

Improving Communication with non-English Speaking

Populations in the City of Dalton, Georgia

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: _____

Abstract

Due to the high concentration of textile manufacturing facilities in the Northwest Georgia area, the City of Dalton has experienced a rapid influx of immigrant and migrant workers within the community. The problem is the City of Dalton currently has a significant non-English speaking population and the fire department is concerned regarding its ability to communicate with these residents in emergent situations. The purpose of this research was to identify how the City of Dalton Fire Department (DFD) could improve communication with non-English speaking residents. Descriptive research methodology was used to answer the following questions: (a) Who is/are the target audience(s) and what are their language capabilities? (b) What are the current capabilities of the City of Dalton Fire Department to communicate with non-English speaking populations? (c) What have other emergency service organizations done to improve communication with non-English speaking communities? (d) How can community resources be used to support communications with non-English speaking populations in emergent situations? Procedures for research included detailed analyses of: demographic information in the City of Dalton, foreign language capabilities of DFD personnel, risk communication programs implemented by other organizations, and strategies for garnering community support for similar initiatives in other communities. The results of this study revealed several deficiencies in DFD's ability to communicate with non-English speaking populations. Consequently, a recommendation was made to institute a Spanish language training program for DFD personnel with the understanding that the department's communication initiatives should be expanded in the future.

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Improving Communication with non-English Speaking Populations in the City of Dalton, Georgia

Meeting the demands of an ever increasing Hispanic and Latino population is a major concern for public safety entities in the United States. According to 2010 census data, the influx of Hispanic and Latino immigrants was responsible for over half of the overall population growth in the United States between 2000 and 2010 (Ennis, Rios-Vargas, & Albert, 2011). In keeping with this trend, the City of Dalton, Georgia has experienced major changes in community demographics in recent years. The problem is the City of Dalton currently has a significant non-English speaking population and the fire department is concerned regarding its ability to communicate with these residents in emergent situations.

The purpose of this research is to identify how the City of Dalton Fire Department (DFD) can better communicate with non-English speaking residents. The following four research questions will be answered during the course of this research: (a) Who is/are the target audience(s) and what are their language capabilities? (b) What are the current capabilities of DFD to communicate with non-English speaking populations? (c) What have other emergency service organizations done to improve communication with non-English speaking communities? (d) How can community resources be used to support communications with non-English speaking populations in emergent situations? The descriptive research method will be employed in compiling data for this applied research project.

Background and Significance

The City of Dalton, Georgia is the county seat of Whitfield County and is situated in the foothills of the Blue Ridge Mountains of Northwest Georgia. Dalton was established in 1847 and lies approximately 80 miles northwest of Atlanta and 25 miles southeast of Chattanooga,

Tennessee (City of Dalton, 2012). According to the Northwest Georgia Regional Commission (2012), the City of Dalton is just over 22 square miles in total area. United States Census data compiled in 2000 claimed the City of Dalton was home to 27,912 people. At that time, the 2006 projected population level within the city was 33,045, reflecting an 18.1 percent increase over six years (United States Census Bureau, 2012). In 2000, Dalton's population was 66.2 percent Caucasian and 40.2 percent Hispanic or Latino. Consequently, the percentage of foreign born residents was reported at 30.5, and languages other than English were spoken in 38.3 percent of Dalton homes (United States Census Bureau, 2012). The increased percentage of Hispanic residents in Dalton (only 5.3 percent statewide) is primarily attributable to the large concentration of textile manufacturing facilities in the area providing jobs for immigrant workers. Dalton has long been known as "the carpet capital of the world" due to over 90 percent of the functional carpet produced worldwide being made within 25 miles of the city (City of Dalton, 2012).

This relatively high percentage of non-English speaking residents in the Dalton area presents a unique challenge for DFD. The language barrier frequently encountered on incident scenes delays information exchange and can increase the likelihood of negative outcomes for stakeholders. Vital information contained in risk communication efforts and fire safety education initiatives can also be lost in translation when targeting the non-English speaking community. Therefore, it is critical that clear, concise, and effective communication between DFD and non-English speaking populations be addressed.

As discussed in the National Fire Academy's Executive Analysis of Community Risk Reduction course, numerous factors can influence vulnerability to risk within particular subsets of the population. Among the most prominent are social, cultural, economic, and environmental

factors. In addition, there are several key elements that must be utilized in any successful risk reduction program. Thorough planning, garnering organizational and community support, strategic analysis, and ongoing program evaluation are essential for realizing success in risk reduction initiatives (National Fire Academy, 2011).

The overarching goal of this project is to provide a road map for reducing vulnerability through improved communication between DFD and the non-English speaking population in the City of Dalton. If this goal can be realized, DFD will more closely align itself with the initiatives listed in the United States Fire Administration (2010) *Strategic Plan Fiscal Years 2010-2014*. Improving communication between DFD and non-English speaking populations within the City of Dalton has a direct correlation to the USFA goal to “reduce risk at the local level through prevention and mitigation” (United States Fire Administration [USFA], 2010, p. 13).

Literature Review

For centuries, scholars have struggled to succinctly define communication. Through his studies on rhetoric, Aristotle was one of the first to recognize a speaker, a message, and a listener as the rudimentary elements of communication (Lee, 1993). Ng and Bradac (1993) describe communication as the use of language to assert or exercise power in a societal context. Berelson and Steiner (1964) define communication as the transmission of ideas, information, emotions, or skills through the use of words, gestures, or illustrations. Others view communication as the grouping of basic elements to create a mutual understanding of one’s intent (Littlejohn & Foss, 2008). Four of the most basic elements of communication include source, message, medium, and receiver (Lee, 1993). In this model, source refers to the sender of information and receiver describes the intended audience. The message is the actual information being transmitted via an audible, visual, or other sensory medium. In all cases, the backgrounds and characteristics of

individuals involved in any type of communication have a direct impact on the effectiveness of the message and potential outcomes. Therefore, it is important for the sender to properly identify a target audience and determine their language capabilities prior to initiating any communicative efforts.

