad feeling for the woman, so I tell the doctor that, “Look, she never married before. In certain culture, in the old days, they don’t want their husband to think that they are not clean”…And also blood draw, some of the conservative thinking like elderly people, they don’t want to have blood drawn. Because they feel that [they are] sick. My body is weak. I mean, now talking about drawing more blood from my body. It’s going to make me weaker. You have to explain to the doctor. I’m sure that the doctor, they have taken geography class from different country to know different cultures.

[04_ENG: Male Vietnamese, Cantonese, and Mandarin Interpreter, who identified himself as ethnically Chinese]
As shown in the previous excerpt, some medical procedures that are routine part of the medical encounter (e.g. blood drawn) and which are usually deemed medically harmless in Western culture can be unacceptable to individuals from different cultures. Drawing blood to perform genetic testing is an integral part of most cancer genetic counseling processes. Insight into this aspect of Chinese culture provided by interpreter 04_ENG is tremendously relevant for genetic counselors to have in mind when working with Chinese patients. Also, understanding that interpreters might need to negotiate with patients who hold this belief when providers discuss the need of doing a blood draw, can avoid unnecessary confusion on the part of the provider if s/he is not aware of this situation. Interpreter 02_CHI reinforces this point and explains how their participation in such situations involves helping the patients understand the reasoning behind this medical procedure.

**02_CHI:** …Chinese patients hate having blood drawn from them. Drawing blood from them is like taking their lives. It’s actually not like that. You just need to drink more water afterwards. The human body naturally regenerates blood, but the patients don’t believe that. They think losing blood is giving up a part of their body. In order to ensure that patients understand, we have to explain the whole process to them.

When referring specifically about her experience interpreting for genetic counseling, interpreter 11_SP elaborates about how important it is to understand the patients’ cultural beliefs, in this case in particular, the interpreter refers to Hispanic patients, who in her experience, have strong religious beliefs which prevent them
from grasping some commonly discussed topics during a cancer genetic counseling session.

11_SP: [Hispanic patients], because they're very religious, they don't believe in random acts…Everything that happens has a specific cause. And that doesn't work with genetics…In other words, that there aren't any processes, there's no random process… Everything has a cause and an effect…Like as if there were a, a God, or something that is ordering this and that… Who, someone, someone up above, or I don't know where, said, "Okay, listen, I want you to, to have the car here and you're going to cross the street here, and exactly when you're there, you're going to hit him. And he's going to die." People think that way, that every, every, everything that happens, that's why the idea that it's random … they don't conceive, they don't grasp that concept… And, and, and in genetic cases it's very important to know that.

INT: Yes. Mm-hm. That's really interesting what you've just said.

11_SP: Yes… I've learned this over the years, that [Hispanic patients] think everything, everything has a direct cause. [11_SP: Male Spanish Interpreter]

Having the cultural sensitivity to understand how patients might react to some of the discussions that take place during cancer genetic counseling encounters (e.g. a patient’s strong guilt feeling for passing down a cancer-related gene mutation to their children) will inform the genetic counselor’s approach in such situations.

It became clear that some interpreters felt more strongly than others about providers’ lack of cultural sensitivity or competency, either perceived by the
interpreter or real. The following quote exemplifies a case where the interpreter strongly believed that the provider was asking inappropriate questions based on the age of the patient as well as her cultural background.

09_CHI: There are a lot of cultural aspects that they don’t know. One time, a seventy-year-old patient came, and the [provider] asked how many sexual partners he had. If I was the doctor, I would skip that question. There may be exceptional cases, but the patient was a seventy-year-old-Chinese patient…If the patient is brought up well, he would tell the doctor that he hasn’t had sexual intercourse for a long time already. Patients who may not be as educated may say, ‘Oh my gosh, do you know how old I am? Why do you still ask me these questions?’ Some doctors are even more foolish. They ask some patients how many sexual partners they have. If they were to ask my mother, she would be very insulted. These are insults. In Western culture, these questions may not be insulting. Maybe it’s common to have three partners. Even though I have lived away from China for a total of thirty-nine years, I feel that those questions are insulting. Can you imagine patients in their sixties, seventies, eighties or even nineties being asked those questions? The [provider] really need certain training. Their abilities to make decisions are very important. They can’t just come into the room and ask patients these questions. The patients are already in pain and are feeling sick. If the [providers] ask these insulting questions too, they must not be happy.

[09_CHI: Female Vietnamese and Cantonese Interpreter, who is ethnically
Theme 2: Challenges faced by Medical Interpreters during Cancer Genetic Counseling encounters

Cancer genetic counseling sessions can be highly complex in terms of the amount of information that needs to be conveyed to the patient, the nature of the information being provided, and the emotional impact that the information can have on the patient. The most common challenges the interpreters mentioned during the interviews relate to the technical difficulties associated with remote interpretation (phone or videoconference), the emotional toll that their work takes on them, and the limited knowledge of genetics terminology.

Technical difficulties and working conditions. The introduction of remote interpretation services in medical centers serving LEP patients has increased the capacity of these facilities to readily access medical interpretation, increasing both the number of patients served and the languages available. Although this seems to be ideal in terms of increasing access to care for LEP patients, remote interpretation carries a number of significant disadvantages from the perspective of both interpreters and genetic counselors.

Interpreters’ perspectives. The majority of the interpreters in this study consistently expressed their dissatisfaction with remote interpretation modalities, both phone and videoconferencing or Video Medical Interpreting (VMI). Interpreters who have been interpreting for many years used to do all interpretations in person. With the introduction of remote modalities their job description has changed significantly,
and with this, the number of interpretations they do each day has increased considerably while breaks between interpretations have decreased. Particularly, when referring to interpreting for genetic counseling sessions, interpreters have significant concerns about doing these sessions remotely.

Most of the complaints focused on the fact that remote interpretation carries a significant amount of associated technical difficulties that jeopardize the quality of the interpretation, and the fact that it makes the interpretation process significantly more difficult by not allowing the interpreter to be present in the room.

**01_ENG:** [A] few years ago I was interpreting for [genetic counseling] and they were talking [about] this BRCA, you know BRCA1, BRCA2, which I at this point had never heard of it. And this was [names hospital unit where genetic counseling appointments are held] which really had very poor…connection on VMI, so you couldn’t really hear well. And, there was a patient with, maybe three family members, you know? … I was so stressed. I couldn’t really understand what they were talking about, what the [genetic counselor] was saying, what the [providers] were asking, you know, they were just coming close to the screen…I just remember thinking, oh my God, like let me, like I hope it will be over soon, because this is just so, so bad …A big part of it was that the sound…wasn't very good…and you would miss words, you would miss syllables... if somebody says just one syllable…you don't hear…the machine doesn’t pick it up, you know. So if I often ask the doctor…let's say, "Are you a doctor or are you a nurse?" And I don't hear the answer
and then I ask again and then they get, or they get defensive, you know…just the machine is not ideal. It is not going to pick up everything…[E]specially the VMI that was in Family Health Center and the Cancer [facility where the genetic counseling sessions happen] - oh my God!...whenever I heard that I have to interpret for them…it was a nightmare, because the sound quality, like I could hardly hear what people were saying. And they were saying important things and you cannot keep saying, "please repeat, please repeat."…no matter how many times they would, I basically had to be guessing and it was a very, very stressful time.” [01_ENG: Female Spanish Interpreter].

The following excerpt relates to interpreters acting as a transient support system for patients facing hard and emotional medical appointments. Interpreter 07_SP expressed how transitioning to remote interpretation has been less than ideal for her, not only by not allowing her to have contact with patients, but also makes reference to the added stress that these interpretation modalities incorporate to an already stressful job.

