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# THE MULTILEVEL FACTORS FACILITATING OR IMPEDING HEALTHCARE ACCESS AMONG REFUGEES RESIDING IN BEXAR COUNTY TEXAS

HOWAIDA WERFELLI

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THE MULTILEVEL FACTORS FACILITATING OR IMPEDING HEALTHCARE ACCESS AMONG  
REFUGEES RESIDING IN BEXAR COUNTY, TEXAS

by

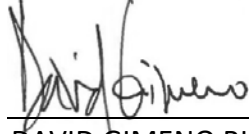
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DEAN, THE UNIVERSITY OF TEXAS  
SCHOOL OF PUBLIC HEALTH

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2020

## DEDICATION

To my family and to all the refugees who have found the strength to persevere

THE MULTILEVEL FACTORS FACILITATING OR IMPEDING HEALTHCARE ACCESS AMONG  
REFUGEES RESIDING IN BEXAR COUNTY, TEXAS

by

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in Partial Fulfillment

of the Requirements

for the Degree of

DOCTOR OF PUBLIC HEALTH

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August 2020

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The completion of this dissertation could not have been possible without my family and friends who encouraged this pursuit and never let me forget how important this journey was for my future endeavors and the fulfillment of my hopes and dreams. To Javier and Linda Roman of Worldwide Languages who believed in this study without a second guess and helped make it happen by moving mountains. To Margaret Constantino who never let me forget what this study means to refugees in San Antonio.

Above all, to the Almighty, for granting me the opportunity to pursue my doctorate degree and for the continued determination to see it to completion even when it would have been easier to let it go.

THE MULTILEVEL FACTORS FACILITATING OR IMPEDING HEALTHCARE ACCESS AMONG  
REFUGEES RESIDING IN BEXAR COUNTY, TEXAS

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The University of Texas  
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The goal of this study was to increase understanding of healthcare access among refugees by investigating the multilevel factors that facilitate or impede healthcare access among refugees who have resettled in Bexar County, Texas. The multilevel factors facilitating or impeding access to healthcare for refugees resettled in Bexar County were identified as follows: health literacy, level of educational attainment, proficiency (reading, writing and, speaking) in English, proficiency (reading, writing and speaking) in native language, translation services, public transportation, income level, a shortage of healthcare providers, navigation of the healthcare system, the fragmentation of the healthcare system, insurance status, staff shortages at RSO's, funding shortages at RSO's, and current policies. Specifically related to health literacy, the study showed that health literacy was low among the majority of respondents.

The proposed included: 1) to establish a countywide refugee-focused coalition composed of a representative sample of individuals, politicians, refugee-serving

organizations, faith-based institutions, businesses, and refugees; 2) to establish an annual Refugee Health Symposium that brings together a wide spectrum of people working on refugee issues to share research and discuss issues and trends; 3) to establish a cohesive system of refugee healthcare in San Antonio, Bexar County; and 4) to streamline healthcare access at the local level by looking at modifications to Carelink.

As the number of refugees continues to grow across the world, it is expected that the U.S. will continue to play a critical role in resettling them and then addressing their various healthcare needs. Host cities, like San Antonio, Bexar County, Texas, will continue to play an integral role in assuring refugees attain self-sufficiency and become productive and healthy members of our society. Medical examinations and studies will need to continue in order to gain even more insight into the multilevel factors that affect healthcare access among resettled refugees. This cannot be done in silo, facilitating and impeding factors must be explored, and systemic change must be engaged in.



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## THE BACKGROUND

The current global refugee crisis is of historic proportions, with the number of individuals forcibly displaced at an all-time high [1]. Forcibly displaced individuals are those who have been forced to flee their home or country because of persecution, conflict, or violence, and who have a well-founded fear of persecution because of race, religion, nationality, political opinion or membership in a particular social group. As of January 2019, there are 70.8 million forcibly displaced people worldwide classified as refugees, asylum-seekers, or internally displaced persons, the highest number since World War II [1]. Of the 70.8 million forcibly displaced people, 41.3 million are internally displaced people who were forced to flee but have not crossed an internationally recognized state border; 3.5 million are asylum-seekers pursuing international protection but whose claim has not yet been decided on by the country in which they have submitted it; and 25.9 million are refugees who were forced to flee and have crossed an internationally recognized state border into a safe country or camp [1].

**Trends and Country of Origin.** Most refugees (67%) originate from the Syrian Arab Republic, Afghanistan, South Sudan, Myanmar, and Somalia [1]. Global trends for 2018 demonstrated an increase in the number of refugees from the Syrian Arab Republic, Afghanistan, and Somalia, but a decrease in the number of refugees from South Sudan and Myanmar [1]. Since the signing of the Refugee Act of 1980, more than 3 million refugees have been resettled in the U.S. [2]. The U.S. president is responsible for establishing the annual admissions ceiling for the following year via a Presidential Determination [3]. The annual

admissions ceiling for refugee resettlement to the U.S. fluctuates by year, and reflects the political inclinations of the president as well as the political and global climate that exists during their term. Under the current administration, political inclinations have included the temporary halt to admissions in 2017, as well as the issuance of travel bans and an order to revamp the refugee vetting process in 2018.

### ***Refugee Resettlement***

**United States.** According to the United Nations High Commissioner for Refugees (UNHCR), the U.S. resettlement program is the largest resettlement program in the world [4]. The UNHCR works with designated authorities within each participating country to facilitate the resettlement process. The U.S. Refugee Admissions Program (USRAP) is the authority for refugee resettlement in the U.S. [4, 5]. The USRAP is composed of the Department of State Bureau of Population, Refugees and Migration (PRM); U.S. Citizenship and Immigration Services (USCIS); the U.S. Department of Health and Human Services Office of Refugee Resettlement (ORR); the Department of State Resettlement Support Center (RSC); and nine national-level voluntary resettlement agencies. In fiscal year 2017, these voluntary resettlement agencies were the following: Church World Service, Episcopal Migration Ministries, Ethiopian Community Development Council, Hebrew Immigrant Aid Society, International Rescue Committee, Lutheran Immigration and Refugee Service, U.S. Conference of Catholic Bishops, U.S. Committee for Refugees and Immigrants, and World Relief [6].

The USRAP requires all applicants to successfully complete a 21-point evaluation [7]. The RSC then works with the nine national-level voluntary resettlement agencies to review

applications to determine whether a refugee will be resettled in the U.S. [7]. If it is determined that a refugee will be resettled in the U.S., it is then determined which agency will serve as the refugee's sponsor. The needs of each incoming refugee are identified and are matched with the specific resources available in the 190 host cities throughout the U.S. [5]. Once sponsorship is determined and the host city is identified, the RSC transmits the refugee assignment to the International Organization for Migration (IOM) in order to transport the refugee to their new home [5]. The nine national-level voluntary resettlement agencies are responsible for providing the resettled refugees with resources and services that include, but are not limited to, housing, furnishings, food, clothing, community orientation, medical services, and employment services. This assistance is offered to refugees during their first 30-90 days of resettlement, depending on their level of need.

**Texas.** In most states, resettlement works as a partnership between the state and the state-administered Refugee Resettlement Program (RRP); however, refugee resettlement to Texas bypasses the state. Texas' official involvement in the RRP ended on January 31, 2017, when Governor Greg Abbott announced that Texas would withdraw from the RRP out of concern about terrorism [8]. Texas' withdrawal from the RRP did not affect the number of refugees being resettled in Texas or exclude Texas cities from the Refugee Processing Center (RPC) list of host cities. Instead, the RRP had to alternate its funding flow to work with the Refugee Services Organizations (RSOs) and U.S. Committee for Refugees and Immigrants (USCRI) through public-private partnerships. Therefore, instead of the federal government contracting directly with the state of Texas, the RRP divided the state into four designated

regions and established public–private partnerships [8]. The list of Texas host cities within the designation regions includes the following: Abilene, Amarillo, Austin, Corpus Christi, Dallas, El Paso, Fort Worth, Houston, and San Antonio [9]. Houston hosts the largest number of refugees resettled to Texas, followed by Dallas, Fort Worth, Austin and San Antonio, respectively [9]. In 2018, Texas hosted 1,697 refugees, a drastic drop from the 4,768 refugees that it hosted in 2017 [8]. According to the Refugee Council USA, the largest refugee populations in Texas are originally from Bhutan, Burma, Democratic Republic of the Congo, and Iraq [10].

**San Antonio.** San Antonio, the largest city in Bexar County, Texas, is uniquely situated. It is located in Central Texas and possesses a small-town feel with large-city possibility and access. San Antonio is home to 31 institutions of higher education including the UTHealth San Antonio School of Medicine, UTHealth San Antonio School of Nursing, and UTHealth School of Public Health, San Antonio Regional Campus. City leadership is composed of individuals sympathetic to the refugee cause. For example, Mayor Ron Nirenberg is an advocate for refugee-related causes who served as a former Council member for District 8, a district that is home to the majority of refugees resettled to San Antonio [11]. Ana Sandoval, Council member for District 7, currently serves as the Chairperson for the Community Health and Equity Committee and holds a Master of Public Health (MPH) degree from the Harvard T.H. Chan School of Public Health [11]. A combination of all the characteristics listed above, as well as the many passionate and compassionate RSO staff members and volunteers across



the city, puts San Antonio in a prime position to address refugee health effectively, potentially making it a model city for refugee resettlement in the U.S.

Consistent with the downward trend in refugee resettlement numbers for Texas and the U.S., refugee resettlement numbers for San Antonio have decreased in recent years [12]. In 2018, 396 refugees were resettled to San Antonio, which is a drastic drop from the 1,202 refugees resettled in 2017. According to city data, the largest refugee groups in San Antonio are Afghani, Congolese, Iraqi, Iranian, Bhutanese, and Burmese, which is consistent with the breakdown for the largest refugee populations in Texas [12].

### ***Health Status of Refugees***

As part of the USRAP process, all refugees coming to the U.S. are required to undergo a medical examination. The medical examinations are conducted under the auspices of the Division of Global Migration and Quarantine of the Centers for Disease Control and Prevention (CDC) [13]. These medical examinations aim to identify the presence of communicable diseases of public health significance including tuberculosis, syphilis, gonorrhea, HIV and Hansen's disease (leprosy) [13]. These examinations also aim to determine whether immunizations are up to date, as well as identify the presence of vaccine-preventable diseases including mumps, measles, rubella, polio, tetanus, diphtheria, pertussis, Haemophilus influenzae type b, rotavirus, hepatitis A, hepatitis B, meningococcal disease, varicella, pneumococcal pneumonia, and influenza [13].

In addition to communicable and infectious diseases, these medical examinations identify the presence of physical or mental health disorders. Mental health disorders include

anxiety, depression, and post-traumatic stress disorder (PTSD). Among refugees resettled to the U.S., common acute and chronic diseases include tuberculosis, malaria, hepatitis, HIV, intestinal parasites, nutritional deficiencies, type 2 diabetes, heart disease, hypertension, overweight/obesity, cancer, and mental health issues [14].

**United States.** In addition to the mandatory medical examinations, research has presented findings on the health status of refugees resettled in the U.S. For example, at the national level, Taylor et al. conducted a multi-state survey to examine the physical and mental health status of Iraqi adult refugees (N=366) resettled in the U.S. between 2007–2010 [15]. They found that 60% of participants reported a chronic condition; 37% reported two or more chronic conditions; 50% reported some form of mental health disorder; and 31% were at risk for PTSD [15].

**Texas.** At the state level, research conducted in Texas has presented findings that focus on a specific subpopulation of the refugee population rather than the refugee population as a whole. One study conducted by Montour and Kazmierski in Texas found that recently arrived Burmese refugees (N=2,481) made up 47% of newly diagnosed hepatitis B cases, 24% of newly diagnosed HIV cases, and 44% of newly diagnosed positive tuberculosis skin tests [16].

**San Antonio.** At the city level, Adel et al extracted and analyzed data from refugees (N=488) resettled in San Antonio seen at the San Antonio Refugee Health Clinic (SARHC) [17].

The study found that 50.9% were overweight or obese; 61.4% had hypertension; and 9.3% had high blood pressure.

Collectively, findings from medical examinations and research conducted on refugees provide an insight into the health status of refugees resettled to the U.S. This, in turn, provides a snapshot of the health system capacity needed in host cities to effectively address the physical and mental health issues of resettled refugees as they enter the complex U.S. healthcare system. Also, taken together, the studies presented at the national, state, and city level suggest that prolonged residence in refugee camps, which are often overpopulated and limited in human and financial resources, coupled with the stress, worry, concern, anxiety, and the overall hardships experienced during life in refugee camps, is associated with a higher risk of disease [18].

### ***Multilevel Factors Affecting Access to Healthcare***

There are a number of factors that affect access to healthcare for refugees resettled in the U.S. Individual-level factors are those individual characteristics that influence behavior such as knowledge; attitudes; beliefs; and socioeconomic factors (i.e., employment status, income, education, health insurance status, housing, transportation, English language proficiency, social integration, and support systems) [19]. Interpersonal-level factors are those elements in place and groups (i.e., family, friends, and peers) that help develop a person's social identity and place within society [20]. Community-level factors are items such as location and access to healthcare (i.e., provider availability), as well as social norms and standards among and towards individuals, groups, or organizations [21]. System-level factors

include the rules, regulations, policies, and structures in place that facilitate or impede certain behaviors [21].

**United States.** Many studies have been conducted on the factors that affect access to healthcare for refugees resettled in the U.S. The Taylor et al study noted previously focused on Iraqi refugees resettled in the U.S. between 2007-2010 and also found that 75% of the participants had some form of health insurance, including Medicaid and 43% delayed or did not seek care within the past year [15].

**Texas.** The study conducted by Vermette et al. focused on healthcare access for Iraqi refugee children in Texas. Four focus groups were conducted with Iraqi refugee parents (N=24) residing in Texas. Semi-structured Key Informants Interviews (N=8) were also conducted with representatives of organizations serving Iraqi refugees. The findings of the study included provider availability, Medicaid renewal, language, lack of knowledge about how to navigate the health system, and post-traumatic stress disorder (PTSD) as barriers to access to healthcare for their children [22].

**San Antonio.** A few studies conducted in San Antonio provided insight into some factors that affected access to healthcare of refugees. The Adel et al. study noted previously focused on refugees resettled in San Antonio (N=488) and found that 86.6% of patients did not have any insurance [17]. A study conducted by Navuluri et al. explored barriers to healthcare access experienced by refugees resettled in San Antonio (N=49). The study found that barriers include language, transportation, and financing [23]. It also found that 53.2% of refugees did not feel confident when they needed to schedule a doctor's appointment; 41.3%

utilized the ER when they were sick instead of going to a primary care provider; and 24.5% reported they had one or more chronic illnesses and, of these individuals, only 16.7% reported actually having visited a doctor for them. Transportation was found to be a barrier as only 34.7% reported having access to a personal vehicle. The experience of the refugees prior to and following resettlement plays a significant role in their interaction with health information and the health system as a whole. These studies help highlight what other refugees have experienced and provide some insight into what refugees resettled to Bexar County may experience.

### ***Health Literacy of Refugees***

Many refugees resettled to the U.S. have physical and mental health issues that require them to navigate the healthcare system in order to access the care that they need. Navigation of the healthcare system is often contingent upon the health literacy of the individual. According to the U.S. Department of Health and Human Services, health literacy is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions [24]. Low health literacy is linked to poor health outcomes and, subsequently, individuals with low health literacy have higher rates of illness and hospitalizations [25]. Low health literacy is even more prevalent among refugees and is exacerbated by the stress of resettling to a new country, learning a new language and culture, and navigating a complicated healthcare system [18]. Medical examinations and the studies conducted on refugees have found that refugees had poorer health outcomes, compared with the general

U.S. population, and identified lower health literacy as a potential cause of these health disparities.

**United States.** Research shows that, at the national level, the rates of health literacy are low among the general U.S. population and even lower among U.S. resettled refugees. A systematic review of U.S. studies from 1963–2004 conducted by Paasche-Orlow et al. examined the prevalence of health literacy in the general population, and found that the weighted prevalence of low health literacy was 26% and marginal health literacy was 20% [26]. A study conducted by Wangdahl et al. among adult refugees speaking Arabic, Dari, Somali, or English (N=455) resettled in Sweden showed that 36% of those assessed experienced poor communication, 55% reported receiving little information about healthcare, 41% reported obtaining little new knowledge, and 26% reported receiving little help [27]. They also showed that there was an association between inadequate health literacy and the experience of poor communication. A study conducted by Floyd and Sakellariou found that refugee women in their study had low health literacy [28]. They found that the refugee women were resourceful individuals who acknowledged the barriers to access to healthcare they were experiencing [28]. These women demonstrated dependence because of the language barriers and low English-level proficiency and, as a result, they required various navigation services, including appointment reminders and interpretive services [28]. They also experienced a sense of isolation because of the language barriers, low literacy, and the assimilation into a new country and culture [28]. They also reported feeling rejection from

physicians because of their cultural insensitivity and because of the lack of provision of interpretive services by all physicians [28].

