Barriers to and Facilitators of Effective Risk Communication Among Hard-to-Reach Populations in the Event of a Bioterrorist Attack or Outbreak

Prepared by the Texas Department of Health
February 1, 2004

ProtectTexas™
Department of State Health Services

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OVERVIEW

This report was prepared to meet the specifications stated by the Texas Department of Health (TDH) in conjunction with its efforts to improve communications with special hard-to-reach populations in the event of an emergency, such as a bioterrorist event, smallpox or West Nile virus outbreak.

Introduction

Disaster preparedness is essential to minimize the harm to public health in the event of an epidemic or bioterrorist attack and requires a plan that encompasses the entire population's needs. Typically, in an emergency event, information and safety instructions are conveyed through television, print and radio media, as well as local emergency agencies. However, reaching hard-to-reach populations may require additional measures. In addition, panic reduction is important to expedite an effective response plan. This paper's purpose is to present the findings of a study conducted for TDH to identify message content and channels of communication to improve disaster response among eight specified hard-to-reach populations.

Specifically, the project has four objectives:

- To identify eight target populations that may require alternative methods of communication in the event of a bioterrorist attack or epidemic;
- To collect demographics of the target populations in regard to geographic location and size;
- To identify preferred communication methods and possible barriers that may exist; and
- To recommend the most effective communication methods for each target audience in the event of a bioterrorist attack or epidemic.

This study addresses eight populations as specified by TDH:

- Hispanics (including resident Spanish-dominant Hispanic Americans and undocumented Spanish-speaking immigrants)
- African Americans
- Asian Americans
- Native Americans
- Rural populations
- Elderly populations
- Mentally impaired
- School-aged youth

Methods

TDH specified the methodology for this study to include a literature review, demographic mapping of the TDH regions to determine key areas of concentration, key informant telephone and in-person interviews, and focus groups.

Literature review

The literature was reviewed to ascertain findings of existing research with regard to key areas for disaster preparedness:

- Risk communication dissemination with identified special populations;
- Problems and barriers that may exist when disseminating information to these specific populations;
- Trusted news sources to deliver information;
- Myths and misconceptions when communicating high-risk information; and
- Expected health and/or emotional state of individuals when receiving information of this nature.

Demographic Mapping of TDH Regions
Using census tract data, population densities were mapped for each special population to determine areas of concentration among TDH regions.

Key Informant Telephone Interviews
An average of 15 interviews were conducted for each special population with key informants familiar with these groups. Appendix B provides a rationale for the distribution of those interviews across geographic regions and identified populations.

Telephone interviews consisted of 17 questions, with discussions lasting from 30 to 45 minutes. The interview protocol is attached as Appendix A. For each target audience, interviews examined these points:

- The prevalence of the identified population in that TDH region;
- Local agencies and other organizations that serve the population;
- Best methods to reach the special population audience;
- How information should be presented so it is understood and directions will be followed;
- Whether the audience will need additional assistance to follow directions and who would be best to provide this assistance;
- The most credible spokesperson for the audience;
- Other stakeholders to contact for additional input; and
- Requests for assistance to recruit people within the target audience or key informant groups for interviews or focus groups.

Individual Interviews and/or Focus Groups
Individual interviews and/or focus groups were conducted with population members and/or key informants for these populations: African American, Hispanic, the mentally ill and the rural. Interviews were used to validate key informant opinions and to assess effective communication strategies. Topics covered include these points:

- Best communication methods to reach the population in the event of a bioterrorist attack or outbreak;
- Most and least trusted to deliver this information;
- Who the population would contact to confirm information they receive; and
- Most preferred way or ways for the information to be presented.

This report presents the study's findings, including the geographic concentrations of Texas' special populations, findings from the literature review and a summary of results from individual interviews and focus groups on communication barriers and facilitators.

HISPANIC POPULATION

Population Description

General Information

In the United States, the Hispanic population is diverse, including populations that have assimilated into American culture and others that adhere to the traditions and beliefs of their native countries. The vast differences in the traditions and cultural beliefs among communities within Latin America are reflected in Hispanic communities in the United States and varying levels of cultural assimilation amplify these differences. Thus, the information presented in this report can serve only as an overview of many of the issues relevant to this group and is not intended as a comprehensive analysis.

Furthermore, the Hispanic population as a whole is not considered hard to reach through general media and marketing channels. While the literature review focuses primarily on the Hispanic population as a whole, the data collected during the interview process was important in clarifying which individuals may be hardest to reach and in identifying best channels for reaching them.

Demographics

In Texas, approximately 32 percent of the population is Hispanic, classified as Mexican, Puerto Rican, Cuban and "other Hispanic," and 21.4 percent speak "little or no" English (U.S. Census Bureau, 2000)[1]. However, for this report's purposes, the hard-to-reach Hispanic population in Texas is described as those who do not speak English, are migrant laborers or undocumented immigrants, and/or those living in poor and underdeveloped *colonias* or marginalized settlements near industrial centers along the border. Census data indicate these individuals are concentrated in the southern border regions, in the large metropolitan complexes and a few other regions statewide.

Correspondingly, interviews were conducted with representatives of populations in the following regions:

- Hidalgo and Starr counties in the Rio Grande Valley;
- Webb and Zapata counties surrounding Laredo;
- Harris, Jefferson, Hardin and Orange counties in the Houston/Galveston area;
- El Paso (El Paso County);
- Tarrant and Dallas counties around Dallas-Fort Worth; and
- Tom Green County in San Angelo.

Key informants suggested that hard-to-reach individuals in this population can be divided into three general categories:

- Those who live in very low income areas called *colonias* or squatter settlements located near urban areas but with few, if any, city services;
- Those who live in *rural areas*, more than 20 miles from an urban setting, on farms or gated ranch lands; and
- Those who live in *urban Latino neighborhoods* in Houston and El Paso. (Informants in Dallas-Fort Worth and San Angelo suggested few hard-to-reach Hispanic individuals reside in their areas.)

Residents in all three categories are unlikely to access health-care services except in an emergency situation and also are unlikely to have health insurance. Unemployment is high in the *colonias* and among rural residents. Most individuals in the three groups do not own a car, and those in the *colonias* and rural areas have very limited transportation due to the lack of public transport in these areas. Urban residents are likely to carpool and use public transportation**.** According to key informants, the large majority of individuals in all three groups (90 to 100 percent) are said to be Spanish-speaking, with limited or no English proficiency; but children in all three groups attend public schools.

Communication Channels, Messengers and Messages

Social Networks

In the event of a bioterrorist emergency, multiple channels may be used to disseminate information to Hispanic populations. Kar & Alcalay (2001)[2] note that Hispanics "have access to around-the-clock Spanish-language radio and TV programs and to daily print media." However, further research suggests, "The family is the most credible source of health information" (Purnell & Paulanka, 2003)[3]. Further, during the key informant portion of this study, it was noted that reliance on social networks is likely to be increased in the event of bioterrorist threats or events that are unfamiliar and require a fast response, particularly if the threat is to urban areas and is observable. Key informant interviews found that word-of-mouth communication and local media are the best methods to provide vital information.

Other Channels

Though not specified in the literature, focus group members and key informants suggested that the best methods to reach this population included the use of *promotoras,* or community-based outreach workers, to convey essential information about available services to residents. Typically, *promotoras* are trained to be a trusted source of health, school and other community information. *Promotoras* could be instrumental as well in the development of localized emergency communications plans. For *colonias* and rural groups, informant suggestions included pre-emergency outreach and training about potential emergency situations as well as notices posted in local general stores and restaurants.

In discussions of media and telecommunications channels, focus group members noted that few individuals in these communities have land-line phones, though cell phone usage is high.

Spokespersons

Focus groups and key informants recommended face-to-face communication in Spanish as the best communication strategy for this population. The best messengers include neighbors, clergy and law enforcement if they speak Spanish and are known by the community in advance of an emergency. However, according to interviewees, urban Hispanic residents are less likely to trust law-enforcement agents, and immigrant status is a particularly sensitive issue for this group. Key informants also recommended sending messages through children to their families.

Messaging

Both the literature review and the key informant interviews focus on the importance of Spanish-language written materials when delivering high-risk information. Valdes and Seoane in Kar & Alcalay (2001)[4] suggested that messages presented in a "simple, familiar and realistic background" would work when delivering health communication to a Hispanic audience. The key informant interviews supported this finding and added that messaging should be in bilingual form, preferably face-to-face with visual aids. Key informants suggested the following guidelines for all materials distributed to the Hispanic community:

- Bilingual;
- Simple and clear;
- Include pictures, maps, directions and other pertinent information;
- Emergency phone numbers;
- Phone numbers to find more information in Spanish; and
- Present materials face to face when possible.

Media Usage

Focus group participants noted that in both Tom Green County in San Angelo and the Dallas/Fort Worth Metroplex most Hispanics have access to all forms of media. Specifically noted in these areas was Spanish-language radio and television. It was suggested that Spanish-language newspapers could provide a source of information confirmation in the Dallas/Fort Worth area.

In the Houston/Galveston area, key informants noted that Spanish-language radio was the most prevalent form of media, but that the population tends to gather in public places with television access during times of crisis. Specifically noted as an example was the community's response to the 9/11 terrorist attack.

Those interviewed also stated that most people in the *colonias* and rural areas have access to Spanish-language radio programming but not television.

It is important to note that in the El Paso area, key informants said that the hard-to-reach Hispanic population listens to Spanish-language radio, but many do not have televisions. But according to Arbitron data, of the top five Spanish-language stations in the El Paso region, four are broadcast from Mexico. Thus, there may be a need to open lines of communication with Mexican media outlets prior to a high-risk situation to ensure that the messages will reach the entire audience.

While development of strategies that build on social networks is recommended, some media channels may provide avenues for information dissemination.

Barriers and Special Issues

In the colonias of the Rio Grande Valley, Laredo and El Paso, key informant interviews found that as many as 50 percent of the hard-to-reach population did not have an automobile or other means of transportation. Focus group discussions supported this finding.

In regions where immigrant status is high, undocumented workers may be hesitant to seek assistance. In this case as well, conducting outreach and training about what to do during emergency situations would be useful.

Key Findings for Hard-to-Reach Hispanics

- Hard-to-reach Hispanic populations are found in *colonias* along the border regions, in rural farms and ranches and in urban Latino neighborhoods; frequently speak only Spanish; are low-income; experience high levels of unemployment; have little access to land-line telephones, some access to televisions and more access to radios; may have considerable barriers to transportation and other community infrastructure (especially in rural areas and colonias); and have children who attend public schools.

- Social networks, including family members, neighbors, recognized community members, churches and church networks are important avenues for dissemination of information to this population.

- Existing community outreach workers, called *promotoras,* are ideal for information dissemination in areas where they are available.

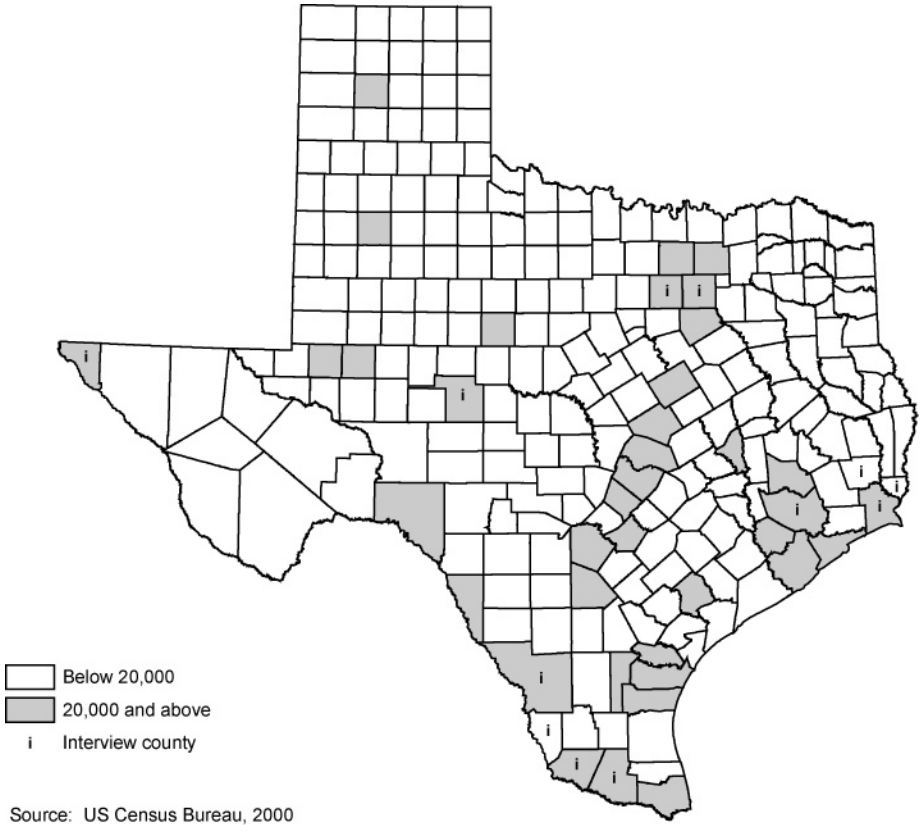
- While authorities (police, firefighters, uniformed emergency personnel and health-care workers) are considered reliable information sources; undocumented immigrants may be reluctant to interact with them out of fear of disclosure of undocumented status. Conducting outreach prior to an emergency event may lower the barriers that exist with the undocumented Hispanic population.