07_SP: Uh... even over the phone, even though I don't agree and I don't like it, but it is what it is. It's the direction that this work is going. So I have a few more years left before I retire and I hope that I'll still be able to have human contact because if not, I don't think I'll stay much longer…Uh, it's very impersonal. And it's very stressful. It's very stressful because the equipment doesn't work a hundred percent, so there's really a lot of stress when you're interpreting and you can't hear well and the noise of the papers when they're
shuffling the papers near the microphone and you hear more the papers than
the [provider]…Or the patients who can't speak loud enough too, "could you
repeat that, could you repeat that, could you get closer to the microphone."
Uh, it's... the stress level is, I don't know how the interpreters who are there
during the week do it, because of the volume of calls they get. It must be
tough. [07_SP: Female Spanish Interpreter]

At the end of the previous quote, Interpreter 07_SP makes reference to the fact
that she works only at night and during the weekends, in contrast to the rest of the
interpreters that were interviewed, who work full-time schedules. Work schedule and
working conditions were identified as major challenging aspects of the interpreters’
day-to-day work. With the advent of phone interpretation interpreters are faced with
having an increased number of interpretations per day, with a less-than-ideal
frequency of calls that take place on their 40 hours/week schedule.

05_CHI: When we got this phone system, we were getting twenty to thirty
calls each day at one point…Now, we only get one minute to rest in between
calls.

INT: Only one minute?

05_CHI: Yes, only one minute. In the past when it was very busy, one minute
of rest was too long. At those times, the one-minute [break] would be cut to
forty something seconds. Sometimes we put the system on hold to get a drink
of water, and there would be a call waiting already…Our supervisor does not
consider that we may be stressed out. Sometimes, the [providers] give us
attitudes, but we just have to suck it up... Even now, sometimes we get one minute of rest in between calls. Other times, we get less. After forty or fifty seconds, there may be another call waiting already, so we don’t even get the whole minute. [05_CHI: Male Vietnamese Interpreter]

For these interpreters, the remote interpretation work structure generates a tremendous amount of stress and anxiety, a situation they believed was largely dismissed by their management. This aspect of phone interpretations, which is under absolutely no control of the interpreters, is largely unrecognized by many providers. As part of her clinical training, the author of this paper has witnessed genetic counselors become overtly upset with interpreters providing phone interpretation when the interpreter requested information to be repeated. Given the gained knowledge and perspective that conducting the present study has given the author, she was able to recognize how technical difficulties, rather than a “poorly” executed interpretation, was the cause of the communication problems between the provider and interpreter. The following excerpt is an example of this, rather common situation.

04_ENG: Right now, if you work…eight hours a day five days a week, and you have this background noise, It’s a lot of stress. And also you have to worry to face background noise from your coworkers in the center… Some of them speak louder than others…Yeah, you can hear [them], so it’s difficult. Right now, the very first thing that they have to give us the right equipment first, okay? [04_ENG: Male Vietnamese, Cantonese, and Mandarin Interpreter, who identified himself as ethnically Chinese].
As some providers seemed to be oblivious of the hardship and challenges that remote interpretation imposes on interpreters’ performance, some interpreters expressed how sensitizing providers in this regard can potentially improve interpreter-provider dynamics, because increasing providers awareness about interpreters’ working conditions can as a result make providers refrain from blaming the interpreters for communication issues, but rather work together in overcoming such problems. To accomplish this, Interpreter 09_CHI proposes the following: “if we can just show twenty [providers] what we do, they can spread the word. They can tell the others that, ‘Yesterday I was at the call center [listening to the calls], and when you guys were pulling things around, I was about to die’ When they speak to other doctors, the other doctors would understand. They should think about the fact that they are banging and moving things around. They should at least warn the interpreters to log off before they start moving things around and then log back in when they are done. Otherwise, it’s really painful for us. I really wish that providers get more training. For us, we should get more training on specialties like nephrology, genetics, and oncology so that we would be more updated. But the [providers] must go through our training as well to learn how to work with interpreters”.

**Genetic Counselors’ perspective.** Genetic counselors also expressed their opinions in terms of working with interpreters remotely. The majority of the interviewed genetic counselors in the present study preferred in-person interpretation to remote services for different reasons, including bad quality of communication, lack
of opportunity to get to know the interpreters in person, and loss of nonverbal communication. Genetic counselor GC_08 expressed:

**GC_08**: I really miss having in-person interpreters, if I’m honest, ’cause there’s so much body language and nonverbal communication involved and it’s really hard to just have this like yammering voice on a phone…I really strongly prefer in-person interpreting.

Interestingly, one participating genetic counselor alluded to the fact that bad communication due to technical difficulties equated to a bad performance on the part of the interpreter:

**INT**: And in terms of working with interpreters, what’s sort of the biggest challenges with that?

**GC_07**: Having a good interpreter, having someone - I mean, there are times when I’ll go through three or four interpreters because just the technology or the phone line will go dead or they run out of time. Those are the most frustrating for me, when, you know, the system doesn't work well. If it’s a good interpreter, you know, I think it works fine. [GC_07: Female Genetic Counselor]

It could be argued that the genetic counselor was not implying that having a “good interpreter” means the same as having appropriate quality of communication. However, her statement brings up an important point that genetic counselors, and any other provider working with remote interpreters, needs to be made aware of: the fact
that interpreters are most likely having the same technical difficulties on the other side of phone. If made aware of this fact, it could help providers be more understanding of the interpreters’ situation, rather that jumping to the conclusion that the interpreter is performing poorly.

Genetic counselor GC_04 made an interesting point about missing the opportunity to know the interpreters with advent of remote interpretation modalities.

**GC_04:** I certainly don’t know, like with one exception, much about like what [interpreters] are as people, you know, and that’s one thing you lose by not having [the interpreter] in person. And I have gotten to know a little bit, like when I have actually met the staff like at the NICU for a family conference or something like that, then I remember them better than when I’m talking to them on the phone. But most I don't know. [GC_04: Male Genetic Counselor]

Having the opportunity to meet interpreters in person could facilitate a better working relationship and potentially better outcomes, as developing a provider-interpreter alliance for the benefit of the patient is more likely to happen if interpreters and genetic counselors know each other better.

**Emotional Aspect of Interpreting.** Cancer genetic counseling sessions can be emotionally charged. Patients present to genetic counseling with complex stories, sometimes tragically sad ones, such that the discussions that take place in these sessions can have a psychological impact on anyone involved. Genetic counselors are trained to manage this aspect of genetic counseling, are prepared to deal with
patient’s suffering, and most of the time they have resources to help them process emotionally loaded cases. In contrast, medical interpreters do not receive training in how to manage and cope with the emotional burden of working in emotionally complex cases. The following excerpt demonstrates how difficult some cases can be for these interpreters.

06_ENG: Yeah, like sometimes you’re dealing with – you have to give somebody really horrible news. That’s horrible. Or sometimes you’re in an interpretation where the person already got the news but you’re doing this interpretation and you’re dealing with a situation where you just want to burst into tears any minute and you can’t. You have to be very professional. But then when you leave the room you burst into tears. You know, that kind of stuff. Sometimes you need a little emotional help. [06_ENG: Female Spanish Interpreter]

In referring to interpreting for genetic counseling this same interpreter expressed:

06_ENG: What’s challenging is what I just said. It’s emotional, it’s sensitive and it’s scary for the client and it’s scary for the interpreter. You don’t want them to have the gene [mutation]. So I think that’s the most challenging part for me, the emotional part.

Some interpreters expressed the ways in which they managed emotionally after interpreting for a hard case. In particular, interpreter 08_SP shared how her
religious beliefs or sharing what she has experience during a difficult case with a colleague helps her cope with the situation.

**08_SP:** It's difficult… Because sometimes there are cases that, well, what I do is... I step away for a minute from the monitor, or from the, in person, and I go to the chapel to cry for a bit...Or I talk with one of my colleagues. But there are some cases that are very, very, very difficult. And sometimes, the case itself might not be so drastic, or it might not be a very difficult diagnosis, but the situation of the patient is so... who could I say it... so sad... and having no way to help them. You know what I mean?... For example this morning I came out of an interpretation and I thought - My God! How can I do this? Go back to work, go back because... it's not such a difficult situation, but the situation of the patient - they don't have family [in the U.S.]. They worried...So it's not that it's a tough or bad diagnosis, but the patient's situation is...it's hard. And, I think that my faith, my religion has also helped me a lot…Because praying, asking God to help the patients and to give me the strength to keep going. And because I say, "Well, if you put me here in this situation, it's because you thought I could handle it." You know what I mean?