**Texas.** The implications of low health literacy at the city and state levels are similar to those at the national level. As a result, understanding and addressing health literacy has the potential to mediate factors that impact refugees and refugee health, such as utilization of health services and preventative resources, medication usage, management of chronic conditions, and health disparities that are experienced by most refugees being resettled in Texas. Even though there are no known studies examining the health literacy of refugees resettled in Texas, it is expected that health literacy will impact refugees in Bexar County in the same way that it impacts other low socioeconomic populations.

### **The Public Health Significance**

The current global refugee crisis is expected to continue, exerting pressure on host countries to answer the global call. Medical examinations and studies conducted on refugees have provided some insight into the multilevel factors that affect healthcare access among resettled refugees. In addition to pre-existing conditions that developed pre-resettlement, refugees resettled to a host country often experience post-resettlement–related issues that impact their access to healthcare and their health outcomes [29]. To our knowledge, no studies have examined the multilevel factors, and the differences among them, that affect healthcare access in refugees resettled in Texas, in general, and in San Antonio, Bexar County, in particular.

In this study, we investigated the multilevel factors that affect healthcare access among refugees resettled in Bexar County, Texas, as well as assessed their level of health literacy. We found that several multilevel factors affect healthcare access among these resettled refugees, including health literacy, level of educational attainment, proficiency in English, proficiency in native language, translation services, etc. When assessing health literacy specifically, we found inadequate health literacy levels and low proficiency levels (reading, writing, and understanding) not only in English but also in their native language. These findings have practical implications that will help policy makers, public health practitioners, RSOs, and state and local health organizations to create solutions to eliminate the barriers to healthcare access or reduce their effects. This study increased the awareness about the kind of information needed by refugees, so that they can gain better access to primary healthcare and the problems refugees encounter when trying to access primary healthcare. Collectively, the findings of this study can help in the development of a framework focused on improving the delivery of accessible and coordinated healthcare for refugees living in Bexar County, Texas.

### **The Overall Goal and Specific Aims of the Study**

The overall goal of this study was to increase our understanding of healthcare access among refugees by investigating the multilevel factors that facilitate or impede healthcare access among refugees who have resettled in Bexar County, Texas. To achieve this goal, the study sought to accomplish the following two aims:



Aim 1: To identify and classify the multilevel factors facilitating or impeding healthcare access among refugees aged 18 years and older residing in Bexar County, Texas, as reported by refugees and Key Informants from RSOs from August 1, 2019, to February 29, 2020.

Aim 2: To conduct a secondary analysis of “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data collected from August 1, 2019, to February 29, 2020, to determine health literacy among refugees aged 18 years and older residing in Bexar County, Texas.

## THE METHODS

Increasing our understanding of the multilevel factors that facilitate or impede healthcare access among refugees who have resettled in the U.S., in general, and in Bexar County, Texas, in particular, will help public health practitioners, health policy makers, and organizations that deliver services and care to refugees identify solutions that eliminate the barriers or reduce their effects. This study identifies the multilevel factors that are facilitating or impeding healthcare access for refugees as well as assessed health literacy in a population of refugees resettled in Bexar County, Texas.

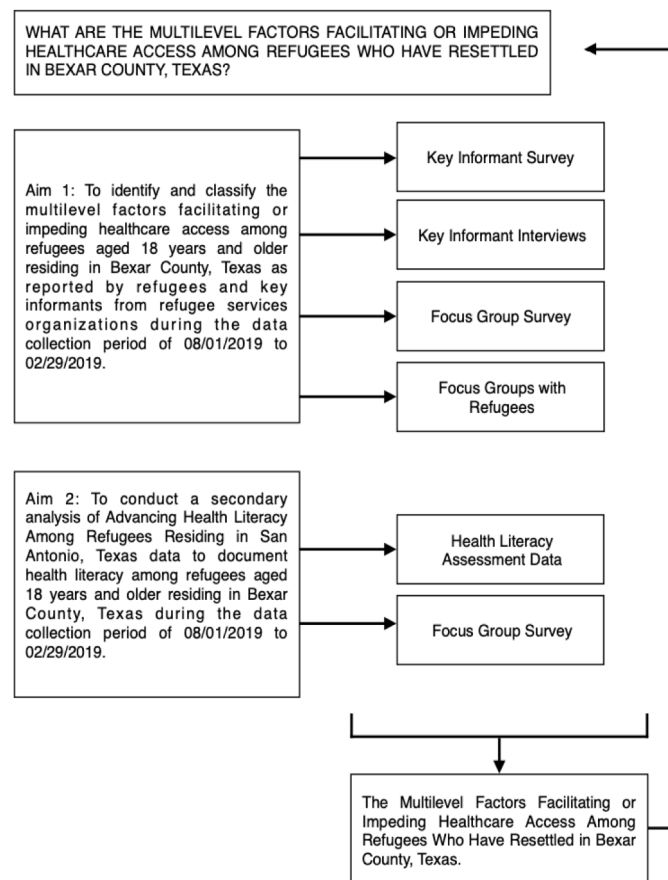
### The Study Design

The study employed a mixed-methods approach that involved collecting and analyzing qualitative and quantitative data as part of a single study. For the purpose of clarity, mixed-methods in this study refers to the process of collecting and analyzing qualitative and quantitative data as part of a single study. Other purposes for this design include illustrating quantitative results with qualitative findings. This allows for the synthesis of complementary data to develop a more comprehensive understanding of a phenomenon. This study utilized a fixed mixed-method design because the use of qualitative and quantitative methods was predetermined and was incorporated into the study design from the onset [30].

Figure 1 shows the study design for this study. As shown, Aim 1 focused on identifying and classifying the multilevel factors that facilitate or impede healthcare access for refugees aged 18 years and older resettled in Bexar County, Texas. For Aim 1, data collection involved the administration of Key Informants interviews and focus groups with refugees. The

multilevel factors identified as part of Aim 1 were assigned to one of four types of barriers to access to healthcare: System-level Barriers, Interpersonal-level Barriers, Individual-level Barriers, and Community-level Barriers. Data were classified into four types of multilevel factors facilitating or impeding access to healthcare: individual, interpersonal, community, and system. Individual-level factors

**Figure 1: The Study Design**



are those individual characteristics that influence behavior (i.e., knowledge, attitudes, and beliefs) and socioeconomic conditions (i.e., employment status, income, education, health insurance status, housing, transportation, as well as English language proficiency, social integration, and support systems). Interpersonal-level factors are those elements in place and groups (i.e., family, friends, peers, and professional) that help develop an individual's social identity and position. Community-level factors include location (e.g., urban vs. rural, zip code) and access to healthcare (i.e., provider availability), as well as social norms and standards among and towards individuals, groups, or organizations. System-level factors include the

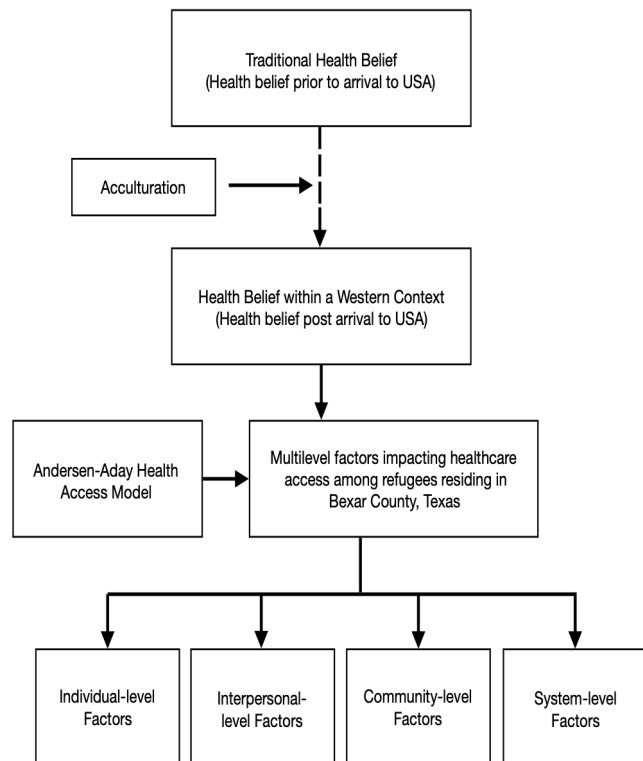
rules, regulations, policies, and structures in place that facilitate or impede certain behaviors, such as local, state, and federal policies and laws.

As shown, Aim 2 focused on conducting a secondary analysis of the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data to document health literacy among refugees aged 18 years and older residing in San Antonio. For Aim 2, data collection involved the administration of a health literacy assessment and Focus Group Surveys.

### The Study Conceptual Framework

The study is informed by two conceptual models; constructs from the Andersen-Aday Health Access Model and the Johnson, Ali and Shipp Model were used to develop the study conceptual model (Figure 2). The framework begins with the Traditional Health Belief of the refugee. The construct is the same found in the Health Belief Model but applied them to the health beliefs of the refugee prior to their arrival to the United States.

**Figure 2: The Study Conceptual Model**



The Johnson, Ali and Shipp Model was used to frame health beliefs to determine how social and cultural factors (norms and values) affect the refugee’s perception of health [31].

For the study, it was important to account for acculturation as an influential factor and examines the influence it may have on the evolution of a refugee's perception of health within a Western context [31]. The model also allows for the examination of the refugee's previous experiences with healthcare providers; their personal health beliefs (perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, cues to action, and self-efficacy); and how the combination of these constructs may affect the refugee's health-seeking behavior [31]. Health-seeking behavior is defined as "any action or inaction undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy [32]. It includes the refugee's health care utilization, their motivation to continue with care, and their willingness to participate in research studies and clinical trials [31].

The Andersen-Aday Health Access Model focuses on access to medical care and the role that health policy plays in the healthcare delivery system [33]. For this study, the model helped provide an understanding of how to influence change in the utilization of healthcare services by refugee populations. The Andersen-Aday framework includes several domains including: health policy, characteristics of the health delivery system, characteristics of the population at risk, utilization of health services and consumer satisfaction [33].

Health policy is considered the starting point for the assessment of healthcare access given that the effect of the health policy implemented has the power to improve or impede the access to health care [33]. Characteristics of the health delivery system looks at the components of the health delivery system that affect access to care and the rendering of care

to individuals, particularly resources and organization [33]. The characteristics of the refugees in this study were used to look at what Andersen and Newman called “individual determinants of utilization” [33]. They include predisposing factors such as age, sex, race, religion, values, and perceptions about health. It also includes facilitating factors such as income, insurance and transportation. Utilization of health services looks at the pattern of utilization of healthcare services and is affected by characteristics of the population at risk and the characteristics of the health delivery system in place. Consumer satisfaction concerns itself with the actual level of satisfaction individuals have with regard to the healthcare system. It takes into consideration the individual’s thoughts about the quantity and quality of healthcare services received. The two models were then merged to identify the multilevel factors facilitating or impeding access to healthcare: System-level Barriers, Interpersonal-level Barriers, Individual-level Barriers, and Community-level Barriers.

### **The Study Setting**

Bexar County, Texas, has a population of 1.7 million people, and encompasses 1,256 square miles, 14 cities, and 95 zip codes. San Antonio is the largest city within Bexar County, with a population of approximately 1.53 million people. According to the Refugee Council USA, San Antonio ranks 5th in hosting the largest number of refugees resettled to Texas [10]. As of October 2018, approximately 6,000 refugees resided in San Antonio, accounting for less than 1.0% of the overall Bexar County population. Although San Antonio is the legally recognized host city, Bexar County is the study setting because refugees resettled in San

Antonio are increasingly resettling in areas along San Antonio city limits and other areas of Bexar County.

### **The Study Sampling**

A comprehensive list of Refugee Services Organizations (RSOs) in Bexar County does not exist, but a master list for the geographic area of interest was compiled as of November 2019 as part of this study. A Google search for RSOs in Bexar County yielded a list that included Catholic Charities of San Antonio, Center for Refugee Services (CRS), and Refugee and Immigrant Center for Education and Legal Services (RAICES). However, this list excluded El Bari, University Health Systems, St. Francis Episcopal Church, and the San Antonio Refugee Health Clinic (SARHC), all of which serviced a large number of refugees, as well as other organizations, agencies, and clinics that provide additional social services, workforce training, healthcare, and faith-based services.

To compile the list of RSOs in Bexar County, information on local organizations assisting refugees was obtained from the Office of Refugee Resettlement Program (RRP), Texas Health and Human Services Commission. This list was compiled prior to Texas withdrawing from the RRP in January 2017. Organizations on the RRP list of local organizations assisting refugees received federal funding that was funneled to approved organizations by the state of Texas. To identify additional RSOs in Bexar County, the following key terms/phrases were searched, among others: “refugee services in Bexar County,” “RSOs in Bexar County,” “healthcare providers, legal services, health clinics servicing refugees,” and “refugee resettlement programs in Texas.”

The organizations on the compiled list were contacted to verify address and services provided. For the purpose of this study, RSOs were included in the sampling frame if they were an organization whose focus was aiding refugees, including non-profit organizations with a primary focus on refugee resettlement and transition, legal services, health clinics, and healthcare providers. Organizations that do not provide refugee services or that do not primarily service individuals who self-identify as refugees were excluded from the sampling frame. During the verification process, RSOs were asked about other RSOs. All RSOs identified through the word-of-mouth process were also verified. A preliminary list of RSOs, along with services they render and contact information, is provided in Appendix A.

### **The Study Subjects**

Study subjects were recruited based on the data collection instrument being utilized. Primary data were collected from interviews with Key Informants and focus groups with refugees. Secondary data were collected from a health literacy assessment.

**Key Informants.** The identified RSOs were invited by the Principal Investigator (PI) to identify individuals to serve as Key Informants. Key Informants were selected using a convenience sample of the employees within the verified RSOs. Efforts were made to obtain a representative sample of employees, including but not limited to: male and female participants; participants that speak the languages of the refugee population in addition to English; years of experience within the RSO; years of experience working with refugee populations; and job title within the RSO (i.e., Medical Coordinator, Program Director, Executive Director, Program Support Manager, Case Manager, Director, Assistant Director



and Physician).

The selection criteria for Key Informants included: 20 years of age or older during the study period; speak English; had worked at the RSO for 2 years or more; and be recognized as having the capacity to answer questions (i.e., they help refugees navigate the system, transition them into society, and provide legal and/or health services).

**Recruitment Process of Key Informants.** The PI contacted the identified RSOs between August 22, 2019 and November 30 2019. The PI explained the purpose of the phone call and requested permission to speak with the appropriate personnel. The individual identified as the appropriate personnel became the point of contact. Additional calls were made to multiple RSOs to establish contact.

Follow-up emails were generated and sent to the points of contact. They were asked to identify a representative within their respective organizations that met the selection criteria for Key Informants. The point of contact was not necessarily the individual that served as the Key Informants. It was expected that the recruitment would require multiple interactions before an eligible Key Informants was identified. Twelve individuals were invited to serve as Key Informants: 10 participated and two declined. Six of the individuals initially contacted and who served as the point of contact served as Key Informants. The remaining four Key Informants were identified by the point of contact as individuals who served as representatives of their organizations and, thus, could provide insight into the refugee situation in Bexar County and within their respective organizations.

Emails were exchanged multiple times in order to identify the appropriate personnel

and schedule interview dates and times. Confirmation emails were sent once dates and times were identified, and follow-up emails were sent one day before the scheduled interview date and time to serve as a reminder and ensure that plans for the interview had not changed. One interview was rescheduled due to a change in a work deadline.

**Focus Groups with Refugees.** Some of the identified RSOs were invited to serve as host sites for the focus groups and, subsequently, to assist in the recruitment of participants for the focus groups. RSOs were invited to serve as host sites based on their proximity to the majority of refugees resettled in San Antonio and their established rapport with refugees and reputation among RSOs. In addition, the PI has established relationships with many of the RSOs and leveraged these relationships to reach the study participants and conduct this study. Since January 2017, the PI has worked on a number of projects and volunteer efforts with some of these RSOs and, thus, has earned the trust of these RSOs, which are highly interested in the conduct of this study.

Refugee resettlement data released by the City of San Antonio showed that refugees from Afghanistan composed the majority group of those resettled in San Antonio in 2017 and 2018. Refugees from Iraq composed a significant proportion of refugees resettled in San Antonio from 2014–2017, but their number declined substantially in 2018. In 2018, the top refugee resettlement groups by nationality were Afghani, Congolese, Iraqi, and Burmese. Therefore, these groups were the primary target groups for this study.

Participants were selected using a convenience sample of the refugee population. Efforts were made to obtain a representative sample of the population, including but not

limited to: male and female participants; participants from various countries of origin; participants with varied length of residence in San Antonio; and participants aged 18 years of age and older. Recruited refugees self-identified as refugees and were 18 years of age or older during the study period.