- Spanish-language messages are essential in overcoming language barriers with this population.

- Television and radio messages should be culturally competent, including messages reflecting strong family and community connectedness. Radio coverage may be more accessible to a wider population than television coverage.

- Printed materials should be bilingual, include phone numbers, simple instructions and other pertinent information. When possible, information should be disseminated during or in conjunction with face-to-face outreach.

Hispanic Population and Interview Areas:
Dallas; El Paso; Hardin; Harris; Hidalgo; Jefferson; Orange; Starr; Tarrant; Tom Green; Webb; and Zapata counties



AFRICAN-AMERICAN POPULATION

Population Description

General Information

The African-American population as a whole should not be considered a hard-to-reach population. However, literature and qualitative data from this study point to a subgroup within the African-American community that may be hard to reach due to attitudes and beliefs, their role in society, as well as the perceived risk and relative importance of emergency information about bioterrorist or disease epidemic events.

Demographics

In Texas, approximately 11 percent of the population is African American (U.S. Census Bureau, 2000)[1]. Census data indicate that the African-American population in Texas resides primarily in the eastern half of the state, in both urban and rural areas, with larger concentrations in urban centers. Education level and income stratification are even with pockets of poverty and wealth occurring in both urban and rural locales. Thus, interviews were conducted accordingly, with representatives of populations in the following regions:

- Dallas-Fort Worth;
- Houston;
- Texarkana; and
- Beaumont/Port Arthur.

Key informants in these regions describe the hard-to-reach individuals in the African-American population as:

- Earning a low-income;
- Experiencing low-literacy;
- Being socially segregated; and
- Being between the ages of 18 and 30 years old.

Communication Channels, Messengers and Messages

Social Networks

Key informants agreed that African Americans rely heavily on community networks for news and information, including friends, family and leaders in the faith community. Reflecting on the role of the faith community, one author states "[t]he church continues to serve many functions in the lives of African Americans, playing an active role in the coping and adaptation processes of its members. The church…also provides a network of people who are available as a support system in times of need" (Hines & Boyd-Franklin (1982)[5] in Lassiter, 1995)[6].

Aside from offering support, belief in God and church attendance also are believed by many African Americans to be a key determinant of health outcomes (Lassiter, 1995)[6]. Thus, churches and clergy should be considered as important avenues for health and emergency message dissemination.

It is important to note, however, that key informants report the hard-to-reach group defined in this research is less likely to have direct reliance on the church community, although they will likely access a family member who relies on the church for information.

Spokespersons
According to the interviews, African Americans from larger and smaller cities have a marked difference in their levels of trust of the police. Generally, African Americans in larger cities living in African-American enclaves have a higher distrust of the police, while those in smaller cities (Beaumont/Port Arthur and Texarkana) did not report trust issues with police. Poor *ongoing* relationships between the African-American community and the police departments in the larger cities may help explain this difference.

In contrast, African Americans in all researched geographies reported a strong reliance on and trust in fire department officials. Some firehouses offer free blood pressure screenings and other community services, and many African Americans take advantage of these services for themselves or relatives, thereby developing good relationships with fire personnel.

African Americans were more trusting of health officials with whom they were more familiar. However, a bioterrorism outbreak occurring exclusively in an African-American community would cause significant trust issues across the board. Generally, African Americans in all geographic areas were more trusting of African-American officials than non-African Americans.

Key informants echoed some of the findings in the literature reviewed for this group and suggested that mainstream media are generally trusted, with African-American news and entertainment personalities bolstering trust.

Messaging
Focus group members and key informants noted a high level of apathy among the hard-to-reach African-American population and also a lower level of media use. Additionally, it was reported that a feeling of disenfranchisement exists among this population, leading to the feeling that they will be ignored during times of crisis. Outreach prior to emergency events may be useful in establishing ties and building trust for messages.

Robinson (1998)[7] states "[B]lack people come from cultures that value group affiliation and collectivism…As a group, black people tend to be more group centered, to be sensitive to interpersonal matters, and to value cooperation." This statement was supported by key informants who cited "word-of-mouth" communication as an appropriate way for hard-to-reach African Americans to confirm the validity of bioterrorism warnings or instructions on how to respond.

While standard programming may not be perceived by the mainstream African-American community as racially biased, emergency messages to evoke heightened emotional responses by virtue of their content should be carefully constructed. Key informants suggested the following guidelines for written materials distributed to the African-American community

- Communicate to the lowest literacy level;
- Use television or in-person communication for complex instructions;
- Use an African American to deliver information where possible; and
- Reflect the importance of equity among and cooperation from all social groups and ethnicities.

Media Usage
Studies of media and communication channels suggest that African Americans are large consumers of television and radio. They prefer to receive news and information from African-American male commentators.

Television is perceived as more credible than other media sources. Equally important is that entertainment media is more often consumed than news media among African Americans (Kamalipour and Carilli, 1998)[8]. Specifically, among the hard-to-reach group, Black Entertainment Television (BET), educational and news programming, and especially urban radio are consumed heavily.

Readership of newspapers is higher among older members of the African-American population and members with higher socioeconomic status. However, it is low among adolescents, and low overall relative to consumption of radio and television.

Barriers and Special Issues
Social and Conceptual Barriers
While barriers to information dissemination may be less at issue with this population, the type of action taken in response to this information may be mediated by a number of different cultural beliefs and practices characteristic of African-American communities. If individuals do not believe the prevention regimen will work, or if they hold beliefs that directly oppose or are not included in the prevention or treatment regimen, they will be less likely to follow the regimen.

Bonder, Martin and Miracle (2002)[9] state "cultural misunderstandings feature prominently among the reasons for failure to get healthcare" mentioning different disease-attribution models, communication styles and views of professional roles, mistrust of the system, different family and decision-making structures. Key informants and individuals in the hard-to-reach group support this finding, citing the beliefs that "the flu shot causes the flu," or that HIV is a man-made organism purposely released into the African-American community.

Mistrust of physicians is compounded by a lack of African-American physicians and healthcare practitioners, and sometimes also by resentment that physicians will tell individuals what their problems are and how to cure themselves. Thus, for best care, a physician must have an established, trusted relationship to avoid suspicion.

Several authors suggest that illness among African Americans is perceived as a result not only of contagion but also as an indicator of disharmony in one's life and can be classified as natural (lack of prevention) or unnatural (the result of disharmony, witchcraft, a hex or some other personal imbalance) (Purnell and Paulanke, 2003[10]; Snow,

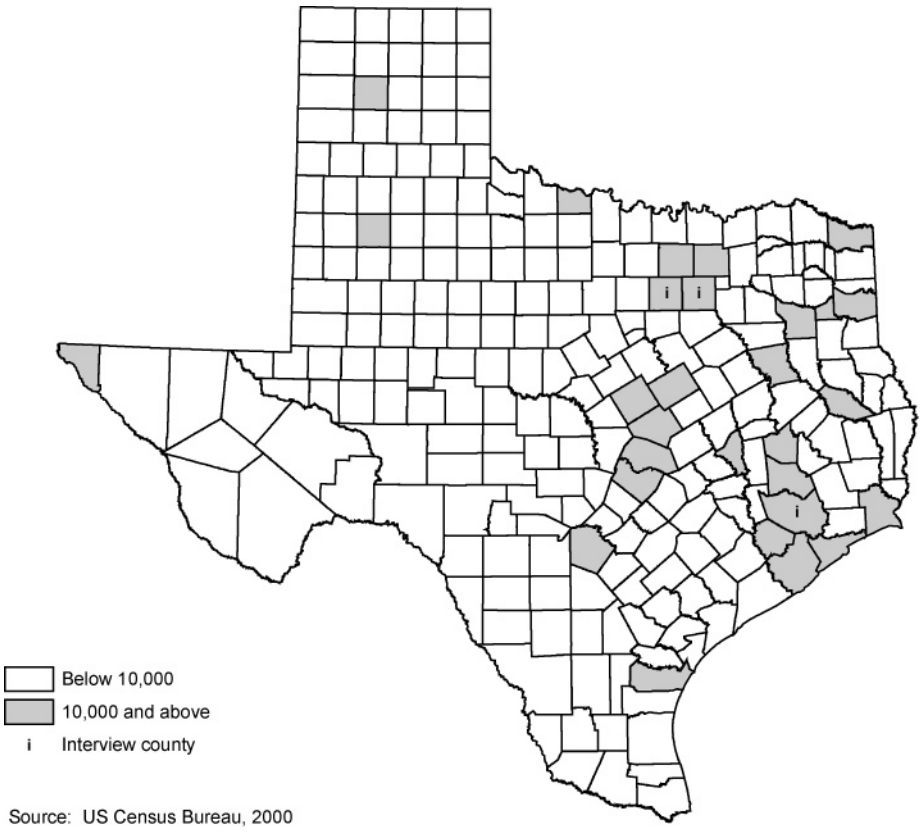
1985[11], 1983[12]; and Lassiter, 1987[13] in Lassiter, 1995)[13]. However, key informants and focus group participants refuted this finding.

Beyond cultural barriers, emergency response among this population may be inhibited due to the lack of financial resources, transportation, low literacy and low education (Bonder, Martin and Miracle, 2002)[9].

Key Findings for Hard-to-Reach African Americans

- Hardest to reach populations in the African-American community experience high levels of poverty and low literacy levels.
- Social and family networks, churches and church networks also provide promising avenues for information dissemination and important support networks.
- Known African-American community leaders and media personalities are the best messengers for emergency information.
- Individuals may not trust government authorities. Medical personnel who are established within an African-American community will be more trusted than outsiders.
- Individuals may feel apathetic toward news of bioterrorist threats when the perceived risk is low, education is low or when faced with more urgent matters such as paying rent and feeding children.
- Emergency instructions should be demonstrated on television, with explicit illustrations of African Americans and Anglos following the same regimen.
- Emergency response regimens should be culturally relevant, taking into account health beliefs that may differ from or extend beyond the basic germ theory of Western medicine.
- African Americans are large consumers of television and radio media, particularly entertainment media. The Black Entertainment Network programming and all urban entertainment radio offer promising avenues for information dissemination.

African-American Population and Interview Areas:
Dallas/Fort Worth; Houston; Texarkana; and Beaumont/Port Arthur



ASIAN-AMERICAN POPULATION

Population Description

General Information

The Asian-American population is diverse, and barriers to communicating with the subgroups within this population are equally diverse. Most Asian Americans tend to settle in urban rather than rural areas, and housing can be a problem for many Asian Americans. Many of the "Chinatowns," "Manilatowns" and "Japantowns" in the United States are segregated and severely overcrowded. Of all the Asian populations, Korean Americans are the least likely to settle in tightly segregated ethnic communities and display the greatest level of American mainstream acculturation and English proficiency.

For the purposes of this report we will present some of the differences among Chinese, Vietnamese, Japanese and Korean communities, but this section should not be considered a comprehensive review of this group as a whole. Levels of acculturation within the Asian community also affect health beliefs, barriers and practices.

