Introduction

Health disparities in ethnic and racial minorities in the United States were extensively documented in the Institute of Medicine’s landmark 2002 report (National Research Council, 2003). The U.S. has made the elimination of such disparities, especially in ethnically diverse populations, a national priority. This is best reflected by the new Healthy People 2020 goal to “achieve health equity, eliminate disparities, and improve the health of all groups” and by the HHS action plan to address health disparities (U.S. Department of Health and Human Services, 2010; U.S. Department of Health and Human Services, 2011). Evidence-based data are essential to create necessary paradigm shifts across the spectrum of health care, from macro-level policy considerations to micro-level changes in direct patient-provider interactions. As noted by Hunt and Bhophal (2004), many significant obstacles exist which impede the collection of “reliable information on ethnic minorities, particularly newer and older immigrants and refugees who may have little or no competency in English” (p. 618).

Since 1975, roughly 2.6 million refugees have come to call the United States their new home,
with between 27,000 to 200,000 more resettled annually (U.S. Department of Health and Human Services, 2012). The health status of refugees is assessed prior to resettlement through a preliminary health screening focusing on physical and mental health conditions. Within 30 days of arrival in the U.S., refugees are expected to receive another preliminary health screening and obtain a referral to a medical home. Although it can be assumed that many refugees have ongoing medical needs, virtually nothing is known about their long-term health status once they are in the U.S. Additionally, little is known about what refugees with limited prior exposure to Western medicine understand about their health after their introduction into the U.S. Healthcare system.

This paper describes a training program developed for interpreters and translators engaged in a health-related research study with African refugees in Boise, ID. The program was designed to address common pitfalls of cross-language research, which can compromise data quality. These pitfalls include “cultural hegemony, failure to ensure that the phenomenon of interest is present in all target groups, lack of salience of content, and non-equivalence of concepts” (Hunt & Bhopal, 2003, p. 620). The training program included a workshop to establish common interpretations of medical terms and to ensure compliance with human subjects protection standards. It was developed and presented in a format that best suited the unique attributes of the target communities, in order to prepare interpreters and translators for their roles in the research project. While the roles of interpreter and translator are clearly distinct, with translators focusing on written medium while interpreters are focused on the spoken word, community members in this project served in both capacities. Throughout this paper, the term “interpreters” will be used to avoid confusion.

### Background

A total of 260 African refugees were enrolled in a study to document the post-resettlement health status of their groups. Health status was documented through self-report on standardized questions taken from the National Health and Nutrition Examination Survey (NHANES), and results were compared against what was documented in their medical records (Centers for Disease Control and Prevention [CDC], 2010). Questions covered medical conditions relating to well known chronic diseases (high blood pressure, diabetes, asthma), health issues important to this refugee group (pain and limitations in mobility), and general health information, such as height, weight, and number of medications (Black, Springer, Soelberg, Lazare, 2012).

Two groups of African refugees participated in the research. African Community Development members comprised refugees mainly from Kenya, the Congo, and Burundi. Refugees from the African Community Development were fluent in Swahili, Kirundi, or French as well as their native language. Somali Bantu refugees organized themselves into two separate community-based organizations. Both organizations represented marginalized populations from Somalia that speak two underdocumented, orally-based languages (Maay Maay or Kizigua) with no standardized orthography and which often use Swahili or Somali orthography when a written form is needed.

Collaboration with community advisory boards comprised of members of all three African refugee groups revealed that all target communities had members who spoke at least one of five main languages. Many had limited access to formal education. Although all interpreters for the project were proficient in spoken English, this lack of formal education prevented most from obtaining official interpreter certification, and none had research training. Therefore, training workshops focused on explaining the research process in addition to translating
the informed consent into each language.

**Description of Workshops**

The workshop series had two main areas of focus: a primer on human subjects protection and an overview of the research process. To ensure the validity of the research, it was essential to establish comparable meanings for Western medical terms included in the study materials, not only between English and Swahili, for example, but also between Swahili and the other African languages included in the study. This was achieved through a series of collaborative workshops, which facilitated collective decision making among members of the different speech communities. This format allowed for partnership and agreement among members of the same speech community, as well as agreement among members of different speech communities.