**Recruitment Process for Focus Groups with Refugees.** The RSOs that agreed to serve as host sites for focus groups and to assist in the recruitment of the focus group participants were provided with copies of the study flyer, which is provided in Appendix B. The flyer was designed by the PI; approved by the PI's IRB; and translated into Pashto, French, Arabic, and Burmese by Worldwide Languages. Worldwide Languages is a San Antonio–based company that provides certified language services in over 30 languages focused on language training, translation, and interpretation. They have experience translating legal and technical documents, and serve as the translations services company for the North East Independent School District. The flyers were posted at the host site and distributed to refugees within those language groups receiving services at the organization. Recruitment efforts also included phone calls to individuals within those respective groups to inform them about the focus group, to explain the purpose of the study, and to invite them to participate. They were also made aware of the \$15.00 incentive for their participation.

Although various host sites were considered, the CRS and the SARHC were chosen as the host sites because of their proximity to refugees in San Antonio. Attempts to host some of the female focus groups at the SARHC were unsuccessful because of scheduling conflicts

between the SARHC and potential participants. Therefore, the focus groups originally slated for the SARHC during the evening were rescheduled and hosted at the CRS during the day.

#### **The Health Literacy Assessment Participants**

Participants were refugees aged 18 years and older recruited at the SAHRC and the CRS in San Antonio. Participants were selected using a convenience sample of the refugee population seeking services at the SARHC or CRS. Data were de-identified and used in the secondary analysis.

#### **The Sample Size**

The sample size for each category of study subjects varied. It was determined that the following would make up the sample size for this study:

- Key Informants: 10-12 representing leadership and organizations providing or coordinating healthcare services to refugees.
- Focus Groups with Refugees Participants: 40-48
- Health Literacy Assessment Participants: 60

#### **The Data Collection**

Four methods were used to collect data between August 1, 2019, and February 29, 2020, to accomplish the study aims. The data collection methods included Key Informants Surveys, Key Informants Interviews, Focus Groups with Refugees, and Focus Group Surveys. The questions for the various tools are included in Appendix C. The Key Informants Surveys collected information on the languages spoken by the Key Informants and whether they felt that knowing multiple languages facilitated or impeded interactions with refugees. The Key

Informants Interviews helped identify barriers experienced by RSOs when assisting refugees in accessing healthcare, policies in place that hinder or facilitate refugee access, and what the healthcare system can do to improve or build upon those policies to better address and respond to the needs of the refugees. The Focus Group Surveys collected information on age, gender, race, nationality, marital status, family size, education level, employment status, income, transportation, and health insurance, and it asked questions about their respective abilities to understand medical materials without assistance. Lastly, the Focus Groups with Refugees helped identify barriers experienced by refugees when accessing healthcare and explored potential solutions to the barriers identified. Together, these instruments were used to achieve a comprehensive understanding of the multilevel factors facilitating or impeding healthcare access by refugees as well as identified potential solutions to the factors.

**Key Informant Interviews.** The Key Informants Interviews followed a semi-structured approach and employed both open-ended and closed-ended questions. Both types of questions were asked based on the belief that this would yield the most useful data. The questions were derived from multiple sources, including the San Diego 2016 Community Health Needs Assessment [34], UCLA's The Access Project Getting the Lay of the Land on Health (The Access Project), and REACH's Syrian Refugees in Host Communities: Key Informants Interviews and District Profiling [35]. When appropriate, the four-question sequence was used; this sequence comprises four types of questions asked: main questions, follow-up questions, probing questions, and prompted questions [35]. The main questions opened up the topic; the follow-up questions focused on getting more details and expanded

answers to the responses to the main question; probing questions provided additional clarification; and prompted questions helped with memory recall by providing suggestions such as a product name, activity, etc. [35]. Key Informants Interviews lasted an average of 1 hour and 15 minutes. Among the questions asked during the Key Informants Interviews was one about solutions to the barriers identified.

The PI conducted the interviews with all Key Informants, either face-to-face or by telephone interviews depending on their availability. Ten (10) Key Informants Interviews were conducted. The Key Informants Interview script was made available in English for the Key Informants to follow along with. The Key Informants Interviews began with the informed consent process, during which the Key Informants was given the opportunity to read the informed consent form and ask any questions about the informed consent and the study as a whole. Once the Key Informants read the informed consent form, they were asked to sign it. After collecting the signed informed consent form, the Key Informants Survey was administered. After completing and collecting the Key Informants Survey, the Key Informants was reminded that the interview was being recorded. All Key Informants understood and supported the idea of recording the session for later transcription and thematic analysis. Once the recorder was turned on, the interview script, as well as questions and prompts, were read. At the end of the interview, the questions were reviewed to ensure that there were no missed questions, incomplete answers, and/or inconsistencies that needed to be addressed. After the questions were reviewed, the Key Informants was thanked for their time, and asked if they had any questions or concerns they would like to address. At the

conclusion of the interview, the closing script was read and the recorder was turned off.

The Key Informants Interviews were confidential, so names and other personal identifiers of Key Informants were not recorded on the questionnaire to help maintain confidentiality and prevent the release of personally identifiable information. Instead, each Key Informants was assigned a Key Informants ID Number, which was associated with them throughout the entirety of the study. The Key Informants ID Number was an individual-specific number based on the following formulary:

- 6 digits in length
- First letter of Key Informant's first name and last name, MM, RSO assignment number
- Example: Key Informants-John Doe...Initial of first and last name...JD

MM-two-digit month of birthday, May 10, 1980...05

RSO assignment number as identified on the Inventory of Refugee Services

Organizations: 01...01

Therefore, the assigned Key Informants ID Number in this example would be: **JD0501**

Key Informants ID Numbers were utilized to separate responses. Given that the Key Informants ID Number was a combination of the RSO assignment number and the Key Informant's name, the position, email address, and phone number were excluded from the official record. The PI used this information to make contact for planning purposes and follow-up with Key Informants who opted to receive a copy following the completion of the study. Transcriptions of the interviews did not contain anything to connect the Key Informant's identity with their information except for their Key Informants ID Number. Data were

analyzed by the PI and were used in the form of secondary, aggregated information. Collected data were stored under lock and key at the PI's office.

**Focus Groups with Refugees.** The Focus Groups with Refugees employed open-ended questions, which were derived from multiple sources, including the San Diego 2016 Community Health Needs Assessment [34], UCLA's The Access Project Getting the Lay of the Land on Health (The Access Project), and REACH's Syrian Refugees in Host Communities: Key Informants Interviews and District Profiling [35]. When appropriate, the four-question sequence was used, which comprised main questions, follow-up questions, probing questions, and prompted questions [35]. The main questions opened up the topic; the follow-up questions focused on getting more details and expanded answers to the responses to the main question; probing questions provided additional clarification; and prompted questions helped with memory recall by providing suggestions such as a product name, activity, etc. [35].

The focus group team was comprised of two (2) individuals: one (1) individual served as the facilitator and one (1) interpreter. The PI facilitated the group session and an interpreter from Worldwide Languages conducted the simultaneous interpretation. Translation services for the Focus Group with Refugees and the Focus Group Surveys, as well as the informed consent forms and recruitment flyers, were provided by Worldwide Languages. To ensure accuracy, a two-way translation methodology in which documents were translated from one language to the language of choice and back to the original language was used.



Given the limited resources and funding available, interpretation services were limited to the native languages of the major refugee groups in San Antonio. Therefore, interpretation services were made available for the native speakers of Arabic, Pashto, Burmese, and French and focus groups were conducted in these native languages. The Illinois Refugee Social Services Consortium and the Women's Bureau, Region V, U.S. Department of Labor conducted a survey that included 70 women with refugee status residing in Illinois [35]. They found that 83% of the women who participated in the survey said their English proficiency level was low and therefore did not speak English well or at all, and 74% of the women stated they needed translation assistance [36]. Conducting the focus groups in this manner allowed for the similarities and differences among the groups to be assessed. Therefore, it was decided that conducting the focus group and translating the questionnaire in the native language impacts the respondent cooperation and response by improving the likelihood of the participant more robustly participating in the focus group discussion. Also, it was recognized that conducting the focus group and translating the questionnaire improved the likelihood that the matriarch of the family would participate in the focus group and completion of the tool.

The Focus Groups with Refugees was administered face-to-face. Six focus groups were conducted with an average of eight individuals per focus group session. The focus groups were gender specific, with two focus groups limited to male participants only and four focus groups limited to female participants only. All six focus groups were hosted at the CRS. The CRS is a nonprofit organization that focuses on providing navigation services for refugees

resettled in San Antonio. Navigation services include assisting refugees in setting up appointments with medical professionals, navigation of the health system, applying for Carelink or Medicaid, translation services, among others.

Each individual was allowed to participate one time, and family members were not allowed to participate in the same focus group session. Participants were tracked via the Register of Participants for the Focus Groups with Refugees provided in Appendix D. Each focus group session lasted between 1.5 and 2 hours. Among the questions asked during the focus group was one about solutions to the barriers identified.

Prior to the start of each group session, the focus group participant was asked to take their seats. Once everyone was settled, a register was circulated so that each participant could sign in. The sign-in sheet served two purposes: (a) it helped ensure that each focus group session was composed of unique participants (participated only one time); and (b) it was used to create the Focus Group ID Number, which was the identifier associated with the focus group participant throughout the entirety of the study to maintain confidentiality and manage information. The Focus Group ID Number was an individual-specific number based on the following formulary:

- 8 digits in length
- First letter of the participant's native language, first letter of participant's first name, first letter of participant's last name, first letter of participant's birth month, RSO Assignment (#), and participant Seat Assignment (#)
- Example: Participant's native language...Arabic...A

Participants first name...Jane...J

Participants last name...Doe...D

Participants birth month...May...M

RSO Assignment as identified on the Inventory of Refugee Services Organizations:

01...01

Seat Assignment...09...09

Therefore, the assigned Focus Group ID Number in this example would be: **AJDM0109**

Each focus group began with the interpreter reading the Informed Consent Form aloud in the native language of the participant group and assisting them with the Demographic and Patient Intake Form. The participants were asked to sign the informed consent form and were then administered the Focus Group Surveys in the native language of the group. After completing and submitting the informed consent form and Focus Group Surveys, participants were reminded that the focus group session was being recorded. The focus group discussions began and simultaneous interpretation was conducted by a certified interpreter in the native language of the group. The PI documented observations that included reactions to questions, overall demeanor, and dress. At the conclusion of the focus group session, the closing script was read and the recorder was turned off. The \$15.00 incentives were then distributed to each participant in appreciation for their participation. Collected data were stored under lock and key at the PI's office.

### **The “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas”**

**Data.** The “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study

collected data from refugees residing in San Antonio, Texas. The aim of the study was to determine the health literacy of refugees aged 18 years and older who resided in San Antonio, and were receiving healthcare and navigation services at the SARHC and CRS. Data were collected using the Test of Functional Health Literacy in Adults short form (STOFHLA) during the data collection period from August 1, 2019 to February 29, 2020. The data collected from that study were used as secondary data analysis for this study.

Prior to the administration of the health literacy assessment, each patient completed a Demographic and Patient Intake Form. This form collected information on age, gender, race, nationality, marital status, family size, education level, employment status, income, transportation, and health insurance status. This allowed for health literacy assessments to be analyzed on the basis of demographic characteristics to identify any variances that may exist based on these variables. The demographic and patient intake form and the STOFHLA were administered in English, Arabic, Pashto, Burmese, or French, depending on the patient's language preference.

### **The Pre-testing of Data Collection Instruments and The Pilot Study**

**Pre-testing.** Pre-testing instruments being used in a study is recommended practice that enables researchers to ensure that the various questions that compose the instruments are presented in a manner that results in questions being interpreted as intended by the PI [33]. Pre-testing of all instruments utilized in the study was undertaken. This included:

- The questions used during the Key Informants Interviews with organization-level administrators.

- The questions used during the Focus Groups with Refugees.
- The Demographic and Patient Intake Form completed by patients.

Pre-testing instruments allowed for potential problems to be identified, such as unclear directions, and course-corrected prior to implementation of the actual instruments. It also allowed for the PI to develop a paper trail of how the research was and should be handled and allowed for course correction of the process as well. It lent credibility to the overall process and allowed for collected data to be inputted, coded, and analyzed to determine if the process is appropriate.

The first step to pre-testing the instruments was to have the instruments reviewed by individuals familiar with the study subject matter. Two individuals were invited to conduct the review. This allowed for any potential problems to be identified such as unclear directions or poorly worded questions. The second step to pre-testing the instruments was the scheduling of several practice interviews, focus groups, and intake form administrations to assess the effectiveness of the instruments and whether or not the information being sought was obtained. Chadwick, Bahr, and Albrecht recommend the use of the following five questions when assessing an instrument during pre-testing [37]:

1. Has the researcher included all of the questions necessary to test the research hypothesis?
2. Do the questions elicit the types of response that were anticipated?
3. Is the language of the research instrument meaningful to the respondents?

4. Are there other problems with the questions, such as double meaning or multiple issues embedded in a single question?
5. Does the interview guide, as developed, help to motivate respondents to participate in the study?

These five questions, which were extracted in part from Ruel et al.'s work [38], were used to assess the instruments prior to pilot-testing and actual administration. The Key Informants Interview questions were tested on two individuals who meet the criteria for study participation. The Focus Groups with Refugees questions were tested. The Focus Group Surveys was tested as well. Data collected during the pre-test was not incorporated into the data, so that data collected during the actual study was not compromised in any way.

**Pilot Testing.** The pilot test served as a dress rehearsal for the actual administration of the tools. The pilot study allowed for potential problems, such as unclear procedures, to be identified and course-corrected prior to the start of the actual study. The pilot was broken down into two components. The first component was the Key Informants Interview and the second component was the Focus Groups with Refugees. Participants involved in the pilot study were selected through a convenience sample of refugees and RSO administrators.

All components included a test of the administrative procedures. Each pilot test evaluated the resources available and the sampling and data collection procedures as they have been outlined, and the coding and analysis mechanism. Aday and Cornelius emphasize that *no survey should ever go into the field without a trial run of the questionnaire and data collection procedures to be used in the final study. Failure to conduct this trail run is one of the biggest*

*and potentially most costly mistakes that can be made in carrying out a survey* [33]. Thus, the pilot study was administered on two Key Informants interviews and individuals for the focus groups with refugees. Data collected during the pilot study were not incorporated into the study data to avoid compromising the data collected during the actual study.

### **The Data Analysis**

This study utilized a strategy in which the qualitative and quantitative findings of the study were merged for combined analysis [30]. According to Creswell, the interaction can occur at various points in the study, but for the purpose of this study the interaction occurred after the data had been collected and analyzed at each phase. This was considered the point of interface because it is the point at which the merger occurred [30]. The data collected from the qualitative and quantitative components of the study informed each other to address the facilitators and impeding factors to access to healthcare for refugees resettled in Bexar County. The data collection methods included Key Informants Surveys, Key Informants Interviews, Focus Groups with Refugees, Focus Group Surveys, and data from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study. The Key Informants Interviews and Focus Groups with Refugees provided qualitative data, and the Key Informants Surveys and Focus Group Surveys provided quantitative data.

**Qualitative Data Analysis.** The Key Informants Interviews were audiotaped, transcribed, and assessed to identify themes, trends, and emerging patterns surrounding healthcare access among refugees. In the event that a Key Informants declined to be audiotaped, the interview was conducted and transcribed from written notes. Ten Key

Informants Interviews with females were conducted, and responses were transcribed by the PI. The Focus Groups with Refugees were audiotaped, transcribed, and assessed to identify themes, trends, and emerging patterns surrounding healthcare access among refugees. The Focus Groups with Refugees included a facilitator and interpreter, and the sessions were audiotaped in order to serve as a reference and point of clarification of the information collected. Forty-four refugees participated in the focus groups, and responses were translated into English by an interpreter from Worldwide Languages and transcribed by the PI.

Thematic Analysis (TA) as described by Corbin and Strauss was used to analyze the qualitative data collected [39]. TA allows the research focus to move beyond counting words and phrases to identifying and describing implicit and explicit ideas found within the data [39]. TA also allows for the shared meanings and experiences to be incorporated into the analysis. As noted previously, the interviews were audiotaped, transcribed orthographically (meaning all words and sounds were recorded), and were not cleaned up. Six steps comprise TA: familiarization with the data; generating initial codes; searching for themes; reviewing potential themes; defining and naming themes; and producing the report [39].

For the qualitative section of the presentation of results, the themes identified through the use of the TA did not include a report on the frequencies and percentages. Because the primary aim of the Key Informants Interviews and the Focus Groups with Refugees was to identify themes, trends, and emerging patterns surrounding access to healthcare, the presentation of frequencies and percentages did not add to the overall study.



Selected sociodemographic characteristics, as well as the emerging themes, were presented for the Key Informants Interviews and the Focus Groups with Refugees.

**Quantitative Data Analysis.** Data from the Key Informants Survey, Focus Group Surveys, and the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study were analyzed using IBM SPSS Statistics Version 26. The Key Informants Survey data and the Focus Group Surveys data were coded, entered, and validated through double entry for quantitative analysis. The “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data were de-identified.