Demographics

According to demographic data from TDH, almost 3 percent of the population in Texas is Asian American, including Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, and "other Asian." For the purposes of this report, the portions of this population considered hard-to-reach are those who do not speak English. According to 2000 U.S. Census data, 15.7 percent of Asian Americans in Texas speak "little or no" English. The following urban areas were studied because, according to the 2000 U.S. Census data, they had a high concentration of Asian Americans:

- Dallas-Fort Worth;
- Houston; and
- Austin.

Though having a lower density of Asian Americans than the above listed regions, Lubbock was explored initially, but interviews indicated that most Asian Americans in Lubbock were well educated (in association with Texas Tech University), with high English proficiency and not representative of the hard-to-reach population targeted in this report. As a result, no further mention will be made of key informant responses from the Lubbock area.

Communication Channels, Messengers and Messages

Social Networks

Key informants highlighted the role of community networks as well as service and outreach agencies for information dissemination among Asian-American communities. Religious centers in particular were said to provide a highly credible channel for disseminating disaster-related communications as well providing comfort and support. Using already established community networks also ensures messages are distributed with trust and credibility to each Asian-American population, and informants indicated that both Dallas and Houston have numerous religious cultural centers to provide outreach and support, though similar agencies in Austin were not identified.

Other Channels
Cohen (2003)[14] found that most Asian-American homes have televisions, and that children in the homes watch English-language programming. Key informants pointed to a common phenomenon in Asian-American communities: Neighborhood stores and churches double as community meeting and socializing areas. Stores often have a satellite dish that broadcasts programming directly from China.

Spokespersons
Cohen (2003)[14] suggests that Asian Americans will trust any television commentator who appears to have authority on a topic. However, other literature suggests Vietnamese communities may be distrustful of authority figures, having been refugees of oppressive authority in Vietnam (Purnell & Paulanke, 2003)[3]. Key informants concur that Asian Americans generally trust newspapers, radio and television but clarify that they are more likely to trust information delivered in their own language before trusting it in English. After receiving information in their own languages, they may watch mainstream television to gather more information as well as ask among their communities and families for verification.

Cultural values within the Chinese community that should be considered in the development of media messages and development of emergency response instructions include strong family loyalty, collective responsibility within kinship networks, conformity and prioritization of family over individual needs (Lassiter, 1995)[13]. Additionally, newscasters should be careful to maintain very conservative body language. Hand signals such as the "thumbs up," winking or pointing can be offensive or misinterpreted (McAvoy & Sayeed, 1990, in Robinson, L., 1998)[15].

Interview data revealed that police and firefighters generally are trusted figures in the community but should be prepared with native-language print materials to facilitate communication and avoid causing panic. Community leaders also should be notified in advance so they can serve as a reliable confirmation source. Key informants suggested that Asian Americans generally trust medical personnel, and many especially trust their own doctors. This information points to an excellent venue for distributing information.

Messaging
When possible, messages should be delivered in each Asian audience's native language. According to key informants, the dominant ethnic groups in Texas are Vietnamese and Chinese. Key informants gave other specific guidelines:

- Written materials should be provided while conducting door-to-door outreach to eliminate language barriers;
- Messages should include a combination of visuals and written instructions;
- Repetition is key in conveying high-risk information; and
- Those conducting door-to-door warnings should keep messages direct and to the point.

Barriers and Special Issues

Language

According to both the literature review and the key interviews, language is the primary barrier to communicating with the Asian-American population because multiple languages and dialects exist within subgroups of each Asian-American population, and English language proficiency is very limited among the less acculturated members of this group, particularly among the Chinese.

Any messages should receive great care and a confirmation of accuracy when translating them to Asian languages. Among Vietnamese, Japanese and Koreans, distinctions in dialect present less of a challenge, but messages still should be broadcast in these or other Asian languages, reflecting the dominant ethnic origins of a region. In Texas, according to key informants, the dominant ethnic and language groups are Chinese and Vietnamese.

Noteworthy is that in the absence of language translations, Asian Americans will generally trust any English-speaking member of their community to translate messages (Cohen, 2003)[14]. In fact, key informant interviews revealed that Asian Americans highly value and rely upon their communities and families and explained that many Asian-American families immigrated together, resulting in families where neither the adults nor children speak English nor consume English-speaking mass media. Both the key informant interviews and the literature review found that those not fluent in English generally rely on their English-speaking relatives or community leaders to provide information. The elderly typically rely on their English-speaking children to convey that information to other family members (Lassiter, 1995)[6].

Cultural

The literature review suggests that, in addition to language barriers, cultural differences in health practices, beliefs and disease paradigms present a potential barrier to effective emergency response. Many Asian-American families rely on traditional medical practices for healing, relying on Western medical practices as a last resort (Purnell & Paulanka, 2003)[3].

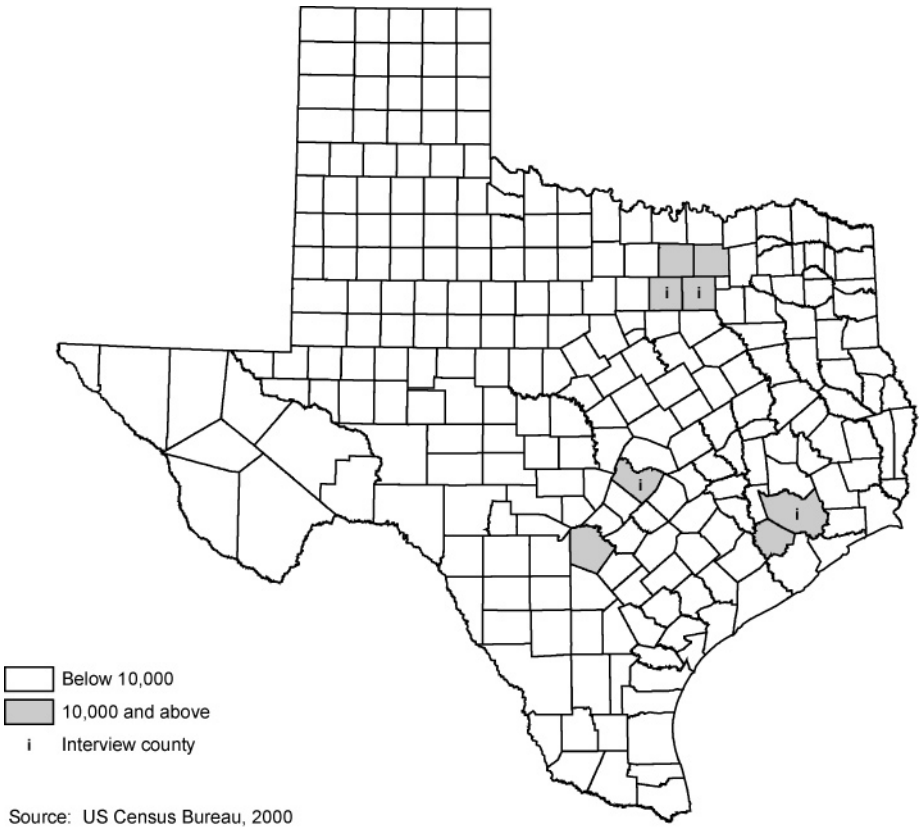
When consulting Western practitioners or emergency response experts, Asian-American families may withhold information, as they value privacy and hold strong beliefs that issues and affairs that may bring shame to a family should not be shared with outsiders. Diagnostic tests such as blood draws may be perceived, especially among the Chinese, as offensive and unnecessary, while immunizations and X-rays are less problematic (Spector, 2004)[16]. Key informant interviews concurred, explaining that in Chinese culture, blood is equated with life, and needlessly drawing and discarding blood is considered "throwing life away." Many Chinese actually may refuse to have blood tests done. Others may hesitate to ask questions of their physicians for fear of insulting the practitioner's expertise.

Several additional concerns are worth consideration. Elderly Asian Americans will be the hardest to reach, although they often receive care from neighbors and relatives.

Key Findings for Hard-to-Reach Asian Americans

- Language is the primary barrier to communication with individuals in Asian-American communities.
- Families, religious centers and community networks and leaders provide important support in information dissemination, confirmation or in translation of messages from English.
- Established community, cultural and religious organizations are a key resource for distributing information in the most credible manner.
- When possible, messages should be provided in all languages represented in the Asian-American population. For the Chinese community, messages may be written in the formal Chinese dialect and reinforced in multiple dialects on the radio and television.
- Messages and messengers should be mindful of body language.
- Cultural differences in health practices, beliefs and disease paradigms may present a potential barrier to effective emergency response.
- Many Asian Americans have firsthand experience with war and may react to bioterrorism situations with more panic.

Asian-American Population and Interview Areas:
Dallas/Fort Worth; Houston; and Austin



NATIVE AMERICAN POPULATION

Population Description

General Information

The Native American, American Indian and Alaskan Native population also is quite diverse, with multiple languages, varied tribal practices, and different levels of assimilation into non-Native American culture and society. This population in Texas resides in both urban and rural areas, with a significant portion of those considered rural residing in national self-governed reservations.

Compared with the national average, the Native American population has a higher percentage of individuals living below the poverty level. Specifically, of those living on the Kickapoo reservation in Texas, 74.3 percent were below the poverty level compared with the national average of 12.1 percent. According to the 2000 U.S. Census, 32 percent of those individuals 18 and older living on the Ysleta Del Sur Pueblo land and 23 percent of those living on the Alabama-Coushatta land were reported as being below the poverty level.

Demographics

In Texas, approximately 1 percent of the population is American Indian or Alaska Native (U.S. Census, 2000)[1]. This population is scattered throughout the state, with small concentrations along the northern border and in the Texas Panhandle. The largest concentrations of Native Americans in Texas reside on one of the three reservations within the state. It is these individuals who would be most difficult to reach and, based on this, interviews were conducted with representatives from three areas:

- Northern Polk County on the Alabama-Coushatta Reservation;
- Kickapoo Reservation near Eagle Pass; and
- Tigua Reservation near El Paso.

Key informants represented three distinct tribes: the Kickapoo, the Ysleta del Sur Tigua and the Alabama-Coushatta. Based on the study's goal of determining the best methods of communication to reach isolated individuals in Texas, interviews were focused within these reservations and their civil services support areas. It is assumed that other Native Americans throughout Texas, based on a distinct assimilation into Texas and U.S. culture, can be reached through communications to a general audience.

Communication Channels, Messengers and Messages

Social Networks

Several key informants suggested that individuals within Native American communities are not hard to reach because of the close-knit nature of communities. One respondent mentioned the strong autonomy of the tribe when it comes to emergency situations and stated that the tribe members are "very capable of looking after their own." Conversely, another respondent said that any member of these communities could miss important emergency information due to high levels of turnover in tribal councils, which has negatively affected the development of effective communication networking systems.

Members and representatives of the Kickapoo tribe described their community as multi-lingual in Kickapoo, Spanish and English. Located several miles from Eagle Pass, they interact with local communities through the Kickapoo-owned casino that employs tribe members as well as non-members. Members of the Kickapoo tribe were said to have dual citizenship with Mexico and are considered nomadic in that they spend spring through fall in northern states as migrant workers. The community also was described as very rural, close knit, low income, with individuals who share similar interests.

A representative of the Alabama-Coushatta (AC) tribe described the tribe as a small, very close-knit community, "where everyone knows everyone else." Because of the family atmosphere, the AC are said to be unlike any other communities in the region, who were said to "keep mostly to themselves." The AC do not perceive themselves as the "others" in their area but as the core of the community.

Key informants representing the Ysleta del Sur Tigua described the group as a federally recognized Indian tribe with a sovereign governing body. Further, this community was described as a modern one that maintains its cultural traditions. The majority of the population has access to various media, speaks English and is educated. The informants believe they are not "hard to reach," as defined above. Maintaining its own political, social, economic, and religious organizational structures, the tribe is said to be underrepresented in most situations external to the tribe.

Other Channels

One respondent suggested brochures, and all but one of the respondents recommended face-to-face and door-to-door communication, coordinated by Tribal Police or Tribal security services, should be used to reach the population. Another informant recommended direct phone calls and information dissemination through community centers, commodity programs and health clinics. This respondent suggested that Native Americans have established relationships with these institutions, and therefore a trust in them to help when necessary. This coincides with a report by the National Institutes of Health describing urban and rural Indian health clinics, which are fully governed and staffed by Indian leaders, as "the centers of community life for the American Indians" (NIH, 1999)[17], providing a logical starting place for emergency response information dissemination.