[08_SP: Female Spanish Interpreter]

In the previous quote, it is very clear how empathic interpreter 08_SP is towards the patients’ suffering and current situation, which makes her vulnerable to become psychologically affected by it. This interpreter’s religious beliefs give her a way to cope with hard sessions, praying for strength to “keep going” and for the
wellbeing of the patient. However, this was not the case for other interpreters, who struggled to maintain emotional balance in the face of overwhelming circumstances associated with their work. These overwhelming circumstances were not limited to dealing with patient’s suffering, but rather extended to the inherently stressful aspect of their job. One interpreter mentioned how particularly hard had been for him to deal with remote interpretation:

10_CHI: …Providers don’t understand this part [referring to remote interpretation]. Many of us have hearing issues. Providers yelled at me...I learned not to take it personally. But I have emotions. Sometimes I have nightmares. [10_CHI: Female Vietnamese Interpreter]

This interpreter’s psychological distress clearly evidences the magnitude of the emotional impact that working as a medical interpreter can have on someone performing such a task. Some interpreters shared that they have became apathetic over time as a result of interpreting for patients with tragic stories. For instance, interpreter 02_CHI shared how this seemed to be the case for him.

02_CHI: As interpreters, we sometimes encounter patients that have tragic stories, especially when they are asked to talk about their terminal illness. They would become very sad and would start crying. For the most part, we are desensitized because we have heard so many stories but once in a while, they stir up emotions in us. [02_CHI: Male Chinese Interpreter].

Other mechanism that seemed to help interpreters in protecting themselves
from becoming emotionally affected by patients’ circumstances was remaining emotionally distant from patients and keeping themselves from establishing any type of personal relationship with patients. Interpreter 04_ENG uses this strategy as a way of avoiding emotional distressed by work-related circumstances.

**04_ENG:** … [T]hey said, “Wow (Interpreter’s name), you’ve been working for thirty years? But now people [is] under a lot of stress. You don’t get stressed?” I said, “No”. The reason that you don’t get that much stress it’s different stress now. The stress I have right now is different from my work. I love my work. Everywhere I go, I go to interpret, people like me because [I say,] “Good morning, how are you doing? I treat patient like, just like, I don’t know you. I don’t care what you do outside. You’re a patient. I don’t have to know about your background. You’re polite to them, and you know. Even if the patient is nasty, don’t worry. [04_ENG: Male Vietnamese, Cantonese, and Mandarin Interpreter, who identified himself as ethnically Chinese]

As mentioned before, the majority of interpreters in this study felt deeply affected by patient’s suffering, and their empathic demeanor made them susceptible of being psychologically impacted as a result of interpreting for patient’s facing emotionally distressing circumstances. Based on the comments of interpreters 02_CHI and 04_ENG, becoming desensitized to or remaining detached from patients and patient’s suffering is a coping mechanism interpreters, consciously or unconsciously, resort to as a way to deal with the day-to-day hardship of their job.
**Lack of or Limited understanding of Genetic Terminology.** Another challenge that interpreters faced when interpreting for cancer genetic counseling encounters was the lack of and limited understanding of the genetics terminology that is integral part of a counseling session in the cancer genetics setting. As part of the cancer genetic counseling encounter the genetic counselor explains genetics-related concepts (e.g. chromosome, genes, DNA, inheritance patterns) in order to educate the patient on subjects related to hereditary cancer syndromes, genetic testing, surveillance recommendations, prophylactic measures, and treatment options, among others.

Universally, interpreters recognized how the lack of genetics terminology was a major impediment to providing adequate interpretation during genetic counseling sessions. Interpreters often expressed feeling overwhelmed by the nature and amount of information conveyed to the patient, and how the lack of understanding of basic genetics concepts made harder for them to effectively translate these into the patient’s native language. For example, interpreter 01_ENG talked about her experience interpreting in a genetic counseling session involving a discussion about hereditary breast and ovarian cancer syndrome:

**01_ENG:** I mean as I said, I didn't do well. I think [the patient and her husband] had a lot of questions. It was just... I mean I didn't understand it, so how could I really translate it well if I didn't understand the concepts.

This quote exemplifies how her limitations impacted the interpretation process at another level, as she felt “embarrassed” for doing her job “poorly”. In the following
excerpt, the interpreter refers to an experience interpreting for a prenatal genetic counseling session, however the content of the session in term of terminology used by the counselor is similar to that used in the cancer setting.

01_ENG: And since [genetic counselors] kind of specially focused on the, um, genetic, I'll tell you … two experiences that I had…that were really, really stressful, and… I will kind of never forget it, but, because the first year I was working in the hospital I was sent for the first time to genetic counseling, for pregnancy.

INT: Uh-huh. You went in person for that one?

01_ENG: In person.

INT: Uh-huh.

01_ENG: … I was never trained to do it, and there was… some vocabulary I… all those chromosomes and characteristic features… anyway, I got really nervous. I got to the point that I just like totally... melt, I mean I just couldn't even... interpret it, like basically my memory kind of shut off, I couldn't interpret two sentences. Like I could only interpret like two..., it was very, very embarrassing. The lady who was there, I mean the patient, was very, very sweet. And I kept apologizing, "Oh, no, no, you're doing great. You're doing great." And then I went back to the office and I thought, "Oh, my God! This was so embarrassing. Like I made a total fool of myself." And then my supervisor says, "Um, the genetic counselor called…And she asked me to send somebody else next time." And I said, "Yeah, did she say anything else?"
She said, "Well, I ask her…whether you did anything wrong. She said, 'No, no, could you send somebody else next time.'" And I knew… I did very poorly… So for a year they didn't send me. You know, by the time they sent me I already knew more, I was more comfortable, and I then … interpreted for this lady on regular basis and it was not a problem. But it was…I still remember how ashamed I was and humiliated and how nervous. [01_ENG: Spanish Interpreter]

One of the goals of a cancer genetic counseling session is to help patients understand their risk of developing a particular type of cancer as a result of having inherited a pathogenic mutation in a particular gene. The use of technical terminology (e.g. genes, pathogenic mutation) and somewhat abstract concepts (e.g. risk of developing cancer) by the genetic counselor adds an extra layer of difficulty to the translation process. The ability of an interpreter to effectively translate these concepts and their meaning is fundamental to ensure that patients receive accurate and understandable information. In this study, only few interpreters were aware of the difference between knowing the terminology and actually having a deeper understanding of the meaning of the information provided by the counselor.

11_SP: I've noticed is that…when you're doing an interpretation, it's better if you've studied before…For example, the genes. There are people who think, well, if you have… I don't know if it’s BRCA1 or, I don't remember the terms, okay, that makes you more likely to get cancer, it doesn't mean you're condemned to get cancer. And you have to know how to say things in such a
way that the patient understands what the situation is. [11_SP: Male Spanish Interpreter].

In this excerpt interpreter 11_SP alludes to what it really means for a patient to having inherited a mutation in the BRCA1 gene. This interpreter, even though he is not certain he is using the appropriate term for the gene, which he was, demonstrated a clear understanding of the concept of risk, as inheriting a BRCA1 gene mutation does not “condemn” the patient to develop cancer, but rather that there is an increased chance for this patient to develop such a condition. Had he lacked this understanding, interpreting for cancer genetic counseling may result in further complications for the interpreter, the genetic counselor and the patient.

Many of the interpreters interviewed during this study advocated for improving their formation as medical interpreters by adding training in specialized areas such as genetic counseling. This showed once again how important it is to the interpreters to provide quality services for the benefit of the patients, and some of them offered suggestions about how this improvement could be achieved.

09_CHI: One thing missing from the training was information about more specialized fields like genetic counseling …What I want most in training is to have professionals [come talk to us]. I’m not speaking for anyone else but for me, over these past seven years of working as an interpreter, I’m the most familiar with GI [Gastrointestinal-related medical information].