The Focus Group Surveys and the Demographic and Patient Intake Form (from the health literacy study) had the four questions from the Brief Health Literacy Screen (BRIEF) imbedded in the tool. This provided the opportunity for both studies to collect data on health literacy status without the participant potentially feeling like they were being tested. Data collected from both tools were analyzed using frequency measures, Pearson correlations, cross tabulations (including with layer), and linear regressions. Pearson correlation was specifically used to demonstrate the association between the BRIEF scores in the surveys from the focus groups, and the STOFHLA and BRIEF scores from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study. Ninety-five percent (95%) confidence intervals (CIs) were used for the correlation coefficients. Linear regressions were conducted to regress the STOFHLA and BRIEF scores from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study and the BRIEF scores in the Focus Group Surveys scores on age, gender, race, marital status, family size, education,

employment, income, insurance status, length of time in the U.S., and the ability to write and read in English.

### **Human Subjects Protections**

IRB approval was sought and granted for all study components by the Committee for Protection of Human Subjects prior to any data collection. The approval number for this study is HSC-SPH-19-0651. A copy of the approval letter is in Appendix E.

## JOURNAL ARTICLE 1

### **Assessing the Health Literacy of Refugees in San Antonio, Texas: Clinic Population Findings**

#### **International Journal of Migration, Health and Social Care**

Aim: To conduct a secondary analysis of “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data collected from August 1, 2019, to February 29, 2020, to determine health literacy among refugees aged 18 years and older residing in Bexar County, Texas.

#### **Abstract**

*Purpose:* Many refugees resettled to the U.S. have health issues that require navigation of the healthcare system, which is often contingent on health literacy. Implications of low health literacy for refugees in Texas are serious, but there are no known studies examining their health literacy. The purpose of this study was to utilize data from a health literacy assessment and surveys from focus groups, to examine the health literacy of adult refugees residing in Bexar County, Texas.

*Design/Methodology/Approach:* Afghani, Congolese, Iraqi, and Burmese refugees were recruited from the San Antonio Refugee Health Clinic and Center for Refugee Services. Primary data were collected using surveys from focus groups. Secondary de-identified data were obtained from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study. All data were analyzed using frequency measures, Pearson correlations, cross tabulations, and linear regressions.

*Findings:* Refugees had inadequate health literacy levels and experienced low reading and writing proficiency in English and their native language.

*Originality/Value:* This is the first study to assess health literacy levels of refugees resettled in Bexar County, Texas and increases understanding of the multilevel factors that contribute to inadequate health literacy levels among refugees.

*Practical implications:* This study shows the importance of health literacy in the successful integration of refugees into society and carries implications for future programming and policies as they pertain to refugee resettlement in the U.S.

*Key Words:* Refugees, barriers to healthcare for refugees, health literacy among refugees, refugees resettled in San Antonio

*Paper Type:* Research paper

## **Background**

The current global refugee crisis is of historic proportions, with the number of individuals forcibly displaced at an all-time high [UNHCR, 2019]. Forcibly displaced individuals are those who have been forced to flee their home or country because of persecution, conflict, or violence, and who have a well-founded fear of persecution because of race, religion, nationality, political opinion or membership in a particular social group. As of January 2019, there are 70.8 million forcibly displaced people worldwide classified as refugees, asylum-seekers, or internally displaced persons, the highest number since World War II [UNHCR, 2019]. Of the 70.8 million forcibly displaced people, 25.9 million are refugees who were forced to flee and have crossed an internationally recognized state border into a

safe country or camp [UNHCR, 2019]. Since the signing of the Refugee Act of 1980, more than 3 million refugees have been resettled in the U.S. [Ura, 2016]. The annual admissions ceiling for refugee resettlement to the U.S. fluctuates by year, and reflects the political inclinations of the president as well as the political and global climate that exists during their term. The expectation of refugees is that resettlement in the U.S. is achieved within the first year of their arrival and self-sufficiency is attained. The Refugee Act of 1980 loosely identified and defined self-sufficiency to include obtaining employment, earning an income, learning the English language, and participation in employment training programs [Ura, 2016].

### *Health Literacy*

Many refugees resettled to the U.S. have physical and mental health issues that require them to navigate the healthcare system in order to access the care that they need. Navigation of the healthcare system is often contingent upon the health literacy of the individual. According to the U.S. Department of Health and Human Services, health literacy is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions [US Department of Health and Human Services, 2020]. Low health literacy is linked to poor health outcomes and, subsequently, individuals with low health literacy have higher rates of illness and hospitalizations [Brick et al., 2010]. Low health literacy is even more prevalent among refugees and is exacerbated by the stress of resettling to a new country, learning a new language and culture, and navigating a complicated healthcare system [Navuluri et al., 2014]. Medical examinations and the studies conducted on refugees have

found that refugees had poorer health outcomes, compared with the general U.S. population, and identified lower health literacy as a potential cause of these health disparities [Navuluri et al., 2014].

Research shows that, at the national level, the rates of health literacy are low among the general U.S. population and even lower among U.S. resettled refugees [Paasche-Orlow et al., 2005]. A systematic review of U.S. studies from 1963–2004 conducted by Paasche-Orlow et al. examined the prevalence of health literacy in the general population, and found that the weighted prevalence of low health literacy was 26% and marginal health literacy was 20% [Paasche-Orlow et al., 2005]. A study conducted by Wangdahl et al. among adult refugees speaking Arabic, Dari, Somali, or English (N=455) resettled in Sweden showed that 36% of those assessed experienced poor communication and showed that there was an association between inadequate health literacy and the experience of poor communication [Wangdahl et al., 2015].

#### *Current Study*

The implications of low health literacy for refugees at the national level are similar to those for refugees residing in Texas. Since 2002, approximately 88,572 refugees have been resettled in Texas, of which, approximately 6,000 refugees have resettled in San Antonio since 2012 [Ura, 2012; Nowrasteh, 2020]. As a result, understanding and addressing health literacy has the potential to mediate factors that impact refugees and refugee health, such as utilization of health services and preventative resources, medication usage, management of chronic conditions, and health disparities that are experienced by most refugees being

resettled in Texas [US Department of Health and Human Services, 2020]. There are no known studies examining the health literacy of refugees resettled in Texas. The purpose of this study was to utilize secondary data from a health literacy assessment, coupled with primary data collected using focus group surveys, to assess the health literacy of adult refugees residing in Bexar County, Texas. It was expected that health literacy impacts refugees in Bexar County in the same way that it impacts other refugee populations in the U.S.

## **Methods**

A combination of primary and secondary data were used to conduct this study. The primary data were collected at the Center for Refugee Services (CRS) and the San Antonio Refugee Health Clinic (SARHC). The CRS is a nonprofit organization that focuses on providing navigation services for refugees resettled in San Antonio. Navigation services include assisting refugees in setting up appointments with medical professionals, navigating the health system, applying for Carelink or Medicaid, translation services, etc. The SARHC is a student-led collaborative effort between medical, dental, nursing, and other health profession students with oversight from faculty UT Health San Antonio (UTHSA).

### *Data Collection*

The primary data was collected from refugees aged 18 years and older who were residing in Bexar County and receiving navigation services at the CRS during the data collection period of August 1, 2019-February 29, 2020. The refugees were invited to participate in focus groups. Prior to the start of the focus groups, surveys were administered to the participants. The surveys collected information on age, gender, race, nationality,

language, marital status, family size, education, employment, income, transportation and health insurance and included questions about their respective abilities to understand medical materials without assistance. The surveys were administered in either English, Arabic, Pashto, Burmese or French depending on language preference. A total of 44 surveys with focus group were completed.

Secondary data were obtained from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study, which collected information from refugees aged 18 years and older who were residing in San Antonio, Texas, and receiving healthcare and navigation services at the CRS and SARHC during the data collection period from August 1, 2019, to February 29, 2020. The refugees were invited to participate in health literacy assessment. The Demographic and Patient Intake Form was administered prior to the administration of the short version of the Test of Functional Health Literacy in Adults (STOFHLA). The data provided were de-identified. The Demographic and Patient Intake Form also collected information on age, gender, race, nationality, marital status, family size, education, employment, income, transportation, and health insurance. The Demographic and Patient Intake Form and the STOFHLA were professionally translated and administered in either English, Arabic, Pashto, Burmese, or French, depending on participants’ language preference. A total of 91 Demographic and Patient Intake Forms and STOFHLA were completed.

All participants were provided written informed consent. The University of Texas School of Public Health review board (IRB) approved all study procedures.



### *Measures and Analysis*

Data from the surveys administered during the focus groups and the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study were analyzed using IBM SPSS Statistics Version 26. The focus group surveys were coded, entered, and validated through double entry for quantitative analysis. The “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data were de-identified and used in a secondary analysis. The four questions from the Brief Health Literacy Screen (BRIEF) were imbedded into the survey administered prior to the focus groups and the intake form administered prior to the health literacy assessments. This provided the opportunity to collect health literacy status without the participant feeling like they were being tested. Moving forward the BRIEF administered as part of the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study will be referred to as “BHLS-HLA” and the BHLS administered as part of the focus groups will be referred to as “BHLS-FGS”.

Data collected from all three tools were analyzed using frequency measures, Pearson correlations, cross tabulations (including with layer), and linear regressions. Pearson correlation was specifically used to demonstrate the association between the STOFHLA and the BHLS-HLA. The two-tailed significance test was selected because the desire was to identify if there is any difference between the two health literacy assessments. Ninety-five percent (95%) confidence intervals (CIs) were used for the correlation coefficients. A Pearson correlation was not run between the BHLS-FGS and STOFHLA since STOFHLA was not administered as part of the focus groups. Standard linear regressions were performed to test

the association between the STOFHLA, BHLS-HLA and the BHLS-FGS scores on age, gender, race, marital status, family size, education, employment, income, insurance status, length of time in the U.S., and the ability to write and read in English.

Table 1 provides a categorical breakdown of the health literacy levels, score range, and the skills and abilities associated with each level for the BHLS and a categorical breakdown of the health literacy levels, score range, and the skills and abilities associated with each level for the STOFHLA. Definitions and score ranges were established by the developers of the tools.

**Table 1: Health Literacy Scoring Matrices**

| <b>BRIEF</b>   | <b>SCORE</b> | <b>SKILLS AND ABILITIES</b>  |
|----------------|--------------|--|
| Limited        | 4-12         | Not able to read most low literacy health materials; will need repeated oral instructions; materials should be composed of illustrations or video tapes. Will need low literacy materials; may not be able to read a prescription label. |
| Marginal       | 13-16        | May need assistance; may struggle with patient education materials.  |
| Adequate       | 17-20        | Will be able to read and comprehend most patient education materials.  |
| <b>STOFHLA</b> | <b>SCORE</b> | <b>SKILLS AND ABILITIES</b>  |
| Inadequate     | 0-16         | Not able to read most low literacy health materials; will need repeated oral instructions; materials should be composed of illustrations or video tapes. Will need low literacy materials; may not be able to read a prescription label. |
| Marginal       | 17-22        | May need assistance; may struggle with patient education materials.  |
| Adequate       | 23-36        | Will be able to read and comprehend most patient education materials.  |

## Results

A total of 91 STOFHLA and BHLS-HLA and 44 BHLS-FGS were administered to refugee participants (Table 2). In both groups, most participants were aged 25-44 years, and the gender breakdown was almost equal for males and females. In both assessment groups, most participants reported their race as “Asian Alone” (68.1% and 56.8%, respectively), which correlates to the large proportion of Afghani participants (53.8% and 38.6%, respectively).

**Table 2: Participant Demographics by Assessment (STOFHLA, BHLS-HLA and BHLS-FGS)**

|                 |                  | STOFHLA/BHLS-HLA (n=91) | BHLS-FGS (n=44) |
|-----------------|------------------|-------------------------|-----------------|
| Age             | 18-24            | 8 (8.8%)                | 3 (6.8%)        |
|                 | 25-44            | 69 (75.8%)              | 36 (81.8%)      |
|                 | 45-64            | 14 (15.4%)              | 4 (9.1%)        |
|                 | 65+              | 0 (0.0%)                | 1 (2.3%)        |
| Gender          | Male             | 42 (46.2%)              | 19 (43.2%)      |
|                 | Female           | 49 (53.8%)              | 25 (56.8%)      |
| Race            | White Alone      |                         |                 |
|                 | Black or African | 24 (26.4%)              | 11 (25.0%)      |
|                 | Alone            | 5 (5.5%)                | 7 (15.9%)       |
|                 | Asian Alone      | 62 (68.1%)              | 25 (56.8%)      |
|                 | Two or More      | 0 (0.0%)                | 1 (2.3%)        |
| Nationality     | Races            |                         |                 |
|                 | Afghani          | 49 (53.8%)              | 17 (38.6%)      |
|                 | Burmese          | 27 (29.7%)              | 9 (20.5%)       |
|                 | Congolese        | 1 (1.1%)                | 4 (9.1%)        |
|                 | Iraqi            | 5 (5.5%)                | 5 (11.3%)       |
|                 | Other            | 9 (9.9%)                | 9 (20.5%)       |
| Native Language | Arabic           | 9 (9.9%)                | 11 (25.0%)      |
|                 | French           | 5 (5.5%)                | 7 (15.9%)       |
|                 | Pashto           | 49 (53.8%)              | 17 (38.6%)      |
|                 | Burmese          | 27 (29.7%)              | 9 (20.5%)       |
|                 | English          | 1 (1.1%)                | 0 (0.0%)        |
| Marital Status  | Married          | 77 (84.6%)              | 34 (77.3%)      |
|                 | Single           | 12 (13.2%)              | 8 (18.2%)       |
|                 | Widowed          | 1 (1.1%)                | 2 (4.5%)        |
|                 | Other            | 1 (1.1%)                | 0 (0.0%)        |

**Table 2: Participant Demographics by Assessment (STOFHLA, BHLS-HLA and BHLS-FGS)  
continued**

|                |                             | <b>STOFHLA/BHLS-HLA<br/>(n=91)</b> | <b>BHLS-FGS<br/>(n=44)</b> |
|----------------|-----------------------------|------------------------------------|----------------------------|
| Family Size    | 1                           | 4 (4.4%)                           | 9 (20.4%)                  |
|                | 2                           | 3 (3.3%)                           | 1 (2.3%)                   |
|                | 3-5                         | 36 (39.6%)                         | 12 (27.3%)                 |
|                | 6-7                         | 30 (32.9%)                         | 8 (18.2%)                  |
|                | 8-9                         | 12 (13.2%)                         | 5 (11.4%)                  |
|                | 10+                         | 6 (6.6%)                           | 9 (20.4%)                  |
| Education      | No Answer                   | 0 (0.0%)                           | 1 (2.3%)                   |
|                | None                        | 38 (41.7%)                         | 12 (27.3%)                 |
|                | Primary                     | 17 (18.7%)                         | 6 (13.6%)                  |
|                | Secondary                   | 25 (27.5%)                         | 19 (43.2%)                 |
|                | University or Graduate Work | 11 (12.1%)                         | 6 (13.6%)                  |
| Employment     | Employed                    | 39 (42.9%)                         | 21 (47.7%)                 |
|                | Not Employed                | 52 (57.1%)                         | 23 (52.3%)                 |
| Income         | No Answer                   | 10 (11.0%)                         | 3 (6.8%)                   |
|                | Under \$5000.00             | 49 (53.9%)                         | 22 (50.0%)                 |
|                | \$5000.00-\$24,999.99       | 19 (20.8%)                         | 15 (34.1%)                 |
|                | \$25,000.00-\$44,999.99     | 10 (11.0%)                         | 4 (9.1%)                   |
|                | \$45,000-\$64,999.99        | 3 (3.3%)                           | 0 (0.0%)                   |
|                | \$65,000+                   | 0 (0.0%)                           | 0 (0.0%)                   |
| Transportation | Personal Vehicle            | 59 (64.8%)                         | 28 (63.6%)                 |
|                | Public Transportation       | 14 (15.4%)                         | 11 (25.0%)                 |
|                | Share Ride                  | 4 (4.4%)                           | 5 (11.4%)                  |
|                | Other                       | 14 (15.4%)                         | 0 (0.0%)                   |
| Insurance      | Medicaid                    | 32 (35.2%)                         | 24 (54.5%)                 |

Marital status, family size, and education were also similar in both assessment groups.

