2011

Including people with disabilities in disaster preparedness: a Delphi study

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INCLUDING PEOPLE WITH DISABILITIES IN DISASTER PREPAREDNESS: A DELPHI STUDY

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Educational Technology

by

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October, 2011

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This dissertation, written by

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DEDICATION

I dedicate this dissertation to my mom and dad, Rosie and Joe Castañeda, who have supported and loved me throughout my life, and to the memory of my grandparents, who instilled in me the importance of hard work and learning, Manual "Tata" Castro and Rosa "Ta" Lima Castro and José "Pop" Fernandez Castañeda and Hermilinda "Mom" Castañeda. I will always love and remember you!

ACKNOWLEDGEMENTS

This research project has involved diligence, perseverance, and as we say in Spanish, “muchas ganas.” First of all, I would like to thank my dissertation chair, Dr. Linda Polin. At every point of this scholarly pursuit, she has allowed me to struggle, but not to struggle alone. What I have learned from her will remain with me for the rest of my life, and for that I am grateful. Thanks to my committee members Jack McManus and Paul Sparks, I have learned that pursuing a doctoral degree is a team endeavor; their input, guidance, and support has not only made my dissertation stronger, but has made me a stronger person. The process taught me not only what to think, but how to think. I have learned that climbing the mountain can be just as exhilarating as reaching the top.

I am grateful to my mentor and friend, Lynne McKelvey, who taught me about the importance of coherent writing. Because of her, I have a new and growing respect for the power of language. I am also thankful to all the members of the emergency-preparedness community with whom I have collaborated with preparing our community for an emergency or disaster. I have never met a more caring group of professionals, each of them dedicated to helping others and saving lives.

Finally, I would like to thank my family – Mom and Dad, my brother Vince, my cousins Joseph Michael Torres, Dave and Linda Perez, Richard Murillo, Frances Biggins, Narciso Jimenez, Derek Garcia, and my many friends who kept me strong. In particular I would like to thank, Beckie Pleasont, Abe Abrams, Mary Nunez, Sidney Jackson, Trinidad Cuellar, Ozzy DeLuna, Rodney Hampton, and Reginal “Cuñado” Robinson. I have thought of you and of many others throughout this pursuit.

In the course of writing this dissertation, my spiritual faith has become stronger,

allowing me to follow God's path in peace; for that I am thankful. To everyone who reads this dissertation and is considering graduate school, I have this to say: believe in yourself; and always keep your head to the sky.

VITA

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ABSTRACT

Recent disasters demonstrate that the needs of people with disabilities are not being met when disaster strikes. At the root of the problem is a widespread failure to include people with disabilities in preparing for emergencies before they occur.

This study used a 2-round Delphi methodology with a panel of experts, consisting of people with disabilities and key players in emergency planning and response. The study instrument consisted of questionnaires containing items presented in Likert, yes-no, and open-ended formats. The goal of the study was to reach consensus on a way for people with disabilities and emergency planners to address the planning, training, and sustaining phases of emergency-preparedness programs.

Panelists reached consensus on the following recommendations: (a) people with disabilities and emergency planners should collaborate in every phase of emergency preparedness; (b) people with disabilities, their advocates, government agencies, and nonprofits should work together throughout the emergency-preparedness process; (c) a number of specific components should be included in an emergency-preparedness training program. Using responses provided by a panel of experts, this study revealed areas of agreement and disagreement for issues pertaining to emergency response and people with disabilities.

Chapter One: Disaster Preparedness

> *We must build a world free of unnecessary barriers, stereotypes, and discrimination…policies must be developed, attitudes must be shaped, and buildings and organizations must be designed to ensure that everyone has a chance to get the education they need and live independently as full citizens in their communities.*
>
> *—Barack Obama, April 11, 2008 (Obama, 2008, para. 1)*

> The U.S. Census Bureau (as cited in Waldrop & Stern, 2003) defines disability as: A long-lasting sensory, physical, mental, or emotional condition or conditions that make it difficult for a person to do functional or participatory activities such as seeing, hearing, walking, climbing stairs, learning, remembering, concentrating, dressing, bathing, going outside the home, or working at a job. (p. 2)

According to this definition, the U.S. Census Bureau determined that 19.3% of the 257.2 million American people older than the age of 5 fit the definition of having a disability related either to transportation, employment, or self-care (Waldrop & Stern, 2003). Moreover, since Americans are living longer, the elderly have become the fastest growing segment not only of people with disabilities, but of the U.S. population (Fernandez, Byard, Lin, Benson, & Barbera, 2002). Demographers project that the country's older-than-65 population will rise from its 2006 level of 12% to a 2050 level of 21% of the general population and that the older-than-85 population will rise from a 1980 level of 1% to more than 5% of the general population by 2050 (U.S. Census, 2007).

The Problem

Individuals with disabilities exist throughout the country. Although most of them

are productive citizens, integrated into and actively involved in our society, in the event of large-scale manmade or natural disasters—or even smaller events—researchers agree that most individuals in this population will likely need help (Kailes & Enders, 2007). However, after reviewing evacuation research, Christenson, Blair, and Holt (2007) concluded, "Very little attention has been given to the behavior of individuals with disabilities in emergency situations" (p. 253). Three recent disasters illustrate the gap existing between the needs of the 54 million Americans with disabilities and the help they are likely to receive.

New York World Trade Center: September 11, 2001. For the emergency responders in New York City, dealing with the fiery aftermath of the World Trade Center exceeded any emergency exercises they had ever experienced. For people with disabilities, the events of September 11, 2001, were significantly different and more challenging than for the person without disabilities (National Organization on Disability [NOD], 2009). However, despite the many tragedies of that memorable event, on September 11, 2001, some lives were saved, thanks to procedures enacted as the result of an earlier disaster at the same site, the 1993 bombing of the World Trade Center NOD (2009) states:

> After the 1993 World Trade Center bombing at the suggestion of the local emergency management office, the Associated Blind (a local service provider for low- and no-vision clients) worked with the New York City Fire Department to develop a building evacuation plan and drill for their staff, most of whom have limited or no vision. The Associated Blind wanted a plan for their staff members covering the range of problems that could occur during a disaster. On September

> 11, their efforts paid off. The entire staff calmly and safely evacuated their building's 9th floor, a success they attribute directly to the customized advance planning and drills. Also on September 11, a wheelchair user who worked on the 68th floor of the World Trade Center was safely carried from the building, thanks to a specialized evacuation chair purchased after the 1993 bombing. And a Port Authority of New York and New Jersey employee escaped from the 70th floor because his prosthetic leg allowed him to keep pace with non-disabled workers on the emergency stairs, which he says is because of experience gained in the building's frequent fire drills since 1993. (p. 7)

In this instance, it became apparent that when an emergency plan is enacted and emergency drills are held, people with disabilities can survive a disaster.

California wildfires: October, 2003. In October 2003, a horrendous wildfire occurred in Southern California. The fires, which totaled 19 throughout the state, burned more than 730,000 acres, destroyed more than 36,000 homes, injured more than 200 people, and killed 22. The fires were fueled by severe 77 mile-per-hour Santa Ana windstorms that drove the flames far ahead of the main fires faster than any response team could extinguish the burning embers. As a standard precautionary measure, electrical power lines that sparked some of the blazes were shut down to avoid additional fires, resulting in a loss of electricity in rural areas throughout the southern part of the state. However, this standard precaution had a negative effect as far as the notification and evacuation processes were concerned (California State Independent Living Council [CSILC], 2004).

People with disabilities were especially vulnerable to the fires because many of

those individuals were unable see approaching danger or hear the announcements explaining how they might escape the peril. Reviewing the effects of this disaster 6 months later, the California State Independent Living Council prepared a report recommending that the issues of preparation, notification, evacuation, sheltering and interim services, and recovery for people with disabilities be addressed immediately (CSILC, 2004). Although these recommendations were sound, just how the information could be distributed was never explained.

Gulf Coast Hurricane Katrina: August-September, 2005. In late August 2005, tens of thousands of residents were forced to flee when Hurricane Katrina struck the Gulf Coast. Images on TV sets all over the world made clear which people had been left behind: the elderly, the sick, the deaf, the visually impaired or legally blind, and anyone else with impaired mobility. Survivors describe an elderly man strapped into his wheelchair and abandoned beside a flooded highway, a quadriplegic woman who drowned in her own kitchen, and hospital patients on respirators unable to leave (NOD, 2009). Citing the case of a quadriplegic New Orleans woman seeking refuge in the Superdome, Marcie Roth, executive director of the National Spinal Cord Injury Association, testified before Congress in November 2005, that despite her own and the quadriplegic woman's repeated phone calls to 911 emergency dispatchers, help never arrived. Days after the hurricane, the woman was found dead in her apartment, floating next to her wheelchair (Roth, 2005). Roth told lawmakers, "People with disabilities are not in good hands" (p. 6). That people with disabilities constituted 23.2% of New Orleans' population—a total about one sixth above the national average (NOD, 2005) Special Needs Assessment of Katrina Evacuees [SNAKE],—compounded the effects of

the hurricane on those with disabilities. In particular, Fessler (2006) points to failures of "communication, mass transportation, and sheltering" (radio broadcast). Fox, White, Rooney, and Rowland (2007) found in their study that "little was originally mentioned about the thousands of persons with disabilities who faced further challenges in their ability to get out of harm's way" (p. 202). Echoing this conclusion, the SNAKE (NOD, 2005) report noted, "The catastrophic scope and impact on seniors, people with disabilities, and individuals in the Gulf States who were medically dependent amplified the problems and made them all the more evident" (p. 2). The report added that our nation, "can do more to improve the outcomes for people with disabilities and the aging population the next time disaster strikes—and there will be a next time" (p. 16).

Events such as 9/11, the California wildfires, and Hurricane Katrina dramatize what has long been recognized: Traditional response and recovery systems often fail to meet the needs of people with disabilities (Kailes & Enders, 2007). To address these needs, Kailes and Enders point to five areas of concern: (a) communication, (b) transportation, (c) medical requirements, (d) functional independence, and (e) supervisory needs. Careful forethought in each of these areas is essential before disaster strikes.

Regarding communication, a large and diverse population of people exists that cannot hear, see, or fully understand many forms of communication that most of the population take for granted. People in these categories may not be able to receive critical emergency information delivered visually, orally, in a language they understand, or using a vocabulary that they are able to process (Kailes & Enders, 2007).

Besides being able to communicate with others, people faced with an emergency situation usually require transportation. Many people face barriers to their mobility

because of age, addictions, legal restrictions, or poverty as well as those with physical disabilities (Kailes & Enders, 2007). Buses and vans, for example, must be outfitted with motorized lifts to accommodate people in wheelchairs.