Spokespersons

Interview data suggests communication about an emergency situation should originate from within tribal groups themselves, be delivered by respected tribal members and be highly considerate of existing tribal structures of education and leadership.

According to the interviews, outsiders communicating emergency information might be acceptable if they are content-specific experts who can provide facts and information specific to the bioterrorist event. When specifically questioned about the role of state agencies in such an event, respondents respected the authority and responsibility of the state to have the most recent and accurate information.

Agencies listed as acceptable resources for confirmation of information or for comfort included the Tribal Council, department heads involved in Tribal Emergency Management Planning teams, tribal elders, Indian Health Clinic personnel, Tribal security services, council chambers and bulletin boards at the above mentioned community locations. Communication, planning and public education, as well as consultation with the above agencies and bioterrorist experts, were listed as means to reduce panic.

Messaging

Messages and programming that are strongly rooted in cultural values of family and cooperation and that emphasize community involvement, using Native American role models and artwork are expected to be most effective in the development and implementation of emergency response communication (NIH, 1999)[17].

Key informants suggested the following guidelines for communicating with the hard-to-reach Native-American community:

- Include multi-language translations of messages (At a minimum, English and Spanish but if available and beneficial, tribal languages also should be used to help communicate with the tribal elders.);
- Provide face-to-face verbal communication about emergency information and instructions, with language translators and tribal council members, healthcare providers or respected community members transmitting the information is critical; and
- Respect political roles of representation and leadership within the tribe.

Barriers and Special Issues

Social and Conceptual Barriers

Among the barriers enumerated by key informants, migrant status (and thus constant movement of individuals), lack of phones, language barriers or living outside the reservation were mentioned as potential barriers to communication.

A significant level of distrust of Western medical practitioners may exist among groups of Native Americans. This stems from a history of "haphazard care and disrespectful treatment" (Spector, 2004)[16]. Significant differences between Native American medical paradigms for diagnosis and treatment of illness as compared with germ theory in Western medicine also may be a cause for distrust or disuse of Western medical practitioners.

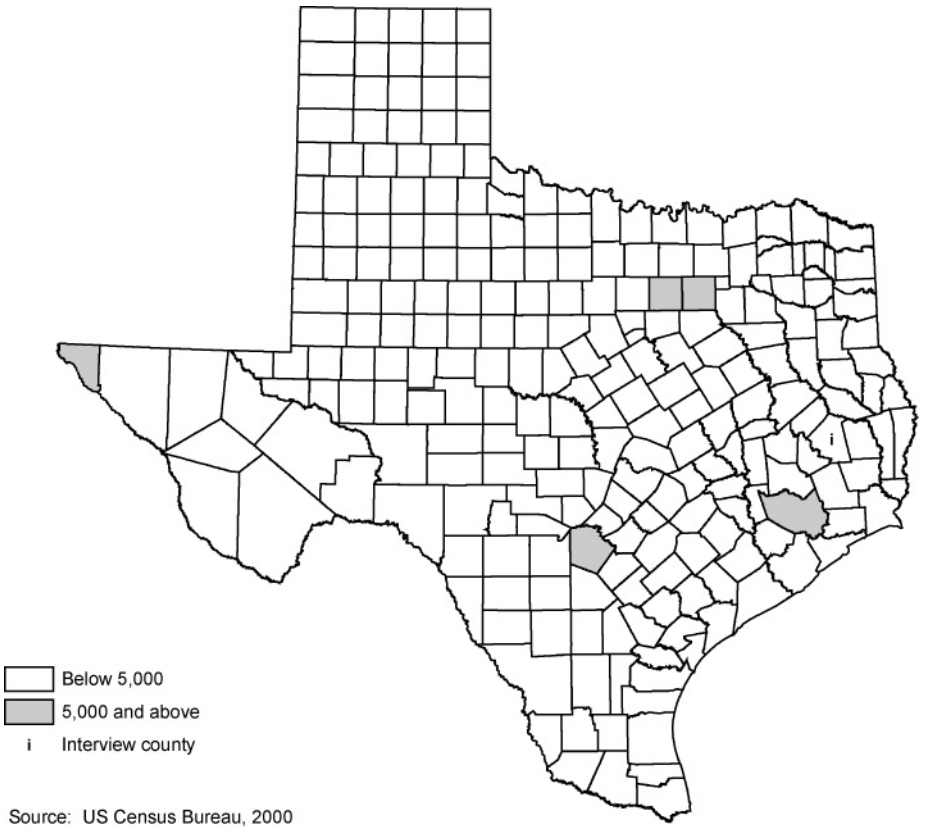
More often though, in Texas, Western traditional medicine combined with respect for the practice of tribal spiritual healing is common. Medical consultations with multiple and even extended family members are not uncommon, and it is important for Western medicine practitioners to spend time and not rush their patients in building trust (Rhoades, 2000)[18].

Additional barriers to emergency response with this population may result from the same issues faced by rural populations, as described in the "Rural" section of this paper that follows.

Key Findings for Hard-to-Reach Native Americans

- Respect for Native American sovereignty is essential in the development and dissemination of emergency messages and instructions. Tribal governments should review messages and, if possible, messengers should be closely connected to tribal authority positions.
- Tribal Councils and other Tribal government entities, leaders and individuals were mentioned as primary sources of confirmation and comfort.
- Face-to-face and door-to-door information dissemination was listed as the preferred and most feasible mechanism to get information to the population.
- Reservation Health Centers may provide important clearinghouses for information and emergency response planning.
- Usable media channels among this population are scarce, although telephone calls and printed brochures may prove useful.
- Paradigm differences between Native-American and Western medical practices may present barriers to emergency response and warrant further investigation.

Native-American Population and Interview Areas:
Livingston (Alabama Coushatta); Eagle Pass (Kickapoo); and El Paso (Tigua)



RURAL POPULATION

Population Description

General Information

Jackson & Cook (1999)[20] characterize rural populations in the United States as having "high poverty levels; increasing percentages of older adults; high unemployment; high levels of social and health-related problems; pockets of minorities within a largely homogeneous population; heavy dependence on agriculture, oil, mining or tourism businesses; and large numbers of people involved with and reliant upon organized religion." Emergency medical facilities often are not available, and transportation could be a problem in reaching remote areas or for low-income residents who do not have reliable transportation options.

Demographics

This population is diverse, including members from all ethnic, age, education and socio-economic groups. U.S. Census data indicate that rural populations comprise 17.5 percent of the residents in Texas (U.S. Census 2000)[1] and are scattered throughout the state, with highest concentrations in the eastern half.

Due to resource limitations, the decision was made to focus on the eastern half of the state, in areas with greater concentrations of lower-income rural populations, instead of the larger, land-holding farms and ranches that are more likely to have satellite systems or other unique communication infrastructure essential to daily life in such remote areas. Thus, interviews were conducted with representatives in the following regions:

- Panhandle, including counties surrounding Amarillo;
- Central Texas Hill Country, including counties between Austin and San Angelo;
- Deep East Texas, including the Louisiana border region north of Beaumont; and
- Northeast Texas, including counties between Texarkana and Tyler/Longview.

Key informants described hard-to-reach rural residents in two general categories:

- Those residing in small or medium-sized towns (1,000-15,000 residents) and
- Those residing in more rural areas on ranches and farms.

The first category includes small or medium-sized towns with populations ranging from 1,000 to 15,000 residents. Smaller communities and residential clusters are more prevalent in poorer, agricultural areas in East Texas; and individuals who live "in town" generally are better informed than those who live outside the city limits. Some individuals may be engaged in subsistence farming in backwoods or swampy areas; and in the Northeast Texas region, informants reported a significant transient population. In these areas, volunteers provide many of the public services (such as Emergency Medical Services and fire departments). Transportation may be difficult due to poor roads and a widely dispersed population (particularly in Northeast Texas).

The second rural group includes those in the Panhandle and Central regions, where residents tend to own ranches and farms or large plots of land dedicated to recreational pursuits. In these areas, distance from town is equated with being better informed,

perhaps wealthier, and more likely to have access to cable television, Internet and more advanced media technology.

Communication Channels, Messengers and Messages

Social Networks

The literature and interview data both suggest that the important role of the church in accessing this population cannot be overemphasized. In addition to religious services, churches provide a forum for social, educational and cultural connectedness for individuals who are otherwise relatively isolated. Churches reflect the ethnic and cultural diversity of the population and are often the most trustworthy resource for the elderly, migrant laborers, youth and people of all socioeconomic status.

Other Channels

In addition to reliance on and integration of churches in the development of emergency response plans, door-to-door outreach was estimated as the most effective means of communicating emergency information effectively. Key informant interviews echoed this recommendation, adding volunteer fire and sheriff's departments to the list of resource agencies. Door-to-door outreach to senior citizen centers, senior citizen apartments, board and care homes, and mobile home parks also is mentioned and is feasible through partnering with existing community agencies.

Several informants requested a "Reverse-911" telephone alert system to broadcast a recorded telephone message to groups of residents simultaneously, though it was unclear whether such a system would reach those who rely on cell phones rather than land-lines. Reverse-911 is an interactive community notification system that contacts citizens in a specific geographic area to communicate urgent information by sending a customized recorded message to all telephone numbers listed in its database. The system also can track which calls were received and redial the telephone numbers that did not receive the message.

To find out more information or confirm news heard in the media, rural residents likely will call their local health clinics, health agency, the sheriff's department or city hall. Most informants recommended that media messages include a telephone hotline that residents can call for more information. Pre-recorded messages allow callers to listen to specific information and repeat it as often as necessary.

Spokespeople

Church leaders often serve as respected spokespeople in rural communities and also work in their communities in other service capacities, such as with the volunteer fire department, with local legal authorities or as members of governing bodies.

Key informants and focus group members agreed that residents also would trust both state and local authorities during an emergency. In most cases, with one or two exceptions in eastern areas where overtones of racial segregation breed mistrust, the sheriff's department and the local health agency were mentioned as expected spokespersons. In all areas, residents are more likely to trust a local person they recognize rather than someone from a state agency. And in all cases, residents are likely

to lose trust in resource agencies if they witness any lack of coordination or delivery of false or misleading information.

Messaging
Key informants suggested the following guidelines for messaging materials distributed to the rural community:

- Keep messages simple and concise;
- Provide instructions in a checklist format;
- Use pictures and icons when appropriate; and
- Avoid excessive repetition.

While rural areas may seem homogenous, messages should be designed to address a very diverse audience. Different ethnic groups, educational levels, religious beliefs, income levels and other differences characterize rural populations. Messages should reflect these variances to the best extent possible, including translation of messages into different languages as needed and the use of a diverse group of role models (Jackson & Cook, 1999)[20].

Media Usage
Reflecting on media avenues, the literature suggests that farmers and people in remote areas are increasingly able to receive television and radio programming, as well as Internet access, as it is available in rural settings (Jackson & Cook, 1999)[20]. However, personal interviews suggested that network television may not be available, or programming may not reflect local rural community news, and thus may not be used for the purpose of receiving messages about health threats. In addition, high levels of poverty are likely to limit Internet access or access to paid television programming.

Informants suggested that television news would be more reliable for larger scale emergencies that also affect a rural area rather than emergencies that are specific to that community. In lieu of television, the majority of key informants recommended using local radio stations to distribute timely, local emergency information. They revealed that many residents listen to the radio throughout the day, whether farm or ranch workers, blue-collar employees or those who commute to larger cities.

Most rural areas have at least one local radio station and frequently have access to Spanish-language stations from nearby large markets. Interview data also suggested that newspapers, both local weekly and large market daily publications, were recommended as a channel for more detailed and less urgent instructions.

Barriers and Special Issues
Social Barriers
Literature and interview data reveal that rural populations may experience substantial geographic isolation, poverty and illiteracy, and lack basic communication, transportation or emergency response infrastructure. Despite these challenges, interviewees and focus group participants felt this population also is characterized by a strong sense of independence, self-determination and survival in the most difficult of circumstances.