Married individuals accounted for 84.6% of the participants for the STOFHLA/BHLS-HLA group and 77.3% of the participants for the BHLS-FGS group. Large family size was characteristic of the Afghani population in both assessment groups. For the STOFHLA/BHLS-HLA group, 95.9% of Afghani participants reported a family size of 3–5, 71.4% reported a family size of 6–7,

36.7% reported a family size of 8–9, and 12.2% reported a family size of 10 or more. Burmese participants also reported a large family size, with 92.6% reporting a family size of 3–5 and 36.0% reporting a family size of 6–7. For the BHLS-FGS group, 76.5% of Afghani participants reported a family size of 3–5, 70.6% reported a family size of 6–7, 64.7% reported a family size of 8–9, and 47.1% reported a family size of 10 or more. Burmese participants also reported a large family size, with 44.4% reporting a family size of 6–7. Low education levels were characteristic of female participants in both assessment groups. For the STOFHLA/BHLS-HLA group, 41.8% of participants reported having never attended school; of these participants, 71.1% were female. In terms of nationality, 55.6% of these females were Afghani, 40.7% were Burmese, and 3.7% were Iraqi. For both Afghani and Burmese participants, as education levels progressed through primary, secondary, and university or graduate work, the number of females decreased while the number of males increased. For the BHLS-FGS group, 27.3% of participants reported having never attended school; of these participants, 83.3% were female. In terms of nationality, 20.0% of these females were Afghani, 50.0% were Burmese, 10.0% were Syrian, and 20.0% were Congolese. For the Afghani participants, as education levels progressed through primary, secondary, and university or graduate work, the number of females decreased while the number of males increased. For the BHLS-FGS group, Burmese men were not included in the recruitment.

Employment rates were low in both assessment groups, with unemployment rates being higher among female participants than among male participants. For the STOFHLA/BHLS-HLA group, 57.1% of participants were unemployed; 82.7% of unemployed

participants were female, whereas 91.3% of employed participants were male. For the BHLS-FGS group, 52.3% of participants were unemployed; 78.3% of unemployed participants were female, whereas 80.0% of employed participants were male. For the STOFHLA/BHLS-HLA group, 7.7% of participants who were unemployed reported incomes of \$5,000.00 and above. These participants were females who were unemployed and thus reported household income that was earned by their husbands. For the same sample, 71.8% of participants who were employed reported an income of \$5,000.00 and above; of these participants, 89.3% were male and 10.7% were female. Of the 39 employed participants, 64.3% reported incomes of \$5,000.00–\$24,999.99, whereas only 10.7% reported incomes of \$45,000.00–\$64,999.99. For the BHLS-FGS group, 15.9% of participants who were unemployed reported incomes of \$5,000.00 and above. All but one of these participants were females who were unemployed and thus reported household income that was earned by their husbands. For the same sample, 57.1% of participants who were employed reported an income of \$5,000.00 and above; of these participants, 75.0% were male and 25.0% were female. Of the 21 employed participants, 52.4% reported incomes of \$5,000.00–\$24,999.99, whereas 0.0% reported incomes of \$45,000.00–\$64,999.99.

Most participants in both assessment groups were uninsured or were covered by Medicaid or Carelink. Overall, 39.6% of the STOFHLA/BHLS-HLA participants and 25.0% of the BHLS-FGS participants were uninsured regardless of employment status. For the STOFHLA/BHLS-HLA group, 61.5% of unemployed participants were covered by Medicaid or Carelink. Although Carelink has become widely recognized as a health insurance plan by

refugees, it is not. Instead, Carelink is a financial assistance program that provides a sliding scale payment option that is open to Bexar County residents who meet certain preset criteria [University Health System].

### *Health Literacy Assessments*

The overwhelming majority of participants had low health literacy levels regardless of the assessment tool used (Table 3) and insurance status (Table 4). By assessment tool, 92.3% of the participants who completed the STOFHLA, 86.8% of those who completed the BHLS-HLA, and 100% of those who completed the BHLS-FGS were found to have an inadequate/limited level of health literacy (Table 3). A crosstabulation of health insurance status and health literacy levels showed that of participants who completed the STOFHLA, 57.1% had insurance and low health literacy while 35.2% had no insurance and low health literacy (Table 4). Of those who completed the BHLS-HLA, 53.8% had insurance and low health literacy while 32.9% had no insurance and low health literacy. Lastly, of those who completed the BHLS-FGS, 72.7% had health insurance and low health literacy while 25.0% had no insurance and low health literacy.

**Table 3: Breakdown of STOFHLA, BHLS-HLA and BHLS-FGS HEALTH LITERACY TOOLS**

|                    | STOFHLA    | BHLS-HLA   | BHLS-FGS    |
|--------------------|------------|------------|-------------|
| Inadequate/Limited | 84 (92.3%) | 79 (86.8%) | 44 (100.0%) |
| Marginal           | 3 (3.3%)   | 10 (11.0%) | 0 (0.0%)    |
| Adequate           | 4 (4.4%)   | 2 (2.2%)   | 0 (0.0%)    |

**Table 4: Crosstabulation of Health Insurance Status with Health Literacy Levels**

|                 |            | HEALTH INSURANCE STATUS |            |       |
|-----------------|------------|-------------------------|------------|-------|
|                 |            | YES                     | NO         | TOTAL |
| <b>STOFHLA</b>  | Inadequate | 52 (57.1%)              | 32 (35.2%) | 84    |
|                 | Marginal   | 2 (2.2%)                | 1 (1.1%)   | 3     |
|                 | Adequate   | 1 (1.1%)                | 3 (3.3%)   | 4     |
| <b>BHLS-HLA</b> | Limited    | 49 (53.8%)              | 30 (32.9%) | 79    |
|                 | Marginal   | 5 (5.5%)                | 5 (5.5%)   | 10    |
|                 | Adequate   | 1 (1.1%)                | 1 (1.1%)   | 2     |
| <b>BHLS-FGS</b> | Limited    | 32 (72.7%)              | 11 (25.0%) | 43    |
|                 | Marginal   | 0 (0.0%)                | 0 (0.0%)   | 0     |
|                 | Adequate   | 0 (0.0%)                | 0 (0.0%)   | 0     |

Self-reported ability to read and write in English was low in both assessment groups: nearly half of participants in each group reported being unable to read or write in English well or at all (Table 5). Of the STOFHLA/BHLS-HLA group, 6.6% of participants reported being able to read and write in English very well, 18.7% reported being able to read and write in English well, and 45.9% of reported their ability to read and write in English as not well or not at all. Of the BHLS-FGS group, 6.8% of participants reported being able to read and write in English very well, 20.5% reported being able to read and write in English well, and 50.0% reported their ability to read and write in English as not well or not at all. Of the STOFHLA and BHLS-HLA participants with an inadequate/limited health literacy level (Table 3), 58.3% self-reported that they did not read or write English well or at all, while of the BHLS-FGS participants with an inadequate/limited health literacy level, 59.1% self-reported that they did not read or write English well or at all.



**Table 5: Participant Self-Reported Ability to Read and Write in English**

| <b>ABILITY TO READ IN ENGLISH</b> |  | <b>ABILITY TO WRITE IN ENGLISH</b> |             |                 |                   |
|-----------------------------------|--|------------------------------------|-------------|-----------------|-------------------|
| <b>STOFHLA/BHLS-HLA</b>           |  | <b>Very Well</b>                   | <b>Well</b> | <b>Not Well</b> | <b>Not at All</b> |
| No Answer                         |  | 0 (0.0%)                           | 0 (0.0%)    | 0 (0.0%)        | 1 (3.03%)         |
| Very Well                         |  | 6 (100.0%)                         | 0 (0.0%)    | 1 (3.4%)        | 0 (0.0%)          |
| Well                              |  | 0 (0.0%)                           | 17 (73.9%)  | 8 (27.6%)       | 1 (3.03%)         |
| Not Well                          |  | 0 (0.0%)                           | 4 (17.4%)   | 16 (55.2%)      | 2 (6.06%)         |
| Not at All                        |  | 0 (0.0%)                           | 2 (8.7%)    | 4 (13.8%)       | 29 (87.9%)        |
| <b>BHLS-FGS</b>                   |  | <b>Very Well</b>                   | <b>Well</b> | <b>Not Well</b> | <b>Not at All</b> |
| No Answer                         |  | 0 (0.0%)                           | 0 (0.0%)    | 0 (0.0%)        | 1 (5.9%)          |
| Very Well                         |  | 3 (75.0%)                          | 2 (16.7%)   | 0 (0.0%)        | 0 (0.0%)          |
| Well                              |  | 0 (0.0%)                           | 9 (75.0%)   | 1 (9.1%)        | 0 (0.0%)          |
| Not Well                          |  | 0 (0.0%)                           | 1 (8.3%)    | 10 (90.9%)      | 4 (23.5%)         |
| Not at All                        |  | 1 (25.0%)                          | 0 (0.0%)    | 0 (0.0%)        | 12 (70.6%)        |

Pearson correlation was performed to demonstrate the association between the BHLS-HLA and the S-TOFHLA scores (Table 6). The correlation was found to be significant at  $p < .01$ . Therefore, we can say that both assessments have a statistically significant linear relationship and the direction of the relationship is positive.

**Table 6: Pearson Correlation, BRIEF x STOFHLA for Health Literacy Study**

|                |                     | <b>BRIEF</b> | <b>STOFHLA</b> |
|----------------|---------------------|--------------|----------------|
| <b>BRIEF</b>   | Pearson Correlation | 1            | 0.358**        |
|                | Sig. (2-tailed)     |              | 0.000          |
|                | N                   | 91           | 91             |
| <b>STOFHLA</b> | Pearson Correlation | 0.358**      | 1              |
|                | Sig. (2-tailed)     | 0.000        |                |

In addition to Pearson correlations, standard linear regressions were performed (Table 7). When the STOFHLA was predicted, it was found that education (Beta= 0.554,  $R^2=0.307$ ,  $p < 0.01$ ); income (Beta= 0.267,  $R^2=0.071$ ,  $p < 0.01$ ); insurance status (Beta= 0.204,

$R^2=0.041$ ,  $p < 0.01$ ); ability to read in English (Beta= -0.371,  $R^2=0.137$ ,  $p < 0.01$ ); and ability to write in English (Beta= -0.282,  $R^2=0.080$ ,  $p < 0.01$ ) were significant predictors. When the BHLS-HLA was predicted, it was found that gender (Beta= -0.329,  $R^2=0.108$ ,  $p < 0.01$ ); education (Beta= 0.637,  $R^2=0.405$ ,  $p < 0.01$ ); employment status (Beta= 0.305,  $R^2=0.093$ ,  $p < 0.01$ ); income (Beta= 0.360,  $R^2=0.129$ ,  $p < 0.01$ ); length of time in the USA (Beta= 0.270,  $R^2=0.073$ ,  $p < 0.01$ ); ability to read in English (Beta= -0.510,  $R^2=0.260$ ,  $p < 0.01$ ); and ability to write in English (Beta= -0.553,  $R^2=0.306$ ,  $p < 0.01$ ) were significant predictors. When the BHLS-FGS was predicted, it was found that education (Beta= 0.534,  $R^2=0.286$ ,  $p < 0.01$ ); ability to read in English (Beta= -0.295,  $R^2=0.087$ ,  $p < 0.01$ ); and ability to write in English (Beta= -0.4209,  $R^2=0.176$ ,  $p < 0.01$ ) were significant predictors. Gender, like the other variables, was insignificant, but given the low sample size for the BHLS-FGS group, the lack of association may be because there was insufficient data to conclude a non-zero correlation.

**Table 7: Linear Regressions (STOFHLA, BHLS-HLA and BHLS-FGS)**

| VARIABLE                    | $R^2$ | Adjusted $R^2$ | Sig   | t      | B      |
|-----------------------------|-------|----------------|-------|--------|--------|
| <b>STOFHLA</b>              |       |                |       |        |        |
| Age                         | 0.000 | -0.011         | 0.952 | 0.061  | 0.006  |
| Gender                      | 0.210 | 0.010          | 0.175 | -1.366 | -0.143 |
| Race                        | 0.019 | 0.008          | 0.194 | 1.308  | 0.137  |
| Marital Status              | 0.017 | 0.006          | 0.221 | 1.232  | 0.130  |
| Family Size                 | 0.012 | 0.000          | 0.311 | 1.018  | 0.107  |
| Education                   | 0.307 | 0.299          | 0.000 | 6.276  | 0.554  |
| Employment Status           | 0.029 | 0.018          | 0.106 | 1.635  | 0.171  |
| Income                      | 0.071 | 0.061          | 0.011 | 2.612  | 0.267  |
| Insurance Status            | 0.041 | 0.031          | 0.053 | 1.961  | 0.204  |
| Length of Time in USA       | 0.018 | 0.007          | 0.210 | 1.261  | 0.133  |
| Ability to Write in English | 0.080 | 0.069          | 0.007 | -2.777 | -0.282 |
| Ability to Read in English  | 0.137 | 0.128          | 0.000 | -3.766 | -0.371 |

**Table 7: Linear Regressions (STOFHLA, BHLS-HLA and BHLS-FGS) continued**

| <b>VARIABLE</b>             | <b>R<sup>2</sup></b> | <b>Adjusted R<sup>2</sup></b> | <b>Sig</b> | <b>t</b> | <b>B</b> |
|-----------------------------|----------------------|-------------------------------|------------|----------|----------|
| <b>BHLS-HLA</b>             |                      |                               |            |          |          |
| Age                         | 0.000                | -0.011                        | 0.975      | 0.032    | 0.003    |
| Gender                      | 0.108                | 0.098                         | 0.001      | -3.289   | -0.329   |
| Race                        | 0.019                | 0.008                         | 0.197      | 1.299    | 0.136    |
| Marital Status              | 0.000                | -0.011                        | 0.880      | 0.151    | 0.016    |
| Family Size                 | 0.000                | -0.011                        | 0.872      | -0.162   | -0.017   |
| Education                   | 0.405                | 0.399                         | 0.000      | 7.789    | 0.637    |
| Employment Status           | 0.093                | 0.083                         | 0.003      | 3.024    | 0.305    |
| Income                      | 0.129                | 0.120                         | 0.000      | 3.636    | 0.360    |
| Insurance Status            | 0.037                | 0.026                         | 0.069      | 1.841    | 0.192    |
| Length of Time in USA       | 0.073                | 0.062                         | 0.010      | 2.645    | 0.270    |
| Ability to Write in English | 0.306                | 0.298                         | 0.000      | -6.267   | -0.553   |
| Ability to Read in English  | 0.260                | 0.252                         | 0.000      | -5.593   | -0.510   |
| <b>BHLS-FGS</b>             |                      |                               |            |          |          |
| Age                         | 0.000                | -0.023                        | 0.902      | -0.124   | -0.019   |
| Gender                      | 0.080                | 0.058                         | 0.063      | -1.912   | -0.283   |
| Race                        | 0.064                | 0.042                         | 0.097      | -1.699   | -0.254   |
| Marital Status              | 0.000                | -0.023                        | 0.896      | 0.131    | 0.020    |
| Family Size                 | 0.034                | 0.011                         | 0.231      | -1.216   | -0.184   |
| Education                   | 0.286                | 0.269                         | 0.000      | 4.098    | 0.534    |
| Employment Status           | 0.051                | 0.028                         | 0.141      | 1.502    | 0.226    |
| Income                      | 0.022                | -0.001                        | 0.333      | -0.979   | -0.149   |
| Insurance Status            | 0.002                | -0.021                        | 0.753      | 0.316    | 0.049    |
| Length of Time in USA       | 0.052                | 0.029                         | 0.138      | 1.512    | 0.227    |
| Ability to Write in English | 0.176                | 0.157                         | 0.005      | -2.997   | -0.420   |
| Ability to Read in English  | 0.087                | 0.065                         | 0.052      | -2.003   | -0.295   |

To our knowledge, this is the first study to examine the health literacy of refugees resettled in San Antonio, Texas. This study examined health literacy among refugees aged 18 years and older, and coupled these findings with those from surveys administered prior to the focus groups, to better understand the multilevel factors contributing to the

inadequate/limited health literacy levels. This study found that the overwhelming majority of participants had low health literacy levels. Specifically, 92.3% of the participants who completed the STOFHLA, 86.8% of those who completed the BHLS-HLA, and 100% of those who completed the BHLS-FGS had an inadequate/limited level of health literacy. The multilevel factors correlated to health literacy were educational level of attainment and English language proficiency in reading and writing across all three health literacy tools. Collectively, these findings indicate that there is a critical need to improve health literacy among these refugees in order to reduce the health disparities impacting this vulnerable population.

The expectation of refugees is that resettlement in the U.S. is achieved within the first year of their arrival and self-sufficiency is attained. The Refugee Act of 1980 loosely identified and defined self-sufficiency to include obtaining employment, earning an income, learning the English language, and participation in employment training programs [Brick et al., 2010]. Over the course of the decades since the passage of the Refugee Act of 1980, self-sufficiency has become more defined as obtaining employment and earning an income that permits a family to sustain itself without cash assistance from state or federal programs [Brick et al., 2010]. This study found that unemployment rates were high among refugees resettled in San Antonio, Texas, especially among female participants, and that income levels were low among those who were employed. According to released cost-of-living figures for 2020, the cost of living for a family of 4 in San Antonio is estimated at \$3,639.00 per month [Expatistan, 2020], which yields a cost of living for a family of 4 at \$43,668.00 per year. Only 10.7% of the

participants in the STOFHLA/BHLS-HLA group and none (0.0%) of the participants in the BHLS-FGS group met this standard. Furthermore, nearly half of the participants in both assessment groups reported a family size of 6 or more, which means that the cost of living for most participants is higher than the estimated cost of living reported above.