In addition to groups with conditions that prevent them from receiving critical information, many people face medical challenges that emergency planners need to take into account. For example, people with unstable, chronic, and contagious health problems may require special management of their medications, intravenous therapy, tube feeding, dialysis, oxygen, wound care, catheters, ostomies, power-dependent life-sustaining equipment, and the like (Kailes & Enders, 2007).

People with functional-independence needs include those who need assistance with the physical activities of daily living, including bathing, feeding, going to the toilet, dressing, and grooming. In the case of individuals who have been separated from their care providers—whether professionals or family or friends—appropriate replacement care providers must be available. In addition to supplying care providers, emergency planners must make sure that particular medications such as those required to control blood pressure, seizures, diabetes, and psychiatric conditions will be available in adequate amounts throughout the emergency (Kailes & Enders, 2007). Finally, adaptive equipment such as wheelchairs, walkers, scooters, canes, crutches, and other essential medical supplies, which may have become lost or damaged, need to be provided in the aftermath of a disaster.

In addition to providing support for people with physical challenges, emergency workers must also be able to provide appropriate supervision for those with mental or psychiatric conditions—dementia, intellectual disability, Alzheimer's, depression,

schizophrenia, intense anxiety, and the like. Many people who function adequately under normal circumstances will decompensate as a result of transfer trauma or may become disoriented in an unfamiliar environment (Kailes & Enders, 2007).

Purpose of Study

As recent disasters demonstrate, the needs of people with disabilities when disaster strikes are not being met. At the root of many previous failures is poor communication among key players in emergency planning and response. Through better information distribution, lives can be saved and outcomes improved. This research project presents a means by which crucial information can be shared and knowledge increased among key players in emergency response.

Contributing to the challenge of information sharing in emergency planning for people with disabilities is a widespread failure to include people with disabilities in the planning process. According to McCambell's (2003) Best Practices Model, presented to the New Mexico Department of Health, "People with disabilities, individuals with chronic mental illness, and seniors need to be included in an ongoing and meaningful manner in disaster-preparedness planning, and not just in the development of initial plans" (p. 5). Rooney and White (2007) concur, claiming that the best way to achieve success in evacuating people with disabilities is to involve community members with disabilities in emergency planning and preparation. NOD (2009) also agrees. Involving people with all major types of disabilities, including sensory, physical, mental, and cognitive, will help planners obtain a complete picture of what may occur during and after a disaster and how to mitigate the consequences of such an event for people with disabilities. It will save lives. Davis and Mincin (2005) and Gibson and Hayunga (2006)

express similar views. In keeping with the conclusions of these and other experts in the field, the researcher has incorporated people with disabilities and their advocates in the panel of experts that is at the core of this study. It is the researcher's goal that the results of the study demonstrate how people with and without disabilities can share ideas and reach consensus on emergency preparation for their communities and that the research results will provide a way for similar exchanges to take place elsewhere.

Research Questions

This study addresses the following two research questions:

1. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?
2. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Researcher's Background

For the past 6 years, the researcher has been pursuing a doctorate in Educational Technology at Pepperdine University. His academic work has included courses in learning theory, leadership, organizational change, policy development, ethics and society, research and evaluation, and data analysis. Prior to enrolling in Pepperdine's doctoral program, he received a master's degree in Public Health from San Diego State University.

In addition to his academic coursework, the article "Developing an Online

Learning Community: Four Essential Guidelines" was published in *Learning Technology Newsletter*, in January 2004. In 2006, he attended the conference in Washington, DC titled "The Future of Disability Statistics: What We Know and Need to Know," sponsored by Cornell University's School of Industrial and Labor Relations.

Since 2007, he has been teaching a series of 20-hour Community Emergency Response Team (CERT) training courses to citizen volunteers throughout the county in which he resides. He has also been holding informal meetings with state and local leaders, all of whom are key players in emergency preparedness. Most recently, in October 2008, the local fire captain, two professors from the Naval Postgraduate School of Business and Public Policy, and he participated in a discussion group, addressing the problem of large-scale evacuation of the California city where he lives. Currently, as a volunteer for the local fire department, the Monterey Bay Aquarium, CTB McGraw Hill (employing 500 people), as a member of the executive board of the Central Coast Center for Independent Living, and as a guest on "Your Town," a weekly program on the local Public Access television, he has recommended integrating emergency planning for and with people with disabilities into the CERT program, a well-established, highly effective, nationwide emergency response training program, which, has been directed almost exclusively by people without disabilities.

He is currently employed writing narrative summaries for the Research and Evaluation Division of the U.S. Army's Defense Language Institute and Foreign Language Center in Monterey, California. In conjunction with my team, he analyzes students' narrative and quantitative responses to the center's class and teacher evaluation questionnaires. Previously, he has worked as a disability support-services coordinator at

Mesa Community College in San Diego, California.

In addition to his formal training and work experience, his life experience has given him unique insight into the problems addressed in this study. For 21 years, he lived as a physically active, able-bodied person. Then his personal disaster struck: During the final run of the day, while skiing down a steep slope in the California Sierra Nevada Mountains, he skidded off a snowy patch of ice and crashed into a tree, dislocating and fracturing the thoracic vertebrae that protects his spinal cord. As a result of the severe damage to his spinal cord, a surgeon told him he would probably never walk again. Although he remains hopeful that stem cell research would produce a cure, the surgeon was right. For the past 25 years, he has worked, studied, and experienced every aspect of life from an aluminum or titanium wheelchair.

In the course of these years, he witnessed huge changes in the way society views people with disabilities. In the early years following the accident, although he was able to drive, finding a parking space wide enough to allow him to assemble his wheelchair was a challenge. Even if he did find a large enough space, once he transferred to a wheelchair, he was completely dependent on an able-bodied companion or a Good Samaritan to lift the wheelchair up over the curb and onto the sidewalk. Then, unless his destination—an office building, theater, or restaurant, for example—was at street level, he could not enter. Once inside a movie theater or a sports stadium, he would have to hoist himself from his wheelchair to an aisle seat. He found himself dependent on an able-bodied person, this time to move the wheelchair out of the way for the duration of the performance or the game. Moreover, in any kind of building, using a restroom was often out of the question.

Fortunately, 4 years after the accident, Congress passed the Americans with Disability Act. Within a decade, the possibilities for him and others like him to live fuller, more active lives began opening up. Gradually wider and leveler spaces began to appear in parking lots; ramps to curbs and to main entrances of buildings began to be constructed; theaters and stadiums began either to remove some seats, reserving the freed space for people in wheelchairs, or designating particular aisle seats onto which people in wheelchairs can transfer. Finally, accessible bathrooms for people in wheelchairs became available in virtually every public building in the country. These and the numerous other modifications mandated by the Americans with Disabilities Act have transformed his life and the lives of millions like him.

Researcher's Role

The researcher's role was to assemble a panel of experts, including people with disabilities and their advocates from as broad and diverse a spectrum as possible. Although most of the panel was drawn from a small community on the central coast, some participants were located in other parts of the state. After an initial pilot study, the researcher began the data collection process by administering a Delphi questionnaire based on the two research questions to the panel of experts. After summarizing the participants' initial responses, the researcher presented another round of questions. This process continued until consensus was achieved or the panel was at an impasse. Finally, the data was analyzed, results discussed, and conclusions from the study were drawn.

Participants' Profiles

Representatives from the following groups were invited to join the panel of experts: Building and safety officials, independent living center directors, mental health

coordinators, the citizen corps of the researcher's California county, special education teachers, disabled student-services coordinators, California State Office of Emergency Services agents, NOD spokespersons, spinal cord injury networks, and ordinary citizens with disabilities.

The Study's Location

Although some panel experts reside outside the immediate area in which the study occurred, most live in an area different physically but analogous demographically to many communities in California and throughout the nation. As with most inhabited parts of the United States, the researcher's city and this county have been hit hard by the recession and is faced with dwindling resources and aging infrastructure. As is elsewhere throughout the country, this locale also has a substantial and growing number of people with disabilities.

Occupying 2,000 square miles, including the peninsula enclosing the southern part of its famous bay, Monterey is located along California's central coast, about 14 miles west of Salinas, the state's rich agricultural center, and 115 miles south of San Francisco (Military, 2008). The county's population is about 415,000, approximately 29,000 of whom live in the City of Monterey (U.S. Census Bureau, 2011). Because of its mild climate, rolling hills, old adobe houses, boutiques, galleries, wine-tasting rooms, Fisherman's Wharf, vibrant harbor, and acclaimed Aquarium, visitors flock to Monterey all year round. Within the city limits, the Army's Defense Language Institute and Foreign Language Center and the Naval Post Graduate School, where members of all branches of the military come to study, provide the city with a strong military presence (Military, 2008).

Demographically, the city and county reveal marked differences: More than 80% of the city's residents are white, nearly 11% Latino, 7% Asian, and 2.5% African American (ePodunk, 2008). In contrast, the county's population is only 55.6% white, 55.4% are Latino, 6.1% Asian, and 3.1% African American (U.S. Census Bureau, 2011). However, economic differences between city and county are less pronounced. The city's median household income was $49,109, while that of the county was $48,305. Both of these figures are slightly higher than the state's median household income the same year—$47,493—and substantially higher than the $41,994 median household income for the country (ePodunk, 2008). Although no separate data for the city were available, of the county's 353,434 population older than 5 years old, 69,898 or 19.8% were people with disabilities. By way of comparison, this figure is only slightly higher than the 19.3% of people with disabilities in the country (Waldrop & Stern, 2003).

Summary

Chapter One established the gap existing between the needs of the 54 million Americans with disabilities and the help they are likely to receive when disaster strikes their communities. Much of this discrepancy was traced to inadequate information distribution among key players and the failure to include people with disabilities in all phases of emergency planning. Next, a means for sharing crucial information and including people with disabilities in the emergency preparation and response process was proposed. The Delphi method was then introduced. Subsequently, the research questions were stated followed by the author's background and role and the participants' profiles. Finally, the participants' general backgrounds and the community where the research took place were described.

Chapter Two provides a review of literature pertaining to emergency planning and people with disabilities. Chapter Three describes the methodology, Chapter Four presents an analysis of the results, and Chapter Five sets forth conclusions that may be drawn from the study.

Chapter Two: Literature Review

Chapter Two reviews literature relevant to emergency response and disasters, with particular emphasis on emergency planning and people with disabilities. The chapter begins with an overview of disaster response and the general, nondisabled population. Next, it discusses the eventual inclusion of people with disabilities in emergency planning and response. Subsequently, the community of practice is considered as one model that has been successful in achieving knowledge sharing and problem solving across different agencies and among individuals. Finally, several leadership styles that seem particularly appropriate for knowledge sharing among individuals and agencies committed to a common goal and working together voluntarily is considered.