Despite limited resources, communities pull together for support in times of crisis. As a result, members of the community may be less aware of available assistance programs; not accustomed to procedures for contacting resource agencies; not practiced in applying for assistance; intimidated by apparently complicated procedures for seeking assistance; or perceive themselves to be less in need of assistance than other communities.

Assistance may be negatively viewed as charity, threatening residents' pride and sense of independence, and therefore not accepted. Older adults may be reluctant to move from their homes if necessary, despite hazardous circumstances.

Racial Differences
Informants noted that rural ethnic minorities tend to live together in clustered communities. In the Panhandle and Central regions these groups primarily included Hispanics, while in the East Texas regions there were far more African Americans. Northeast Texas respondents reported very few Hispanics. The Deep East and Northeast Texas regions both reported some remaining elements of racial segregation that are reflected more in lack of respect and trust than in ability to receive information.

Sub-Populations within Texas Rural Population
Informants point to several special populations within rural communities that may be particularly difficult to reach. Among the elderly, those who live in town usually can rely on their neighbors or friends to inform or assist them in an emergency. Those in very small towns (i.e., with a population of 300) may have more limited community networks, especially in areas where many of the younger residents or relatives may have moved away. The most at-risk elderly live further from town or are homebound. Local organizations that serve the elderly, including Meals on Wheels, in-home health care specialists and church groups may provide the best access to these individuals.

Another challenging population is Hispanic families and individuals, including a significant number of documented as well as undocumented migrant workers, living and working on ranches and farmland. These isolated Hispanic residents may be harder to reach with emergency information and frequently are unknown prior to outreach efforts. In addition, they are less likely to have access to television or radio and may speak only Spanish. Bilingual outreach workers can play a vital role in communicating with these residents.

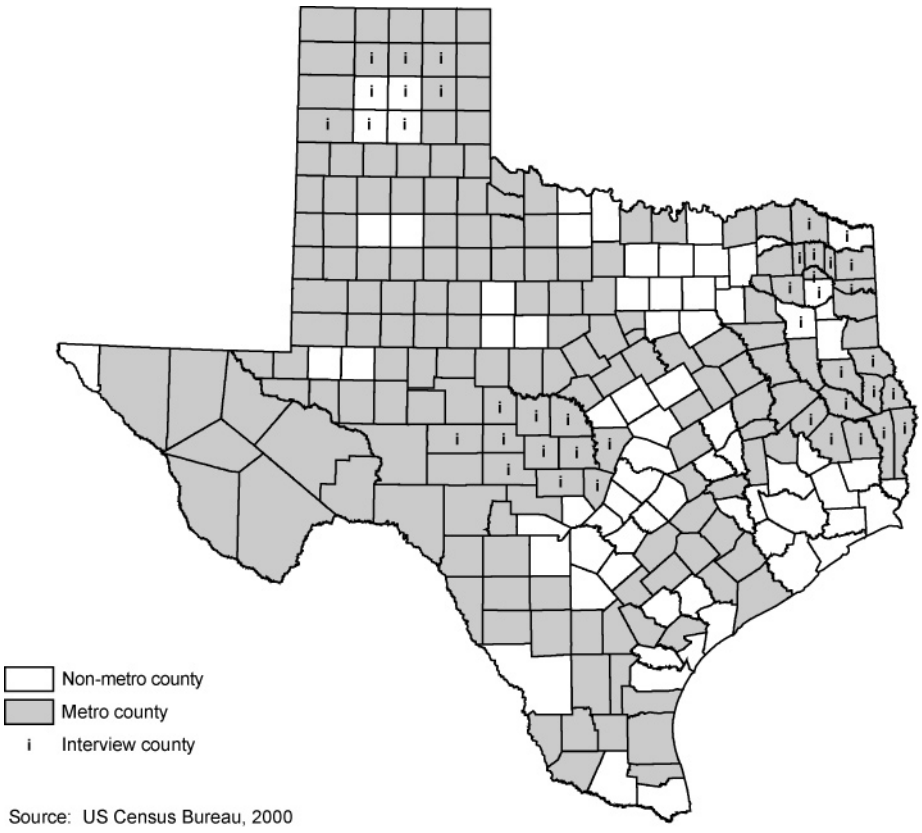
Some individuals, especially those in the Deep East and Northeast regions, may intentionally isolate themselves and as a result may remain largely unidentified by authorities and resource agencies. Others, including the poorest residents living in government housing in towns were reported to have a tendency to ignore and distrust the rest of the community. Low literacy also is a barrier for many of these groups.

Recreational travelers and hunters pose added challenges for communication in rural areas in the event of an emergency.

Key Findings for Rural Populations

- Rural residents may have heightened sensitivity to issues reflecting self-determination, not wanting to accept "charity" resources and also may not be accustomed to complicated application procedures that may be required by federal service agency programs.
- Special populations in need of consideration include isolated elderly, undocumented or migrant farm laborers, self-isolating individuals and recreational travelers.
- Churches provide important avenues to reach a diverse group of individuals living in small towns and rural areas.
- Outreach efforts also should take advantage of established networks and existing service agencies that have established relationships and provide a broad reach in these communities.
- Preferred messengers include known, local authorities such as fire and police departments or other service agency personnel. State and federal authorities acting independently of local authorities may be received with suspicion and/or resentment.
- Messaging should be kept simple, with pictures and icons representing necessary actions.
- Messages should be developed to address an ethnically diverse audience and should be accessible by low-literacy populations in English and Spanish for all areas.
- Radio is the preferred media channel for fast delivery of emergency information. Telephone notification banks and Reverse-911 also may provide a channel for swift and broad reach to this population. Television should not be relied upon. Weekly and daily newspapers may provide a venue for follow-up information.

Rural Population and Interview Areas:
Texas Department of Health Regions 1 (Lubbock), 4 (Tyler), 5 (Lufkin), 7 (Temple); 8 (San Antonio); and 9 (San Angelo)



ELDERLY POPULATION

Population Description

General Information

Older adults in the United States may be at greatest risk than any other population in the event of a bioterrorist disaster, since their support networks may be limited, they may have a pre-existing illness, and they are more likely to have limited mobility (Landesman, 2001)[21]. Among the elderly in the United States and in Texas are large groups who are relatively active in their communities and likely to be reached through mass media messages; however, those who are homebound or shut-in for a variety of physical ailments and illnesses are harder to reach. This smaller group was the target of our interviews as they are not able to be active in the community and therefore are more likely to miss important information during a bioterrorism event or outbreak.

Demographic

In Texas, approximately 10 percent of the population is over the age of 65. These individuals reside predominantly in the eastern half of the state, concentrated in suburban and rural areas and may experience some barriers to communication associated with their geographic location. In addition, their ethnic diversity may predispose others to the same barriers as described for certain ethnic groups in this paper.

The majority of interviews were completed in rural areas, based on demographic information provided by TDH. In these areas, the concentration of elderly who would be classified as hard-to-reach is significantly higher than in urban areas because their support networks may be limited or spread out geographically and they may be less likely to take advantage of senior services that are more common in urban areas.

Additionally, it was confirmed during key informant interviews that elderly living in urban areas most likely would receive messages as part of the general population. Accordingly, interviews were conducted with these key informants in the following regions:

- Denton County in the Dallas-Fort Worth metropolitan area;
- Bandera and Gillespie counties in the San Antonio metropolitan area;
- Cameron County in the Rio Grande Valley;
- Tom Green County (San Angelo);
- Bell County (Temple); and
- Camp, Gregg, Harrison, Henderson, Panola, Raines, Smith, Tyler, Upshur, Van Zandt and Wood counties (Tyler and Texarkana areas).

Communication Channels, Messengers and Messages

Support Networks

Cohen (2003)[14] found that most elderly individuals had televisions and recommended this medium as the best channel of communication for reaching this population with a broad message. However, in the absence of mass media, it was noted during the interviews with key informants that most elderly also had telephones, and a Reverse-911 system was recommended as a viable way to reach this population in an emergency situation.

While the hard-to-reach elderly population may receive information through mass media or a Reverse-911 system, message comprehension could be limited due to a range of possible disabilities; and an individual's ability to take necessary action also may be impaired due to limited mobility or a lack of transportation. Thus, individual outreach and support is highly recommended by key informants as a way to reinforce messages and offer assistance to those with specific needs. However, it should be noted that a door-to-door campaign should be planned and executed in a way that helps all citizens feel comfortable and reduces panic.

Many people, including the elderly population, may be skeptical about following instructions from a stranger. Therefore, existing service agencies and groups such as Meals on Wheels, local senior centers and the Area Agency on Aging may serve as important partners and liaisons for individual outreach where available. Respondents also suggested the local community centers as locations that would be appropriate for information distribution.

Spokespersons

Key informants suggested a well-established, trusted contact person can be the best messenger to relay vital information to elderly residents because he or she can reinforce recommended guidelines and ensure required emergency response information is understood and appropriate action is taken. These contacts could include caretakers, volunteers, senior center directors, in-home health nurses, companions, or community leaders.

Family members also can play an important role in message delivery and follow up. According to several key informant interviews, families can be especially powerful messengers in the Hispanic community where the elderly often live with family members.

Messaging

The elderly population in Texas is ethnically diverse, and message design should reflect cultural beliefs accordingly. In addition, barriers to communication with the elderly include the language barriers prevalent in other hard-to-reach populations. According to key informant interviews, the elderly in the Anglo and African-American communities are more likely than Hispanic elderly to be living alone, which means they also may be more likely to experience barriers to emergency communication and response.

Both the literature review and key informant interviews pointed out that the format for any messaging should be tailored to those in the elderly population who may have impairments. Key informants suggested the following guidelines for written materials distributed to the elderly community:

- Use simple language and directions;
- Repeat key information several times;
- Make the design colorful so that it is easily distinguishable;
- Use an uncluttered format with large fonts;
- Include pictures when necessary; and
- Incorporate several languages if needed in a specific area.

Barriers and Special Issues

Physical and Emotional Barriers

This population may experience any of the potential barriers discussed in other sections of this paper, compounded by existing disease or disability, limited mobility, as well as greater fear and frustration stemming from these combined challenges. In addition, previous trauma or disaster experiences may amplify fear and panic (Novick & Marr, 2001)[22].

Racial Differences

Key informant interviews found that Anglo and African-American elderly are more likely to live independently or in nursing homes and require more in-home care from caretakers or others who are not members of the immediate family. Conversely, elderly Hispanics tend to live within the family unit, sometimes until they are too ill to live without professional medical care.

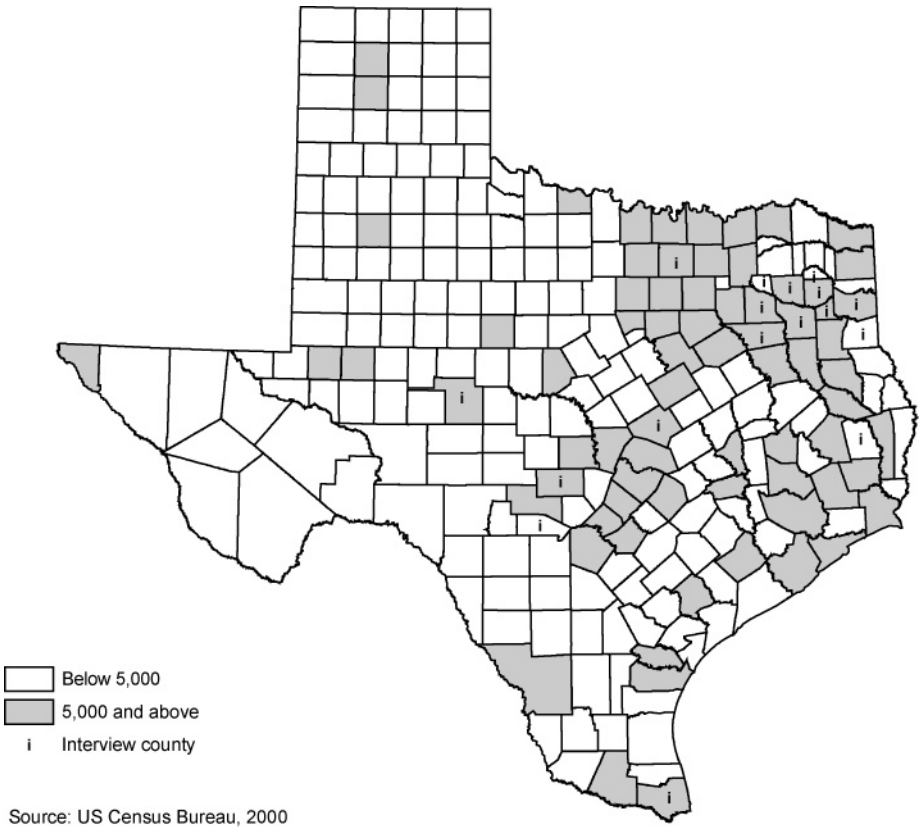
Other Sub-Populations

Retired individuals who are traveling ("Winter Texans") should be considered a special sub-population of this group as they may have limited access to information and are unlikely to be familiar with local emergency response plans.