Given the aforementioned definition of self-sufficiency, the outcomes data demonstrate that self-sufficiency is not being met by refugees resettled in San Antonio, Texas. When the definition of self-sufficiency is expanded to include obtaining employment, earning an income, and learning the English language, it becomes even more evident that self-sufficiency cannot be met within the first year of resettlement. This situation becomes even more complex when health insurance status is considered. This is important because for many refugees, health insurance is often cost-prohibitive. In addition, purchasing health insurance drives up the cost of living and places a greater financial hardship on these refugees. Given a lack of health insurance, refugees are less likely to access preventative health services because of the out-of-pocket expenses associated with seeking healthcare. This limits a refugees' interaction with the healthcare system and, therefore, strips them of the opportunity to connect with a healthcare provider, establish a preventative approach, and interact with healthcare professionals who can explain their health-related situation to them, all of which are critical for improving their healthcare utilization and health literacy.

### **Limitations**

This study has some limitations. First, all participants were from San Antonio, Texas, and, thus, results may not be generalizable to refugee populations in other cities or states.

Second, the sample size was small, which limited our ability to detect statistically significant associations. Third, for both the Demographic and Patient Intake Form and the Focus Group Survey, the native language of the participant was collected, but not their self-reported proficiency in their native language (i.e., their ability to read and write in the native language), only their ability to read and write in English. This is a limitation because the health literacy tools were administered in English, Arabic, Pashto, French, and Burmese, based on the participants' language preference. Only one participant was comfortable enough to complete the tools in English. Despite the tools being completed in their native language, the participants were still found to predominately have inadequate/limited health literacy.

### **New Contribution to the Literature**

Despite these limitations, this study has important strengths that contribute to the literature. First, this study contributed the availability of the BHLS in multiple languages. The BHLS was professionally translated into Arabic, Pashto, French, and Burmese by a certified translation company based in San Antonio. Second, this study contributed the availability of the STOFHLA in multiple languages. The STOFHLA was translated into Pashto, French, and Burmese. An Arabic translation of the document was already available. The translation of the BHLS and STOFHLA into multiple new languages allows for the integration of a validated tool for assessment of refugee needs. This will inform future investigations of how health literacy on a local, national, and global scale impacts healthcare access and use in refugee populations, and will enable a more comprehensive understanding of the magnitude of refugee healthcare needs and usage.

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## **JOURNAL ARTICLE 2**

### **The Multilevel Factors Facilitating or Impeding Healthcare Access Among Refugees Residing in Bexar County, Texas**

#### **Journal of Immigrant and Minority Health**

Aim: To identify and classify the multilevel factors facilitating or impeding healthcare access among refugees aged 18 years and older residing in Bexar County, Texas, as reported by refugees and Key Informants from RSOs from August 1, 2019, to February 29, 2020.

#### **Abstract**

Many refugees resettled to the U.S. need to access healthcare. The focus of this study was to identify the multilevel factors facilitating or impeding healthcare access among adult refugees residing in Bexar County, Texas. Both qualitative and quantitative data were collected using two surveys, 10 Key Informant Interviews, and six focus groups with refugees. Interviews and focus groups were audiotaped, transcribed, and analyzed using Thematic Analysis. Multilevel factors facilitating or impeding access to healthcare among refugees in Bexar County include health literacy; level of educational attainment; proficiency (reading, writing, and speaking) in English; proficiency (reading, writing, and speaking) in native language; translation services; public transportation; income level; a shortage of healthcare providers; navigation of the healthcare system; fragmentation of the healthcare system; insurance status; staff and funding shortages at Refugee Services Organizations; and current policies. Interventions should consider these multilevel factors to improve healthcare access among certain U.S. refugees.



**Key Words:** Refugees, barriers to healthcare for refugees, health literacy among refugees, refugees resettled in San Antonio

## **BACKGROUND**

The current global refugee crisis is of historic proportions, with the number of individuals forcibly displaced at an all-time high [UNHCR, 2019]. As of January 2019, there are 70.8 million forcibly displaced people worldwide classified as refugees, asylum-seekers, or internally displaced persons, the highest number since World War II [UNHCR, 2019]. Of the 70.8 million forcibly displaced people, 25.9 million are refugees who were forced to flee and have crossed an internationally recognized state border into a safe country or camp [UNHCR, 2019]. Since the signing of the Refugee Act of 1980, more than 3 million refugees have been resettled in the U.S. [UNHCR, 2020].

Many refugees resettled to the U.S. have health issues that require them to navigate the health system to access the care they need. However, our understanding of the multilevel factors that impact refugees and their health, such as utilization of health services and preventative resources, medication usage, management of chronic conditions, and health disparities, is limited. Accordingly, this study aimed to identify the multilevel factors that facilitate or impede healthcare access among refugees who have resettled in Bexar County, Texas. An increased understanding of these multilevel factors will help public health practitioners, health policy makers, and organizations that deliver services and care to refugees identify solutions that eliminate the barriers or reduce their effects.

## **METHODS**

This study employed a mixed-methods approach that involved collecting and analyzing qualitative and quantitative data as part of a single study.

### *Participants*

Refugee resettlement data released by the City of San Antonio showed that, for 2018, the top refugee resettlement groups in Bexar County, Texas, by nationality were Afghani, Congolese, Iraqi, and Burmese [City of San Antonio, 2019]. Therefore, these groups were the primary target groups for this study. Participants were recruited based on the data collection instrument being utilized. Participants included Key Informants at Refugee Services Organizations (RSOs), refugees who participated in focus groups, and refugees who participated in a health literacy assessment.

### Key Informants

The RSOs were invited to identify individuals to serve as Key Informants. Key Informants were selected using a convenience sample of the employees within the RSOs. The selection criteria for Key Informants included: be 20 years of age or older during the study period; speak English; had worked at the RSO for 2 years or more; and be recognized as having the capacity to answer questions. A total of 10 Key Informants participated.

### Focus Groups with Refugees

Some of the RSOs were invited to serve as host sites for the focus groups and to assist in the recruitment of participants for the focus groups. RSOs were invited to serve as host sites based on their proximity to the majority of refugees resettled in San Antonio.

Participants were selected using a convenience sample of the refugee population. Recruited participants self-identified as refugees and were 18 years of age or older. A total of 44 refugees participated.

#### The Health Literacy Assessment Participants

Participants were selected using a convenience sample of the refugee population seeking services at the San Antonio Refugee Health Clinic (SARHC) and the Center for Refugee Services (CRS). Participants were refugees aged 18 years and older. Data were de-identified and used in the secondary analysis. A total of 91 refugees participated.

#### *Data Collection*

Data were collected from August 1, 2019, to February 29, 2020. Primary data were collected using four data collection tools: Key Informant Surveys, Key Informant Interviews, Focus Group Surveys, and the Focus Groups with Refugees. The Key Informant Surveys collected information on the languages spoken by the Key Informants and their belief if knowing multiple languages facilitated or impeded interactions with refugees. The Key Informant Interviews helped identify barriers experienced by RSOs when assisting refugees in accessing healthcare, policies in place that hindered or facilitated refugee healthcare access, and what the healthcare system can do to improve policies to better respond to the needs of the refugees. The Focus Group Surveys collected sociodemographic information and asked questions about transportation, health insurance, and abilities to understand medical materials without assistance. Lastly, the Focus Groups with Refugees helped identify barriers experienced by refugees when accessing healthcare and explored potential solutions to the

barriers identified. Secondary, de-identified data were obtained from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study, which collected health literacy data from refugees residing in San Antonio, Texas.

### *Analysis*

The Key Informant Interviews and the Focus Groups with Refugees were audiotaped, transcribed, and assessed using Thematic Analysis (TA) to identify themes, trends, and emerging patterns surrounding healthcare access among refugees. The Focus Groups with Refugees included a facilitator and interpreter. Responses were translated into English by an interpreter from Worldwide Languages, a San Antonio–based language services company, and transcribed by the facilitator. The themes identified through the use of TA did not include a report on the frequencies and percentages because it did not add to the overall study. Selected sociodemographic characteristics, as well as the emerging themes, were presented for the Key Informant Interviews and the Focus Groups with Refugees.

Data from the Key Informant Surveys, Focus Group Surveys, and the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study were analyzed using IBM SPSS Statistics Version 26. The Key Informant Survey and Focus Group Survey data were coded, entered, and validated through double entry for quantitative analysis. The “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data were de-identified. Data were analyzed using frequency measures, Pearson correlations, cross tabulations (including with layer), and linear regressions. Pearson correlation was specifically used to demonstrate the association between the Brief Health Literacy Screening tool (BRIEF)

scores in the Focus Group Surveys, and the short version of the Test of Functional Health Literacy in Adults (STOFHLA) and BRIEF scores from the “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study. Ninety-five percent (95%) confidence intervals (CIs) were used for the correlation coefficients.

The Committee for the Protection of Human Subjects (IRB) at UTHealth approved all study procedures.

## **RESULTS**

Focus group participants representing Arab, Pashto, French and Burmese speaking refugees and representatives of RSOs identified multilevel factors that facilitate or impede access to healthcare for refugees resettled in Bexar County. They identified multilevel factors as they relate to health, access to healthcare, resources, and potential strategies that can be utilized to address these factors. Table 1 presents the refugee participant demographics by group (Health Literacy Assessment and Focus Group). The themes that emerged were collapsed into four categories: individual-level factors, interpersonal-level factors, community-level factors, and system-level factors (Table 2).

**Table 1: Participant Demographics by Group**

|                 |                             | <b>HEALTH LITERACY<br/>ASSESSMENT (n=91)</b> | <b>FOCUS GROUP<br/>(n=44)</b> |
|-----------------|-----------------------------|--|-------------------------------|
| Age             | 18-24                       | 8 (8.8%)                                     | 3 (6.8%)                      |
|                 | 25-44                       | 69 (75.8%)                                   | 36 (81.8%)                    |
|                 | 45-64                       | 14 (15.4%)                                   | 4 (9.1%)                      |
|                 | 65+                         | 0 (0.0%)                                     | 1 (2.3%)                      |
| Gender          | Male                        | 42 (46.2%)                                   | 19 (43.2%)                    |
|                 | Female                      | 49 (53.8%)                                   | 25 (56.8%)                    |
| Race            | White Alone                 | 24 (26.4%)                                   | 11 (25.0%)                    |
|                 | Black or African Alone      | 5 (5.5%)                                     | 7 (15.9%)                     |
|                 | Asian Alone                 | 62 (68.1%)                                   | 25 (56.8%)                    |
|                 | Two or More Races           | 0 (0.0%)                                     | 1 (2.3%)                      |
| Nationality     | Afghani                     | 49 (53.8%)                                   | 17 (38.6%)                    |
|                 | Burmese                     | 27 (29.7%)                                   | 9 (20.5%)                     |
|                 | Congolese                   | 1 (1.1%)                                     | 4 (9.1%)                      |
|                 | Iraqi                       | 5 (5.5%)                                     | 5 (11.3%)                     |
| Native Language | Other                       | 9 (9.9%)                                     | 9 (20.5%)                     |
|                 | Arabic                      | 9 (9.9%)                                     | 11 (25.0%)                    |
|                 | French                      | 5 (5.5%)                                     | 7 (15.9%)                     |
|                 | Pashto                      | 49 (53.8%)                                   | 17 (38.6%)                    |
| Marital Status  | Burmese                     | 27 (29.7%)                                   | 9 (20.5%)                     |
|                 | English                     | 1 (1.1%)                                     | 0 (0.0%)                      |
|                 | Married                     | 77 (84.6%)                                   | 34 (77.3%)                    |
|                 | Single                      | 12 (13.2%)                                   | 8 (18.2%)                     |
| Family Size     | Widowed                     | 1 (1.1%)                                     | 2 (4.5%)                      |
|                 | Other                       | 1 (1.1%)                                     | 0 (0.0%)                      |
|                 | 1                           | 4 (4.4%)                                     | 9 (20.4%)                     |
|                 | 2                           | 3 (3.3%)                                     | 1 (2.3%)                      |
| Education       | 3-5                         | 36 (39.6%)                                   | 12 (27.3%)                    |
|                 | 6-7                         | 30 (32.9%)                                   | 8 (18.2%)                     |
|                 | 8-9                         | 12 (13.2%)                                   | 5 (11.4%)                     |
|                 | 10+                         | 6 (6.6%)                                     | 9 (20.4%)                     |
| Employment      | No Answer                   | 0 (0.0%)                                     | 1 (2.3%)                      |
|                 | None                        | 38 (41.7%)                                   | 12 (27.3%)                    |
|                 | Primary                     | 17 (18.7%)                                   | 6 (13.6%)                     |
|                 | Secondary                   | 25 (27.5%)                                   | 19 (43.2%)                    |
|                 | University or Graduate Work | 11 (12.1%)                                   | 6 (13.6%)                     |
|                 | Employed                    | 39 (42.9%)                                   | 21 (47.7%)                    |
|                 | Not Employed                | 52 (57.1%)                                   | 23 (52.3%)                    |

**Table 1: Participant Demographics by Group continued**

|                |                         | <b>HEALTH LITERACY<br/>ASSESSMENT (n=91)</b> | <b>FOCUS GROUP<br/>(n=44)</b> |
|----------------|-------------------------|--|-------------------------------|
| Income         | No Answer               | 10 (11.0%)                                   | 3 (6.8%)                      |
|                | Under \$5000.00         | 49 (53.9%)                                   | 22 (50.0%)                    |
|                | \$5000.00-\$24,999.99   | 19 (20.8%)                                   | 15 (34.1%)                    |
|                | \$25,000.00-\$44,999.99 | 10 (11.0%)                                   | 4 (9.1%)                      |
|                | \$45,000-\$64,999.99    | 3 (3.3%)                                     | 0 (0.0%)                      |
|                | \$65,000+               | 0 (0.0%)                                     | 0 (0.0%)                      |
| Transportation | Personal Vehicle        | 59 (64.8%)                                   | 28 (63.6%)                    |
|                | Public Transportation   | 14 (15.4%)                                   | 11 (25.0%)                    |
|                | Share Ride              | 4 (4.4%)                                     | 5 (11.4%)                     |
|                | Other                   | 14 (15.4%)                                   | 0 (0.0%)                      |
| Insurance      | Medicaid                | 32 (35.2%)                                   | 24 (54.5%)                    |

**Table 2: The Multilevel Factors Facilitating or Impeding Healthcare Access**

|                     | <b>INDIVIDUAL</b>                   | <b>INTERPERSONAL</b>  | <b>COMMUNITY</b>                                  | <b>SYSTEM</b>   |
|---------------------|-------------------------------------|---|---|---|
| <b>IMPEDING</b>     | Low proficiency in English          |   | Healthcare provider training                      | Complicated and fragmented healthcare system          |
|                     | Low proficiency in native language  |   | Healthcare provider shortage that accept Medicaid | Medicaid renewal process                              |
|                     | Large family size                   |   |   |   |
|                     | Lack of affordable housing          |   | Public transportation system                      | Current policies                                      |
|                     | Low level of educational attainment |   | Resources for RSO's                               | Oversaturation of patients seeking medical screenings |
|                     | Income level                        |   |   | English classes not mandated                          |
| <b>FACILITATING</b> | Employment status                   |   |   |   |
| <b>BOTH</b>         | Traditional health beliefs          | Traditional health beliefs  | Perceptions that may exist within the community   | Translation services                                  |
|                     | Acculturation                       | Family, friends and peers within the respective refugee community | towards legally resettled refugees                | Local government involvement                          |
|                     | Health insurance status             |   |   |   |



## Individual

At the individual level, the following were impeding factors: large family size; lack of affordable housing; low level of educational attainment in their country of origin; low English proficiency; income level; lack of health insurance; traditional health belief as it pertains to family planning; and acculturation when there is resistance to accepting elements of the culture and society of a refugee's new home. The following were facilitating factors: employment status; having health insurance; and acculturation.

Family size was a barrier. Many refugees believe family planning is God's will and, thus, God will determine when and how many children a woman bears. While holding on to this belief, the male refugee participants reported their large family size as a source of stress and anxiety. In this sample, 70.6% of Afghani participants and 44.4% of Burmese participants reported a family size of 6 or more. The Key Informants also reported that beliefs on family planning within the refugee community are problematic because of the cost associated with a large family size and the barrier it creates when trying to provide services. A large family size becomes especially problematic when looking for affordable housing. San Antonio Housing Authority is experiencing a shortage of available low-income housing. Also, regulations place limits on the number of children per bedroom in an apartment, so some refugees have to rent more than one apartment in order to house their family.

In addition to family size, education and language proficiency are barriers. Only 6.8% of refugee participants reported being able to read and write in English very well, while 20.5% reported being able to read and write in English well. The refugee participants who did not

speak, read, or write in English reported that they did not understand and could not communicate, which was problematic. In addition to not being proficient in English, many refugees were not proficient in their native language. The lack of an adequate education in their native language poses another problem when healthcare providers give them materials in their native language. In this sample, all (100%) refugee participants were found to have inadequate/limited health literacy. Key Informants also noted refugees' lack of ability to read or write in their native language as problematic for the same reasons.