INT: Is it because you interpret for these cases the most?
09_CHI: Yes. It doesn’t mean that when I go to another hospital, I know everything [about GI], but I am very familiar with the topic because I’m well-equipped in terms of the terminology and everything else. However, if [name of a medical center] hires me tomorrow and tells me they don’t need me to interpret for GI cases but instead for genetic counseling, I know the basic knowledge regarding genetic counseling like chromosomes. I don’t have a problem with the basic things, but there are many aspects of genetic counseling that I’m not familiar with, so I’m lacking in those areas... If a group of [genetic counselors] come every three or six months to refresh our knowledge and to train us on new and updated information, it would help a lot. [09_CHI: Female Vietnamese and Cantonese Interpreter, who is ethnically Chinese]

Theme 3: Lack of respect/appreciation by providers

Many interpreters in the present study perceived a significant lack of appreciation from some providers, as they were rarely acknowledged as professionals in the three-way communication. Interpreters also noticed that the significance of their participation in the medical encounter is almost never appreciated, at least not explicitly. Interpreters frequently mentioned during the interviews how providers abruptly ended phone calls once they considered the communication with the patient has reached the end. This behavior by the providers made interpreters feel as if they were “an extension of the machine”, as one interpreter referred to these far too
common situations. The following excerpt exemplifies interpreters’ experiences around this aspect of the interpreter-provider dynamic.

“INT: Yeah. And have you had an opportunity to interact with providers much, I mean, aside from when you’re interpreting?

03_ENG: Not that much, no. They don’t really pay that much attention to us, which I guess is fine…One of the interpreters actually at [name medical center] was telling me that one of the providers said, you know, “You interpreters really aren’t part of the healthcare team.” And so I said to her, “Well what does that make us, furniture?” And she said, “No, even less.”

[03_ENG: Female Spanish Interpreter]

Interpreter 03_ENG, and many other interpreters in this study also shared how they perceived that they are not taken seriously, and certainly not appreciated. When talking about their interaction with providers, interpreters frequently voiced how difficult was for them to distance themselves from an emotional reaction to not being acknowledged professionally, and how “a simple thank you” would make a tremendous difference.

01_ENG: [Providers] get kind of bothered when you ask them for their name, or to spell their name, or which clinic. I mean, some of them, they just want to have you right at the tip of their fingers. Like, hey, you know, you go. Go now! … And a lot of them, they finish and, not a lot of them, but some of them, they treat you as if you were extension of a machine. So once they're done with you, they just press the button and let you go and they don't even
say, "Hey, thank you I'm done." Or like "I don't need you anymore. Thanks for your services." You know? And when that happens, and I know I shouldn't take it personally, but sometimes it's just a slap to the face.” [01_ENG: Female Spanish Interpreter]

Only few of the participating genetic counselors briefly mentioned gratitude for medical interpreters. GC_01 said: “So I'm thankful for them 'cause it lets me do my job. I'm really happy for that”; and GC_07 succinctly commented: “You can tell that they are professionals and this is what they do”.

In contrast, several participating genetic counselors wondered about medical interpreters’ formal training and in some occasions questioned their professional abilities.

GC_08: Honestly, I’m curious about what their level of training is. I don’t even understand really the service. I know that I dial a phone number and then someone picks up and asks me for the medical record number. I have no idea who those people are or where they are, who they work for, what kind of training they’ve had. And so it’s hard for me to know how to improve that because maybe they don’t have any medical vocabulary training at all. Maybe they just like swear that they speak the language and then they can’t -- I don't know. [GC_08: Female Genetic Counselor]

Many genetic counselors in the present study associated the use of medical interpreter with long and burdensome consultations and rarely acknowledge their
instrumental participation. These somewhat contrasting views between interpreters’ self-image in terms of their critical role in facilitating providers’ interactions with LEP patients and providers’ dismissal created conflicts and anxiety for the interpreters.

**Theme 4: Genetic Counselor “correcting” the interpreter**

**Interpreter perspective.** A recurrent theme among Spanish-speaking interpreters related to interpreters being “corrected” while interpreting for Spanish speaking patients by providers who claimed they were somewhat proficient in Spanish. It became obvious during the interviews how little these interpreters appreciated being told by non-native Spanish speakers how they should communicate certain things in their native language and how “unnerving” this could be for them. According to the interpreters these types of situations were not exclusive to the genetic counseling encounter and usually caused interpreters to become distressed or uneasy for the remainder of the medical encounter. Interpreters who had experienced this situation had serious reservations about these providers’ ability to communicate effectively with patients in a medical setting.

**08_SP:** [Providers] sometimes think that they speak, that they know how to speak Spanish. Um... and to make them understand that it's not the same to speak Spanish to say, uh, "Where is the bathroom?" or to say something that they went on vacation and learned three words, that it's the patient's life. That it's not, I mean that, that no matter how well they speak it they're not going to
speak it, I mean, their Spanish is not the Spanish that the patient needs.

[08_SP: Female Spanish Interpreter]

Related to this, but even more concerning from the perspective of the interpreters, were those cases when providers believed they had adequate proficiency in the target language and considered themselves able to conduct the entire session, but still requested an interpreter to be involved in the encounter “just in case” they needed assistance communicating with the patient. One interpreter mentioned how her services had been requested in the past by a provider who expected to conduct the session in Spanish and have the interpreter at her disposal in case she made a mistake. This interpreter said: “if you use an interpreter, we’re already there, like, don’t use us like a, like a... private, you know, Spanish tutor, so you can speak your Spanish, you know?”. This is clearly a misuse of interpretation services and can greatly impact the care of the patient.

**Genetic Counselors’ perspective.** Interestingly, the same theme emerged from the interviews with genetic counselors in regards to working with Spanish interpreters. Many of the interviewed genetic counselors had acquired some Spanish over the years. Cancer genetic counseling sessions usually have a strong psychosocial component. Genetic counselors make assessments of the patients’ thoughts and reactions to the information provided based in part on the patient’s responses, statements, and comments throughout the session. Genetic counselors are constantly evaluating nuances in patients’ explicit comments as these can help them make a
better assessment of patients’ understanding of the information being provided. Also, these sessions involve discussions of topics that can be difficult for the patients to grasp (e.g. risk factors, risk percentages, etc.). From the genetic counselors’ perspective, psychosocial assessment and the accuracy of the information being provided can be jeopardized in sessions where an interpreter is needed to mediate the patient-provider communication.

**GC_08**: We’re very intentional with our language, or I am…I was trained to be very intentional with my language, and I can only imagine that is very difficult on interpreters if the verbatim translation of what I said wouldn't make any sense in the native language or something like that…I can completely see how [talking about risk] would be nuanced to an interpreter but from my perspective, I felt like I said that on purpose. Please just say what I just said and I know that there are words for that in Spanish so I don’t want [the meaning of what I said to be missed]-- Yeah, that’s not an excuse. Yeah, it’s true. There’s such a strong psychosocial component that it would be like misrepresenting what someone is saying as an interpreter in a therapy session. It’s not quite as -- You know, it’s short-term interventions and also intermixed with genetics information, but yeah. And then part of the whole reason that we exist is because this information has emotional impact. There’s a completely psychosocial component to disease running in families and so I definitely feel like that’s an important part of the session. [GC_08: Female Genetic Counselor]
For those genetic counselors that had a limited understanding of Spanish in the present study, this limited Spanish knowledge gave them the ability to pick up what they considered mistakes made by the interpreter. It became clear that when genetic counselors felt that important aspects of the information needed to be conveyed to the patient was potentially being missed in translation, the genetic counselors felt compelled to “correct” the interpreter utterances to avoid loosing important content, rather than correcting the interpreters’ grammar or use of a linguistically adequate equivalent.

**INT**: So in those cases where you can tell that the Spanish interpreter wasn't quite saying what you intended, were you able to

**GC_02**: Yeah. I’d say, “Well, no, that’s not quite what I said. What I said was” - you know, and I’ll rephrase it and try to get the interpreter to say it right. Yeah, and still you don’t really know and I don't know Spanish as a first language so I don’t really know what nuances there might be, you know, so there’s that possibility that they’re getting communicated with a different slant, even if I can catch that they’ve used the wrong word. [GC_02: Female Genetic Counselor]

Genetic counselor GC_02 recognized that her Spanish proficiency is quite limited, and in spite of that she ventured to “correct” the interpreter occasionally to minimize the loss of critical content, even though she can hardly know if what she perceived as a mistranslation by the interpreter is actually a “nuanced” way the
interpreter is using to accurately translate what she wants to communicate to the patient.

**Theme 5: Trust as foundation of the Interpreter-Provider dyad**

A collaborative interpreter-provider relationship in the bilingual health care setting is fundamental to promote effective communication between language-discordant patients and providers. Both interpreters and providers consistently mentioned trust as a salient aspect of the interpreter-provider dynamic during the medical encounter. Providers need to trust that interpreters are communicating the information faithfully to the patients and back from the patients to them, and interpreters strive to gain providers’ trust as they relay messages between patient and provider.