Key Findings for Elderly Populations

- Plans to communicate with the elderly should be developed with the understanding that there may be issues of limited support networks; pre-existing illnesses; and limited mobility or transportation that may conflict with the recommended guidelines being announced.
- When messages are provided through regular media channels, in-person follow-up visits can help reinforce those messages and facilitate mobility if needed.
- Face-to-face messaging should be used when possible, and verbal messages should be clearly communicated and repeated if necessary.
- Ideal messengers will be well-established, trusted caretakers from any social, family or community networks.
- Service agencies, such as Meals on Wheels and senior centers, also can provide promising avenues for in-person outreach and information dissemination.

Elderly Population (65 years and above) and Interview Areas:
Bandera; Bell; Cameron; Camp; Denton; Gillespie; Gregg; Harrison; Henderson; Panola; Raines; Smith; Tom Green; Tyler; Upshur; Van Zandt; and Wood counties



MENTALLY ILL POPULATION

Population Description

General Information

The range of mental illnesses that may affect an individual and symptoms or barriers to communication that may be manifest as a result is beyond the scope of this paper. Mental illness may imply any number of barriers to communication and responsiveness in an emergency situation or may impose no barriers at all. This section will provide a broad overview of potential issues.

Demographics

According to the Texas Department of Mental Health and Mental Retardation, 19.6 percent of individuals in Texas fall under the legal definition of mentally ill. Of those with a mental illness, the breakdown of diagnoses is follows:

- Schizophrenia – 4%
- Major depression – 13%
- Bipolar disorder – 3%
- Anxiety – 8.1%
- Lifetime Dysthymia – 10.7%
- Other impairment – 35.6%

Because of the diversity of this population, as well as the diverse characteristics of the illnesses affecting its members, it is difficult to draw conclusions about the population as a whole. Still, representatives of this population were chosen from service agencies rather than by geographic location, and efforts were made to identify general barriers to and facilitators of communication, as well as to identify meaningful service agency linkages that would adequately cover the population statewide. Interviews were conducted with representatives from the following service agencies:

- Mental Health Association of Texas
- National Alliance for the Mentally Ill of Texas
- Texas Department of Health
- Texas Department of Mental Health and Mental Retardation

Communication Channels, Messengers and Messages

Social Networks

The literature review suggested that chronically mentally ill individuals living on their own "did not need any special communication" (Cohen, 2003)[14]. Regardless of the level of impairment, "[a]n individual's mental illness does not preclude mentally healthy responses and adaptive coping skills" (DHHS, 1996)[23]. However, key informants pointed out that in many instances, although the mentally ill population has the capacity to understand the information delivered, individuals may process the information more slowly or differently as compared to members of the general population. As a result, individuals with mental illness may need support or assistance in responding.

Key informants and focus group members suggested local mental health centers as a location that would be appropriate for information distribution.

Spokespersons

As with other populations, the literature recommends that messengers who are known to targeted individuals and reflect the local ethnic and cultural composition of a community will be most effective (DHHS, 1996)[23]. Key informants suggested that messages delivered by an individual with an established trust relationship would greatly help reduce the potential for panic and paranoia.

All respondents named the patient's primary caregiver as the most trusted source for providing information. They emphasized the caregiver's familiarity with the individual's unique set of needs as the most important factor in facilitating effective communication and response while minimizing panic. Several key informants felt that the level of trust pre-existing between the patient and the caregiver would lead to a higher level of trust and security for the mentally ill patient.

The U.S. Department of Health and Human Services suggests training that targets therapists, case managers, care coordinators, family support networks as well as a broad range of service agencies and the broader community to help "[p]rovide disaster counseling services to people with mental illness…[and distinguish] normal disaster responses in people with pre-existing illness [versus] exacerbations of their mental illness…in preparation for…impact, response [and] recovery" (DHHS, 1996)[23].

Messaging

Key informants pointed to a combination of written materials and verbal information as being the most effective communication method for providing high-risk information to the mentally ill population.

Key informant interviews suggested that any information provided to the mentally ill population have the following characteristics:

- Use simple language and directions;
- Repeat key information several times;
- Use pictures when necessary; and
- Include phone numbers.

Media Usage

Focus group individuals pointed out that the mentally ill population uses mass media in the same capacity as the general population, but it must be noted that they may not process the information on the same level. Depending on the extent or manifestation of their illness, some individuals may require interpretation of these messages or assistance in following instructions for emergency response.

Current Communication Systems

Informants revealed that the Texas Department of Mental Health and Mental Retardation (MHMR) is charged with contacting the (42) local mental health centers across Texas in the event of an emergency to provide warning information. In turn, the local centers contact the institutional centers as well as mentally ill individuals living in the community. MHMR representatives acknowledged a strong need for and interest in research to evaluate the system's effectiveness and assistance in structuring an accountability system for local and community feedback to the messaging center.

Barriers and Special Issues

Key informants and focus group members strongly agreed classifying the communication needs and barriers of the mentally ill population as a whole is difficult because the needs and barriers are unique to each individual.

Fear and Paranoia

One significant finding from interviews and the focus group, which was not prominent in the literature, is that this population may have a high level of distrust for authority, especially police. Interview and focus group respondents stated that individuals with paranoia may perceive police as a threat. Several of those interviewed felt that many individuals in the mentally ill community have had negative experiences with the police and may not be receptive to any information delivered by police. Respondents agreed that other authority figures such as firefighters and emergency personnel would be more trusted than police, but still trusted at a lower level than those who have a previously established trust relationship with the mentally ill individual.

Panic

Panic prevention also may be an issue with individuals who have illnesses that cause paranoia. Individuals with schizophrenia, for example, may have the most difficulty responding to disaster information. "Such individuals [with schizophrenia] may be found wandering in evacuation areas; many are receiving various psychotropic medications. The sudden withdrawal of these medications may result in the exacerbation of symptoms such as delusions or hallucinations (Lystad, 1988)[24].

Key Findings for Mentally Ill Populations

- Individuals with schizophrenia present the greatest challenge for information dissemination and response facilitation.
- Familiar caregivers are the most appropriate messengers for information delivery and to assist individuals with appropriate responses.
- Pre-emergency training of individuals and their caregivers in communication and response planning is expected to facilitate appropriate emergency response while minimizing panic.
- Police may be perceived as a threat to individuals with mental illness; emergency personnel may be less threatening, but are not ideal for communication of emergency information.
- Messages should be both written and verbal. Messages should be kept simple with uncomplicated instructions and pictures where appropriate.
- General media messages may reach the mentally ill, but message interpretation and response may be different for this group as compared with individuals without mental illness.
- Further research is needed to establish the effectiveness of the existing emergency response system at TDMHMR and to improve accountability and tracking of individuals to ensure assistance was delivered as needed.

SCHOOL OUTREACH

Population Description

General Information

The role of schools in disaster preparedness and response is twofold. First, public schools are designed to serve families in all communities, without discriminating along ethnic, socioeconomic or cultural lines. They offer a unique and localized hub for information dissemination to individuals who may otherwise be hard-to-reach. Second, children require special assistance in accessing, interpreting and responding to emergency information.

By going to school each weekday, members of this audience are in an environment where high-risk information can be communicated to them by trusted figures such as principals, teachers and administrators.

Demographics

In Texas, about one-fourth of the population, nearly 5 million youth, are public school-age (between 5 and 18). Approximately 4.5 million are enrolled in kindergarten through high school. Other youth may attend private schools or be home schooled by parents (U.S. Census Bureau, 2000)[1].

Communication Channels, Messengers and Messages

Spokespersons

School-based teams, including administrators, counselors, teachers, medical staff and community health professionals offer a promising avenue to facilitate swift and far-reaching emergency communication and response (Lattanzi-Licht & Doka, 2003)[25]. To aid crisis response among children, teachers are essential to the delivery of age-appropriate materials and also in facilitating mental health education and support in immediate crisis response as well as longer-term recovery (Novick & Marr, 2001)[22].

Key informants mentioned teachers and principals as the most trusted messengers for both student and parent audiences. Furthermore, they discussed the importance of early dissemination of accurate information to school spokespeople to dispel rumors and minimize fear and panic among this sensitive group. School systems and administrators are essential in supporting the efforts of teachers with crisis-response training, up-to-date information and print materials (Novick & Marr, 2001)[22], and as a link to community, state and federal resources. In addition, disseminating information through children is an effective way of reaching family members and the broader community (Lystad, 1988)[24].

Current Communication Channels

Key informants revealed that the Texas Education Agency (TEA) maintains a database of all public schools and accredited non-public schools (only a third of the state's private schools are accredited) and regularly communicates to them through mailings and Web site updates. TEA also coordinates the State Education Notification System (SENS), which is designed for mass communication of information, including disaster and emergency information, and includes a database with after-hours contact information for every superintendent in Texas.

If a high-risk situation develops, officials can quickly disseminate an emergency message to superintendents by phone, fax, e-mail and pager. In the eight times SENS has been used since its inception, it was successful in communicating information quickly and uniformly. Emergency communications content has included the Space Shuttle Columbia explosion and hurricane warnings. During these examples, administrators were directed to the TEA Web site and a phone number for information. The SENS system requires recipients to reply when they receive the information so TEA officials can gauge communication success rates.

Key informants stressed the importance of having a plan in place that goes beyond the SENS system. It was suggested that a plan should be established that includes messaging and materials to be used by the school superintendents after receiving a disaster-related message from SENS.

In addition to the SENS system, one informant described how TEA is tapped into the Texas Department of Public Safety's (DPS) Emergency Management Service. DPS's Division of Emergency Management coordinates with all state agencies to keep abreast of situations ranging from terrorist alerts to severe weather and can quickly send updates to all key officials and media outlets. Representatives from all state agencies carry phones that can work as closed-circuit walkie-talkies to stay in touch with DPS when other technologies fail.

Finally, representatives from all public school schools in Texas, including superintendents and school nurses, have been added to the Health Alert Network (HAN) so they can receive information from TDH in the event of a bioterrorist attack or outbreak. However, not all key informants were aware of this mechanism for relaying emergency information, which indicates a need for education and training about the network and its capabilities and uses. The HAN is a nationwide initiative led by the Centers for Disease Control and Prevention (CDC) that links local and state health departments through a secure high-speed network that enables rapid communication and dissemination of preparedness education and training.

Barriers and Special Issues

Time/Funding Barriers

While schools may offer ideal avenues for information dissemination because of their connectedness to federal and state information centers and their reach in the community, numerous factors can impede the development of school-based emergency response teams. For example, overburdened teachers who balance competing pressures of increasingly demanding standardized testing with large class sizes, discipline problems, and few resources may lack time or initiative to utilize the information distributed.

One informant alluded to challenges and barriers within the channels of communication between and among school administrators. The example given represented difficulty in getting information to individuals in leadership and authority positions, suggesting a top-down communication style may inhibit response capability and speed of response.

Administrative Barriers
Limitations to the SENS system include the number of superintendents under TEA's jurisdiction who have not provided their after-hours contact information for the system. For those reached by SENS, initial communication to superintendents is only the first step in relaying information to students and their parents. Each superintendent is responsible for having a system to communicate quickly to schools in his or her district. While TEA provides messages on its Web site and to the media, principals and teachers ultimately are responsible for deciding what information to provide students and how to deliver key facts.