The refugee participants noted that their lack of English proficiency was a barrier to getting a better paying job as well. Of the refugee participants, 52.3% were unemployed. Of those who were employed, 4.8% reported an annual income of \$25,000.00–\$44,999.99 and 0.0% reported an annual income of \$45,000.00–\$64,999.99. According to 2020 figures, the cost of living for a family of 4 in San Antonio is estimated at \$43,668.00 per year [Expatistan, 2020], so most refugees do not meet this standard. Further, at least half of participants reported a family size of 6 or more, which means the actual cost of living for the majority of participants is higher than the estimated cost of living.

Of the refugee participants, 72.7% had health insurance and low health literacy. The refugee participants noted that insurance in their country of origin is limited or non-existent; therefore, they experienced difficulty in understanding it when they arrived in the U.S. They also stated that health insurance should be comprehensive and include medical, dental, and vision coverage. Refugee participants reported researching health insurance plans but opted

out because it was cost-prohibitive. Both Key Informants and refugee participants identified the lack of health insurance as a barrier to healthcare access.

Traditional health beliefs were noted by Key Informants as a challenge experienced by refugees. Refugee participants originally wanted providers from their countries or religious affiliation because of familiarity and trust for someone like them. For instance, Pashto men preferred that their wives and daughters seek healthcare services from women, while they and their sons seek healthcare services from men, but now would not keep their families from receiving healthcare services if that preference could not be accommodated. Refugees noted that important characteristics in a healthcare provider is being a good doctor who cares about them, respects them, communicates with them, and who they can trust.

Acculturation was not discussed with the Key Informants or the refugee participants, but it emerged from observations. Female refugee participants that donned traditional dress all had a lower level of English proficiency, with most of them being unable to speak, read, or write in English. Female refugee participants who wore Western dress had a higher level of English proficiency and were able to, at least, speak in English. This finding was consistent among male refugee participants.

#### Interpersonal

At the interpersonal level, traditional health belief was both a facilitating and an impeding factor, depending on the message being communicated by family members, friends, and leaders within the refugee community. One observation made during the focus groups with the Pashto women showed the influence a leader within a respective community

can have. In this group, one woman was deferred to and treated as the alpha. She was the only one in the group who was considered educated, spoke English fluently, and served as an interpreter for many of the Pashto women in the community. She mentioned that family planning was an issue, and discussed the importance of contraception. The other women did not see having large families as a problem until she made her argument. Thereafter, many of the women nodded their heads in agreement with her. Family, friends and peers within the respective refugee community was considered both a facilitating and impeding factor.

### Community

At the community level, the following were impeding factors: public transportation; healthcare provider training as it pertains to cultural sensitivity and cultural competency; shortage of healthcare providers that accept Medicaid; and staff, funding, and physical space shortages in RSOs. Perceptions that may exist within the community towards legally resettled refugees is considered both a facilitating and impeding factor depending on what the perception is.

Refugees reported that they would have to call friends, utilize the public transportation system, or have RSOs schedule navigation services. The refugee participants who utilized public transportation reported it was not dependable, often late, overall inefficient with some destinations requiring multiple transits, and VIA Transport requiring appointments be scheduled four days in advanced. The Key Informants noted transportation as a challenge many refugees. The Key Informants reported the RSOs would attempt to help refugees by providing them with transportation to grocery stores, medical visits, and other

important appointments, but this proved to be difficult sometimes. In general, RSOs reported facing challenges when providing services because of shortages in staff, physical space, and funds to provide continuity in services.

The Key Informants reported that healthcare providers need to build trust and establish rapport with refugee patients. They also reported that healthcare providers need to develop an understanding of the traditional health beliefs and how those traditional health beliefs may interact with current practice and treatment. They suggested focusing on medical students and staff at medical facilities to expand their education to include cultural awareness, competency, and sensitivity. In addition to healthcare provider training, Key Informants and refugee participants both reported that more specialists and more healthcare providers who accept Medicaid are needed.

#### System

At the system level, the following were impeding factors: current political climate; healthcare system as it currently exists; English classes not being mandatory; access to translation services for organizations that do not have a multilingual volunteer and staff base; and Medicaid renewal process.

The Key Informants reported that current policies and fearmongering by the U.S. President and his administration are impeding factors. The Key Informants wanted more involvement from local government, noting that although San Antonio Mayor Ron Nirenberg is an advocate for refugees, more involvement in refugee services is needed.

The Key Informants reported navigation of the healthcare system, fragmentation of

the healthcare system, and lack of comprehensive insurance as barriers. A major challenge experienced by refugees was having to navigate the healthcare system. As a result, many refugees utilize the emergency room for minor issues and end up with exorbitantly high medical bills they cannot afford. The Key Informants also reported that Carelink is oversaturated and inundated with clients, so refugees have a hard time scheduling appointments with healthcare providers that take Carelink, a financial assistance program that provides a sliding scale payment option that is open to Bexar County residents who meet certain preset criteria [University Health System]. An example of the fragmentation of the healthcare system is how TB screening is conducted for refugees resettled in San Antonio. San Antonio Metropolitan Health District (Metro Health) provides the TB screening, but it does not provide x-rays; these must be completed by University Health System, which requires a referral.

Language was identified by the Key Informants and the refugee participants as an impeding factor, specifically because English classes are not mandatory for refugees. Thus, refugees prioritize employment over learning English. This is connected to the need for translation services. For refugees who are covered by Medicaid, translation services are available as part of the program. However, many refugees do not know this, and some healthcare providers and pharmacies do not know this either or they do not utilize these services. For refugees who are not covered by Medicaid, they have to either recruit friends or family members or rely on the RSOs to recruit translators. Most RSOs will not utilize professional interpretation services because of the associated high costs.

The Medicaid renewal process was identified by both Key Informants and refugee participants as a daunting and time-consuming task that often concludes with them either being denied or not having any health coverage for long periods of time. Any mistakes or incomplete information in the paperwork results in delays in processing the paperwork. This sometimes results in gaps in coverage or denial altogether.

## **DISCUSSION**

To our knowledge, this is the first study to examine the multilevel factors that affect healthcare access in adult refugees resettled in Texas, in general, and in Bexar County, in particular. The multilevel factors most commonly identified were health literacy; level of educational attainment; proficiency (reading, writing, and speaking) in English and native language; translation services; public transportation; income level; shortage of healthcare providers; navigation of the healthcare system; fragmentation of the healthcare system; insurance status; staff and funding shortages at RSOs; and current policies. The identified multilevel factors that affect healthcare access for refugees being resettled in Texas may help policy makers, public health practitioners, organizations that deliver services to refugees, and state and local health organizations create solutions to eliminate the multilevel factors or reduce their effects.

Despite its limitations, which include a lack of generalizability of findings due to its sample, this study has important strengths that contribute to the literature. This study contributed the availability of the BRIEF and STOFHLA in multiple languages. The BRIEF was professionally translated into Arabic, Pashto, French, and Burmese. The STOFHLA was

professionally translated into Pashto, French and Burmese. An Arabic translation of the STOFHLA was already available. The translation of the BRIEF and STOFHLA into multiple new languages allows for the integration of a validated tool for assessment of refugee needs. This will inform future investigations of how health literacy on a local, national, and global scale impacts healthcare access and use in refugee populations, and will enable a more comprehensive understanding of the magnitude of refugee healthcare needs and usage.

## **CONCLUSIONS**

Many refugees resettled to the U.S., in general, and Texas, in particular, have health issues that require them to access healthcare. Numerous multilevel factors (individual, interpersonal, community, and system) facilitate or impede healthcare access among refugees resettled in Bexar County, Texas. An increased understanding of these multilevel factors will help public health practitioners, health policy makers, and organizations that deliver services and care to refugees resettled in the U.S. identify solutions that eliminate these barriers or reduce their effects.

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## THE DISCUSSION

Understanding the multilevel factors facilitating or impeding healthcare access for refugees being resettled in Texas may help policy makers, public health practitioners, organizations that deliver services and care to refugees, and state and local health organizations create solutions to eliminate the multilevel factors or reduce their effects. Thus, the overall goal of this study was to increase our understanding of healthcare access among refugees by investigating the multilevel factors that facilitate or impede healthcare access among refugees who have resettled in Bexar County, Texas. To achieve this goal, the study (a) identified and classified the multilevel factors facilitating or impeding healthcare access among refugees aged 18 years and older residing in Bexar County, Texas; and (b) conducted a secondary analysis of “Advancing Health Literacy Among Refugees Residing in San Antonio, Texas” study data to determine health literacy among refugees aged 18 years and older residing in Bexar County, Texas. The multilevel factors that were most commonly identified were health literacy, level of educational attainment, proficiency (reading, writing and, speaking) in English, proficiency (reading, writing and speaking) in native language, translation services, public transportation, income level, a shortage of healthcare providers, navigation of the healthcare system, the fragmentation of the healthcare system, insurance status, staff shortages at RSO’s, funding shortages at RSO’s, and current policies. Specifically related to health literacy, the study showed that health literacy was low among the majority of respondents.

## The Recommendations

The Key Informants and the refugee participants proposed solutions to the multilevel factors that are impeding access to healthcare for refugees in Bexar County (Table 1). The recommendations ranged from improved communication and collaboration by all involved with refugee healthcare; education and training reform for healthcare related personnel; social media campaign; and policy reform on a local and federal level.

**Table 1: Solutions Proposed to Address the Multilevel Factors**

| KEY INFORMANTS  | REFUGEE PARTICIPANTS   |
|---|--|
| <ul style="list-style-type: none"> <li>▪ Improve communication between healthcare providers, resettlement agencies, RSOs and other organizations</li> <li>▪ Modifications to Carelink</li> <li>▪ Training for healthcare providers, case workers and front line staff on refugee health, cultural competency and sensitivity</li> <li>▪ Education reform for health students that includes cultural competency and sensitivity</li> <li>▪ Increase collaborations between all involved in refugee health</li> <li>▪ Social media campaign that focuses on addressing the myths about legally resettled refugees</li> <li>▪ Improve refugee access to affordable housing</li> <li>▪ Advocate for policy reform</li> <li>▪ Solicit greater involvement from local government to address issues</li> <li>▪ Free English classes</li> <li>▪ Increase partnerships</li> <li>▪ Improved orientation process by the Refugee Resettlement Agencies</li> </ul> | <ul style="list-style-type: none"> <li>▪ Training for healthcare providers and case workers on refugees and their needs</li> <li>▪ Improve orientation process by the resettlement agencies</li> <li>▪ Make English classes mandatory and make the necessary accommodations so refugee can attend</li> <li>▪ RSOs to implement health education and civil issues classes that address discuss important topics like health, family planning, importance of education, and how to become self-sufficient.</li> <li>▪ Provide job training</li> <li>▪ Recruit refugees to serve as volunteers</li> </ul> |

A multilevel approach needs to be undertaken that enhances not dismembers what San Antonio has in place currently. A model approach to handling the multilevel factors that impede access to healthcare needs to take into consideration reform that includes addressing health education, provider training, job training, and a revamp of the primary care system.

#### *Countywide Refugee-focused Coalition*

One recommendation is to establish a countywide refugee-focused coalition composed of a representative sample of individuals, politicians, refugee-serving organizations, faith-based institutions, businesses, and refugees. The proposed coalition could be guided by the community coalition action theory developed by Butterfoss and Kegler [40]. The proposed coalition will address many of the multilevel factors that impede access to healthcare in Bexar County and build upon the factors that facilitate access to healthcare here. The coalition can improve communication between healthcare providers, resettlement agencies, RSO's and other organizations; Increase collaborations between all involved in refugee health, advocate for policy reform, and increase partnerships. The coalition can also work on developing a social media campaign to dispel myths generated about legally resettled refugees, among other areas.

A further element to the coalition needs to be the integration of places of worship. Churches, Synagogues, Masajid (Muslim worship centers), and other places of worship have a unique role to play. Leadership of these places of worship are often seen as moral authorities and guides and, thus, can provide education based on religious ruling and can

address topics like family planning and our roles and responsibilities when it comes to truths and myths about legally resettled refugees.

Among the policy objectives of the coalition can be mandating English for all newly resettled refugees while working with the City of San Antonio to establish daycare provisions for newly resettled refugees while attending English classes. This can be further expanded to include job training and establishing daycare provisions during job trainings. This will expand the opportunity for female refugees to learn English and obtain skills that will make them more competitive for employment opportunities. The City of Philadelphia and the country of Germany were identified by Key Informants and refugee participants as potential sources of guidance for daycare provision programs that Bexar County can examine as potential models.

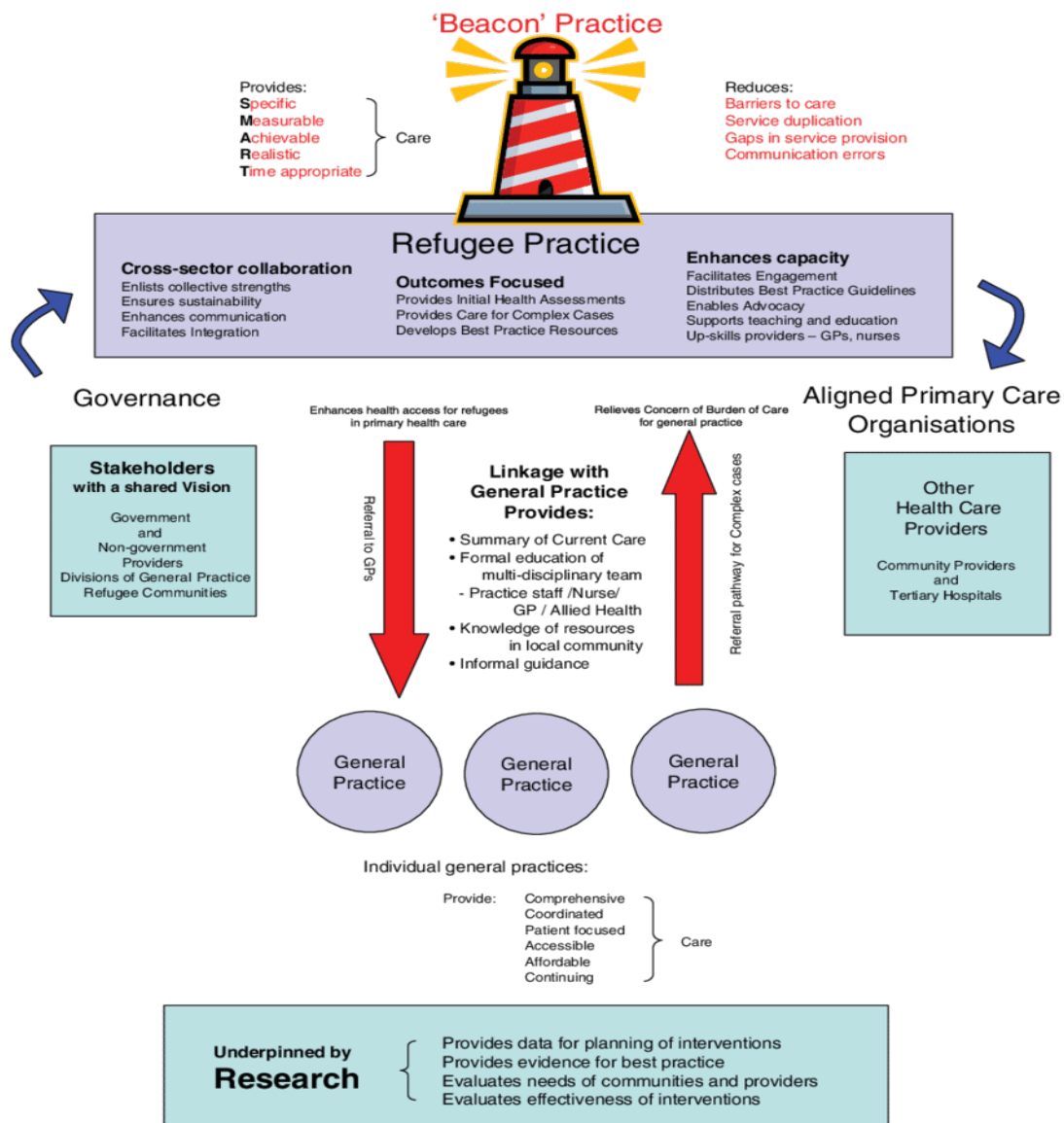
#### *Annual Refugee Health Symposium*

A second recommendation would be to establish an annual Refugee Health Symposium that brings together academicians, politicians, humanitarian workers, local organizations and resettlement agencies, residents, refugees, and representatives of think tanks and policy groups working on refugee issues to share research, present papers, and discuss issues and trends. The Refugee Health Symposium can serve as a mechanism by which training for healthcare providers, case workers, and frontline staff such as receptionists on refugee health, cultural competency, and sensitivity can occur.

### Adapted Primary Care Amplification Model

A third recommendation centers around establishing a cohesive, efficient and less fragmented system of refugee healthcare in San Antonio, Bexar County. A possible model is the Primary Care Amplification Model (Figure 3) [41]. The Primary Care Amplification Model was originally developed in Australia to deliver healthcare to patients with chronic disease. It was adapted to enhance the delivery of healthcare to the refugee community.