**Interpreters’ perspective.** Interpreters in this study were well aware of the importance of translating the message between patient and provider in a way that is accurate and culturally appropriate. However, many of the interpreters were of the opinion that providers frequently express, explicitly or implicitly, distrust in their ability to do an adequate interpretation. According to many of the interpreters this situation usually presented when patients provided broad and unspecific answers to provider’s questions, either because of cultural or educational factors. In such scenarios, interpreters were put in a position of trying to negotiate with the patient to answer the providers’ specific question. As a consequence, the exchange between interpreter and patient became longer and more complex than it should have been.
based on the type of question the provider had asked (e.g. closed-ended questions which should elicit “yes” or “no” answers). As a result, providers frequently grew suspicious about the interactions between the interpreter and the patient and questioned the interpreter’s ability to translate what they had asked or the information being provided.

08_SP: …and that the [provider] also trusts me, believes that I am saying what the patient is saying. Because there are [providers] who have questioned us. Uh, either because they think they can speak [the patient’s language], or because the patient's answer is not what they were expecting, so they think we didn't … ask[ed] the question correctly. Um... one doctor said to me, "I don't care what you think. I care about what the patient thinks." And I said, "[Provider], I'm just repeating what the patient is saying." So, that they believe me, you know, that they trust the interpreter because I'm not there to take the [provider’s] place. I'm there so that communication is better. [08_SP: Female Spanish Interpreter]

As exemplified in the previous excerpt, interpreters are placed in a very difficult position when patients do not respond to the providers’ questions, and as one interpreter put it, “if there is an issue of miscommunication or language problem, the [provider] tend to blame on interpreters, instead of [the] patients”. Many interpreters provided information on how they manage these situations with providers, and how they encounter these scenarios more frequently with providers who have little experience working with interpreters. They cautioned that many concepts providers
express have no linguistic or conceptual equivalent in other languages, which causes
the interpreters to elaborate their explanations, which may take longer than the
original speech.

09_CHI: [The Provider] said, ‘I only told you two sentences, short ones. How
come you make it up so a long interpretation? What’s going on here?’

INT: Oh so he heard you speak in Cantonese, and obviously he didn’t know
what you were saying, so he asked you why you were speaking for so long.

09_CHI: Right. He asked me what I said, and I told him. Because of Chinese
culture and the questions that providers are asking, I can’t always interpret
word for word. Even if I interpret word for word what the provider asked, an
old lady wouldn’t understand the questions. How would she understand what
he asked her? Patients who come to this hospital have low registers. The
providers are also very impatient, but we can’t blame them, because they are
new. [When we interpret for more experienced providers], we don’t have this
problem. They are very patient. They are used to the process because they
have worked here for so long. They know that we won’t add anything to what
they say and that we are very accurate. The new [providers], however, are not
tained. They are already occupied with learning medical knowledge. They
are not going to take the time to care about how interpreters operate.

[09_CHI: Female Vietnamese and Cantonese Interpreter, who is ethnically
Chinese]
Genetic Counselors’ perspective. Genetic counselors in this study emphasized the importance of the literal, neutral, and faithful relay of information in terms of what they expect from an interpreter. When a genetic counselor perceived that the information being provided to the patient and the responses they received back did not match, it frequently made them questioned the interpreter’s competence and ability to provide a transparent and accurate interpretation as expected based on conduit model of interpretation. When the genetic counselors could not speak or understand at all the patient’s language, they felt vulnerable with respect to the level of control they could have over the session. One genetic counselor expressed: “I don’t have a sense of what they’re trying to say or what the interpreter’s saying to me and so there’s a bigger divide.” In this situation they are left with no option but to completely trust that the interpreters will accurately represent their voices and faithfully transmit the information to the patients.

GC_04: Is like there’ll be long like exchanges that are just not what, you know, I said or like -- I can tell that in Spanish and I can sort of like manage that. But, I have no idea what’s going on in Vietnamese. Like I couldn't say hello in Vietnamese, to be honest with you. So I just I feel like, purely based on how long someone’s talking versus what is said, you know, in different languages, that can’t be an accurate representation of what either I communicated or what the patient said…if it’s really bad you can just say, you know, like, “Tell me what she’s saying” or like, “There must have been more to it than that”, but most of the times if there’s sort of longer things like that,
it’ll cause me to ask more direct questions so that like I feel like oh, then I can actually ascertain exactly what’s happening here. But yeah, I don't know.

[GC_04: Male Genetic Counselor]

According to participant GC_04, the one factor that helps him determine the accuracy of the translation into and from a language that he has no knowledge about is the length of the utterances used by the interpreter and the patient. The majority of the genetic counselors who have experienced this situation in a session were of the opinion that the interpreter was responsible for creating the communication problem, as s/he deviated from the expected communicative standard role of a conduit. Only one genetic counselor acknowledged that in such cases, interpreters might not be at fault. In her experience, patients do not always respond to the counselor’s questions in a concise manner. Regarding one patient, she said, “it might not be fair to our translating staff because this [patient] was kind of a rambler”.

These findings demonstrate the critical role that trust plays in the interpreter-provider dynamic, and highlight the importance of establishing an open communication between genetic counselors and interpreters such that interpreters feel comfortable informing the genetic counselor whenever cultural and/or educational factors might influence patients’ responses.
DISCUSSION

The main goal of the present study was to gain in-depth knowledge about medical interpretation services in the context of hereditary cancer genetic counseling involving underserved patients. Overall, the present study identified many challenges that medical interpreters and genetic counselors encounter when working together to serve LEP patients in the setting of cancer genetic counseling. To our knowledge, this is the first study that explores the perspective and experiences of a subset of medical interpreters in the setting of cancer genetic counseling, and the first to compare and contrast medical interpreters’ work-related ideas and views with those of a group of genetic counselors who have worked with medical interpreters.

Interpreters as more than Conduits

Medical interpreters were initially conceptualized as conduits, having a neutral role in the medical encounter, striving to achieve an invisible presence that would ultimately reinforce the provider-patient relationship as the most important one. According to direct Dysart-Gale (2005), the medical interpreter’s code of ethics directs them to “transmit the message in a thorough and faithful manner,” and to interpret “everything that is said by all people in the interaction, without omitting, adding, condensing or changing anything”. In the present study, the majority of the participating medical interpreters expressed that following the conduit model often ends up being impractical, as serving LEP patients frequently means working with patients with low health literacy and who hold different cultural belief systems from that of the providers. Although the conduit model provides strict guidelines for
interpreting behavior, these findings are consistent with the literature, which indicates that the conduit model has been deemed inadequate by a number of researchers and interpreters who point out that the conduit model fails to account for issues such as socioeconomic and cultural factors (Dysart-Gale, 2007; Hsieh, 2008; Butow et al., 2011).

Most interpreters in the present study perceived themselves having a role beyond being just a conduit. Participants frequently acted as patients’ advocates and cultural brokers with the goal of bridging more than the linguistic gap between patients and providers. Beltran Avery addressed the inadequacies of the conduit role and proposed an expansion of the traditional interpreting standards. This author proposed three additional roles that seemed to be frequently adopted by medical interpreters in this study: the clarifier, in which the interpreter departs from the conduit model in cases when the information/terms used by the provider have no linguistic equivalent in patient’s native language, the patient advocate in which the interpreter acts outside the bounds of an interpreted interview on behalf of the patient, and the culture broker in which the interpreter provides a necessary cultural framework for understanding the message being interpreted (Beltran Avery, 2001). A recent study on the decision-making process of low-income LEP Latina women undergoing genetic counseling in the cancer setting showed how adoption of non-traditional roles by the interpreters promoted better communication between these patients and the genetic counselors. Kamara and colleagues demonstrated that when the interpreter acted as more than just a conduit of language and communicated with
the genetic counselor and patient in a way that helped facilitate the discussion between them, communication was enhanced and potential errors in interpretation were avoided (Kamara et al, 2015).