Language Barriers
Key informants consider language to be the greatest communication barrier facing schools once information does make it through organizational hurdles to reach them. The more than 4 million Texas public school children speak 127 different languages other than English at home. Spanish is the most common, followed by Vietnamese and Urdu. TEA usually provides information only in English, so schools are responsible for ensuring students who are not English-dominant receive and understand the same facts.

Private Schools and Home Schools
Special consideration also must be given to the increasing number of children who attend private schools or who are home-schooled. More than 300,000 home-schooled children and attendees of more than 1,000 non-accredited schools are not covered by the SENS system. An interview with the Texas Private School Accreditation revealed there is no existing list of non-accredited Texas private schools, and the Council for American Private Education is still developing a list.

The Texas Home School Coalition's magazines, mailing lists and list servs only reach 65,000 families with home-schooled students. Furthermore, the home-school system in Texas is lacking a comprehensive database with contact information for those students who are not attending public or private schools.

Key Findings for School Outreach

- Children represent an important at-risk group, and schools provide promising avenues for information dissemination to children and the community in the event of a bioterrorist emergency.
- The School Emergency Notification System (SENS) has been developed for top-level information dissemination to all public schools. Further refinement of this system is needed to support continued information and resource dissemination beyond the upper-levels of administration.
- The Health Alert Network (HAN) is available to public school representatives, including superintendents and school nurses and should be utilized as a primary line of communication to the school community. However, proper education and training about the HAN must be provided to school officials responsible for receiving and disseminating emergency information.

- Emergency response teams should include all levels of school personnel as well as health authorities.
- School-level barriers such as time and competing priorities should be considered in the development of plans to create, train and prepare a crisis response team for the school community.
- Educational materials, training and support are needed to assist teachers and school staff in effective crisis response at the time of an emergency as well as in dealing with the aftermath.
- Additional research is needed to explore avenues for information dissemination and crisis response preparation among youth who are either home-schooled or who attend private schools.

OVERVIEW: RECOMMENDATIONS

In reviewing the key findings from each of the eight hard-to-reach populations considered, several themes emerge. These themes provide impetus for the development of strategic communications among these and other hard-to-reach groups across the state.

Developing Messages
Language barriers were an issue for all but one of the groups studied. Interviews revealed that translation of print and media materials, the provision of translators and interpreters, and the use of messengers capable of communicating in the native language are strongly recommended. The primary language translations needed seem to include Spanish, Chinese (written Mandarin and Cantonese), Vietnamese and Kickapoo.

The research also shows that one of the fundamental keys to an effective emergency response communication plan lies in recognition of vital cultural differences in health beliefs and practices and in acknowledgement of differing paradigms for the meaning of illness and how to achieve health and wellness. For example, individuals who hold different concepts of illness and how wellness is achieved may perceive a bio-terrorist event as a lesser threat than those who closely follow Western medicine. The integration of pre-emergency education and training is strongly recommended as a way to counter some of these beliefs.

Finally, media messages should be designed to be culturally competent, including ethnically-matched role models and messages that are rooted in cultural values such as family, community and cooperation.

Delivering Messages
Perhaps most significantly, all groups mentioned the importance of message delivery by persons or organizations that are familiar to the targeted individual or community. Disseminating information through existing networks should be prioritized over the development of new and unfamiliar networks, and agencies and individuals such as Meals on Wheels, local authorities, community leaders, community elders, primary caregivers, churches or religious leaders were frequently cited as possible sources for assistance. In addition, door-to-door and face-to-face communication by a known outreach worker or community member also can minimize panic and confusion, as well as provide an immediate facilitator for swift emergency response.

The receptiveness of hard-to-reach individuals to authority figures is mixed. As previously noted, the more familiar the authority figure, the more likely he/she is to be well received. Several mentions were made of the perceived threat of police officers, especially among mentally ill individuals, undocumented individuals, and urban African Americans. In the event that government authority is used as a channel for information dissemination, known local authorities should take priority and the use of uniformed police officers should be minimized.

The findings of this study suggest that media channels can be effective in communicating with hard-to-reach populations. However, non-traditional channels also should be considered.

Preparing for an Emergency
Finally, several groups recognized barriers to effective emergency response that can be remedied through pre-emergency education and training. African Americans mentioned a lack of perceived risk and education. The literature on mentally ill individuals strongly emphasized the importance of training the individuals and their support networks. Other groups mentioned the importance of having community members involved in emergency planning efforts that might include training. Indeed, it would seem logical that community-based training would be critical as a response to all of the above-mentioned issues.

If enacted, community-based trainings should be used to specify community spokespeople and emergency response facilitators; to develop accountability networks for hard-to-reach individuals, specifying linkages between them and local facilitators; to develop message prototypes that are culturally rooted; and to assure the availability of appropriate language translators. This kind of training offers a promising channel for the refinement and consolidation of sound channels for information dissemination and emergency response.

Recommended Research
The results of this research represent the beginnings of an understanding about how to communicate with hard-to-reach populations in the event of a bioterrorist attack or outbreak. Additional research with each of the populations in this study is recommended. However, based on the findings presented here, the priorities would include Native Americans, rural residents, the elderly and the mentally ill.

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APPENDIX A

TDH Special Populations Research
Effective Risk Communication Among Hard-to-Reach Populations in Texas

Key Informant Interview Protocol:

Introduction/Consent:

Hello. My name is _____ and I work for a company called EnviroMedia. _____ (TDH Regional Director) told me you might be a good person to help us with a research project we're conducting on behalf of the Texas Department of Health.

The study is called Effective Risk Communication Among Hard-to-Reach Populations in Texas, and its goal is to identify barriers to communicating with certain populations during a possible bioterrorism or disease outbreak event so that we might be better prepared to respond to such an event in the future. _____ (TDH Regional Director) thought you could provide some insight about the (special population) in (geographic area).

Your participation would be completely voluntary and would entail a telephone interview that would require about 45 minutes of your time. Do you think you'd be able to help us?

ALT for Cold Call:

Hello. My name is _____ and I work for a company called EnviroMedia. Because of your expertise in (geographic area) with the (special population) I'm hoping you might be able to help me with a research project we're conducting on behalf of the Texas Department of Health.

The study is called Effective Risk Communication Among Hard-to-Reach Populations in Texas, and we're trying to identify barriers to communicating with certain populations during a possible bioterrorism or disease outbreak event so that we might be better prepared to respond to such an event in the future.

Your participation would be completely voluntary and would entail a telephone interview that would require about 45 minutes of your time. Do you think you'd be able to help us?

YES: Okay, great. Is now a good time to talk with you? (If not, reschedule)
NO: Okay. Could you possibly recommend someone else who might be a good contact to represent your community/agency?

Overview:

As I mentioned, I'm working on a project with the Texas Department of Health that involves bioterrorism preparedness. We are looking for ways to improve the delivery of

information to "hard to reach" individuals around Texas during a bioterrorism event such as the spread of anthrax or a smallpox outbreak.

Hard to reach individuals include **people who may not have easy access to information through the television, radio or newspapers**, **or who may not understand or believe the information conveyed in this type of situation**.

If there are any questions you feel you cannot answer or that make you uncomfortable, simply ask that I move on to the next question.

Questionnaire:

[Objective 1: Have interviewee differentiate between general market and hard to reach populations, gather broad level culturally relevant info on the community, and help us *refine our definition of who is hard to reach* in the specified community.]

First, we would like you to help us better understand the community you serve, and who in that community may be hard to reach in the event of an emergency.

In general, how would you describe your community? (Probe: What distinguishes your community from other communities in your area or even across the state?)

How does (population) fit into the community as a whole? (Probe: Are they over- or under-represented? Are they a cohesive group? Are they an influential group?)

How do you interact with (population) in (area)?

Now we'd like to ask about specific individuals in your community that may be difficult to reach during a bioterrorism event such as an anthrax scare or smallpox outbreak. Who in your (population) community might be likely to miss important news about the emergency and how to respond? (Probe: Who else do you think might be considered hard to reach through regular television, radio or newspapers?)

Objective 2: Assess *barriers to communication* and *effective channels of communication* for the specific population.

In this part of the interview we'd like to know what makes it hard to relay information to this specific group of people in your community, and find out ways to get around those communication barriers.

Have you ever had to relay vital information in a very quick time frame to this audience before? Explain in detail.

What circumstances made it or might make it difficult to relay critical bioterrorism emergency information to these individuals? (Probe: Are there any specific circumstances that may lead to them not getting important news?)

Would you recommend using a unique communication channel to relay bioterrorism information to these hard to reach individuals? Examples.

What methods of communication would NOT work to try to reach them? (Why?)

If you needed to get in touch with these people who can't be reached easily through television, radio or newspapers, what would be the *fastest* way?

If you needed to give these hard to reach individuals some fairly complicated instructions about what to do to be safe, what would be the *most effective* way?

How should information be presented so it is understood and directions can be followed? Examples.

Who might be the best person to deliver this kind of information? (Probe: Is there anyone in the community who is usually the spokesperson for this kind of information?)

Who would be the least effective spokesperson for this specific population?

Who in your community might offer a source of comfort in the event there was a bioterrorist attack and these particular individuals needed extra guidance and support? (Probe: What kind of guidance and support would be most helpful?)

If they needed to find out more information, who are they likely to ask, or where might they be able to go for more information?

What are the most important things that can be done to minimize panic and fear with this population?

Closing:

Thank you very much for your time and insights.

Is there anything else you think we should know that would help us plan for communication with hard to reach individuals in your community?

Before I go, could you tell me what other agencies and organizations serve this same population? Probe (churches, city/town offices, schools, fire, police, health/medical).

Are there other stakeholders we should contact for this project?

[Solicit their aid to recruit people within target audience to interview in a focus group setting.]

If you have any questions or comments about this interview or research project I encourage you to call our contact at TDH: Emily Palmer (512-458-7400). Thank you again for your time.

APPENDIX B

TDH Special Population Assessment
Rationale for Messaging Research Target Markets

Following is the rationale for geographic market focus or interview methodology for each identified special population's key informant interview process.

AFRICAN AMERICAN

Dallas/Fort Worth Metroplex (Dallas, TDH Public Health Region 2/3)

- Urban center
- Urban and suburban
- East Texas immigrants
- Widely stratified income and age levels
- 20% African-American population
- Prevalent African-American media
- Large 18-34 population

Dallas has multiple African-American residential enclaves crossing all socioeconomic levels, active and visible leadership, long-standing and trusted community organizations that serve the African-American community and a large per capita African-American presence in public and private government and business sectors.

Texarkana (Bowie, TDH Public Health Region 4/5 North)

- Urban center
- Rural sprawl
- "East" Texas
- Unusually high African-American population per capita
- Geographically remote from major urban center
- 23% African American

Texarkana is a gateway to rural east Texas. It is culturally and geographically isolated from the closest major urban city (Dallas). This part of the state is more conservative and segregated than the larger urban areas, and rural mores will likely affect African-American attitudes. Churches, family and African-American civic organizations are central to communication here.

Beaumont/Port Arthur (Jefferson, TDH Public Health Region 6/5 South)

- Urban center
- Skews lower income and lower literacy
- Geographically remote from major urban city
- 33% African American
- Multigenerational African-American families

As home to one of the oldest African-American enclaves, this area has a relatively large African-American presence in media and politics. However, the area still is largely

segregated and includes some extremely conservative counties. The area is near a major urban city, but does not benefit from Houston's economic prosperity.

Houston (Harris, TDH Public Health Region 6/5 South)

- Urban center
- Urban and Suburban
- Widely stratified income and age levels
- 18.5% African-American population
- Prevalent African-American media
- Large 18-34 population

Like Dallas, Houston has African-American residential enclaves crossing all socioeconomic levels, active and visible leadership, long-standing and trusted community organizations that serve the African-American community and a large per capita African-American presence in public and private government and business sectors.