For effective communication to take place, the most critical step to be taken is to ensure clear, understandable, and accurate messages are delivered to non-English speaking and English as second or other language (ESOL) populations. In minority communities, information is typically gleaned from a small number of trusted sources within the social network (Fothergill, Maestas, & Darlington, 1999). One of the best ways to overcome this obstacle is through the utilization of school children as information disseminators. Mitchell, Haynes, Hall, Choong, and Oven (2008) provide several examples of school age children and youth being successfully employed as risk communicators. In most cases, public school systems play an integral role in addressing communication and information dissemination to the non-English speaking populations. Programs within the school systems can exponentially increase the effectiveness of utilizing children as a delivery medium. Schools also function as a distribution hub for printed materials aimed at educating parents and other adults. As a result of these successes, emergency preparedness and disaster education programs have been delivered to immigrant and minority communities through similar means (Dempsey, 2010).

Another important factor in disseminating messages to non-English speaking communities is the level of trust afforded the messenger. These populations are far more responsive when they trust the source of information, the delivery method, and the formal authority responsible for service provision (Mitchell et al., 2008). As these relationships are strengthened and awareness

is heightened, a more prolific effort toward increasing risk perception, mitigation, preparedness, and recovery may be realized within these communities.

As previously stated, the primary factors influencing vulnerability to risk in any community are social, cultural, economic, and environmental issues. To develop a more thorough understanding of vulnerability within Hispanic and Latino communities, several questions must be answered. First, one must consider the degree of risk faced by this population. According to Carter-Pokras, Zambrana, Mora, and Aaby (2007), increased vulnerability among Hispanic and Latino communities can be attributed to language barriers, preference for particular information sources, socioeconomic factors, and distrust of governmental authorities. The works of Morrow (2009) and Peguero (2006) expand on this idea through their discussions on risk perception among minority groups. The authors list communication issues, cultural differences, and unfamiliarity with emergency response systems as principal causes for decreased risk perception in these communities. In all three works, the authors claim the level of risk to life or injury can be exacerbated by the language barrier that exists between emergency service providers and non-English speaking populations. A second issue that must be addressed is assessing the Hispanic community's ability to prepare for and recover from small and large-scale incidents. In terms of community vulnerability, lesser access to economic and material resources, higher education, and political influence can each contribute significantly to a decreased ability to respond to and recover from disastrous events (Morrow, 1999).

One of the keys to effective emergency management and disaster planning is the development of a more thorough understanding of the people that will be impacted most profoundly by disastrous events. By doing so, planners and managers can more accurately design pre-event preparedness and needs assessments for marginalized populations. An example of one such

effort is the Health in Emerging Latino Communities (HELC) Project, developed through a partnership between the National Council of La Raza (NCLR) and the Department of Health and Human Services – Office of Minority Health (National Council of La Raza, 2004). The HELC Project used focus groups and personal interviews with Latino residents in an attempt to identify ways of improving healthcare service delivery to rapidly expanding Hispanic and Latino populations. Findings from the HELC Project revealed three key barriers to effective healthcare provision within these communities. First, language differences that prevent effective communication were listed by respondents as the primary barrier to accessing health care. Second, Hispanics and Latinos are reluctant to use available healthcare resources and feel they may be treated differently than other patients when they seek medical care. Thirdly, a lack of effective information dissemination, either through interpersonal communication or Spanish-speaking media outlets, resulted in a lack of awareness among Hispanic and Latino residents (National Council of La Raza, 2004).

In keeping with the findings and recommendations of the HELC Project, the State of Maryland used focus groups to develop an effective healthcare program for Hispanic and Latino communities. Latinos are the fastest growing minority group in Montgomery County, Maryland. In fact, Hispanic and Latino immigrants currently account for 5.8% of Maryland's population and 13.7% of that in Montgomery County. These figures place Montgomery County at 16th in the nation among counties with the largest proportion of their populations being of foreign origin (Carter-Pokras et al., 2007). To prepare for large scale health emergencies, pandemics, and biological agent outbreaks, Montgomery County partnered with the University of Maryland to design and implement focus groups among the Hispanic and Latino population. The purpose behind these focus groups was to develop a more thorough understanding of risk perception,

knowledge of available resources (e.g., emergency services), preferred information sources, and levels of emergency preparedness. Data received from these groups resulted in the development of numerous resources that could be utilized at the local, state, or federal levels for incidents affecting emerging immigrant communities (Carter-Pokras et al., 2007). Numerous preparedness documents on the Maryland Emergency Management Agency (MEMA) website are provided in Spanish to offer further assistance in pre-event planning and readiness activities. Included on the website are resources for families, homeowners, children, and schools, each of which addresses risk awareness and preparedness within Hispanic and Latino communities (Maryland Emergency Management Agency, 2012).

In response to the rapid influx of Hispanic and Latino workers following Hurricane Katrina, the city of New Orleans has also developed preparedness initiatives for public health emergencies among immigrant communities. In addition to the deficiencies noted in the aftermath of Katrina, pandemic influenza and, more recently, H1N1 have provided the driving forces behind these preparedness initiatives. In the Gulf Coast region, special attention has been paid to migrant workers (especially seasonal and temporary farm workers) relative to the likelihood of spreading the H1N1 virus (Schoch-Spana, Bouri, Norwood, & Rambhia, 2009). As in Montgomery County, Maryland, the primary targets of these programs are effective risk communication, emergency notification, disaster preparedness training and education, and knowledge of available resources (Andrulis, Siddiqui, & Gantner, 2007). The State of Louisiana has joined the charge for emergency and disaster preparedness through the provision of electronic resources available on the Governor's Office of Homeland Security and Emergency Preparedness website. In short, the City of New Orleans, along with most of the Gulf Coast Region, has recognized that preparedness and response efforts are far more effective once a

thorough understanding of cultural differences has been achieved (Keys, 1991). As a result, these areas are now far more prepared to manage a public health emergency than they were prior to Hurricane Katrina.

Similar efforts in the areas of disaster preparedness and public health among Latino populations have been addressed in the State of California. To further illustrate the need for such programs, a study conducted in Los Angeles found that 42.7% of Latino residents had disaster supplies and plans as compared to 56.6% of non-Latino Caucasian residents (Eisenman, Glick, Maranon, Gonzales, & Asch, 2009). Much like the aforementioned efforts in other areas, initiatives in California have also included focus groups whose participation has resulted in data that allows disaster planners to better understand the views and approach to emergent situations in the Hispanic and Latino community. In keeping with other states' offerings, the California Emergency Management Agency (CalEMA) website offers an extensive list of preparedness and training resources available in Spanish (California Emergency Management Agency, 2012). An additional effort to improve preparedness levels among Latino immigrant communities in California is Programa Para Responder a Emergencias con Preparacion – known in English as Project PREP (Eisenman et al., 2009). Project PREP is a community-based, participatory program that stresses engagement of Hispanic and Latino residents in disaster preparedness training and education courses. Although PREP is only in its third year of existence, preliminary results indicate profound improvements in risk awareness and disaster preparedness among participants. In addition, the vast majority of participants have also developed family communication plans for use in emergencies or disastrous events (Eisenman et al., 2009).