Many of the participating genetic counselors in the present study expected the interpreters to abide by the conduit model and underscored the importance of an accurate and faithful interpretation by the medical interpreter during cancer genetic counseling session. The findings of Kamara and colleagues and those of the present study support the proposed expansion of the official interpreters’ roles. Recognition of these additional roles by health care providers will lead to realistic role expectations and has the potential to enhance effective communication between interpreters and providers.

The ability to understand the patients’ language, and often their culture and worldviews, place the interpreters in an advantageous position compared to the somewhat limited cultural competency of some genetic counselors working with LEP patients. However, it is important to caution interpreters against assuming that providers are completely unaware of culture-related nuances and that the questions they ask the patients during the genetic counseling session are irrelevant to the medical encounter and therefore should be avoided. If interpreters feel strongly about provider’s lack of cultural competency, there should be a discussion between the provider and the interpreter in a way that makes providers aware of the cultural context and interpreters aware of the medical relevance of a particular set of questions. This will avoid the interpreter interjecting her/his opinion and potentially
altering the information that the provider needs to gather. In this sense, interpreters should be encouraged to ask questions and to alert the genetic counselor about potential cultural misunderstandings as they come up. Additionally, genetic counselors should respect an interpreter’s judgment that a particular question is culturally inappropriate and either rephrase the question or ask for the interpreter’s help in eliciting the information in a more appropriate way.

Challenges faced by Medical Interpreters during Cancer Genetic Counseling encounters.

The analysis of in-depth interviews with participating medical interpreters showed that these interpreters face three main challenges when interpreting for cancer genetic counseling sessions. First, technical difficulties and interpreters’ working conditions imposed tremendous limitations. The majority of medical interpreters in our study struggled to accomplish adequate interpretation when offering remote services, especially phone interpretation. According to these interpreters the inadequacy of remote interpretation often resulted as consequence of poor quality of sound, background noise interference, and loud noises produced by their interlocutors (e.g. moving papers around or typing on the computer). The results of the present study reflect the findings of previous research demonstrating the shortcoming of phone and VMI interpretation in a number of health care settings. Locatis and colleagues (2010) conducted a quasi-randomized control study that involved 241 Spanish-speaking patients, 24 healthcare providers and 7 medical interpreters at a university medical center. In this study, participants rated encounter quality in terms
of the different interpretation modalities, and a subset of participants from each group was interviewed to gain a deeper understanding on their perspectives about interpretation modalities. The majority of the medical interpreters that participated in the study preferred in-person interpretation and stated that phone interpretation is distracting because of poor audio or the absence of visual communication (Locatis et al., 2010). Similarly, Price and colleagues (2012) surveyed 52 professional medical interpreters at two public hospitals and one university medical center. The authors asked the study participants to rate the ability of in-person, phone, and VMI modalities to facilitate communication during a number of common clinical scenarios (genetic counseling was not included). This study found that medical interpreters prefer in-person interpretation to remote modalities, especially for complex cases, since in-person interpretation resulted more effective in facilitating nuanced aspects of communication such as establishing rapport between patient and clinician and understanding of patients’ socio-cultural backgrounds (Price et al., 2012). These findings are consistent with the data obtained in the present study and support the reasoning that the majority of interpreters in the present study offered for this preference, i.e. that in complex scenarios (e.g. cancer genetics) an interpreter’s effectiveness may be decreased if she/he is unable to visually interact with the clinician and patient, since encounters involving substantial emotional components, such as being at risk of developing cancer, prognosis or end-of-life discussions usually include non-verbal communication (e.g. facial expressions and gestures).
Participating genetic counselors also were of the opinion that in-person interpretation is preferable over remote services. Genetic counselors often referred to the poor quality of interpretation when using remote interpreters; however, a clear distinction between poor quality due to technical difficulties and poor quality due to interpreters’ aptitude was not overtly expressed by these providers. This study confirms earlier research indicating preferences for in-person medical interpretation by healthcare providers in medical settings other than genetic counseling (Saint-Louis et al., 2003; Napoles et al., 2010; Locatis et al., 2010). Providers from an ambulatory care setting were of the opinion that in-person interpreter-mediated encounters were more effective in facilitates cultural and social dimensions of communication (Napoles et al., 2010). Participating interpreters’ and genetic counselors’ perspectives, as well as the aforementioned literature, suggest that in-person interpretation is the ideal interpretation modality whenever a case is deemed complex both in terms of content (e.g. cancer genetic counseling) and context (e.g. cases involving substantial emotional component).

In spite of the body of literature showing preference of in-person interpretation in terms of the overall quality of the interpreter-mediated encounter, the efficiency and the ability to extend the interpretation services to a much larger number of patients with the use of remote interpretation often triumph over the utilization of in-person interpreters. Since this is the direction that many hospital settings seem to be moving to when offering interpretation services to LEP patients, it is paramount to make interpreters and genetic counselors aware of the associated
challenges both parties face when using these services, especially in terms of technical difficulties that are out of the control of the interpreters. This understanding will allow interpreters and providers to work together to overcome such obstacles for the ultimate benefit of the patient.

The second challenge faced by medical interpreters is the emotional aspect of interpreting. Medical interpreters have been conceptualized as language-transferring machines by healthcare providers (Leanza, 2005), and as such they run the risk of being disregarded as emotional beings who can be psychologically impacted when involved in emotionally difficult cases. The emotionally laden nature of cancer genetic counseling represented a significant challenge among interviewed interpreters. Study participants’ responses evidenced the challenges and struggles experienced by interpreters during cancer genetic counseling sessions and how they frequently felt an internal conflict between different roles and expectations by trying to maintain a professional stance while suffering internally over patients’ painful situations. Loutan and colleagues researched the emotional aspect of working with patients who had been victims of violence in a group of medical interpreters working with the Red Cross in Geneva. This study showed that the interpreters had strong feelings when working with these patients, including frequent painful memories, which increased with the number of sessions with victims of violence. The authors suggest that providers should be aware of these pressures and give time to interpreters to share their feelings and emotions to help them cope with their reactions (Loutan et al., 1999). The findings of the present study agree to some extent with previous
studies that demonstrate similar challenges faced by interpreters participating in end-of-life discussions with LEP patients. These challenges included the tension between providing strict interpretation and being an advocate or cultural broker; personal difficulty interpreting bad or difficult news; the interpreter feeling abandoned or abused by clinicians; and striking a balance between a focus on the patient and a focus on the family (Norris et al., 2008). Supporting previous findings, Hsieh and Hong (2010) demonstrated that interpreters often are conflicted about the appropriateness in providing emotional support in healthcare settings, as it is an expected behavior embedded in social/cultural norms but not an approved performance in the conduit model. The results of the present study highlight the fact that not understanding the challenges faced by interpreters during emotionally charged cases may lead to frustration for all participants and to poor communication. Genetic counselors’ awareness of these issues may improve communication and understanding between interpreters and genetic counselors and as a result could improve the quality of care provided to patients and families. Additionally, as suggested by some study participants, forewarning interpreters when the session might be an emotionally loaded one would allow the interpreter to be somewhat mentally prepared, or will give him/her the opportunity to withdraw from interpreting for a case for which s/he is not fully comfortable or able to handle (within the limits of the work-setting).

Third, the limited command of genetics terminology and the limited understanding of the concepts discussed during cancer genetic counseling sessions
were a major challenge faced by interpreters in the present study. These limitations placed the interpreters in a difficult position since the technical and highly specialized terminology employed by genetic counselors made them feel overwhelmed and incapable of translating effectively into patients’ native language. Simon and colleagues (2006) identified frequent and consistent errors during conversations regarding consent for participation in a cancer clinical trial. The authors found that abstract concepts (e.g. randomization) were typically poorly phrased and misinterpreted. Cancer genetic counseling is largely associated with the discussion of concepts of risk, uncertain information, and the occurrence of random events. These are not easy concepts to explain or understand by the general public and can be as well hard to understand by medical interpreters who lack specialized training in the terminology commonly employed in the cancer setting. The entire cohort of participating interpreters agreed that having specialized training on basic, but critical, genetics concepts represents a necessary upgrade of their formal training. The findings of the present study support the participation of medical interpreters in educational activities that would impart knowledge targeted to specialized areas of healthcare.