ASIAN AMERICAN

Houston (TDH Public Health Region 6/5 South)

- Urban center
- Approximately 40% of Texas Asian population
- Educational opportunities
- Large Vietnamese population – arrived after Vietnam War and participated in fishing and shrimp harvesting industries off of the Gulf of Mexico

Dallas-Fort Worth (TDH Public Health Region 2/3)

- Urban center
- Approximately 35% of Texas Asian population
- Educational opportunities
- High-tech industry – brought Asians to Collin and Denton counties
- Large Chinese populations – like climate, education and job opportunities
- Richardson Chinatown; many moving to Plano because they want new homes
- Some Japanese come on short-term Visas (3-5 years) for their companies
- Plano – Asians in public office

Austin (TDH Public Health Region 7)

- Urban center
- Approximately 10% of Texas Asian population
- Asian Chamber of Commerce located here
- Educational opportunities
- High-tech industry – brought many Asians to Travis county

Lubbock County (TDH Public Health Region 1)

- Rural
- Urban – Lubbock

- Agricultural center
- Three major airlines come into Lubbock

HISPANIC

McAllen (Rio Grande Valley, TDH Public Health Region 11)

- Urban center
- Rural/Colonias
- U.S./Mexico border area
- 70% - 80% Hispanic population
- Major agricultural center

Community health care, public safety, private sector, public schools, municipal governments and others in this area are well aware of the need to reach certain portions of their population and have well-established channels of dissemination and communication that would be a great asset to the program.

Laredo/Nuevo Laredo (TDH Public Health Regions 8 and 11)

- Urban center
- Rural/Colonias
- U.S./Mexico border area
- 70% - 80% Hispanic population
- Major commercial border crossing
- Isolated from other population centers in Texas
- Proximity to ranching areas and petrochemical wells

As in other border communities, there are well-established channels to reach special populations that extend beyond official organizations. Families, churches, neighbors and others may provide the key to communication in a crisis situation.

El Paso/Juarez (TDH Public Health Region 9/10)

- Urban center
- Rural/Colonias
- U.S./Mexico border area
- 70% - 80% Hispanic population
- Major commercial/private border crossing
- Isolated from other population centers in Texas
- Proximity to military base, large Mexican population center, and to neighboring New Mexico

El Paso provides a unique challenge because of its sprawling growth pattern, massive daily border crossings (both ways), the presence of a major military base with people from all parts of the world and the mixing of military and civilian populations, among other factors. The presence of a major medical center – Texas Tech Medical School – could be a great source of guidance in a crisis situation.

Dallas/Fort Worth Metroplex (TDH Public Health Region 2/3)

- Major urban center
- Hispanic residential enclaves
- Large Hispanic population
- Abundant Spanish-language media
- Well-organized Hispanic community networks
- Active Hispanic leadership in private and public sectors

Often operating below the mainstream radar, the Hispanic population in the Metroplex is large, active and well-organized. Identifying and tapping into this channel will be essential to developing a successful communications plan in the case of a crisis situation.

Houston – Galveston corridor (TDH Public Health Region 6/5 South)

- Major urban center
- Hispanic residential enclaves
- Large Hispanic population
- Abundant Spanish-language media
- Well-organized Hispanic community networks
- Active Hispanic leadership in private and public sectors

This area presents a different challenge from the Metroplex in that population centers are spread over a larger area extending to the Gulf Coast. Identifying and tapping into established channels will be essential to developing a successful communications plan in the case of a crisis situation.

San Angelo (Tom Green County, TDH Public Health Region 9/10)

- Urban area surrounded by mostly ranching and farming
- Significant Hispanic population
- Little available Spanish-language media
- Proximity to Midland/Odessa area
- Home to Angelo State University and major area medical center

The challenge in San Angelo will be to identify existing communication channels and determine if they extend wide enough to include members of all special populations that would need to be reached in a crisis situation.

NATIVE AMERICAN

In Texas, there are two areas where Native American populations are more heavily concentrated outside the major urban areas, and one that can be effectively reached through broad coverage of the El Paso area.

Alabama-Coushatta Tribe (northern Polk County, East Texas)

- Adjacent to the Big Thicket Wilderness preserve
- Northeast of Houston ~ 45 miles
- Tribal enrollment of 550 in a community of 1,000
- TDH Public Health Region 5

Governed by Tribal Council, the Alabama-Coushatta maintain their own facilities for emergency services and health care (Chief Kina Health Clinic), though the adjacent Tyler County Hospital also provides medical care. Research will explore close-knit nature of the community and the dissemination of information. The primary language is English, but the tribe continues to teach the Alabama and Coushatta languages as a link to their culture and history.

Kickapoo Tribe (southern Maverick County, Southwest Texas)

- Located along the Rio Grande at Eagle Pass, Texas and Piedras Negras, Mexico
- Typically a migrant base for harvesting in the Midwest and West
- Tribal enrollment of 450
- Isolated from other population centers in Texas
- TDH Public Health Region 8

The Kickapoo are served by health care and emergency facilities in the city of Eagle Pass, eight miles north of the reservation. The Kickapoo language is preserved by tribal members in Texas and Oklahoma (where larger numbers of their people reside).

Tigua Tribe (located 12 miles from El Paso)

- Urban center
- U.S./Mexico border area
- Major commercial/private border crossing
- Isolated from other population centers in Texas
- Proximity to military base, large Mexican population center, and to neighboring New Mexico
- TDH Public Health Region 10

The Tigua are a tribal offshoot of the Pueblos. Governed by Tribal Council, all of the tribe's decisions are ratified by tribal vote. This fact may indicate close contact with key influencers in the tribe and its community. Emergency services and health care are primarily provided by the city of El Paso (Thompson General Hospital), but the city and county provide local medical facilities at Ysleta Center and a clinic at Alameda. Outside of these tribal-centric areas in Texas, the majority of the Native American population resides in and around major metropolitan cities. The corridor from San Antonio to Dallas-Fort Worth has a heavier concentration of Native Americans than the rest of the state, including Houston. Research will seek to confirm that these groups are more assimilated among the general population and can be reached via traditional means in an emergency situation.

ELDERLY

Dallas/Fort Worth (TDH Public Health Region 2/3)

Large Metropolitan Area/Hispanic Cross Section

Cooke, Denton, Grayson, Hood and Kaufman counties

- Surrounds/close to second largest metro in Texas, including access to universities, medical centers, large media outlets, aging population services

- Hispanic residential enclaves
- Large Hispanic population
- Abundant Spanish-language media available
- Well-organized Hispanic community networks
- Active Hispanic leadership in private and public sectors
- Hood County has particularly high density of persons 65+

Rio Grande Valley/San Angelo (TDH Public Health Regions 9/10 and 11)
Hispanic Cross Section
Cameron and Tom Green counties

San Angelo:

- Urban area surrounded by mostly ranching and farming
- Significant Hispanic population
- Little Spanish-language media available
- Home to Angelo State University and major medical center for area
- Aging population services available

Rio Grande Valley:

- Urban centers surrounded by rural/colonias areas
- U.S./Mexico border area
- 70% - 80% Hispanic population

Bell County (TDH Public Health Region 7)
Retired Military/African-American Cross Section

- Large retired military community
- Significant African-American population
- Micropolitan clusters, near urban center (Austin)

Callahan and Eastland counties (TDH Public Health Region 2/3)
Rural Areas Cross Section

- Rural areas
- Access to limited aging population services

San Antonio (TDH Public Health Region 8)
Rural/Hispanic Cross Section
Bandera, Gillespie, Hays, Kerr and Medina counties

- Rural/Suburban areas near large metropolitan area (San Antonio)
- Limited access to aging population services
- Kerr County has particularly high density of persons 65+

Tyler/Texarkana (TDH Public Health Regions 4 and 5)
Deep East Texas/Rural
Anderson, Camp, Cass, Cherokee, Henderson, Houston, Jasper, Lamar, Polk, Red River, Sabine, Tyler, Upshur and Van Zandt counties

- All counties have high densities of persons 65+
- Rural areas with pockets of micropolitan clusters/towns

Tyler/Texarkana (TDH Public Health Regions 4 and 5)
Deep East Texas/Rural/African-American Cross Section
Bowie, Harrison, Smith and Wood counties

- All counties have high densities of persons 65+
- Rural areas with pockets of micropolitan clusters/towns
- Significant African-American population

RURAL

East Texas (TDH Public Health Region 4/5 North)

- Louisiana border area
- Potential segregation issues

Includes rural small town and agricultural settlements. Identify evidence of any existing differences in community networks and trust issues between White and African-American populations. Relatively distant from any large city (Houston) from which mass media information could be received.

Tyler/Longview (TDH Public Health Region 4/5 North)

- Louisiana border area (northwest corner of state)
- Potential segregation issues
- Proximity to large and mid-sized cities

Includes rural small town and agricultural settlements. Identify reliance on large and mid-size city media outlets (D/FW and Tyler/Longview).

Panhandle (TDH Public Health Region 1)

- Agricultural and range land
- Fewer small towns, greater separation
- Small town and frontier

Includes multiple counties surrounding the Lubbock and Amarillo areas. Research will explore existing communication networks and reliance on nearby large cities. Opportunity to explore differences between small community rural and frontier rural populations.

Central Texas (TDH Public Health Regions 2/3, 7, 9/10)

- Numerous rural counties in area of TDH region overlap
- Few small towns
- Some frontier

San Angelo is the largest nearby town. Opportunity to explore reliance on existing media and community networks.

MENTALLY ILL

Definition

According to the Mental Health Mental Retardation Center (MHMR), a mental illness is defined as a medical disease that may disrupt a person's thinking, feelings, moods and ability to relate to others.

The State of Texas has set forth guidelines determining the priority populations for MHMR services. MHMR defines the mentally ill priority population as those persons with schizophrenia, major depression, bipolar disorder or other mental disorders requiring crisis resolution, ongoing support and treatment and a score of 50 or less on the Global Assessment of Functioning Scale.

Demographics

According to priority population data, MHMR assumes that in any given county or specified area a flat rate of the percentage of the total adult population can be classified as mentally ill. The rate set forth by the Texas MHMR is 19.6 percent.

Working under that assumption, each priority population (schizophrenia, major depression, bipolar disorder and other) is assumed to be a flat rate percentage of the total number of mentally ill per county or specified area.

Harris County has the highest number of mentally ill in Texas. Its estimated adult population is 2,549,680. The estimated mentally ill population (19.6 percent) for Harris County is 500,743 people.

Borden County has the lowest number of mentally ill. Its estimated adult population of 585 would include an estimated 115 mentally ill residents.

When estimating the total number of mentally ill residents, MHMR breaks down the population further into schizophrenia, major depression, bipolar disorder, anxiety, lifetime dysthymia, phobia and other impairment. Each breakdown represents a flat percentage based on research statistics from MHMR. For instance, the percentage of the schizophrenics in proportion to the total number of mentally ill in any given area is assumed to be 13.7 percent

Recommendation for Key Informant Interviews

EnviroMedia will contact MHMR to determine what mental illnesses will need specialized high-risk communication during times of emergency. To determine the special needs of urban populations versus rural populations, EnviroMedia will contact TDH regional directors and representatives of MHMR. This action will help determine any underlying differences in communication needs of the mentally ill population.

SCHOOL OUTREACH

EnviroMedia recommends dividing school-aged Texans (ages 5-18) into three groups for research purposes.

- Public school students
- Non-public or private school students
- Home-schooled students

Public School Students

The state's public schools are served by the Texas Education Agency (TEA) and its twenty Educational Service Centers (ESCs). EnviroMedia will contact TEA's central office to discuss the agency's chain of communication with schools and obtain a recommendation for ESCs to contact.

Factors that may define hard-to-reach populations:

- Considerations for urban versus rural schools
- Language barriers for Spanish-dominant students
- Outreach to special needs students

Private School Students

More than 2,000 of the approximately 9,000 schools in Texas are non-public or private. The overriding characteristic of these schools is their diversity – they range widely in size, geography, religious affiliation and focus. There are many organizations for private schools in Texas, including the Texas Association of Non-Public Schools. EnviroMedia will ask TEA to recommend the most credible representatives for this group.

Factors that may define hard-to-reach populations:

- Considerations for urban versus rural schools
- Language barriers for Spanish-dominant students
- Outreach to special needs students

Home-Schooled Students

Nearly 300,000 Texas children are home-schooled, representing more than 100,000 families. The lack of centralized institutions for this group make it a hard-to-reach population. The Texas Home School Coalition (THSC) is the state's largest organization for home-schooling, and its mailing list reaches 65,000 families. EnviroMedia will interview THSC about its structure and communication with parents. We will also ask TEA what, if any, collaboration public schools have with home-schooled students.

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