Electronic resources available from the Texas Department of Public Safety, along with the Department of State Health Services, and the Texas Extension Disaster Education Network

(EDEN), provide yet another example of effective risk communication initiatives for Hispanic and Latino communities. These websites offer extensive resources related to natural, man-made, technological, and public health emergencies. The Texas EDEN website offers preparedness information and training resources in Spanish that are available by category. For example, users can select topical programs based on disaster type, incident specific disaster information, preparedness initiatives, recovery planning, and current news and events related to the field (Texas Extension Disaster Education Network, 2012). Based on this research, Texas and California appear to be most progressive in terms of accessibility for Spanish speakers or persons to whom English is a second language. This is due, primarily, to these states having more experience than others with rapidly emerging immigrant populations.

In summary, the intent of this review was to provide the reader with an overview of the communication and vulnerability issues associated with non-English speaking communities in emergent situations. To accomplish this goal, a comprehensive review of relevant literature was completed to address the project's research questions. The reader should now possess a more thorough understanding of the basic elements of communication, vulnerability reduction through effective risk communication, and methods for garnering community support for these initiatives.

Procedures

To address the first research question, an in-depth analysis of demographic information was completed for the City of Dalton, Georgia. Web-based resources from the United States Census Bureau were utilized in conducting this research. Subsets of the city's population where English was not spoken or was a second language were identified as the focus for the project. Specific languages commonly spoken among minority communities in the City of Dalton were identified

in an effort to provide a more detailed understanding of the target audience(s). The primary limitation of demographic research was the inability to account for or quantify the illegal immigrant population in the city. Other limitations include possible inaccuracies in census data due to literacy issues among non-English speaking communities or incorrect filing by residents who did not fully understand the survey instrument.

The second research question sought to determine DFD's current capabilities for communicating with non-English speaking populations. In June 2012, a survey was distributed in person to all DFD employees (n=87) to determine what foreign language skills existed among current personnel. As illustrated in Appendix A, the survey was developed through the creation of 3 questions related to individual fluency in languages other than English. All current DFD employees were qualified to participate in the survey. Of these, 75 personnel provided responses to the survey items. Incomplete participation in the survey was caused by personnel being off duty or attending outside training on the dates the surveys were conducted. To gain a broader perspective on the department's communication capabilities, an interview with Code Enforcement Officer Eddie Hughes was conducted to identify additional means utilized by DFD for communicating with the city's non-English speaking population. This interview is included as Appendix B of this document. DFD's lack of exposure to or limited knowledge of translation services or multilingual communication programs for emergency services could create limitations in this research.

Multilingual communication programs implemented by other emergency response entities in the Dalton area were the focus of the third research question. This research was not limited to fire departments. Instead, the researcher included law enforcement, emergency medical services, dispatch centers, and the local Community Emergency Response Team (CERT) in hopes of

gaining a more holistic perspective on the problem. Data for this research question was gleaned through interviews with local public safety officials. The following interviews were conducted:

- Officer Brian Pack, Training Coordinator, City of Dalton Police Department
- Alan Panter, Clinical Manager, Hamilton Emergency Medical Services
- Jeff Ownby, Deputy Director, Whitfield County Emergency Communications Center
- Carla Kelley, Training Coordinator, Whitfield County Community Emergency Response Team (CERT)

Each interviewee was presented with four questions specific to their organization's communication capabilities. The questions were: (a) Does your organization have any bilingual or multilingual employees, team members, or volunteers? If yes, please explain. (b) Aside from verbal communication, what resources, technologies, or strategies does your organization employ to communicate with non-English speaking populations? (c) Are there alternative means that could be utilized by your organization that are not currently employed as a medium for communication? If so, please explain. (d) What means do you feel would be most beneficial in improving communication between your organization and non-English speaking populations?

Each interview is included separately as Appendices C through F of this document. Data generated through personal recollections of interviewees could create limitations in this research.

The fourth research question focused on determining what strategies have been successful in generating community support for similar initiatives in other communities. Data for this research was gathered through a comprehensive review of applicable Applied Research Projects (ARPs) from the National Fire Academy's Executive Fire Officer Program. In addition, local resources were evaluated to determine how their involvement could facilitate communication with non-English speaking populations in emergent situations. An interview was conducted with Carlos

L. Salguero to discuss strategies for increasing volunteerism within the local Hispanic and Latino communities. An additional interview was conducted with Mandy Locke to gain a better understanding of how the local school systems communicate with the non-English speaking community. These interviews are included as Appendices G and H respectively. Limited knowledge of local resources and their specific capabilities could create limitations in this research.

Results

The descriptive research method was employed in an effort to improve communication between DFD and non-English speaking populations within the city. The first research question asks: *Who is/are the target audience(s) and what are their language capabilities?* This question was answered by utilizing data collected during the 2010 United States Census. The census bureau's American Fact Finder program was used in generating reports for this project. The primary goal of data analysis was to identify and quantify all subsets of the population within the City of Dalton where languages other than English are spoken in the home.

According to 2010 census data, the City of Dalton was home to 33,128 people. Of those, 3,002 were reported as 5 years of age or younger. Census bureau language statistics only include the portion of a population that is over 5 years of age. As a result, 30,126 residents within the City of Dalton were included in spoken language statistics. Census data reported 53.4 percent of Dalton residents (16,087 persons) spoke English only. As shown in Figure 1, the City of Dalton has a significant population subset where English is a second or other language. Of the 46.6 percent of city residents (14,039 persons) where languages other than English are spoken in the home, 42.2 percent speak Spanish. This percentage is supported by the fact that 48 percent of residents within the City of Dalton (15,891 persons) are of Hispanic or Latino origin. Residents

who speak other Indo-European and Asian/Pacific Islander languages account for 1.8 percent and 2.1 percent respectively. The other languages category represented the remaining 0.6 percent of this population subset (United States Census Bureau, 2012).