**Figure 3: Primary Care Amplification Model**



The model is flexible, making it more easily adaptable to local needs and existing structure. It recognizes the strengths of the existing local primary healthcare system and then builds upon these strengths by enhancing the capacity to meet the needs of refugees resettled in San Antonio. The model encompasses a service integration framework that addresses a few of the multilevel factors that were identified as impeding access to healthcare among refugees resettled in Bexar County. The framework has six components: clinical model of care, professional development/training, information transfer, governance, sustainability and change management. It establishes a beacon which is an organization or unit that has the capacity to act as a central point so that primary care practice, specialist services and other state-funded care and RSOs contributions can be better integrated. Among the successes of the Primary Care Amplification Model is improved access to healthcare for refugees, reduced cost for service providers and refugees, reduced hospital use, and increased collaboration.

#### *Modified Carelink*

A fourth recommendation is to streamline healthcare access at the local level by looking at modifications to Carelink to identify the issues it is experiencing and why the reported saturation and inundation may be occurring. The Harris County Gold Card can be further examined and used as a model for expansion of Bexar County Carelink. The addition of services, such as dental and psychiatric services, will exponentially increase the access to healthcare for many refugees.

## **Limitations**

This study has some limitations. First, the participants were from San Antonio, Texas, and therefore results may not be generalizable to other cities, states, or refugee populations. Second, the sample size was small and thus limited the identification of statistically significant associations. Third, for both the Demographic and Patient Intake Form and the Focus Group Surveys, the native language of the participant was collected but their self-reported proficiency in their native language was not. They were asked to self-report about their ability to read and write in English, but data were not collected about their self-report on their ability to read and write in the native language. This is identified as a limitation because the tools were administered in English, Arabic, Pashto, French, and Burmese. The tools were offered in the language preference. Only one participant was comfortable enough to complete the tools in English. Despite the tools being completed in their native language, the participants were still found to predominately have inadequate/limited health literacy. Fourth, the Key Informants Interviews did not include any men. The RSOs were asked to identify individuals within the organization that could serve as representatives of their organization, which resulted in only women being identified. One organization lead was a man who was invited but recused himself from participation because he felt he was not going to be very helpful given his organization was attempting to find answers to similar questions. He did ask that the data be shared with the hopes that it may be used to help identify issues and solutions to access to healthcare for refugees resettled in San Antonio. Fifth, the transcriptions of the Key



Informants Interviews were only reviewed by one person, therefore limiting the ability to compare and contrast and potentially capture additional themes.

### **Strengths**

Despite these limitations, this study has important strengths that contribute to the literature. Most health status studies conducted in Texas focus on a specific subpopulation of the refugee population rather than the refugee population as a whole, so this is the first study on the health literacy of refugees in San Antonio as well as the first in Texas.

This study also contributed the availability of the Brief Health Literacy Screen (BRIEF) in multiple languages. Certified translation was provided by Worldwide Languages, a San Antonio-based company providing language services ranging from translations to telephonic translation, among other services. As noted previously, the BRIEF was incorporated into the Demographic and Patient Intake Form as part of the Advancing Health Literacy study and as part of the Focus Group Surveys that was administered prior to the Focus Groups with Refugees. The BRIEF was translated into Arabic, Pashto, French, and Burmese.

This study contributed the availability of the STOFHLA in multiple languages. Again, certified translation was provided by Worldwide Languages. As noted previously, the STOFHLA was administered after the Demographic and Patient Intake Form was completed and was part of the Advancing Health Literacy study. The STOFHLA was translated into Pashto, French, and Burmese. An Arabic translation of the document was already available.

The BRIEF and the STOFHLA translation into multiple new languages allows for the integration of a validated for assessment of refugee needs. This will inform future

investigations of how health literacy on a local, national, and global scale impacts healthcare access and use in refugee populations, which, in turn, will allow for a more comprehensive understanding of the magnitude of refugee health care needs and usage.

## **THE CONCLUSION**

As the number of refugees continues to grow across the world, it is expected that the U.S. will continue to play a critical role in resettling them and then addressing their various healthcare needs. The nine national-level voluntary resettlement agencies will continue to be responsible for providing the resettled refugees with services that include, but are not limited to, housing, furnishings, food, clothing, community orientation, medical services, and employment services. Host cities, like San Antonio, Bexar County, Texas, will continue to play an integral role in assuring refugees attain self-sufficiency and become productive and healthy members of our society. Medical examinations and studies will need to continue in order to gain even more insight into the multilevel factors that affect healthcare access among resettled refugees. This cannot be done in silo, facilitating and impeding factors must be explored, and systemic change must be engaged in.

## THE LIST OF APPENDICES

### Appendix A: Inventory of Refugee Services Organization

| <b>RSO<br/>ASSIGNMENT</b> | <b>NAME OF<br/>ORGANIZATION</b>  | <b>SERVICES<br/>PROVIDED</b>   | <b>CONTACT INFORMATION</b>  |
|---------------------------|--|--|---|
| <b>01</b>                 | Catholic Charities<br>of San Antonio   | Healthcare and<br>other navigation<br>services; English<br>classes; ORR local<br>point of contact. | 202 West French Place<br>San Antonio, TX 78212<br>210-222-1294<br><a href="http://www.ccaosa.org">http://www.ccaosa.org</a>   |
| <b>02</b>                 | Center for Refugee<br>Services   | Healthcare and<br>other navigation<br>services; English<br>classes                                 | 8703 Wurzbach Rd, Building A1<br>San Antonio, TX 78240<br>210-949-0062<br><a href="http://www.sarefugees.org">http://www.sarefugees.org</a>   |
| <b>03</b>                 | RAICES (Refugee<br>and Immigrant<br>Center for<br>Education and<br>Legal Services) | Legal Services   | 1305 N. Flores Street<br>San Antonio, TX 78212<br>210-222-0964<br><a href="https://www.raicestexas.org">https://www.raicestexas.org</a>   |
| <b>04</b>                 | Office of the City<br>Manager<br>City of San<br>Antonio                            |  | Tino Gallegos<br>Immigration Liaison<br>106 S. St. Mary's, 7th Floor<br>San Antonio, TX 78205<br>210-207-8993<br><a href="mailto:tino.gallegos@sanantonio.gov">tino.gallegos@sanantonio.gov</a> |
| <b>05</b>                 | San Antonio<br>Refugee Health<br>Clinic  | Healthcare   | Heidi J. Worabo, DNP, RN, FNP-BC<br>4242 Bluemel Rd<br>San Antonio, TX 78240<br>210-567-5867<br><a href="mailto:worabo@uthscsa.edu">worabo@uthscsa.edu</a>                                      |
| <b>06</b>                 | Madonna<br>Neighborhood<br>Center  | Healthcare   | 1906 Castroville Rd<br>San Antonio, TX 78237<br>210-435-1391  |
| <b>07</b>                 | El Bari Community<br>Health Center   | Healthcare   | Sarah Samreen<br>5281 Casa Bella<br>San Antonio, TX 78249<br>210-888-0671   |

## Appendix B: Recruitment Flyer

# IDENTIFYING LOCAL BARRIERS TO HEALTHCARE FOR REFUGEES

### WHAT IS THIS ABOUT?

- Group discussion about access to healthcare for refugees who have resettled in Texas.

### WHO IS ELIGIBLE?

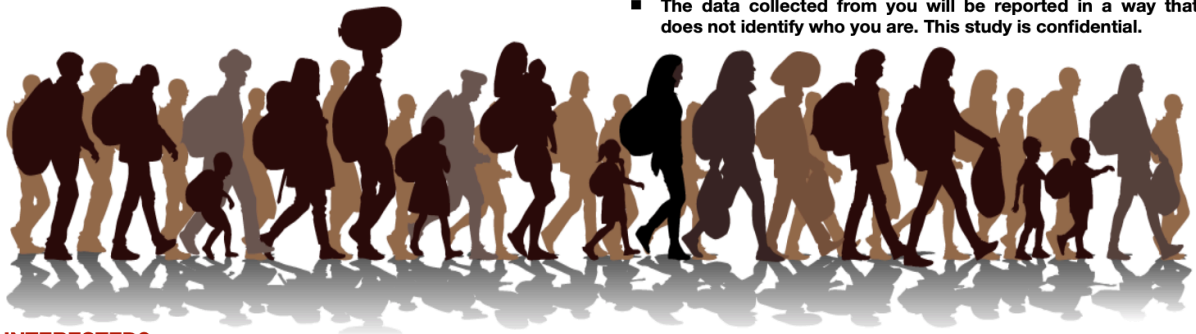
- You are aged 18 years and older
- Arabic, Pashto, Burmese, and French speaking refugees
- Live in Bexar County

### HOW WILL DATA BE COLLECTED?

- You will be with a group of people and asked to share your thoughts and experiences with getting healthcare in Texas.
- Your thoughts and experiences will help form an understanding of what the barriers are.
- Each session will take approximately 1.5-2 hours to complete and light refreshments will be provided.

### HOW WILL MY DATA BE USED?

- The data collected from you will be reported in a way that does not identify who you are. This study is confidential.



### INTERESTED?

If you meet the requirements for the study and are interested in participating please email [howaida.m.werfelli@uth.tmc.edu](mailto:howaida.m.werfelli@uth.tmc.edu) or call 512.736.8309 for more information. There are no known risks associated with this study.

## Appendix C: Data Collection Tools

### Key Informants Survey

|     |  |
|-----|--|
| Q1. | What languages do you speak?   |
| 1a. | <i>(If you speak any language in addition to English)</i><br>Do you feel this helps you in your interactions with refugees that speak that language? |
| 1b. | <i>(If you only speak English)</i><br>Do you feel this impedes your interactions with refugees that speak languages other than English?              |
| Q2. | How many years have you been with this organization?   |
| Q3. | In what capacity have you served this organization?  |

## Key Informants Interview

|      |   |
|------|---|
| Q1.  | I would like to start the interview by asking you to briefly describe what your organization does.  |
| Q2.  | I would like to hear your perspective on where you think your organization is <i>most or least</i> impactful with regard to refugees.                   |
| Q3.  | What are the major health issues of refugees in this community?   |
| Q4.  | Where do refugees go to get healthcare to address their health issues?  |
| Q5.  | Have you found that a person's type of health coverage (Medicaid, private insurance) or lack of coverage affects where they go for care?                |
| Q6.  | What happens to uninsured refugees needing hospital care?   |
| Q7.  | Thinking of everything that goes into being healthy, how would you define adequate healthcare for refugees?   |
| Q8.  | Based on your definition of adequate healthcare, do you believe refugees are able to access adequate healthcare in this community?                      |
| Q9.  | What do you see as the barriers refugees in this community face when addressing these health issues?  |
| Q10. | What type of things do you believe are the sources of these barriers?   |
| Q11. | How have you been able to work around these barriers?   |
| Q12. | How have the refugees you serve been able to work around these barriers?  |
| Q13. | What resources do you believe are available to refugees in the community that facilitate addressing the health issues and healthcare related barriers?  |
| Q14. | What resources do you believe are lacking to addressing the health issues and healthcare related barriers?  |
| Q15. | Do you believe there is an overlap in services provided by the RSOs?  |
| Q16. | What services do you believe are lacking and should be provided by the RSOs?  |
| Q17. | What do you see as the barriers RSOs face when trying to help refugees navigate the system and gain access to healthcare?                               |
| Q18. | What strategies do you think would be most effective for healthcare providers and RSOs in addressing the health issues and healthcare related barriers? |
| Q19. | Do you believe there is a gap in knowledge and awareness among RSO staff about the current laws and services available to refugees in this community?   |
| Q20. | Do you believe any changes need to be made to better provide access to healthcare for the refugee population in this community?                         |
| Q21. | Can you recommend any strategies, partnerships or collaborations that would help to address and overcome the barriers to healthcare for refugees?       |
| Q22. | Are there any final thoughts or comments you would like to share? Have we covered everything you think is important?                                    |

## Focus Group Surveys

---

|      |   |
|------|---|
| Q1.  | What is your age?   |
| Q2.  | What is your gender?  |
| Q3.  | What race do you consider yourself?   |
| Q4.  | What is your nationality?   |
| Q5.  | What is your marital status?  |
| Q6.  | How many people are in your immediate family?   |
| Q7.  | What is the highest level of school you have completed?   |
| Q8.  | What is your employment status?   |
| Q9.  | What is your annual income?   |
| Q10. | What is your main mode of transportation?   |
| Q11. | Do you currently have health insurance?   |
| Q12. | What type of health insurance do you have?  |
| Q13. | How long have you been in the United States?  |
| Q14. | How long have you been in San Antonio, Texas?   |
| Q15. | How well do you read English?   |
| Q16. | How well do you write English?  |
| Q17. | How often do you have someone help you read hospital material?  |
| Q18. | How often do you have problems learning about your medical condition because of difficulty understanding written information? |
| Q19. | How often do you have a problem understanding what is told to you about your medical condition?                               |
| Q20. | How confident are you filling out medical forms by yourself?  |

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### Focus Group with Refugees

|      |   |
|------|---|
| Q1.  | When you think about your community, what are the major health issues you are faced with?   |
| Q2.  | In your community, where do you go to get healthcare to address health issues?  |
| Q3.  | Thinking about your experiences or those of your family, does the type of health coverage or lack of coverage affect where you go to seek care?     |
| Q4.  | What happens if someone does not have insurance or healthcare coverage but need hospital care?  |
| Q5.  | In your opinion, what is good and quality healthcare?   |
| Q6.  | Based on your definition of good healthcare, do you believe you are able to access such healthcare in this community?                               |
| Q7.  | As someone who lives in this neighborhood, what do you see as challenges that refugees in this community may face when trying to access healthcare? |
| Q8.  | Thinking again about the community, what are the sources of these challenges?   |
| Q9.  | How have you or other community members been able to work around these challenges to access to health care?   |
| Q10. | Given you migrated to the US, in what ways have your ideas or how you manage your health or your family's health changed since arriving to Texas?   |
| Q11. | Do you believe any changes need to be made to better to address difficulties the refugee population face in getting healthcare?                     |
| Q12. | What could healthcare providers and refugee services organizations do to address difficulties the refugee population face in getting healthcare?    |
| Q13. | Are there any final thoughts or comments you would like to share?   |
| Q14. | Have we covered everything you think is important to discuss related to access to health care for refugees?   |

#### **Appendix D: Register of Participants for the Focus Groups with Refugees**

Instructions: Thank you for taking the time to participate in the Focus Groups with Refugees. Please sign in below. We ask that you print your full name (first and last) in BLOCKED LETTERS. This will help eliminate confusion about names. This sign in sheet will not be made public and is only being used to make sure that each participant in the focus group only participates one time.

| <b>1. PARTICIPANT<br/>NAME<br/>(FIRST AND LAST NAME)</b> | <b>2. PARTICIPANT<br/>MONTH OF BIRTH</b> | <b>3. SEAT NUMBER</b> | <b>4. RSO #</b> |
|--|--|-----------------------|-----------------|
|  |  | <b>1</b>              |                 |
|  |  | <b>2</b>              |                 |
|  |  | <b>3</b>              |                 |
|  |  | <b>4</b>              |                 |
|  |  | <b>5</b>              |                 |
|  |  | <b>6</b>              |                 |
|  |  | <b>7</b>              |                 |
|  |  | <b>8</b>              |                 |
|  |  | <b>9</b>              |                 |
|  |  | <b>10</b>             |                 |
|  |  | <b>11</b>             |                 |
|  |  | <b>12</b>             |                 |

## Appendix E: IRB Approval Letter



### Committee for the Protection of Human Subjects

6410 Fannin Street, Suite 1100  
Houston, Texas 77030

Dr. Howaida Werfelli  
UT-H - SPH - San Antonio Regional Campus

August 05, 2019

HSC-SPH-19-0651 - THE MULTILEVEL FACTORS FACILITATING OR IMPEDING HEALTHCARE ACCESS AMONG REFUGEES RESIDING IN BEXAR COUNTY, TEXAS

The above named project is determined to qualify for exempt status according to 45 CFR 46.101(b)

**CATEGORY #2** : *Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:*

- a. information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; AND ,*
- b. any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.*

*(NOTE: The exemption under Category 2 DOES NOT APPLY to research involving survey or interview procedures or observation of public behavior when individuals under the age of 18 are subjects of the activity except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.)*

**CHANGES:** Should you choose to make any changes to the protocol that would involve the inclusion of human subjects or identified data from humans, please submit the change via iRIS to the Committee for the Protection of Human Subjects for review.

### **INFORMED CONSENT DETERMINATION:**

Signed Informed Consent Required

**INFORMED CONSENT:** When Informed consent is required, it must be obtained by the PI or designee(s), using the format and procedures approved by the CPHS. The PI is responsible to instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document. Please note that only copies of the stamped approved informed consent form can be used when obtaining consent.

**HEALTH INSURANCE PORTABILITY and ACCOUNTABILITY ACT (HIPAA):**  
**Exempt from HIPAA**

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