Disasters and the General Population

The development of emergency-response training for regular citizens, as opposed to emergency professionals such as firefighters, police officers, doctors, and the like, is a relatively recent occurrence in the United States. Historically, in fact, ordinary people have often assisted heroically in the aftermath of a disaster without prior training, helping professionals rescue their fellow citizens (Stallings & Quarantelli, 1985). Indeed, those responsible for public safety have frequently relied on untrained citizens to assist when an emergency arises, particularly during the critical 72 hours immediately following the catastrophic event when the professionals are most likely to be overwhelmed by their communities' needs (Community Emergency Response Team [CERT], 2003).

Contrary to common belief, these volunteers tend not to panic in disastrous situations. Rather, they often prove to be the most effective emergency responders (Helsloot & Ruitenberg, 2004). A case in point occurred in the aftermath of the San

Diego fire, which erupted September 25, 1970. Triggered by drought, arson, and fierce Santa Ana winds, this was one of the worst fires in Southern California's history. Throughout the next 2 days, the fire moved west and south, burning 185,000 acres, destroying about 250 homes, and forcing 50,000 to 60,000 people to evacuate to the outskirts of San Diego (Stallings & Quarantelli, 1985).

Overwhelmed by the numbers of evacuees and by the necessity to mobilize and coordinate resources from local, state, and federal agencies and having neither the time nor personnel to handle evacuee registration adequately, civil defense turned to the local community for assistance. Volunteers responded by developing an organized effort to handle evacuee registration and support activities for firefighters. With their own independent leadership, these voluntary responders were not an extension of civil defense operations, but rather, an autonomous operating group (Stallings & Quarantelli, 1985).

Nevertheless, in recent years, there has been a growing recognition that formal training would greatly enhance the usefulness of citizen volunteers. From this awareness, training programs such as CERT have emerged and the Citizen Corps, which helps to structure and coordinate these programs, has been established.

CERT. In the United States, seeds for the idea of using American community volunteers to supplement emergency service personnel in times of disaster were sown in February, 1985, when a group of Los Angeles Fire Department and city officials went to Japan to study that country's earthquake-preparedness program. While in Tokyo, the group observed drills by multiple neighborhood teams trained in fire suppression, first aid, evacuation, and light search and rescue to prepare them for alleviating the potentially devastating effects that follow a major earthquake (CERT, 2006).

The City of Los Angeles sent a group of observers to Mexico City 7 months later to report on the magnitude 8.1 earthquake that had just occurred, killing more than 10,000 people and injuring 30,000 more. Unlike Tokyo, Mexico City had no emergency-preparedness training program for its citizens. Nevertheless, ad hoc groups of untrained volunteers who organized themselves spontaneously were able to save more than 800 lives. However, the cost was high: More than 100 of these brave citizens died during their 15-day rescue operation (CERT, 2006).

Based on the delegation's observations, it was decided that a training course for citizen volunteers would enhance and supplement emergency officials' future rescue efforts. As a result, in 1986, the City of Los Angeles Fire Department devised a pilot program to train local citizens in basic disaster-response skills that would help them and their fellow citizens when disaster struck (Lucier, 1998). Delivered via communities of knowers—trainers, educators, and emergency personal—bound together by the common interest of preparing the public for future catastrophes, the CERT program taught ordinary citizens basic survival skills such as fire suppression, light search and rescue, and first aid (CERT, 2006).

Although the first team, comprised of 30 citizens who had completed their training early in 1986, demonstrated through an assortment of drills and exercises that the CERT concept was viable, at first the expansion of the program was limited by a lack of government funding. Then, on October 1, 1987, an event occurred that underscored the importance of expediting citizen-preparedness training programs such as CERT (CERT, 2006).

Causing eight fatalities, injuring hundreds, and leaving property damage of about

$358 million, the Whittier Narrows Earthquake wreaked destruction in the Los Angeles, Orange, and Ventura counties of Southern California. A total of 123 single-family houses and 1,347 apartment units were destroyed, 513 houses and 2,040 apartment units sustained major damage, and Interstate 605, Interstate 5, and a major nine-span bridge built in 1964 were seriously affected (Stover & Coffman, 1993). The event served as a wake-up call to government officials. Following the earthquake, the City of Los Angeles took a forceful role in protecting its citizens by creating a disaster preparedness unit to address earthquakes and other emergencies.

Expansion. From its inception in a single city's fire department, the program has expanded steadily. In 1993, the Federal Emergency Management Agency (FEMA) began making the CERT program available nationally. In conjunction with the Los Angeles Fire Department, the Emergency Management Institute expanded CERT materials so that they could be applied to all hazards (CERT, 2003). In January 2002, shortly after the September 11, 2011 terrorist attacks, CERT was included as part of the newly formed Citizen Corps, an organization with direct ties to the Department of Homeland Security. By January 2004, the CERT training program was being used in 50 states, three territories, and six foreign countries (CERT, 2006).

Benefits. Because anyone who enrolls in an emergency training program will be better prepared to cope with the aftermath of a disaster, programs such as CERT are advantageous to all who complete the course. As Wise (2007) showed in her study of the benefits that occur from the planning, implementation, and evaluation procedures of a mock disaster in a university setting, individuals and their communities can decrease the likelihood of morbidity and mortality by giving attention to community disaster

preparedness, response, and recovery before a disaster occurs. Increasingly, those who complete the CERT program are able not only to help themselves, their neighbors, and their coworkers when disaster strikes, but also to assume active roles in preparing their communities for emergency events that have not yet occurred (CERT, 2008).

Training people to help safely themselves, their families, and their immediate neighbors during an emergency also reduces the burden on emergency responders. Moreover, as members of neighborhood, business, and government groups, these newly trained citizens can act as auxiliaries to the frontline emergency responders, providing immediate assistance to victims and leading untrained volunteers who want to help but need direction. Because of its educational nature, CERT can serve to improve the relationship between institutions such as fire departments and the larger communities in which they are located (CERT, 2008).

The Citizen Corps. Following the World Trade Center attacks on September 11, 2001, state and local government official noted that homeland security would be enhanced if more citizens trained in emergency preparedness were available to support first responders. In January, 2002, President George W. Bush, capturing the spirit of service that emerged among Americans after September 11, launched the USA Freedom Corps, the purpose of which was to enable citizens to respond to crises at home and to help them rebuild their communities. An important offshoot of this organization was the Citizen Corps, a unifying structure for linking diverse volunteer activities in order to expand community resources for crime prevention and emergency response, which is coordinated nationally by the Department of Homeland Security and which also works closely with the Department of Health Services, state and local governments, emergency

first responders, and other volunteer community agencies. Citizen-Corps' (2002) mission statement is as follows: "To harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues, and disasters of all kinds" (para. 4).

A model for change. To achieve its goals, in 2006, the organization developed a model, the Citizen Corps Personal Behavior Change Model for Disaster Preparedness. The model's purpose was twofold: (a) to explore personal motivation factors, and (b) to identify and target individuals based on their motivation or perceived barriers to preparedness (Citizen Corps, 2006). Two earlier models that are commonly used by social scientists and that have been applied and tested in many other areas pertaining to risk assessment, protection, and motivation provided a theoretical context within which the 2006 model was developed.

The first of these was the Extended Parallel Process Model, which demonstrates that people who feel threatened will act either (a) to control the danger or (b) to control the fear (Citizen Corps, 2006). Danger control involves addressing the threat (for example by preparedness) and is therefore solution oriented. Fear control, by contrast, involves rejecting the existence of the danger or explaining it away rather than dealing with it.

The second theoretical model which the Citizen Corps examined before crafting its own model was the Stages of Change Model, which suggest that people's readiness to change is reflected in their differing activity levels (Citizen Corps, 2006). According to the Stages of Change Model, people's readiness to attempt, make or sustain behavioral

change is reflected in five stages or levels. In moving through the stages of the change process, people progress from not even thinking about changing through deciding to change at some point in the future to actually making the change and, finally, to sustaining the change.

In the Citizen Corps Personal Behavior Change Model for Disaster Preparedness, as in the Stages of Change Model, a series of steps leading to behavioral change is set forth. But unlike the earlier model, the Citizen Corps' Personal Behavior Change Model for Disaster Preparedness evokes an educational component that presents not only the reality of the threat and the individual's susceptibility to the threat but also the means for addressing it. The model describes people's progress as a result of the educational program in terms of changes in their (a) knowledge, (b) attitude, and belief that a countermeasure is required in order to counteract it. Accompanying these changes in knowledge are attitudinal changes consisting of a shift from individuals denying or dismissing the threat through feeling that addressing it is urgent to believing that they themselves are able to act to prevent and or stop it. Finally, in harmony with these changes in people's knowledge of and attitudes towards threats is their acquisition of and improvement in emergency-preparedness skills (Citizen Corps, 2006).

Funding citizen response. Since CERT's inception, Congress has funded CERT using funds allocated to the Citizen Corps program since 1993 (CERT, 2006). To cover costs for instructors and course materials, local organizations have supplemented their federal funds by building the training costs into their local budgets and by charging minimal fees to participants. In some communities, CERT programs have formed under 501(c)(3) nonprofit status to allow fund-raising and to encourage corporate donations

(Citizen Corps. 2006). In some communities, local citizens volunteer with fire safety educators and teach the course to everyone interested in learning about the CERT program.

Disasters and People With Disabilities

Although the importance of CERT and of the Citizen Corps have been increasingly acknowledged—especially since 9/11—these organizations have focused on bringing the able-bodied to safety during emergencies; excellent as their recommendations may be, the same measures often cannot be applied to people with disabilities. In fact, it was only as the 20th century was nearing its end that the marginalization of one of the world's largest minorities, the half-billion people with disabilities—10% of the planet's total population—began to be formally addressed (United Nations, n.d.)

NOD and the raising of national awareness. Long before the Citizen Corps was established and even before CERT had inaugurated its educational program, an organization (NOD, 2011) was founded with the express purpose of "promoting the full and equal participation and contribution of America's 54 million men, women, and children with disabilities in all aspects of life" (mission statement, para. 1). That organization was NOD. Initially eschewing government support, but increasingly influential as an agent of legislative change, NOD has become a more and more powerful advocate for people with disabilities. Funding for the organization has grown from an annual amount of $100,000 in 1982 to $2 million in 2002, most of it from individuals, corporations, and foundations.

Origins. NOD began as a response to the United Nations 1975 decision to

designate 1981 as the International Year of Disabled Persons. Urging governments, communities, religions, and organizations everywhere to follow suit, the U.N. set the goal of granting people with disabilities worldwide full and equal participation in all aspects of life. Led by David Kearns, CEO of Xerox, and including representatives from 48 states, the United States Council for the International Year of Disabled Persons became the first private-sector group to fund and lead a U.N. international year or observance. When the council convened in Washington, DC at the end of 1975, it formed the National Office on Disability, a name soon changed to the National Organization on Disability or NOD. Although its board of directors decided not to accept government funding, 12 members of the U.S. House and Senate were invited to serve as NOD congressional sponsors (NOD, 2011).