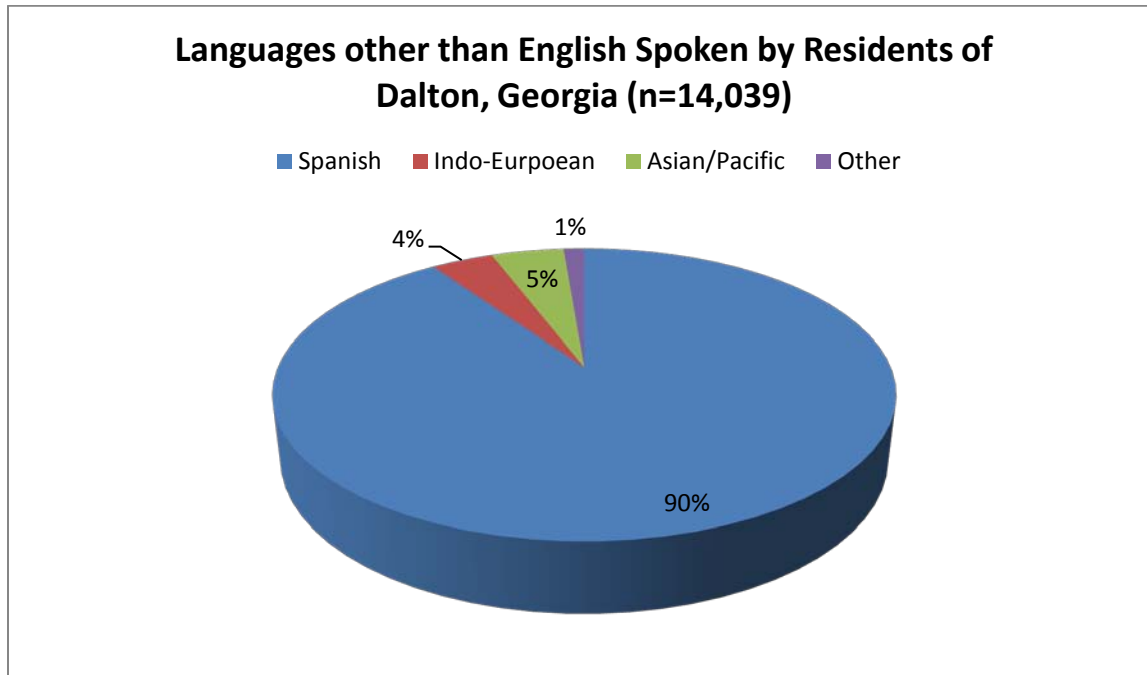


Figure 1. *Languages other than English Spoken by Residents of Dalton, Georgia*

Specific language capabilities of this population subset vary significantly based on age, place of birth, and a variety of other factors. The number of foreign born persons living within the City of Dalton in 2010 was reported at 9,598. Of these, 89 percent (8,543 persons) were of Latin American descent (United States Census Bureau, 2012). The census bureau divides spoken language statistics into three age groups: 5-17 years, 18-64 years, and 65 years and older. According to census data, 37.6 percent of Spanish speakers between 5 and 17 years of age were reported as speaking English “less than very well” (United States Census Bureau, 2012). This statistic increased to 73.8 percent among Spanish speakers aged 18 to 64 years. Spanish speakers aged 65 years and older showed a near 100 percent inability to speak English. Speakers of Indo-European, Asian/Pacific Island, and other languages were similarly divided. However, less than

30 percent of these residents (approximately 350 persons) were categorized as less than fluent in spoken English. Of these, 47.1 percent are adults aged 18-64 years of Asian/Pacific Island ancestry (United States Census Bureau, 2012). Statistics on reading abilities among this population subset were unavailable at the time this research was conducted.

The second research question asks: *What are the current capabilities of the City of Dalton Fire Department to communicate with non-English speaking populations?* Data for this research was generated through a survey that was distributed to all current DFD employees regarding spoken language capabilities in addition to English. Responses to the survey were provided by 75 of the 87 personnel currently employed by DFD. This sample size assured a confidence level above 95 percent. The survey is included as Appendix A of this document and asked three questions: (a) do you speak any language other than English? If yes, please explain. (b) Do you feel there is a need for foreign language skills among DFD employees? If so, what language do you feel is most critical to learn? (c) Would you be willing to attend foreign language training courses to improve your communication capabilities?

Responses to the first survey question revealed that DFD has 3 firefighters who are fluent in Spanish. One of these firefighters is of Puerto Rican lineage while the other two grew up abroad in Spanish speaking countries. Four additional firefighters reported elementary knowledge of German and Japanese, but none considered themselves fluent. The second survey question was met with unanimous affirmative response. All respondents felt there was a definite need for foreign language skills and Spanish was unanimously identified as the most critical language to learn. There was somewhat more dissent among DFD personnel regarding the third survey question. Of the 75 respondents, 55 claimed they would be willing to participate in language

training programs. The remaining 20 participants were adamantly opposed to the idea of learning new language skills.

Additional data regarding DFD's language capabilities was acquired through an interview with Code Enforcement Officer Eddie Hughes. The interview was conducted to identify alternative means utilized by DFD for communicating with the city's non-English speaking population. Inspector Hughes (personal communication, July 18, 2012) said the fire prevention and fire safety education division of DFD utilizes a multitude of printed materials to reach the city's Spanish speaking community. These materials are available for both children and adults and address topics such as home fire safety, emergency preparedness, and risk reduction strategies in the home. Inspector Hughes claimed the most commonly used method for distributing printed materials is through the Dalton Public School system. The Inspector believes the benefits of this method are twofold. In addition to disseminating information through printed media, this approach provides children who are fluent in English the opportunity to educate non-English speaking family members on the services offered by public safety entities in the City of Dalton (E. Hughes, personal communication, July 18, 2012).

Research question three asks: *What have other emergency service organizations done to improve communication with non-English speaking communities?* Interviews with key personnel from emergency service organizations in the Dalton area were conducted to obtain data on communication capabilities and strategies at the local level. The first interview question asked: Does your organization have any bilingual or multilingual employees, team members, or volunteers? Whitfield County CERT reported the highest percentage of bilingual or multilingual speakers at 19.8 percent. This team is composed of 106 trained members. Of these, 21 speak

Spanish fluently. At the time of this interview, no other languages were known to be spoken by CERT members (C. Kelley, personal communication, July 17, 2012).