**Lack of respect/appreciation by providers**

Several of the participating medical interpreters reported feeling underappreciated by medical providers, not specifically referring to genetic counselors, but rather what they perceived as a generalized response from providers as a whole. This aspect of the interpreter-provider dyad created anxiety and frequently demoralized medical interpreters in the present study. This finding aligns
with those of Fatahi and colleagues, (2005) who studied interpreters’ experiences of problems in cross-cultural communication with regard to the general practitioner-patient encounter using a focus group with medical interpreters. The authors found that interpreters saw themselves basically as part of the health service staff, having their own unique and separate relationship to the patient aiming to pass information as correctly as possible between the patient and the general practitioner; while staff members often displayed a more restrictive approach to the interpreter’s work and sometimes patronizingly excluded them from membership in the primary care team (Fatahi et al., 2005). More recently, Rosenberg and colleagues (2008) conducted a study analyzing videotaped encounters in two primary care medical clinics in Canada involving professional or family interpreters in order to gain a deeper understanding of the interpreter’s experience and role. This study also evidenced a lack of respect and recognition of interpreters’ capacities and status as a member of the medical team (Rosenberg et al., 2008).

This aspect of the interpreter-provider dynamic can have a significant impact on interpreter’s emotional well-being and self-image as an integral part of the healthcare team, which can then affect the interpreter’s performance. It became clear that the interpreters in the present study feel extremely passionate about their jobs, but their comments in regards to the lack of appreciation by providers make the case for encouraging not only genetic counselors, but any other healthcare provider working with interpreters to be aware of their own behavior and show respect and appreciation for the instrumental role that interpreters play in providing care for LEP patients. Our
findings support the consideration of educating providers about medical interpreters’ formal training, which in turn could promote a more collaborative approach to caring for LEP patients.

**Genetic Counselor “correcting” the interpreter**

Medical interpreters, almost invariably, are native speakers of the language in which they provide services. This was the case for the Spanish medical interpreters included in the present study (except for interpreter 01_ENG, who was fluent in Spanish but was not a native Spanish-speaker). As such, they expressed confidence attaining grammatically and linguistically faithful translations of the providers’ utterances. Particularly, Spanish medical interpreters considered themselves as the experts in the patients’ native language and took offense when genetic counselors, or any other provider who had limited Spanish proficiency, corrected them while interpreting, as they perceived they were being corrected in terms of the grammatical accuracy of their translation. On the other hand, those participating genetic counselors who were able to understand some of the Spanish translation of what they said during a session sometimes thought that important and critical content of the information being provided was being lost in translation. As mentioned before, genetic counselors are very deliberate in their word use while communicating with patients, in part because the information is complex and technical in addition to the fact that an important amount of the information needed to be conveyed frequently has the intrinsic purpose of addressing a psychosocial aspect of the encounter.
Both interpreters and genetic counselors need to be made aware of these two sides of the same issue. Interpreters need to understand that the most likely reason behind a “correction” by the genetic counselor represents the counselor’s concern for communicating nuanced information in a specific and carefully constructed way, and is not a matter of the genetic counselor telling the interpreter how to speak in their native language. Conversely, genetic counselors need to recognize that their limited knowledge may not actually enable them to accurately recognize mistranslations. Additionally, due to linguistic or cultural factors, genetic counselors may fail to recognize that changes, which the interpreter has made from the literal translation, are needed to accurately convey the genetic counselor’s intended meaning. These findings support the suggestion of establishing open communication between interpreters and genetic counselors prior to a session, so that both parties understand each other’s perspectives, and in turn, avoid unnecessary misunderstandings. In the context of remote interpretation, however, this suggestion might carry some limitations. Ideally, incorporating this aspect of the interpreter-provider dynamic into specialized training for genetic counselors and interpreters in how to work with each other can mitigate the need for a long and involved conversation between interpreters and providers before each session.

**Trust as foundation of the Interpreter-Provider dyad**

Trust has been shown to be a critical aspect not only of the provider-patient relationship, but also a fundamental component of the professional relationship between members of the healthcare team in order to provide quality care (Pullon,
The trust theme in the present study related to role perceptions, interpreters’ demonstrated competence, and the importance of good communication between interpreters and genetic counselors. Hsieh and colleagues (2010) conducted in-depth interviews and focus groups with 26 medical interpreters (from 17 languages) and 32 providers from 4 specialties (OB/GYN, nursing, mental health, and oncology) to provide an empirically-based framework of provider-interpreter trust. The authors demonstrated that trust, as a pillar of the provider-interpreter relationship, rested on the fact that providers' understanding of interpreters' competence often centered on their linguistic ability as opposed to cultural competence or other skills, and often emphasized the necessity to find equivalent medical terms and transfer the exact information across different languages (Hsieh et al., 2010). The findings in the present study are consistent with those of Hsieh and colleagues, as the majority of genetic counselors equated interpreters’ competence with their ability to translate verbatim, rather than by their ability to “culturally adjust” providers’ and patients’ utterances to facilitate patient-provider communication. Something that might have contributed to genetic counselor’s distrust in interpreters competence is the fact that interpreters rarely explained their reasons for deviating from a conduit role as a result of a patient’s rambling. Based on these findings, it is reasonable to suggest that interpreters explain the underlying reasons for their adopted communicative strategies under particular circumstances in an effort to assure the genetic counselor that their interventions are still within the bounds of their professional responsibilities.
As mentioned previously, in some languages there might not be a linguistic equivalent of the word(s) or idea(s) the genetic counselors need to communicate to the patients, or there might be a cultural component that the interpreter needs to negotiate with the patient in order to facilitate a culturally appropriate communication. This is an important aspect that genetic counselors need to be aware of when working with LEP patients that speak languages or come from cultures with which they are unfamiliar. These findings support the implementation of providers’ training in working with interpreters, particularly in how to accurately evaluate situations when they suspect the interpreter has misinterpreted. One way of facilitating this process might be enhancing genetic counselors’ cultural competency and recognition of, and therefore trust in, interpreters’ expertise in terms of patients’ cultural belief systems. Likewise, providing interpreters training on the need to communicate with genetic counselors about this aspect of their communicative strategies adopted in response to patients’ culturally influenced responses will promote a collaborative and effective provision of service to LEP patients.
PRACTICE IMPLICATIONS AND RECOMMENDATIONS

The findings of the present study underscore the importance of specialized training for medical interpreters. The lack of or limited command of technical terminology used in the field of cancer genetic counseling was often a major impediment for attaining effective interpretation in cancer genetic counseling encounters, as participating interpreters universally shared during the interview process. Additionally, enhancing medical interpreters’ training by incorporating teaching the basic goals of cancer genetic counseling can be instrumental in facilitating the interpretation process, as understanding the importance of the psychosocial aspect of these type of encounters by the medical interpreter will ensure an appreciation of the relevance of faithful interpretation of carefully constructed utterances by the genetic counselors. The findings of the present study also allowed the identification of a number of strategies that can be incorporated into the suggested specialized training, and that can be then adopted by interpreters when working with genetic counselors. These strategies are:

- Request for clarification of terms and concepts to ensure a transparent and accurate transmission of the genetic counselor’s message.
- If needed, discuss with the genetic counselor the possibility of deviating from the conduit model in order to provide culturally appropriate interpretation.
- When patients’ responses are longer than expected, based on the original message, inform the genetic counselor that the patient is taking additional time to respond his/her specific question.
Participating genetic counselors were of the opinion that working with medical interpreters carries significant challenges. Those genetic counselors who mentioned receiving a lecture from medical interpreters during their professional training found that knowledge to be extremely helpful when they first worked with a medical interpreter. The findings of the present study also support the incorporation of specific training in how to work with medical interpreters into genetic counseling training programs’ curricula. Inviting interpreters to offer lectures to genetic counseling students about specific aspects of medical interpreters’ training, their day-to-day work, and how to work effectively with them will provide genetic counseling trainees with the important information and tools they will need when working with medical interpreters in the clinical setting. Incorporating information about strategies to effectively work with medical interpreters into genetic counseling training curricula will render better-prepared genetic counselors to work with medical interpreters. Based on the present study’s findings, some of these strategies are:

- Convey messages in short sentences to allow the interpreter to transmit the original message accurately.
- Understand that interpreters may need to deviate from the conduit model in order to facilitate communication across cultures.
- Recognize and acknowledge that interpreters can be emotionally affected by patient’s stories and circumstances due to their empathic responses.
- Inform interpreters of the main reason the patient is attending the session, hence allowing the interpreter to have a frame of reference (e.g. “patient is
here to receive genetic testing results”, “patient is here to discuss genetic testing options”)

- Prepare the interpreter for what is to come: this will allow the interpreter to be mentally prepared if the nature of the encounter is rather complex or emotionally charged, or to decline his/her services if not prepared for such interpretation. This will save time and improve the experience for everyone involved.