Expanded goals. In the late 1980s, as people with disabilities gained confidence, they became more proactive on their own behalf. In particular, they demanded access to two key areas of American life: (a) religious worship and (b) the voting booth. Responding to the former, NOD launched its religion and disability program, which urged religious leaders both to welcome people with disabilities more explicitly and to provide better access for them to houses of worship. By 2001, more than 2000 churches and synagogues were participating in NOD's Access to Congregations campaign (NOD, 2007).

Meanwhile, in the political arena, the organization sought to reverse what amounted to denial of access for people with disabilities to the voting process. Not only were voting machines unusable for many of the visually and mobility impaired, but the sites were often inaccessible and appropriate transportation to these sites virtually

nonexistent. In 1988, NOD implemented a national campaign to make polling places accessible. The organization also distributed 1 million cards advising poll workers how to assist voters with disabilities (NOD, 2007).

In addition to its role in making the voting process more feasible for people with disabilities, NOD also began calling on political candidates to speak out on disability issues. A 1988 Lou Harris poll commissioned by NOD found a distinct shift among voters with disabilities toward then Vice President George Herbert Walker Bush once he had addressed their concerns. Following his election to the presidency, President Bush acknowledged the important role these voters played in his margin of victory (NOD, 2007).

The Americans With Disabilities Act. As NOD's constituency grew in numbers and strength, it joined in a growing movement advocating a new civil rights law that would guarantee Americans with disabilities full participation in American life. When President Reagan's former press secretary, James Brady, who had sustained near fatal brain injuries during the 1981 assassination attempt on the President, became Vice Chairman of NOD, he and other likeminded activists, enlisting widespread grassroots support, pressed hard on congressional committees to enact such a law (NOD, 2011).

The Americans With Disabilities Act, which prohibits discrimination against and ensures equal opportunities for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation, was signed into law by President George H.W. Bush on July 26, 1990 (Americans With Disabilities Act, 1991). From this point on, the government would be taking an increasingly proactive role in addressing the issues pertaining to people with disabilities.

Thanks to the political activism of NOD and other groups with the same goals, curb ramps, Braille signage, and television captioning are common if not yet ubiquitous today. Increasingly, people with disabilities hold leadership position in government, corporations, and religious organizations. More of them are employed, supporting their families, and traveling. In addition they are voting and completing their education in record numbers (NOD, 2007).

Effects of 9/11. Following the 9/11 terrorist attacks, emergency preparedness assumed a new urgency for government as well as for nongovernment agencies. At every level, the emergency needs of people with disabilities were brought to the forefront, including a new focus on evacuating this population should disaster strike (NOD, 2009).

The NOD initiatives. Although prior to September 11, NOD had already begun to lay plans for evacuating people with disabilities during a disaster, following the 2001 terrorist attacks emergency preparedness assumed a new urgency (NOD, 2009). In 2002, the organization launched a 3-year study that culminated in two emergency-preparedness initiatives, the first focusing on better planning by early responders and the second on the inclusion of people with disabilities in that planning.

The first initiative set forth a number of recommendations for emergency planners to consider: for example, mitigating trauma to people with disabilities or avoiding it altogether by making established services for this population a priority during the disaster's initial recovery phase (NOD, 2009). The second initiative was far more radical. Rather than planning for people with disabilities, this initiative advocates planning with members of this population (NOD, 2009). Therefore, the best way to achieve success in evacuating people with disabilities is to involve community members with disabilities in

emergency planning and preparation (Rooney & White, 2007). Although the initiative did not specify the number of persons to include in the preparatory process, it did emphasize that persons with disabilities, more than any other demographic segment of the population, are not a homogenous group. Involving people with all major types of disabilities, including sensory, physical, mental, and cognitive, will help planners obtain a complete picture of what may occur during and after a disaster and, hence, how to mitigate the consequences of such an event for people with disabilities (NOD, 2009)

In order to expand the number of qualified individuals with disabilities in the planning, the second initiative designates three entities that have represented the interests of people with disabilities in the past: government agencies, institutional partners, and advocacy groups (NOD, 2009):

1. Government Agencies. The best agencies to contact to identify a cross-section of disability representatives within a locality are usually the governor's office, the mayor's office, and agencies within the county government. Other government agencies that may be of help are the Departments of Health, Aging, or Veteran's Affairs. Finally, the local American's With Disability Act coordinator is suggested (NOD, 2009).
2. Institutional Partners. Found within the home-based care industry, these are local Visiting Nurse Services, Home Health Aides Associations, residential-care homes, and assisted-living facilities. Other suggested partners are the local dialysis network and the ambullette industry, a group that provides nonemergency wheelchair-accessible transportation for people with limited mobility throughout the United States (Ambulette, n. d.).

3. Advocacy Group Representatives. These are recruited from local disability advocacy groups, including the Independent Living Centers and groups serving specific disability populations such as the blind, the deaf, those with limited mobility, and those with cognitive disabilities. Other individuals with disabilities who may be willing to participate in the planning efforts, but are not affiliated with a particular group, may be known to emergency professionals and community members (NOD, 2005).

Executive Order 13347. On July 22, 2004, an executive order that had the express purpose of strengthening emergency preparedness and ensuring "the safety and security for individuals with disabilities in situations involving disasters, including earthquakes, tornadoes, fires, floods, hurricanes and acts of terrorism" (Executive Order No. 13347, 2004, p. 44573) was signed into law by President Bush.

Provisions of Executive Order 13347 (2004) required executive departments and agencies of the federal government (a) to consider in their emergency-preparedness planning the "unique needs" (p. 44573) of both individuals with disabilities within their own agencies and individuals with disabilities these agencies serve; (b) to encourage—by technical assistance when appropriate—the same consideration in emergency planning for employees with disabilities and individuals served by "state, local, and tribal governments and private organizations and individuals" (p. 44573) in the implementation of emergency-preparedness plans as they relate to individuals with disabilities.

Included in the Executive Order (2004) was the establishment, within the Department of Homeland Security, of an Interagency Coordinating Council on Emergency Preparedness and Individuals With Disabilities that was to be funded by the

Department of Homeland Security and to be chaired by its secretary. The council's first meeting took place on September 20, 2004, at the Department of Homeland Security, less than 2 months after President Bush signed the executive order (Grady & Andrew, 2006). However, as (Cooper, 2001) pointed out, executive orders are merely documents of good intentions with little authoritative value. Because of this, the Interagency Coordinating Council on Emergency Preparedness and Individuals With Disabilities is instructed only to "encourage" (p. 44573) state and local jurisdictions to consider special needs in its planning.

Information Sharing and the Community of Practice

Post-9/11 community safety, according to Lave and Wenger (1991), calls for people in the community to have "information, resources, and opportunities for participation" (p. 101). All these attributes, the authors claim, can be found in a type of social learning network called the "community of practice (COP)" (p. 29). This type of social learning network called the COP draws upon structural components for cross-agency collaboration. Although the researcher has chosen to employ a Delphi approach rather than the COP model in this research design, in thinking about this study, he incorporated the ideas about the power of collaborative learning, the possibilities of boundary crossing among diverse agencies and individuals, and the importance of voluntary participation that are central to the COP.

Definition of a COP. The term COP was first introduced by Lave and Wenger (1991), as a key to improving organizational performance. According to Wenger, McDermott, and Snyder (2002) COPs consist of "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and

expertise in this area by interacting on an ongoing basis" (p. 4). Sharing information, insight, and advice, Wenger et al. (2002) state, they are brought together because "they find value in their interactions.…They help each other solve problems. They discuss their situations, their aspirations, and their needs" (p. 4).

For Wenger et al. (2002), it is this shared practice—ways of doing and approaching things that are shared to some significant extent among members—that differentiates a COP from a community of interest or a geographic community. Examples of COPs include engineers working on similar projects, students seeking to define themselves within a school, medical doctors meeting to discuss how to treat new cancer patients, and managers banding together within an organization to help each other cope with new administrative policies (Wenger et al., 2002). Communities of practices have been used in social circles since people "lived in caves and gathered around the fire to discuss strategies for cornering prey, the shape of arrowheads, or which roots were edible" (p. 5).

Rogoff, Turkanis, and Bartlett (2001), distinguish that the traditional perception of learning embodies "transmitting knowledge" (p. 6). Conversely, Wenger et al. (2002) explain that the learning that takes place within a COP, they emphasize that it is the relationships between people that are the key:

> The community creates the social fabric of learning. A strong community fosters interactions and relationships based on mutual respect and trust. It encourages a willingness to share ideas, expose one's ignorance, ask difficult questions, and listen carefully. Have you ever experienced this mixture of intimacy and openness to inquiry? Community is an important element because learning is a matter of

belonging as well as an intellectual process, involving the heart as well as the head. (p. 28)

Wenger et al. (2002) point to three dimensions along which the COP defines itself:

- A domain of knowledge, which defines a set of issues.
- A community of people who care about this domain.
- The shared practice that they are developing to be effective in their domain. (p. 27)

For Wenger et al. (2002) the COP provides the necessary elements to "weave the organization around knowledge, connecting people, solving problems, and creating business opportunities" (p. 4).

COPs are voluntary organizations that develop not only over time but also through cultivation. Allee (2003) notes five stages in their development: (a) potential, (b) coalescing, (c) maturing, (d) stewardship, and (e) transformation. Moreover, because COPs are voluntary, Wenger et al. (2002) state that they must generate enough "excitement, relevance, and value to attract and engage members" (p. 50). Within an organization, particularly one that is bureaucratic, leaders and managers at all levels must exemplify the core values of the COP: the sense of belonging that supports the "community's own internal direction, character, and energy" (p. 51).

Although the assumptions that learning is something that individuals do, that it has a beginning and an end, and that it is the result of teaching are still common, (Wenger et al., 2002), asserts the most important idea is that learning involves "a matter of belonging" (p. 29) as well as an cognitive and intellectual process of participation in a

community. As a result, Lave and Wenger (1991) explain that a growing number of people and diverse organizations are now emphasizing communities of practice.

Historical background. Sharing the hypothesis that learning is social and that it comes mainly from the experience of participating in daily life, Jean Lave and Etienne Wenger, two researchers from very different disciplines, began to rethink learning theory in the late 1980s and early 1990s. Together, Lave, a social anthropologist and theorist from UC Berkeley, and Wenger, a former teacher with a Ph.D. in artificial intelligence who had joined Palo Alto's Institute for Research on Learning, devised a model proposing that learning involved a process of engagement in a community of practice Their ground-breaking analysis, *Situated Learning: Legitimate Peripheral Participation,* which they subsequently augmented, was published in 1991 (Lave & Wenger, 1991).