To ensure compliance with U.S. federal regulations that apply to research involving human subjects and to help educate interpreters about the processes and requirements of research, one of the sessions was dedicated to a simplified mini-version of the Collaborative Institutional Training Initiative (CITI) program (2012). Topics such as informed consent, assent requirements for minors, medical record release authorizations, benefits and risks, and the voluntary nature of participation were addressed. This last topic was especially important for the Somali Bantu as they are a collective society, where members are dedicated to doing things for the good of the community. The research team wanted to ensure that no pressure was placed on potential participants during the consent process. Lastly, confidentiality was covered, but more as a refresher, since the interpreters were already familiar with HIPAA (Health Insurance Portability and Accountability Act) privacy issues associated with medical information from their work as interpreters for local hospitals.

**Scope of Services Interpreters Provided**

Given the varying levels of literacy across the five languages spoken by the study participants, the research team decided to have all study documents read to participants and to record oral responses. For those whose native language had a written form, we asked the interpreters to translate the informed consent, assent forms, and medical record release authorization. The resulting documents were developed through a collaborative effort between two interpreters for each language (except Burundi) to ensure verification of the translation. For those languages without a written form, researchers asked representatives from each language to video-record the translated consent and surveys in order to standardize delivery across interpreters. The accuracy of the recordings was verified by having a second interpreter fluent in the language check the recording.

**Recruitment Process and Description of Interpreters**

Several challenges quickly emerged related to conducting a study in five languages, particularly involving the two languages with no written form. A national search yielded few or no certified interpreters of the languages represented in the study. According to Squires (2008), “when this happens, a socio-linguistically competent, bilingual native speaker from the same country of origin as the research participants is the best option for translator selection” (p. 268). With limited access to certified translators, community leaders were asked to refer members who were proficient in both English and their community language to help translate study-related materials and interpret during data-collection sessions.

The leadership of the community organizations identified nine people to serve as interpreters and translators for the project. All were male, despite sincere efforts to identify female interpreters. Females in these refugee communities had little or no access to formal education.
in Africa, even in the refugee camps, and their low level of English language proficiency prevented them from being interpreters for this project. However, given that the nine people who were selected regularly served their communities as trusted interpreters, the absence of female interpreters did not concern community members. Some of those chosen held a formal position of leadership within the community organizations, while others were lay members of the communities themselves. The chosen interpreters had varying levels of formal interpreter training, but all had worked as interpreters for community members in healthcare settings. As such, they were familiar with many of the English medical terms already.

Due to the nature of migration among refugees, in addition to their native tongue all of the interpreters spoke at least one (and often more than one) of the other languages into which materials were to be translated. This proved especially helpful when groups of volunteers worked on translating materials for the research study, as they were able to assist in ensuring that the translations were consistent across languages.

The recommended interpreters were asked to attend training workshops to help translate all research materials and later to serve as interpreters during the data-collection phase of the research study. Attendance at the required training workshop, as well as interpreting during data collection, was done on a volunteer basis, and no compensation was offered to individuals directly by the research team. It should be noted, however, that because each of the three communities participating in the study was compensated financially, some decided to compensate those who volunteered for the various project tasks. As a result, some of the interpreters were compensated by their communities. All recommended interpreters completed the necessary training, regardless of individual financial arrangements with their community associations.

**Primary Languages**

The participant population for this study was linguistically diverse—especially in the African Community Development. The leadership within the communities was tasked with identifying a limited number of languages for the study, while ensuring that all target participants spoke at least one of the selected languages. Five languages were ultimately selected. Among the Somali Bantu communities, the languages are Kizigua (ziw\(^1\); also Kizigu) and Maay Maay (ymm; also Af-Maay), both of which are mother tongues for community members (Springer, Black, Martz, Deckys & Soelberg, 2010). The languages spoken by members of the African Community Development are Kirundi (run), Kiswahili (swa), and French (fra), all used primarily as bridging languages or **lingua francas** (Lewis, 2009). Among study participants, Kizigua was the most widely spoken native language, at nearly 35 percent. Kirundi and Maay Maay were spoken by 14 percent of participants, and French, English, and Swahili were each spoken by less than 5 percent of participants. The other 19 percent were native speakers of minority languages spoken in the Congo, Burundi, and surrounding countries. This is illustrated in Figure 1.

Although a few community members self-identified as English speakers, the vast majority of participants were not proficient enough in English to complete the study effectively and accurately. Consequently, the research team decided to translate all materials into the five languages mentioned above.