- Communicate the importance of preserving faithfulness of the content of the message: If the genetic counselor is somewhat proficient in the interpreter’s native language, discuss in advance that if the genetic counselor thinks [is concerned] that important “content” is being lost in translation, the genetic counselor will alert the interpreter, which does not mean that the s/he is “correcting” the interpreter in how to communicate in her/his native language.

- When using remote interpretation, be cognizant that technical difficulties/working conditions might be a factor impacting the quality of communication, which are not under the interpreter’s control.

Medical interpreters’ working conditions represented a significant aspect that impacted the overall quality of interpretations for the majority of participating medical interpreters when providing remote services. These interpreters were of the opinion that improvements in their work environment infrastructure will result in improvements of the services they provide. Some of these improvements could be: providing interpreters with high-quality noise-canceling headsets, and/or establishing
a floor plan layout that allows interpreters’ stations to be apart from each other so as
to minimize overhearing other interpreters conversations while on the phone with
patients/providers; establishing a reasonable break time period between calls
(certainly more than one minute) to allow interpreters to reorganized their thoughts
after certain types of interpretations. These suggested improvements in interpreters’
working conditions should be paralleled by improvements in remote interpretation-
related equipment in hospitals’ consultation rooms, to minimize communication
problems associated with technical difficulties due to low-quality equipment. These
suggestions address specific concerns raised by the study participants in regard to the
interpretation service to which they belong. As such, these suggestions might not be
applicable to other interpretation services; however, these ideas may certainly apply
to other interpretation services in public hospital settings.
STUDY LIMITATIONS

This study represents the views of a limited subset of medical interpreters (n = 11) and genetic counselors (n = 10) providing services to LEP patients in the public hospital setting. Even though the use of a small study sample was appropriate for an exploratory study like the present one, the present study’s findings should not be generalized to the greater population of medical interpreters and genetic counselors working with LEP patients in the cancer genetic counseling setting. The fact that participating interpreters were from only one hospital and interpret only for Chinese, Vietnamese and Spanish speaking patients, that genetic counselors belonged to only two hospitals, and that all participants were from only one geographic region represent additional limitations of the present study in regard to generalizability.

The experiences with and perspectives about interpretation services of the participating genetic counselors might not reflect those of the larger population of genetic counselors. Genetic counselors’ stylistic approaches to counseling are highly individualized, and as consequence the way in which the study participants interact and conduct their sessions with LEP patients and interpreters should not be construed as a common rule by the greater genetic counseling population working with LEP patients.

In spite of these limitations, the present qualitative exploratory study offers valuable data regarding genetic counselors and interpreters working together in providing services to limited English proficient patient populations. This study provides important insight into cancer genetic counselors’ and interpreters’
professional inner worlds, allowing a mutual understanding of each others challenges, strengths, and limitations, which can be utilized to facilitate and reinforce a collaborative approach to working with LEP patients. The data also provide insight into the structural working conditions for medical interpreters in a busy public hospital, and illustrates how genetic counseling does and does not fit into interpreters’ day-to-day schedules. One of the challenges for interpreters working in genetic counseling involves the fact that these types of sessions are very different from the majority of sessions for which they provide services.
FUTURE STUDIES

The findings of the present study would be strengthened by expanding this research to larger populations of genetic counselors and medical interpreters working with LEP patients. Broadening the spectrum of interpreting languages and genetic counseling subspecialties will further the understanding of the different factors impacting the effectiveness of the interpreter-mediated genetic counseling encounter.

Additionally, the validity of the practice implications and the applicability and effectiveness of the recommendations offered here based on the current findings could be assessed by conducting a study in which these recommendations are systematically implemented to evaluate whether they promote a collaborative and successful interpreter-mediated genetic counseling session.

Medical interpreters considered cancer genetic counseling to be challenging due to its complexity and, as mentioned before, the majority of interpreters and genetic counselors expressed that in-person interpretation is preferred for these encounters. One aspect that needs to be further investigated is whether this is true for every genetic counseling encounter (initial intake, pre-test, results disclosure, and post-test sessions). Future studies are needed to determine whether some genetic counseling encounters are more suitable to be done using remote interpretation. This will provide valuable information in terms of determining in what specific instances genetic counselors should request in-person interpreters and what instances phone interpretation is an acceptable interpretation modality.
CONCLUSIONS

The process of translation/interpretation in the cancer genetic counseling setting involves many challenges, not only for the medical interpreters but also for genetic counselors. Results from this study can help facilitate the development of strategies to help overcome the many challenges inherent to the process of interpretation in these types of settings, thus ultimately promoting the delivery of better services for LEP patients. This study highlights the many roles that interpreters adopt while interpreting for LEP patients. Contrary to what is expected, based on their formal training and code of ethics, interpreters frequently deviated from the conduit model in order to do their job in a culturally sensitive manner. Interpreters frequently felt the need to advocate for patients, as they consider them as being in a vulnerable position while navigating the medical system; and to act as cultural brokers when patient’s and provider’s cultural worldviews did not align.

Additionally, interpreters faced many challenges associated with their day-to-day work, which are largely unrecognized by many providers. These challenges (i.e., emotional component of interpretation, technical difficulties, working conditions, limited understanding of specialized terminology) can significantly impact the interpreters’ performance and the effectiveness of their interaction with providers. For example, specialized training in the concepts behind the medical terminology commonly employed in cancer genetic counseling sessions can raise the interpreter’s level of proficiency and competence. Similarly, genetic counselors’ training in how to
better work with interpreters can prove beneficial in terms of facilitating a collaborative and effective interpreter-mediated communication.

Finally, the present study suggests that providers' and interpreters' abilities to negotiate and nurture trust through the establishment of open lines of communications are critical to the success of bilingual healthcare.

In summary, the findings of the present study reinforce the idea that effective communication in clinical encounters and the exchange of accurate information between genetic counselors and patients depends largely on providers’ and interpreters’ interpersonal and professional skills. These skills sets promote and facilitate understanding of patient’s social and cultural worldviews, ultimately enhancing health care services received by underserved LEP patient populations, therefore lessening health disparities.
REFERENCES
REFERENCES


APPENDICES
APPENDIX A

CODEBOOK FOR INTERPRETERS’ INTERVIEWS

Bilingual provider proficiency
Bilingual staff proficiency
Communication among interpreters
Culture
Good quotes
Interpretation modalities
Interpreter's experience
Interpreter's motivation to become an interpreter
Interpreter's training
Interpreter- Provider dynamics
Interpreter - Patient dynamics
Interpreter background
Interpreter challenges
Interpreter coping strategies
Interpreter experience interpreting for research
Interpreter language proficiency
Interpreter responsibilities
Interpreter role
Interpreter Services accomplishments
Interpreter Services challenges
Interpreter services future directions
Interpreter Services Goals
Interpreter Services management
Interpreter Services quality assurance
Interpreter strategies for working with providers
Interpreter suggestions for Training
Interpreter years at SFGH
Interpreting for GC
KI background
Language Access Network
Language Access Taskforce / Language access
Medical terminology
Privacy issues
Provider challenges for work w/ interpreters
Provider strategies for work w/ interpreters
Provider training for how to work w/interpreters
Resources for interpreters / or lack of
SFGH patients
Technical difficulties
Types of interpretations
VMI Implementation
Working conditions
APPENDIX B

SUBSET OF CODES DERIVED FROM LARGER STUDY’S CODEBOOK FOR GENETIC COUNSELORS’ INTERVIEWS

Communication challenges
Consent process
GC challenges
GC cross culture communication
GC in public hospital
GC strategies with interpreter
GC suggestions for training
Health literacy/cancer literacy
Interpreter understanding of analogies
Interpreter understanding of terminology
Interpreter/GC request for clarification
Interpreter-technical difficulties
Misinterpretation explanations of
Use of an interpreter/lack of