Rather than regarding learning as the attainment of knowledge, Lave and Wenger (1991) placed it within the context of "social coparticipation" (p. 14). Using various apprenticeships—among them Yucatec midwives, Navy quartermasters, meat cutters, and nondrinking alcoholics in Alcoholics Anonymous to illustrate their theory, the authors note that although people joining a particular community may initially learn at its periphery, as they become more competent they tend to move to its center. For newcomers, "The purpose is not to learn from talk as a substitute for legitimate peripheral participation; it is to learn to talk as a key to legitimate peripheral participation" (p. 109). This social process, which is concerned with learning to speak, act, and improvise in ways that make sense in the community, subsumes "the learning of knowledgeable skills" (p. 29). Moreover, and in contrast with the traditional view of learning as internalization, increasing participation in communities of practice involves "the whole person acting in

the world" (p. 49).

COPs today: Crossing boundaries. Although knowledge-based network structures such as COPs have always existed on an informal level, in recent years, they have been used aggressively and systematically by a growing number of public and private organizations—Proctor & Gamble, Shell Oil, McKinsey & Company, the World Bank, and Daimler Chrysler, to name a few (Wenger et al., 2002). In a subsequent study, Snyder, Wenger, and Briggs (2004) explained that COPs are "inherently boundary-crossing entities" (p. 3) and find the COP to be a particularly appropriate structural model for collaboration among various agencies and organizations. In this study highlighting their boundary-crossing properties, the authors show how four government COPs address major social challenges by working collaboratively within an agency, across agencies, across sectors and levels, and across a well-distributed network of professional staff. The boundary-crossing organizational structures they depict, the authors maintain, "can address national priorities in ways no current organization structure can" (Snyder et al., 2004, p. 11).

The rumble-Strip community. Setting a goal of reducing highway fatalities by 20% in 10 years between 1998 and 2008, Mike Burke, the leader of Knowledge Management in the Federal Highway Administration, worked with agency executives to accelerate the diffusion of rumble strips. Although this road-design innovation had been proven to reduce run-off-road crashes and fatalities significantly, merely disseminating information about rumble strips had failed to lead to their widespread acceptance. However, by networking with more than 100 federal and state agents across the nation as well as with industry and civic groups, the team accelerated the adoption of rumble strips

throughout the United States, thereby reducing fatalities (Snyder et al., 2004).

The e-regulation community. When a number of regulatory agencies, including the Securities and Exchange Commission, the Department of Defense, and the IRS were required to respond to a legislative mandate to offer online access to compliance forms for their customers, Bill Bennett, who was leading this initiative at the Federal Energy Regulatory Commission, sought out his counterparts at other agencies to explore best practices for meeting that mandate. By putting a human face on each agency's bureaucrats and discussing the problem in a collaborative manner, this COP accelerated learning across agencies and was able to implement phase one of an initiative to establish online access for citizens (Snyder et al., 2004).

The safecities community. Reducing gun violence in cities is a goal shared by many government and nongovernment agencies. By convening a COP that included practitioners from federal agencies, mayoral offices, local law enforcement agencies, citizen groups, faith leaders, business executives, school administrators, social workers, and others committed to the cause, Pam Johnson and Michael Seelman from the National Partnership for Reinventing Government were able to foster an intersectoral, interlevel COP that fostered learning in cities across the country and collaborations at the federal, state, and local levels (Snyder et al., 2004).

***The companycommand.com. community*.** Preparing new military commanders for their responsibilities is a daunting task, but realizing how much they had benefited from their conversations about the challenges, two rookie commanders, Tony Burgess and Nate Allen, who were friends and neighbors, decided to find out if others would benefit as much as they felt had from talking together. The forum they created, composed

of new and seasoned commanders shared insights, experiences, lessons learned, and tools to manage the daily problems and issues they faced as a entry level commander in the United States Army (Dixon, Allen, Burgess, Kilner, & Schweitzer, 2005).

Leadership

Although the process takes precedence over leadership in most discussions of the COP, leaders are essential to assemble the community. In this study, in order to assemble a panel of experts and to ensure that the process of information sharing proceeds smoothly and effectively, the researcher needed to keep in mind certain leadership principles encountered in his graduate studies at Pepperdine University and in the workplace.

In emergency management, leadership is critically important; lack of it can result in the loss of public trust, property, and life (FEMA, 2005). In its course guide, Leadership and Influence, FEMA cites a number of key principles important for leaders in the field. According to the guide, "A leader is one who sets direction and influences people to follow that direction" (p. 7.1). The importance of leadership applies to all phases of emergency management: prevention, preparedness, response, recovery, and mitigation.

Leading from the inside out. One of the program's main approaches to leadership is based on Cashman's (1998) *Leading From the Inside Out*. According to Cashman, leadership is both a "process" (p. 18) and an "intimate expression of who we are. It is our being in action, our personhood" (p. 18). Traditionally, leadership has been viewed as an external event: something people do. Organizations tend to value leaders who produce measurable achievements—revenue, profits, new product breakthroughs,

cost savings, market share, and the like. Although Cashman acknowledges the value of these benchmarks, he argues that focusing on these exclusively ignores the underlying dynamics supporting peak performance. As Pillsbury CEO Paul Walsh notes, "The missing link in leadership development is growing the person to grow the leader" (Cashman, 1998, p. 18). According to Cashman, the leader and his or her leadership cannot be separated. "As we learn to master our growth as a person, we will be on the path of leadership from the inside out" (p. 19).

In a similar vein, according to the FEMA (2005) guide, leaders need to develop self-knowledge to grow. Self-knowledge helps leaders develop their leadership strengths. "Part of being an effective leader is the ability to create an environment that encourages self-discovery and the testing of assumptions that may impede growth, change, and the development of a shared vision" (p. 7.1). Three methods for increasing self-knowledge, according to the FEMA guide, are (a) self-assessment, (b) self-reflection, and (c) soliciting authentic feedback.

Self-assessment. According to the FEMA (2005) guide, our culture does not value self-assessment sufficiently. Because we tend to be an "outward-oriented society" (p. 2.16), we often think that our problems and their solutions are external to us. Although this tendency allows us to excel in analyzing the external, it can blind us to our most important resources, our own talents and choices. To help us redirect this external focus, FEMA developed a self-assessment questionnaire that the agency adopted for its study course (FEMA, 2005). In FEMA's questionnaire, potential leaders are asked to assess their current proficiency in 15 specific behaviors, including challenging people with new goals and aspirations, inspiring them to take action, fostering commitment,

planning for the future, and solving problems.

Self-reflection. A second method for potential leaders to increase their self-knowledge consists of pausing in their activities in order to reflect. Journal writing, meditation, and drawing pictures are some of the suggested means of fostering self-reflection (FEMA, 2005).

Soliciting authentic feedback. The third component needed for self-knowledge, and for the ability to lead, is candid feedback. For it to be useful, feedback must be received in a way that encourages others to tell the truth as they see it. Honest feedback is based on trust. The FEMA (2005) guide encourages potential leaders to wait until they are ready before receiving feedback. Taking notes, listening, restating what the speaker has said, asking follow-up questions, requesting specifics, and thanking the speaker are all actions FEMA recommends in order to obtain authentic feedback.

Transformational leadership. Transformational leadership, the second approach included in the FEMA guide, includes a wide range of leadership styles, ranging from very specific efforts to influence followers on a one-on-one level to very broad attempts to influence whole organizations and even entire cultures (Northouse, 2001). Followers and leaders are inextricably bound together in the transformational process, although the transformational leader plays a pivotal role in precipitating change. In sum, Northouse wrote:

> Transformational Leaders are recognized as change agents who are good role models, who can create and articulate a clear vision for an organization, who empower followers to achieve at higher standards, who act in ways that make others want to trust them, and who give meaning to organizational life. (p. 158)

Theoretical underpinnings. Although the term transformational leadership was first introduced by J. V. Downton in 1973, its significance did not emerge until 1978 when political sociologist James MacGregor Burns published his seminal work *Leadership* (Northouse, 2001). In his work, Burns links the roles of leaders and followers. Burns' leaders are charismatic individuals who possess a unique ability to understand the motives, values, and needs of followers. Using this knowledge, leaders are able to promote a higher sense of responsibility in followers, enabling them to be more likely to attain both the leaders' and the followers' goals. Leaders must not only understand followers, they must also recognize them as complete human beings; moreover, they must address their needs. Through understanding and empathy, as well as personal charisma, leaders motivate followers to reach beyond their own interests and strive instead for that which will benefit their group or organization (Northouse, 2001).

FEMA perspective. According to FEMA (2005), transformational leaders display the following characteristics:

- View the organization as a moral system.
- Derive credibility from integrity and core values.
- Are motivated to a higher order.
- Resolve challenges with a variety of approaches.
- Give careful thought to the meaning of their actions.
- Dedicated to the good of all. (p. 7.2)

Northouse perspective. In a similar vein, Northouse (2001) discerns four factors that characterize transformational leadership: (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individualized consideration. The first of

these, idealized influence, is revealed in leaders such as Ghandi, M. L. King, Cesar Chavez, John F. Kennedy, and Nelson Mandela, all of whom tended to be both charismatic and strong role models of the beliefs and values they wanted their followers to adopt (Northouse, 2001). The second, inspirational motivation, pertains to the high expectations of leaders who inspire their followers to become committed to a shared vision—for example the sales manager who, by communicating to his or her sales force the importance of each person's individual role, motivates that person to excel. Third, transformational leadership also involves intellectual stimulation: encouraging followers to become independent thinkers and problem solvers. Finally, individualized consideration, the fourth factor, is represented in leaders who provide a caring environment in which they listen attentively to the followers' individual needs (Northouse, 2001).

Leading change. In contrast to leading from the inside out, with its emphasis on personal development, and in contrast to transformational leadership, with its emphasis on the bond between leaders and followers, the distinguishing characteristic of leading change is the need for the leader to establish a sense of urgency (Kotter, 1996). Although Kotter, acknowledges that the primary function of leadership is generate change, in contrast to other leadership theorists he believes that the importance of establishing a sense of urgency has been overlooked by his predecessors. Kotter (1996) states, "With complacency, high transformations usually go nowhere because few people are even interested in working on the change problem" (p. 36). To this end, he sets forth the following eight-stage change process:

1. Establishing a sense of urgency.

2. Creating a guiding coalition.
3. Developing a vision and strategy.
4. Communicating the change vision.
5. Empowering people for broad-based action.
6. Generating short-term wins.
7. Consolidating gains and producing more change.
8. Anchoring new approaches in the culture. (p. ix)

According to FEMA (2005) Leadership and Influence independent study course, in order to facilitate successful change in an organization, the leader must be able to "effectively communicate and describe the purpose, picture, plan, and each part of each person's role in the vision and that process and how the change will affect each person" (p. 7.3). The FEMA Guide delineates a similar change process that includes the following elements:

- Leadership mindset regarding change: The leader must advocate for change and motivate others to join in.
- Purpose of change: The leader must clearly articulate what the organization aims to accomplish as a result of the change.
- Change Process: The leader creates a plan, monitors the change, and makes adjustments along the way.
- Predictable forces set in motion: The leader must recognize potential resistance and strategize to manage it.
- Structures for addressing change: The leader should anticipate changes to the organization's system, policies, plans, and resources.