The City of Dalton Police Department (DPD) ranked second in spoken language capabilities among local public safety organizations. According to Officer Brian Pack, the department employs 5 Spanish speaking police officers and 1 non-sworn clerical worker (personal communication, July 17, 2012). Four of these employees are native speakers of Hispanic or Latino heritage. DPD also has an officer who is fluent in Arabic due to language training received during military service. Officer Pack reported all DPD field personnel must attend basic and advanced Spanish language courses as part of the department's promotional process (personal communication, July 17, 2012). Alan Panter of Hamilton Emergency Medical Services (HEMS) reported having 1 native Spanish speaking paramedic and 3 additional Spanish speakers on staff. Mr. Panter was not aware of any other languages spoken by HEMS staff members (personal communication, July 19, 2012). Although they have had Spanish speaking dispatchers in the past, Whitfield County E911 had no Spanish speaking employees at the time of this interview (J. Ownby, personal communication, July 17, 2012).

The second interview question asked: Aside from verbal communication, what resources, technologies, or strategies does your organization employ to communicate with non-English speaking populations? Printed materials available in Spanish were reported by both DPD and Whitfield County CERT as a common alternative for verbal communication. DPD has legal explanatory materials (e.g. Miranda Rights warning cards), pamphlets, and other promotional materials available in each police cruiser. In addition, each officer is provided with a quick reference Spanish language field guide for law enforcement personnel (B. Pack, personal communication, July 17, 2012). Whitfield County CERT utilizes similar promotional materials

in their efforts to educate the local Spanish speaking community on emergency preparedness, home fire safety, weather advisories, and disaster preparedness (C. Kelley, personal communication, July 17, 2012).

Hamilton EMS uses a flash card system to aid in the translation of common medical phrases and questions during emergency medical incidents. According to Mr. Panter (personal communication, July 19, 2012), each ambulance has a set of flash cards assigned as part of its equipment inventory. The cards include both English and Spanish phrases as well as pictures to aid in effective communication between patient and caregiver. Translators on staff at Hamilton Medical Center are another resource utilized by HEMS when a more convenient means is unavailable or unsuccessful. In most cases, HEMS crews rely on English speaking children in the home to translate for non-English speaking family members (A. Panter, personal communication, July 19, 2012).

As part of their ongoing effort to reduce delays in service delivery to callers in need, Whitfield County E911 utilizes a telephone translation service called Language Line. Language Line is a subscription based program commonly used by public safety and healthcare organizations that offers translation services for a multitude of languages (J. Ownby, personal communication, July 17, 2012). Employees at Whitfield County E911 have the option to attend basic and advanced Spanish language courses conducted by DPD. Whitfield County E911 also uses Rosetta Stone software in Spanish language training courses for dispatchers. As an incentive for language training, dispatchers who attain fluency in Spanish (determined through verbal testing) become eligible for a 7 percent pay raise (J. Ownby, personal communication, July 17, 2012).

The third interview question asked: Are there alternative means that could be utilized by your organization that are not currently employed as a medium for communication? Whitfield County E911 and HEMS both listed web-based communications software as an alternative to current practices. Mr. Ownby (personal communication, July 17, 2012) mentioned web-based services that provide real time translation through instant messaging or chat room type applications. Mr. Panter (personal communication, July 19, 2012) described a similar system that utilizes a 2-way audio/video feed that facilitates communication between the hearing impaired and their caregivers. Both men believe either of these systems could be implemented for language translation, thus reducing processing time and improving service delivery to the customer. Mr. Pack (personal communication, July 17, 2012) believes the use of Rosetta Stone software for language skills maintenance would be exponentially beneficial for DPD officers and staff. Ms. Kelley (personal communication, July 17, 2012) expressed a need for Spanish speaking instructors for the Whitfield County CERT training program. Ms. Kelley stated the team already has CERT training curriculum and student manuals in Spanish and she believes the addition of Spanish speaking instructors could increase effectiveness in the CERT program through the inclusion of additional Spanish speaking team members.

The fourth interview question posed to local public safety officials was: What means would be most beneficial in improving communication between your organization and non-English speaking populations? The unanimous response from all four interviewees was the need for more Spanish speaking personnel within their respective organizations (B. Pack, C. Kelley, J. Ownby, & A. Panter, personal communications, July, 2012). In addition, DPD and HEMS recognized the need for a more thorough understanding of Hispanic and Latino culture among their employees. Both Mr. Pack and Mr. Panter (personal communications, July, 2012) believe

that increased cultural awareness among field personnel would result in better service provision to Hispanic and Latino residents in the Dalton area. Ms. Kelley also recognized the need for increased cultural awareness. She believes a more thorough understanding of Hispanic and Latino culture among CERT members could lead to increased participation in emergency preparedness and education programs among Hispanic residents (C. Kelley, personal communication, July 17, 2012).

The fourth research question asks: *How can community resources be used to support communications with non-English speaking populations in emergent situations?* Data for this research was gathered through a comprehensive review of applicable Applied Research Projects (ARPs) from the National Fire Academy's Executive Fire Officer Program. In an attempt to build support within their respective Hispanic and Latino communities, the cities of Garland, Texas and Coral Gables, Florida recruited community volunteers to deliver Spanish language training programs to fire department personnel (Reed, 1998, Werner, 2000). In Garland, the benefits of citizen involvement were twofold. First, having native speakers available for conversation kept fire service personnel proficient in their language skills. Second, the networks that were formed between community volunteers and Garland firefighters proved invaluable in building a relationship between the fire department and the local Hispanic community (Werner, 2000). Coral Gables offered a similar approach where community volunteers coordinated with the fire department's training division to develop a Spanish language curriculum for emergency service personnel (Reed, 1998). As in Garland, the relationships that were fostered during this process proved beneficial for all parties involved.

The City of Raleigh Fire Department in Raleigh, North Carolina utilized existing Hispanic and Latino outreach programs from other city departments to garner support for their

communication and risk reduction initiatives (Styons, 2004). Through the employment of existing programs, the fire department was able to strengthen working relationships with other city departments while simultaneously building community equity with Raleigh's Hispanic and Latino residents. A similar approach was taken by the Hillsboro, Oregon Fire Department. Hillsboro used Hispanic church groups and civic organizations in conjunction with bilingual firefighters to deliver the Spanish CERT curriculum to Hispanic residents (Burnett, 2004). In doing so, the department was able to build trust within the Hispanic and Latino community and gain valuable resources in the form of Spanish speaking CERT members.