---

\(^1\) The three-letter identifiers following each language are the ISO 639-3 codes assigned by the Ethnologue. The codes aim to define three-letter identifiers for all known human languages.
Cross-Linguistic Validation of Western Medical Terms

Most of the selected languages lacked lexicalized terms for the medical concepts described in the study. Since the research was focused on patients’ understanding of their medical condition, it was important that the questions make use of the same terminology used by the interpreters in clinical settings. The presence of two interpreters for all but one language (Burundi) allowed them to share the different ways they translated medical terms with one another. Through this process, consensus was reached among the interpreters as to the comparable meaning of terms associated with Western medicine while translating the materials (Hunt & Bhopal, 2004). An additional benefit to holding the training using a workshop model was that the interpreters could also agree on how to standardize medical terminology and explanations for future use, which will be of long-term benefit to the communities they serve.

Outcomes

Performing a research study using nine different interpreters and five languages was complex, but rewarding. Participants were consented as planned; however, instead of listening to the pre-recorded consents, interpreters often read the consent forms to participants. Completion of the workshop series by the interpreters helped ensure that participants from each language group were provided with the same information and that they, in turn, provided the team with valid information for the study. The development and use of video recordings helped ensure access to an accurate oral translation regardless of the participants’ native language.

Recommendations

Format

Culture and past interpretation experiences should be taken into account when designing the training session. The Somali Bantu refu-
Assessing Knowledge of Medical Terminology

It is vital to hold special training workshops for interpreters who have limited access to certification programs. Even if interpreters have completed hospital-based interpreter training programs, it is not safe to assume that they have a full command of medical terminology, as their training may have been limited to acute conditions.

Strive for Comparable Meanings

When trying to facilitate a study across multiple languages other than the researchers’ own native tongue there is a tendency to strive for the ‘most correct’ literal interpretation. Given the cultural and social nature of language, however, literal interpretations may well be meaningless to the intended audience. Establishing comparable meanings between the original and interpreted scripts helps information be presented in a culturally appropriate manner (Hunt & Bhopal, 2004).

Train on Research-Specific Concepts

Training related to the processes and requirements of research is essential to maintaining study rigor in cross-language research, especially in projects involving speakers of under-documented, orally based languages or when participants come from societies with strong oral traditions. Of particular importance are topics related to the need for research to be voluntary, consent/assent (Hunt & de Voogd, 2007), risks and benefits, and medical record release authorization. The workshop facilitators discussed with the interpreters the requirement that individuals make their own choices without fear of repercussions from the community.

Conclusion

Cross language research comes with a host of challenges, especially when working with multiple languages simultaneously. Furthermore, adapting research tools and processes to meet the needs of participants who speak under-documented, orally based languages can be daunting; however evidence-based data are essential help reduce, and ultimately eliminate, health disparities. An approach to accomplish that end has been presented here in the hope that others will pursue similarly challenging, yet desperately needed research.
References


Acknowledgments

This research was supported by funding from College of Health Sciences Office of External Funding, Boise State University. The authors wish to recognize Abubakar Mohamed, Kituta Asimba, Buta Muzuri, Dimbil Mugulo, Mamudi Haji, Muhidin Aden, Mwaliko Mberwa, Yves Ndayishimiye, and Zidi Mberwa for their participation in and contributions to the work featured in this article. The authors also wish to thank Dr. Janet Reis for her thoughtful review of this manuscript.

The Authors

Terri Soelberg, MEd, CRA
Ms. Soelberg is Director of the College of Health Sciences Office of Research at Boise State University. She manages a small team that provides research development and research administration services to research centers and faculty within the college. Formerly, she managed National Science Foundation and Health Resources and Services Administration grants. To date, her research has focused on refugee health and the formalization of research development as a career path.

Michal Temkin-Martínez, PhD
Dr. Temkin Martinez is Associate Professor of English and Director of the Mary Ellen Ryder Linguistics Lab at Boise State University. Her research focuses on documenting languages spoken by refugees in the US, as well as the integration of experimental, theoretical, and documentary approaches to linguistics. Her Ph.D. in linguistics is from the University of Southern California.

Mikal Smith, PhD, RN
Dr. Mikal Smith taught nursing for several years at Boise State University, specializing in community health and cultural competence in nursing, with a focus on refugee health. Her research has focused on various aspects of refugee health including topics such as Somali Bantu refugee health, refugee parent’s treatment of children’s health, and pregnant refugee women’s nutrition education.

Pamela J. Springer, RN, PhD, ANEF, CCNE
Dr. Springer was the past director for the school of nursing at Boise State University and currently is the director for clinical learning and academic and career planning for the St. Luke’s health system.