- Sustaining energy for change over time: The leader should create a critical movement for change by identifying key supporters and meeting their needs.
- Personal response to change: The leader must remain tuned into the human response to constructively manage it. (p. 7.3)

Summary

This chapter reviewed literature pertaining to the study. Topics included: (a) emergency planning and the general population, with discussions of CERT and the Citizens Corps; (b) emergency planning for and with people with disabilities, with special emphasis on the evolution of NOD and the Americans With Disabilities Act of 1991; (c) the community of practice as an effective model for cross-agency collaborative learning; and (d) three relevant leadership theories. Chapter Three presents the study's methodology.

Chapter Three: Research Design

As recent disasters demonstrate, the needs of people with disabilities when disaster strikes are not being met. At the root of many previous problems is the failure of emergency service providers to include their clients, people with disabilities, in all aspects of emergency planning. As a result, providers often lack useful, even vital, information for effective emergency planning. Using the Delphi method, this study demonstrates how a panel of experts that includes people with disabilities, their advocates, and key players in community organizations and agencies dedicated to public safety can reach consensus (for purposes of this study, the level of agreement being at least 75%) on emergency preparedness and people with disabilities.

Research Questions

This study addresses the following two research questions:

1. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?
2. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

The Delphi Method

Because of the nature of the problem, the Delphi method was selected as the most appropriate means for addressing the issue. According to Adler and Ziglio (1996), Delphi is the foremost method of communication used and designed to produce dialogue on a

central issue. Linstone and Turoff (2002) characterize Delphi as "a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with complex problems with a goal of reaching consensus" (p. 3). As Franklin and Hart (2007) point out, the purpose of the Delphi study is to generate ideas about a complex evolving issue with little historical context by soliciting expert opinion. According to Helmer and Rescher (as cited in Gatewood & Gatewood, 1983), the goal of this approach "is to obtain a reliable consensus of opinion from a group of experts, while minimizing certain negative aspects of group interaction: social persuasion, unwillingness to abandon publicly stated positions, and the bandwagon effect of majority opinion" (p. 88). In order to avoid "the social-psychological tendencies" (p. 88) of group decision making, the panel members are kept separate, rather than meeting as a group.

Background of method. The development of the Delphi method was originally conceived as a tool to forecast technological capabilities involving intercontinental warfare that did not involve ground-surface engagement (Baker & Moon, 2008). In 1946, a RAND project refined this research inquiry into practice for the Douglas Aircraft Company. The objective of the original study at RAND "was to gather the most reliable consensus of opinion from a group of experts…by a series of intensive questionnaires interspersed with controlled opinion feedback" (Linstone & Turoff, 2002, p. 10). At the time, the Delphi approach was an inexact science, but it evolved into a research method designed to elicit scientific testimony from a number of experts with the goal of combining of their responses into consensus.

In 1953, Dalkey and Helmer expanded the technique to include iterative feedback

(rounds). Eleven years later, in 1964 Gorden and Helmer refined the Delphi method to assess the “direction of long-range trends, with special emphasis on science and technology and their probable effects on our society and our world” (Linstone & Turoff, 2002, p. 10). Dalkey's (1969) study of the underlying assumptions of the method concluded that more often than not, "face-to-face discussions tended to make the group estimates less accurate, whereas, more often than not, the anonymous controlled feedback procedure made the group estimates more accurate” (Dalkey, 1969, p. vi).

Today, technology, including e-mail, newsgroups, and the World Wide Web are widely used in Delphi studies. As Anderson and Kanuka (2003) point out, with the advent of the Internet, e-mail, and other web-based communication tools, a Delphi study becomes an effective way to gain consensus around a central issue from a panel of experts that may be faced with time constraints and geographical distances.

Recently, the Delphi method has been incorporated in programs specifically aimed at using technology to enhance communication in the population of people with disabilities. For example, the Rehabilitation Engineering Research Center used Delphi methodology to poll experts on applications of wireless technology in order to discover the most significant issues surrounding the adoption and use of wireless communication and information technologies by people with disabilities. Drawing on the results of three rounds of polling, the Rehabilitation Engineering Research Center developed a set of policy options, which it fine-tuned by using stakeholders from the disability community (Baker & Moon, 2008).

Relevance for study. Although the Delphi method is not applicable to all research problems, as noted previously, the method has proved to be uniquely effective in

addressing others. Because the research questions involve feedback and comments and because they address complex issues (Linstone & Turoff, 2002), the researcher chose to employ this method in the study. Moreover, as Linstone and Turoff (2002) explain, a Delphi method structures and guides the flow of information using rounds.

Linstone and Turoff's circumstances. Linstone and Turoff (2002) cite four main circumstances that lend themselves to Delphi methodology. This study is characterized by all four. The circumstances, all of which can be shown to be applicable to this study, are as follows:

- Gathering current and historical data not accurately known or available.
- Putting together the structure of a model.
- Exposing priorities of personal values and social goals.
- Existence of any or all of the following properties of the problem: (a) Problem does not lend itself to precise analytical techniques but benefits from subjective judgments on a collective basis, (b) individuals needed to contribute to the examination of a broad or complex problem have no history of adequate communication and may represent diverse backgrounds with respect to experience or expertise, (c) more individuals are needed than can effectively interact in a face-to-face exchange, (d) time and cost make frequent group meetings infeasible, (e) bandwagon effect. (p. 4)

Regarding the first point the authors set forth, as previously demonstrated in Chapter Two and elsewhere, people with disabilities have been largely excluded as key players in emergency preparedness. However, in this study, the presence of this population will be central. Moreover, in employing the Delphi method for his data-

gathering process, the researcher hopes to produce a process that can be used almost anywhere in the country to improve outcomes for people with disabilities when disaster strikes, hence fulfilling the second of Linstone and Turoff's (2002) conditions. Regarding the third circumstance, personal values and social goals are central not only to the researcher and to the participants, but to all aspects of the study. Virtually everyone involved in this study is concerned about public safety and people with disabilities.

As for the cluster of conditions listed in the fourth item on Linstone and Turoff's list, the study meets them all. The study's goal, which was for participants with various perspectives to come to common conclusions, can be best achieved by means of a nonanalytic technique such as the Delphi method. The complex problem they are examining, the issue of public safety and people with disabilities, has been either inadequately addressed or ignored. Gathering a dozen or more participants who are geographically dispersed, who have time constraints, and who may in addition have limited mobility to meet face-to-face as a group on several consecutive occasions would be difficult if not impossible. Moreover, face-to-face encounters in this situation would be undesirable. Linstone and Turoff have warned against the bandwagon effect that can occur in group discussions.

Groupthink. As Makridakis and Wheelwright (1989) note, "Strong leaders or other influential group members" (p. 251) can exercise undue influence on the rest of the group, pressuring them to concur in "a unanimous opinion" (p. 251). Moreover, these effects intensify over time: "As the in-group becomes more cohesive, its members tend to isolate themselves from the rest of the world.…Outside opinions are not sought, or when given are largely ignored" (p. 251). Unintentionally and often unconsciously, opposing

viewpoints and perspectives are not expressed and the critical discussion of the pros and cons of alternatives is avoided.

The authors have noted that in nonanonymous groups, survey members often respond very differently from the way they respond as anonymous individuals. Among in-groups, the very cohesiveness of the group results in a desire to support fellow group members. Makridakis and Wheelwright (1989) state that the results include "increased conformity to group norms through group pressure, sometimes directly, but more often indirectly; the suppression of internal dissent; the emergence of group conformity; and the absence of critical thought processes during the group meeting" (p. 251). Whyte (1989) identifies many examples of "groupthink" (p. 40) among intelligent individuals that resulted in disastrous decisions, including the Bay of Pigs fiasco, the Korean War, the escalation of the Vietnam War, and the energy crisis.

Because the Delphi participants never meet face-to-face and because they do not know who their fellow panel members are, the pitfalls of groupthink and bandwagon effect are avoided (Makridakis & Wheelwright, 1989). As Linstone & Turoff (2002) point out, the anonymity of the Delphi method actually enhances the validity of the data obtained.

The Delphi challenge. Although the Delphi may seem like a simple concept, it is easier to describe than to execute. In fact, Linstone and Turoff (2002) believe that as many people fail using the method as succeed. Reasons for the failure of Delphi include the following:

- Imposing monitor views and preconceptions of a problem upon a respondent group by overspecifying the structure of the Delphi and not allowing the

contribution of other perspectives related to the problem.

- Assuming that Delphi can be a surrogate for all other human communications in a given situation.
- Poor techniques of summarizing and presenting the group response and ensuring common interpretations of the evaluation scales utilized in the exercise.
- Ignoring and not exploring disagreements so that discouraged dissenters drop out and an artificial consensus is generated.
- Underestimating the demanding nature of a Delphi and that tired respondents should be recognized as consultants and properly compensated for their time if the Delphi is not an integral part of their job function. (Linstone & Turoff, 2002).

In addition to these problems that may affect the usefulness of the method, Linstone and Turoff (2002) the authors point out a number of problems that may occur. Typical of these is the question of how to choose a good responding group. Another example is maintaining the honesty of the researcher or monitoring team.

Although these challenges must never be ignored, this study addresses them in the following ways: (a) Prior to distributing the request to participate and the questionnaire to the panel of experts, the researcher asked a number of colleagues to critique these documents for possible bias, lack of clarity, length, and lack of open-ended questions. The researcher then modified the questionnaire accordingly; (b) Once the questionnaire was revised and the Delphi process was underway, the researcher enlisted the aid of three objective advisors who reviewed and discussed the summarized responses with him**.** Both

the pilot study and the use of advisors before and during the rounds helped mitigate the problems Linstone and Turoff warn against. As for the choice of good responders, it is the researcher's notion that in this study, the pool of people from which his panel of experts was drawn was already either professionally or personally committed to helping to solve the research problem of how to improve safety outcomes for people with disabilities in times of disaster.

Questionnaire Design

In constructing the questionnaire to address the two research questions, the researcher drew upon the writings of Dillman (2007), who served as the U.S. Census Bureau's Senior Survey Methodologist from 1991-1995, and who helped develop the Decennial Survey. In addition to his tenure in the Census Bureau, Dillman is a distinguished professor of Government and Public Policy, on the faculty of the Social and Economic Sciences Research Center, and in the Department of Sociology at Washington State University. It was Dillman who composed the term "tailored design" (p. 4) for surveys intended to promote social exchange. Although the Delphi process does not employ a traditional survey, because the purpose of Dillman's "tailored design" (p. 4) survey is to promote social exchange, it is useful to consider his views on the art of designing questions.