Data for community involvement strategies in the Dalton area was obtained from an interview with Carlos Salguero, a realtor and prominent citizen within the local Hispanic community. Mr. Salguero (personal communication, May 3, 2012) mentioned the use of local Hispanic and Latino realtors as volunteers to help DFD improve communication with non-English speakers. Mr. Salguero also stated this group has a tremendous amount of respect for DFD and other public safety entities and would be willing to assist wherever needed. Examples provided by Mr. Salguero included translation services during emergency incidents and conversational Spanish courses for firefighters. Mr. Salguero also volunteers as a translator for the Make-A-Wish Foundation and offered similar services through his network of Spanish speakers in the Dalton area who are Make-A-Wish volunteers. As previously stated by other interviewees, Mr. Salguero believes building relationships between public servants and the local Hispanic community are vital steps to ensuring the success of DFD's communication initiative (C. L. Salguero, personal communication, May 3, 2012).

Additional data on community involvement strategies came from an interview with Mandy Locke, principal of Dug Gap Elementary School in Dalton. Mrs. Locke (personal

communication, July 26, 2012) mentioned the use of bilingual parent involvement coordinators to assist parents in communicating with school staff. All parent involvement coordinators are members of the local Hispanic and Latino community who recognize the importance of the parent teacher relationship. According to Mrs. Locke, this system-wide program is divided into 4 regions and utilizes 8 parent involvement coordinators to encourage Hispanic and Latino parents to become actively involved in their children's education. Mrs. Locke (personal communication, July 26, 2012) believes increased utilization of existing social networks within the local Hispanic community is the best way to build trust between this community and the government organizations that exist to serve them.

Discussion

The intent of this applied research project was to identify methods for improving communication between DFD and non-English speaking residents in the City of Dalton. This was accomplished through analyses of city demographics, current communication capabilities within DFD, and existing strategies utilized by public safety organizations. In addition, methods for promoting community involvement in communication efforts were explored. The overarching goal of this research was to improve communication in order to build trust and community equity with marginalized subsets of the city's population.

Findings for the first research question showed the City of Dalton has a significant Hispanic and Latino population. Of the 46.6 percent of city residents where languages other than English are spoken in the home, 42.2 percent speak Spanish. In addition, 89 percent of foreign born residents are of Latin American ancestry. Obstacles created through language barriers, cultural differences, and unfamiliarity with emergency response systems makes service provision for these residents a difficult undertaking. However, the significance of ensuring equitable service

provision to these residents cannot be overlooked. The importance of educating this community on preparedness, risk awareness, and home fire safety are supported by the works of Carter-Pokras, Zambrana, Mora and Aaby (2007), Morrow (2009), and Peguero (2006). Another important consideration mentioned in the Morrow (1999) work is assessing the local Hispanic community's ability to prepare for and recover from emergent situations. Each of these facets must be taken into consideration for DFD's communication initiative to be successful.

The inclusion of the local Hispanic and Latino community in DFD's strategic plan is a great way to market the fire service and public safety as a whole to a community that has historically misunderstood or distrusted government agencies. In addition, improvements in communication may result in the addition of more Hispanic firefighters to help ensure a healthy working relationship between DFD and the community it is sworn to serve.

Results from the analysis of DFD's current capabilities revealed significant differences between community demographics and the department's ability to effectively communicate with a major percentage of the population. The primary means for improving service quality is to ensure effective two-way communication takes place between the customer and the service provider. This concept is supported by the works of Lee (1993), and Ng and Bradac (1993) that focus on the basic elements of effective communication. In addition, the writings of Berelson and Steiner (1964) and Littlejohn and Foss (2008) clearly outline the importance of mutual understanding through a medium of communication. With only 3 Spanish speakers on staff at DFD, the department's ability to verbally communicate with the Hispanic and Latino community is extremely limited.

DFD's utilization of school children as translators and educators is similar to the approach described by Fothergill, Maestas, and Darlington (1999). The use of existing social networks for

information dissemination has proven successful in numerous cases across the country. This sentiment is echoed in the Mitchell, Haynes, Hall, Choong, and Oven (2008) discussion on the role of school systems in improving communication with non-English speaking populations. DFD's partnership with Dalton Public Schools as a medium for information sharing and distribution of printed materials to Hispanic households is an extremely effective method for educating residents on emergency preparedness and home fire safety. It is the researcher's hope that the successes realized from this partnership will eventually grow into community partnerships between DFD and civic groups within the local Hispanic community.

As illustrated in the results section, a multitude of resources, strategies, and technologies are utilized by emergency service organizations in the Dalton area to communicate with non-English speaking populations. However, the efforts of Whitfield County CERT are most closely aligned with the methods outlined in the literature review. In keeping with the services offered by state Emergency Management Agencies in California (2012), Texas (2012), and Maryland (2012), Whitfield County CERT offers numerous preparedness and education materials available in Spanish. CERT also has the entire training curriculum in Spanish for non-English speakers who wish to participate as team members. The ability and willingness to include Spanish speakers as CERT members could have positive results similar to those of California's Project PREP discussed by Eisenman, Glick, Maranon, Gonzales, and Asch (2009). As described by Andrulis, Siddiqui, and Gantner (2007), exhibiting a willingness to help is a critical first step in building community equity among historically marginalized populations. Success in these initiatives should result in increased cultural awareness among public safety entities in the Dalton area.

Building trust and garnering community support are essential for success in any public safety program. Examples of how other communities have generated support were the subject of the

fourth research question. Results from this research revealed a widespread use of community volunteers to assist public safety agencies in reaching their goals. Strategies for increasing community involvement in Raleigh, North Carolina closely mirrored that of the National Council of La Raza (2004) in that existing programs were utilized to educate, identify needs, and improve service delivery. The relationships that resulted from this effort were instrumental in building trust and support for emergency services within the Hispanic and Latino community. The researcher believes similar relationships could be developed at the local level through the utilization of networks such as the ones mentioned in the interviews with Carlos Salguero and Mandy Locke. The development of working relationships through the use of existing networks in the local Hispanic community could have a profound impact on public support for DFD.