According to Dillman (2007), an effective tailored-design survey rests upon two assumptions: (a) "Responding to a self-administered questionnaire involves not only cognition, but also motivation" (p. 13), and (b) "multiple attempts to contact respondents, whether by e-mail, the web, or postal delivery, are essential to achieving satisfactory response rates" (p. 13). Dillman also emphasizes "rewards" (p. 15) and "trust" (p. 15) as

integral parts of a successful survey, proposing that the survey demonstrate the following elements:

- Shows positive regard by personally addressing correspondence, giving respondents reasons for the survey, and providing a phone number for questions.
- Asks for advice. Dillman points out that many people get a sense of accomplishment from knowing they have helped someone else solve a problem. In essence, "Asking people for their advice subordinates the sponsor to the questionnaire recipient" (p. 16).
- Supports group values, such as those of an organization, community, city, state, or country with which a recipient can identify.
- Gives social validation. Dillman notes that people are more likely to comply with a request if they know that other people like them have responded positively to the request.
- Expresses appreciation for respondent's participation. Saying thank you before, during, and after the survey process has been shown to have practical results. For example, a follow-up postcard thanking the recipient in advance for the prompt return of the recently mailed questionnaire has been found to produce a "response burst" (p. 16) nearly equal to the one that followed the original mailing a week earlier. (Dillman, 2007)

In addition to this content, Dillman (2007) makes a number of recommendations for the appearance, length, organization, language, and tone of the tailored-design questionnaire. For example, the author contends that the questionnaire will be more

interesting if attention is paid to its layout and design. The response rates to questionnaires that appear shorter, with questions that appear easy to fill out, achieve higher response rates than longer questionnaires. In addition, he suggests making the questions easy to understand and placing the more interesting questions at the start of the questionnaire, Dillman (2007) recommends the following linguistic guidelines:

- Use simple words.
- Do not be vague.
- Keep it short.
- Be specific.
- Do not talk down to respondents.
- Avoid bias.
- Avoid hypothetical questions.
- Do not be too specific.
- Avoid objectionable questions. (Dillman, 2007)

Likert Scale

The Likert scale, which is incorporated into the study's questionnaire, was originally developed by Rensis Likert, a sociologist at the University of Michigan from 1946–1970. The Likert scale was conceived as a tool for measuring psychological attitudes. His goal was to be able to measure attitudes on a proper metric scale, much the way length can be measured in inches on a ruler or temperature in degrees on a thermometer. Uebersax (2006) states, generally, a Likert scale consists of the following characteristics:

- The scale contains several items.

- Response levels are arranged horizontally.
- Response levels are anchored with consecutive integers.
- Response levels are anchored with verbal labels that connote evenly spaced gradations.
- Verbal labels are bivalent and symmetrical about a neutral middle.
- The scale always measures attitude in terms of level of agreement or disagreement to a target statement. (Uebersax, 2006)

When using a Likert scale, the researcher should keep in mind the following: (a) a clear understanding of what is being measured, and (b) the recognition that a Likert scale can never consist of a single item, but is always "a set of several items, with specific format features, the responses to which are added or averaged to produce an overall score or measurement" (Uebersax, 2006, p. 1). For this study, the following options will be used: Strongly agree, Agree, Disagree, and Strongly disagree.

Pilot Study

In a pilot study, before the Delphi rounds began, the researcher sent a preliminary draft of the questionnaire to nine experts whose credentials were similar to those of the panelists. After the pilot version was returned, he modified the questionnaire, according to the pilot participants' recommendations. The subsequent version became the questionnaire that was used for the study.

The piloted version consisted of an overview of the issue: emergency preparedness and people living with disabilities. Apart from some preliminary demographic questions, all questions in the piloted version of the questionnaire were broad and open-ended. The piloted version, as with the final questionnaire, was divided

into three sections: (a) emergency planning, (b) emergency training, and (c) sustaining an emergency program. It also contained several detailed fictional biographies of people who were either living with specific disabilities or who had a family member with a specific disability. These characters were mentioned repeatedly throughout the original questionnaire. In addition, the piloted version contained a fictional disaster scenario that the nine pilot participants were supposed to bear in mind as they responded to the questions.

After examining the pilot participants' responses to this version of the study's instrument, the researcher made the following modifications: (a) Recognizing that all of the pilot participants were already experts on the issue, emergency preparedness and people with disabilities, the researcher eliminated the rather lengthy overview; (b) Because the pilot participants were experts, responding fully to the broad, open-ended questions would require a major commitment of their time. For this reason, the researcher chose to substitute a series of more-focused questions delivered in a Likert format for the wide-ranging, open-ended questions of the piloted version. After each Likert response, participants had the opportunity to comment further in an open-ended manner; (c) The researcher also modified the original fictional biographies, mentioning these only briefly once, at the beginning of the questionnaire; and (d) Finally, he eliminated the fictional disaster scenario since all the experts responding to the pilot questionnaire were already familiar with the effects of emergency events and people with disabilities.

Reviewing the piloted version, one expert pointed out the importance of the language the researcher used in the questionnaire (i.e., being sensitive to the difference between the phrases a disabled person or the disabled as opposed to a person (or persons)

living with disability. Although the researcher, for the most part, had observed the distinction, he changed the language in the few instances where he had not.

The Panel of Experts

Of the 11 experts who participated in this study, all were already known to the researcher. Table 1 shows the job titles of each of the panelists (item 1 in the round-one questionnaire) as well as the organization to which each belonged (item 2 in the round-one questionnaire). In addition to these basic facts, potential panelists were asked to describe their experiences, if any, with emergency rescue. When asked whether they had ever been involved in rescue assistance (item 3 in the questionnaire), four said they had, and six said they had not. (One panelist left the item blank.) When asked whether they had ever been assisted in rescue (item 4 of the questionnaire), three panelists said yes, seven said no, and one panelist left the item blank.

Table 1

Panelists' Titles and Organizations

Title	Organization
Division Fire Chief-Community Risk Reduction	Local Government
Management Analyst-Disability Resource Specialist	Local Government
Manager Mobile Estates-CERT Trainer	For Profit-Nonprofit
American Red Cross-Disaster Volunteer	Nonprofit
Community Relations Manager	Local Government
Public Health Services Nurse	Nonprofit
Program Director	Local Government

(table continues)

Title	Organization
CERT Volunteer	Nonprofit
Aquatics Specialist	Local Government
Homeland Security Specialist	Government

In order to qualify for the pool, individuals needed to have one of the following qualifications: (a) they were living with a disability and were actively engaged with disaster preparedness and/or were advocating on behalf of people with disabilities, or (b) they were connected with an organization dedicated to public safety. Although the research instrument did not ask panelists to state whether they were living with disabilities, the researcher was aware that at least of four of the 16 individuals originally recruited for the study were living with a disability. Of these four recruits, two became panelists, and one did not. The researcher was eager to include people with disabilities on the panel. In addition to reaching out to organizations that served people with disabilities, the researcher also attempted to recruit individuals who were living with disabilities and who had knowledge of emergency planning.

Makridakis and Wheelwright (1989) note that a possible weakness in the Delphi technique is the difficulty of accurately assessing the panelists' degree of expertise. In recruiting panelists with disabilities and their advocates, the researcher sought individuals who had completed an emergency-preparedness class such as those offered by CERT, FEMA, and the Red Cross. It is the researcher's belief that by completing such a class, a person living with a disability or his or her advocate qualifies as an expert in people with disabilities and emergency preparedness.

Demographics

In addressing the research questions, the researcher gathered limited demographic information about the panelists: all were adults (older than 18 years old), all were residents of a county in Central California, and five were male and six were female. Panelists' job titles and organizational affiliations are shown in Table 3. Of the 11 panelists, four had been involved in rescuing a person with a disability; seven had not. None of the panelists had been rescued.

Round-One Questionnaire

The study's instrument was a questionnaire containing four sections with a total of 25 items or statements to which participants were asked to respond. (see Appendix C). The first section, consisting of four items, was demographic in nature. The remaining 21 items were divided into three sections focusing on the planning, training, and sustaining phases of an emergency-preparedness program respectively. A brief fictional biography of four people who were either living with disabilities or who were closely involved with someone living with a disability prefaced the planning section of the questionnaire. These fictional characters were referred to again at the training and sustaining sections of the questionnaire. Of the 21 items composing the rest of the questionnaire, two were presented in a Likert format, three in a yes-no format, and the remaining 16 were open-ended.

Of these 25 items, 14 were related directly to research question 1: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills? The remaining seven items were intended

to address research question two: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Round-One Data Collection

Using the questionnaire as the research instrument, data were collected by polling a panel of experts involved with emergency preparedness and people with disabilities. To begin the data collection process, the researcher sent 21 potential panelists a letter of request describing the project and asking the recipients to participate in the study (see Appendix A). The researcher next sent each of them an informed consent form (see Appendix B) and the round-one questionnaire (see Appendix C). Recipients were asked to read, sign, and return the consent form to the researcher before they responded to the questionnaire. Of the pool of 21 potential panelists, 11 completed the questionnaire. Following the Delphi methodology, the researcher summarized the panelists' responses to the questionnaire, identifying those themes that clearly addressed the research questions and that seemed of particular concern to the panelists, thereby completing round one of the Delphi process. A more detailed discussion of the summary analysis is discussed in Chapter Four.

Upon completion of round one of the study, the researcher e-mailed a brief note to the panelists, thanking them for their participation (see Appendix D). The e-mail contained a link to a second questionnaire based on that portion of their responses on the first questionnaire, which, according to the researcher's analysis, merited further exploration.

The questionnaire was administered to the panelists electronically via Zoomerang,

an online survey software tool designed to be deployed via e-mail or the web. Of the 11 panelists, seven responded to the questionnaire electronically and four mailed the researcher their questionnaires. The initial round of the Delphi process was estimated to take panelists 20 to 90 minutes, with the second round taking significantly less time. The entire process occurred throughout an 8-week time period.

Round-Two Questionnaire

Although the researcher ad expected the next Delphi round, round two, to be based on the totality of the panelists' responses to the round-one questionnaire, in fact, the overwhelming agreement indicated by panelists in their responses to most of the items in the first questionnaire caused him to modify and redirect his plans. Because the participants had already reached consensus on these items, there was no reason to pursue them further in another round. However, even though there was strong consensus on the planning and sustaining aspects of emergency preparedness, within the training section of the questionnaire, there was less overall agreement. In particular, regarding the components that would be essential to a successful emergency-preparedness training program, the researcher found little overlap and no consensus in panelists' responses. The rationale for these changes is discussed in the next chapter.