Keys (1991) work on developing a more thorough understanding of cultural differences directly supports the successes realized in Garland, Texas and Coral Gables, Florida. These departments were able to develop Spanish language training programs for their personnel through the use of input from community volunteers. As previously stated, the relationships that were built during this process proved invaluable in increasing cultural awareness and establishing community support.

Recommendations

Data obtained through research indicates DFD's ability to communicate with non-English speaking populations is severely deficient. This inability to effectively communicate with a significant percentage of the population could result in poor service delivery to stakeholders and a subsequent decrease in service quality. For these reasons, the researcher believes DFD should establish a communications training program that utilizes existing resources in the local Hispanic community.

In the short-term, the researcher recommends the development and delivery of a basic Spanish language program for DFD personnel. The involvement of Hispanic and Latino volunteers in this process would be the first step in strengthening relationships between DFD and a large percentage of the local populace. In addition, proficiency levels in conversational Spanish should improve among DFD personnel. The inclusion of local Spanish speaking media outlets in the recruitment process could drastically increase response among perspective volunteers. In addition, the existing social networks of Mr. Salguero and the school system's parent involvement program could be incorporated to ensure success in this endeavor.

As a mid-term goal, the researcher believes DFD should increase the amount of Spanish materials available on the department's website. In doing so, the department can make itself more transparent and more available to Hispanic and Latino residents. Another method for increasing awareness could be hosting public safety awareness meetings or town hall style forums specifically for the Spanish speaking community. Each of these strategies could assist in developing a more thorough understanding of emergency response resources and capabilities among Hispanic residents. This process is vital to building community equity among the local Hispanic and Latino community. One long-term goal of this project is the creation of a job shadowing program within DFD for high school students of Hispanic or Latino origin. This could be accomplished through increasing awareness of the department's existing Explorer Post or through collaboration with the school system to develop a separate program.

It is the researcher's hope that the findings of this applied research project will assist DFD in improving communication with non-English speaking populations in the City of Dalton. In addition, this document will be made available to all DFD personnel, elected officials, and other local emergency service providers for review and discussion. The researcher believes this

document may offer a unique perspective and provide a framework for improving specific facets of service delivery in other public safety organizations.

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Appendix A

City of Dalton Fire Department

Foreign Language Survey

- 1.) Are you fluent in any language other than English? If yes, please explain.

- 2.) Do you feel there is a need for foreign language skills among DFD employees? If so, what language do you feel is most critical to learn?

- 3.) Would you be willing to attend foreign language training courses to improve your communication capabilities?

Appendix B

Interview with Inspector Eddie Hughes, Code Enforcement Officer, Dalton Fire Department

Conducted on July 18, 2012 at Dalton Fire Department Station #1

- 1.) Aside from verbal communication, what resources, technologies, and/or strategies does DFD employ to communicate with non-English speaking populations?

EH: We have a multitude of printed fire education materials in Spanish. These materials are targeted at both adults and children and are distributed in a variety of ways, the most common being through fire safety education programs in the school system. Otherwise, we are forced to use a translator from DFD or a bystander that speaks English. In most cases, the translator ends up being a child or young adult.

- 2.) Are there alternative means that could be utilized by DFD that are not currently employed as a medium for communication? If so, please explain.

EH: I feel certain there are technologies in the marketplace that would help tremendously in improving communications on a daily basis, but I am not familiar enough with what is out there to name a specific product, service, or technology. On a normal day, we are too busy dealing with actual issues to take time away to research options for improving the situation.

- 3.) What means do you feel would be most beneficial in improving communication between DFD and non-English speaking populations?

EH: Having more Spanish speaking personnel on staff at DFD, whether assigned to fire prevention or otherwise, would be a tremendous help to us. I think increasing involvement of Spanish speaking media outlets in the area could help with coordination and cooperation with fire prevention, inspection, and education efforts. Developing a more thorough understanding of cultural differences would also help improve communication with Hispanic and Latino residents. I would like to see DFD implement a ride-along or job shadow program with local high school students of Hispanic and Latino ancestry. This initiative could prove beneficial in reducing language barriers between public safety and Spanish speaking residents. A public safety awareness fair targeted at educating and informing Hispanic and Latino residents would also help foster a relationship between us and those we strive to serve.

Appendix C

Interview with Officer Brian Pack, Training Coordinator, City of Dalton Police Department

Conducted on July 17, 2012 via telephone

- 1.) Does Dalton Police Department employ any bilingual or multilingual personnel? If yes, please explain.

BP: Yes, we 3 Hispanic officers that are native Spanish speakers, 1 non-sworn Hispanic employee that is a native speaker, and 2 other Caucasian officers that are basically fluent in Spanish. We also have 1 officer who speaks Arabic due to language training in the military. All officers must attend 40-hour basic and 40-hour advanced Spanish courses as part of our promotional process for the rank of patrolman first class.

- 2.) Aside from verbal communication, what resources, technologies, or strategies does Dalton Police Department employ to communicate with non-English speaking populations?

BP: We have pamphlets, promotional materials, Miranda Rights warning cards, and legal explanatory material available for distribution in each police cruiser. All officers are also issued translation guides and quick reference field manuals for commonly used Spanish terms and phrases in the law enforcement environment.

- 3.) Are there alternative means that could be utilized by Dalton Police Department that are not currently employed as a medium for communication? If so, please explain.

BP: While unfeasible at present, fluency among all officers through the use of extensive Spanish language training programs (e.g. Rosetta Stone software) would be a wonderful thing.

- 4.) What means do you feel would be most beneficial in improving communication between Dalton Police Department and non-English speaking populations?

BP: Additional training and subsequent fluency in Spanish among officers is my ultimate goal as training coordinator relative to external communication. More importantly, additional training on cultural awareness to better understand our Hispanic customers and their backgrounds, customs, and needs is paramount to the success of any communications initiative.

Appendix D

Interview with Alan Panter, Clinical Manager, Hamilton Emergency Medical Services

Conducted on July 19, 2012 at Hamilton Emergency Medical Services

- 1.) Does Hamilton EMS employ any bilingual or multilingual personnel? If yes, please explain.

AP: Yes, we have 1 paramedic that is a native Spanish speaker and three additional employees that are near fluent in Spanish. I do not know of any other languages spoken among our staff members.

- 2.) Aside from verbal communication, what resources, technologies, or strategies does Hamilton EMS employ to communicate with non-English speaking populations?

AP: We have a flash card system assigned to each ambulance for Spanish translation of common medical phrases. These cards are complete with pictures as well as written language in both English and Spanish. The hospital has several interpreters on staff that are sometimes used by field personnel if there is not a more convenient means of translation. We also utilize language line, which is a subscription based telephone translation service that is billed similarly to long distance calling plans. In other words, we only pay for what we use in a given billing cycle. In most cases, our personnel rely on children within the home or neighborhood to translate for Spanish only patients.

- 3.) Are there alternative means that could be utilized by Hamilton EMS that are not currently employed as a medium for communication? If so, please explain.

AP: Yes, there is a web-based 2-way video system for interpretation that is used in some homes either through television or computer. For example, we assisted a deaf patient who had this system and as he signed to the interpreter on the screen, the interpreter delivered the message to our crew in real time through audio and video feedback. The crew was then able to communicate verbally with the interpreter on screen who returned their message through sign language to the patient.

- 4.) What means do you feel would be most beneficial in improving communication between Hamilton EMS and non-English speaking populations?

AP: Having more field staff trained in Spanish would be the most beneficial thing I can think of. Building interest in language training is the biggest obstacle we would face in accomplishing that goal. Another major benefit would be having a more thorough understanding of Hispanic and Latino culture. Increased cultural awareness among our staff would be very beneficial in handling the sensitive issues encountered in emergency medical services.

Appendix E

Interview with Jeff Ownby, Deputy Director, Whitfield County E911

Conducted on July 17, 2012 at Whitfield County Emergency Communications Center

- 1.) Does Whitfield County E911 employ any bilingual or multilingual personnel? If yes, please explain.

JO: No. We have in the past, but none presently.

- 2.) Aside from verbal communication, what resources, technologies, or strategies does Whitfield County E911 employ to communicate with non-English speaking populations?

JO: We use a subscription translation service called language line which provides translation for numerous languages. In conjunction with language line, our personnel have the option to attend 40-hour basic and 40-hour advanced Spanish language courses. We also utilize Rosetta Stone language software for in-house training. To encourage participation, each of these language training options is accompanied by an advanced training pay incentive of 7% when an employee reaches fluency as determined through verbal testing. Our dispatchers are currently conducting entry protocol training for dealing with non-English speaking callers and the communication issues associated with these callers. Our hope is to reduce delay from the time a call is received until the caller receives needed help from responders.

- 3.) Are there alternative means that could be utilized by Whitfield County E911 that are not currently employed as a medium for communication? If so, please explain.

JO: There are web-based translation services available that provide real time translation via a chat room or discussion board type application. These services could drastically reduce call processing and ultimately response times for incidents where there is a language barrier.

- 4.) What means do you feel would be most beneficial in improving communication between Whitfield County E911 and non-English speaking populations?

JO: We could benefit from having at least 1 Spanish speaker on each shift. In doing so, we could continue to reduce language line costs and reduce processing time for calls involving Spanish speaking callers.

Appendix F

Interview with Carla Kelley, CERT Coordinator, Whitfield County Community Emergency Response Team (CERT)

Conducted on July 17, 2012 at Whitfield County Emergency Communications Center

- 1.) Does Whitfield County CERT have any bilingual or multilingual team members or volunteers? If yes, please explain.

CK: Yes, of the 106 CERT members, 21 speak Spanish. 2 of these team members are non-English speakers and were trained using Spanish materials provided through CERT.

- 2.) Aside from verbal communication, what resources, technologies, or strategies does Whitfield County CERT employ to communicate with non-English speaking populations?

CK: In addition to Spanish training materials for CERT members, the primary CERT mission is preparedness. Therefore, we have printed materials available in Spanish that cover emergency/disaster preparedness, home fire safety, weather advisories, and numerous other topics related to disasters and emergencies.

- 3.) Are there alternative means that could be utilized by Whitfield County CERT that are not currently employed as a medium for communication? If so, please explain.

CK: Spanish speaking instructors for the CERT program in Whitfield County would be the biggest benefit I can think of. We already have the CERT training curriculum in Spanish, all we need are fluent instructors that can deliver classes to non-English or Spanish only volunteers.

- 4.) What means do you feel would be most beneficial in improving communication between Whitfield County CERT and non-English speaking populations?

CK: More Spanish speaking team members due to the fact that emergency preparedness education programs in predominately Spanish speaking neighborhoods are difficult to conduct with limited translation resources.

Appendix G

Interview with Carlos L. Salguero, Realtor, Coldwell Banker Kinard Realty

Conducted on May 3, 2012 at Carpet Capital Association of Realtors

- 1.) What means do you feel would be most beneficial in improving communication between the City of Dalton Fire Department and non-English speaking populations?

CS: I think the department would benefit greatly by utilizing the existing community support network made up of Hispanic realtors in the Dalton area. These realtors could be used as volunteers for any number of tasks or assignments that would support the department's mission. Examples of services available could include translation on an emergency scene or Spanish lessons for firefighters. This group of realtors holds Dalton Fire Department in tremendous esteem and would therefore do just about anything within its power to assist in any way. I am also a volunteer interpreter for the Make-A-Wish Foundation and could assemble a similar group from the Foundation (located in the Northwest Georgia region) to volunteer in support of your operations.

Appendix H

Interview with Mandy Locke, Principal, Dug Gap Elementary School

Conducted on July 26, 2012 via telephone

- 1.) What resources, technologies, or strategies does the school system use to communicate with non-English speaking populations?

ML: Our school system has an outreach initiative known as the bilingual parent involvement program. The program is made up of 8 parent involvement coordinators assigned to 4 geographic regions whose mission is to be responsive to parents' needs by facilitating positive relationships between parents and schools. In addition, these coordinators foster a safe environment which allows parents to become engaged in their children's learning and a partner in their academic success. So far, we have seen tremendous success with this program in terms of increased parent involvement among the Hispanic community.

- 2.) What means do you feel would be most beneficial in improving communication between Dug Gap Elementary and non-English speaking populations?

ML: I believe success lies in identifying and utilizing other social networks within Dalton's Hispanic community to establish trust and develop a more thorough understanding of perspectives on both sides of the relationship. If we as government services make a concerted effort to learn about Hispanic and Latino culture and heritage, we will be far more likely to garner trust and subsequent involvement from this community.