The researcher first identified 16 of the different components for a training program that panelists had cited in the previous round. Using these 16 components, he then constructed a second questionnaire to be used in the new Delphi round. In this second round, panelists were presented with 16 statements, each based on one of the 16 components for a training program that they had identified previously. Panelists were first asked to indicate, according to a 4-point Likert scale, the extent of their agreement or

disagreement with a particular statement. Once they had done this, they were asked to comment in an open-ended manner on their Likert scale choice (see Appendix F). At the end of the questionnaire, an open-ended 17th statement asked panelists to write down any additional ideas and comments they had about the emergency-preparedness training program. Panelists then returned the questionnaires to the researcher, hence completing the second and final round of the study.

Like its round-one counterpart, the round-two questionnaire was delivered electronically via Zoomerang. All panelists returned the round-two questionnaire to the researcher electronically.

Summary

This chapter discussed the methodology used in this study. After presenting the origin and development of the Delphi Method for consensus, including its challenges and limitations, the researcher explained its application to his study. He then discussed the questionnaire design. Following a brief overview of the Likert Scale, he then presented the study's two research questions, described the makeup of the panel of experts and their demographics, and described the pilot study, including its modifications and their rationale. Next, he discussed the construction of the round-one questionnaire, the data collection process, and the construction of the round-two questionnaire. In the next chapter, the data are analyzed.

Chapter 4: Results and Analysis

Using the Delphi method for achieving consensus on complex issues, this study demonstrated how a panel of experts that includes people with disabilities, their advocates, key players in community organizations, and agencies dedicated to public safety can reach consensus on emergency preparedness. In this chapter, the data gathered in the course of the two Delphi rounds of the study is discussed and analyzed. After presenting the two research questions, the researcher shows their relation to the particular items presented in the two questionnaires. Subsequently, he proceeds to a more general analysis of data obtained. Finally, the study's answers to the research questions are presented.

Research Questions

Employing the Delphi method, this study addressed the following two research questions:

1. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?
2. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Research Questions and the Questionnaires

Table 2 shows the relation of the two research questions to the various individual items on each of the questionnaires.

Table 2

Research Questions and Delphi Questionnaires

Research Question	Delphi Round Number	Questionnaire Section Title	Questionnaire Item Numbers
1. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?	Round One	Planning	5, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17
		Training	8, 18, 19, 20, 21, 22, 23
		Sustaining	24, 25
2. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?	Round Two	Training Program Components	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Round-One Analysis

In this section, the results of the first questionnaire are presented and analyzed. The 25 questions composing the first questionnaire were divided into three sections: demographic information about the panelists and the planning, training, and sustaining

aspects of an emergency-preparedness program. The first of these, the demographic section (items 1-4), was intended to provide background information about the panelists. What follows are the analyses and summaries of the panelists' responses to the remaining three topics: emergency planning, training, and sustaining.

Emergency program: Planning. This section of the round-one questionnaire, consisting of items 5-17, was designed to answer the first research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills? Although the questions focused on the planning aspects of emergency responses, some panelists included some discussion of emergency training in their responses.

Item 5. Using the Likert format (Strongly Agree, Agree, Disagree, Strongly Disagree) for this item, panelists were asked whether planning is required in order to evacuate safely people with disabilities during an emergency. All 11 panelists "strongly agreed" that planning is required. In contrast to the other questions using the Likert format, item 5 contained no open-ended follow-up question. Although the responses do not answer the how of the first research question, by validating the basic premise underlying it—emergency responders and people with disabilities must plan together—they relate to that question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 6. In an open-ended format, item 6 asked the panelists to provide three to

five examples of how people with disabilities and/or their advocates could become involved in the emergency planning process. A strong theme of proactive, personal responsibility ran through the responses. Panelist A advocated contacting "there [sic] local city hall and inquire who is responsible for emergency planning. Get involved with the ARC [American Red Cross]. Contact the County OES [Office of Emergency Services] Office." Panelist B recommended that people with disabilities "provide their contact…phone numbers with a brief description of their needs during an evacuation to local emergency services"; and that they "have a plan in place for what they will do in the event of an emergency." Panelist D proposed that they "avail themselves to Red Cross printed materials on sheltering in place, develop an evacuation plan for exiting their residence, assemble a basic evacuation kit containing prescription medications and medical devices necessary for mobility or care."

Several panelists emphasized an educational role for people with disabilities in the planning process. According to panelist C, people with disabilities need to provide "the necessary input to those of us without disabilities in order for us to have a better understanding of the needs they will face." Panelist F mentioned "reaching out to organizations who do the planning to make sure their needs are met" and "starting their own advocacy groups." Going one step further, panelist E recommended people with disabilities "provide training or consultation to organizations about the needs of people with disabilities in a disaster" while panelist H advocates that they "help design the disaster scenarios and drills for the emergency responders." These responses directly address the first research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or

their advocates participate together in the planning of emergency-preparedness programs and drills?—while alluding to the second—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 7. For this yes-no item, which also included the opportunity for open-ended comment, panelists were asked whether emergency planners should have experience interacting with people with a variety of disabilities. All but one of the panelists checked "Yes" for this item. Typical of the open-ended responses was panelist H's: "The more experience responders have interacting with people with disabilities, the better prepared they will be in assisting people with disabilities during an emergency." Although panelist B checked the "No" box, the comment following this response indicated agreement with the other 10 panelists: "Evacuation Personnel, Shelter Personnel and those working directly with people should have experience interacting with people who have a variety of disabilities." The responses reveal a consensus within the panel that planners should include people with a wide range of disabilities. Item 7 relates to research question 1: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 9. This open-ended question asked panelists to list three to five ways that nonprofit organizations and emergency planners can collaborate together before a disaster occurs. In the responses to item 9, the theme of mutual consultation was notable. Panelist B recommended that the two groups should "know about each other,…know how to

contact each other,…" and "set up a plan of action…to address the basics of water, food, shelter, clothing, medications, pets, communication." Panelist H stated:

> Non-profits can provide their experts and insight to emergency planners.…Emergency planners can review disaster plans with the [nonprofits] they are planning to partner with…so the nonprofits can understand design of the "plan" and understand the role they will play during an actual emergency.

Panelist I proposed, "Health care & Social services personnel can teach first responders how to help those less able to help themselves."

Another recurring theme was the need for uniformity between and within the two groups. As panelist C remarked, "Having so many organizations with different techniques doesn't provide uniformity." Another panelist H noted, "Non-profits and emergency planners can create a logistical plan to provide disaster supplies or support for an emergency." Panelist C also emphasized the need for a standardized training program between and within the two groups: "All of them [should] provide the same type of training [and] establish drills—so that the training given can be refreshed regularly."

Although most of the responses directly addressed research question 1—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?—as the excerpt from panelist C reveals, some also addressed the second research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 10. For this Likert item, which did not include an open-ended response, panelists were asked to indicate the extent to which they agreed or disagreed that emergency planners should reach out to people with disabilities from a wide range of settings, such as residential facilities, transportation providers, and educational institutions, in order to prepare for a disaster. With nine panelists marking "Strongly Agree" and two marking "Agree," consensus was obtained. The responses relate to the first research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 11. Following up on the previous Likert question, in item 11, panelists were asked, in an open-ended format, to give three to five reasons why emergency planners should reach out to people with disabilities from a wide range of settings. More than half the panelists noted that people with disabilities have diverse needs, issues, and requirements that vary according to the individual's setting. As panelist F put it, "These settings each have people with differing disabilities and it is important to incorporate-anticipate as many disabilities as possible." Panelist G concurred: "Each setting would give a different perspective on the specific needs of people with disabilities. Different setting would have different needs." In addition, panelist K discussed the role of evolving building codes and how these might affect individuals in diverse settings:

> Many newer buildings are constructed as accessible or barrier free to allow people with disabilities ready access. Equally important is how building occupants with a variety of disabilities are notified of a building emergency…whether or not appropriate features or systems are provided to assist them during an emergency,

> and what planning and operational strategies are in place.…Visual as well as audible fire alarm system, audible-directional-sounding alarm devices, areas of refuge, stair-descent devices, and other code-based technologies clearly move us in the right direction.

The responses answer research question 1: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 12. This open-ended item asked panelists for three to five reasons why emergency planners might find consulting with groups such as NOD, Independent Living Centers, disability-specific networks such as the United Spinal Association, educational institutions, and local residential facilities for seniors, helpful. All agreed such consultations would be useful. As panelist F remarked, "These groups can provide valuable information which planners can incorporate into their plans." Panelist C concurred: "They have a plan already written that we may use as a blueprint for a plan that would best meet the needs in our area." Panelist B noted the following: (a) "Groups and organizations provide access to people with disabilities"; (b) "groups and organizations may already have an emergency plan in place and/or have advised their clients about what to do in the event of an emergency"; and (c) "groups and organizations are able to provide planners with information about the specific needs and challenges of their clients/members." Panelist H noted several additional advantages of such consultations, including obtaining "resources or money…as many of these groups are well funded." The responses directly address the first research question: According to a

panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 13. Here, panelists were asked to list three to five benefits of including people with disabilities in the emergency planning process. Echoing the comments of many responders, panelist F stated, "Including people with disabilities in the planning process helps ensure their needs and concerns are addressed." Panelist C called their input "vital," noting that "they would be able to share the concerns and needs that go hand in hand with their particular disability." Panelist I observed: "Those with disabilities know best what they need," while panelist G pointed to their "firsthand knowledge on safety." Panelist B noted additionally that by including people with disabilities in the planning process, they "learn their own responsibilities in preparing for an emergency…they are empowered…they are more prepared." Although the comments do not state how people with disabilities can be included in the planning process, by acknowledging that they should be, the responses confirm the premise of research question 1: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 14. In responding to this open-ended question, which asked panelists for three to five reasons why people with disabilities and their advocates should make active participation in the emergency-planning process a priority, panelists noted an array of advantages. According to panelist C, such participation would "ensure the plan addresses the needs of people with disabilities at each phase of the plan," while panelist F

maintained that such participation "can make the difference in saving a life." Panelist I observed:

> Plans are for the healthy unless information is shared to fill out the picture. Quiet spaces, power for oxygen pumps—"special needs"—require forethought to be adequately provided. Those who know of needs and resources need to share their information.

Again, the theme of personal responsibility was emphasized, with panelist F stating, "[Involvement] brings personal responsibility to the table. The disabled person cannot take his [or] her safety for granted in an emergency situation." Again, the responses answer research question 1: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 15. In responding to this open-ended item asking panelists to list three to five reasons emergency planners should hold regularly scheduled meetings with people with disabilities in order to exchange ideas about emergency preparedness, panelists described many advantages of holding such meetings. Panelist B stated, "Regularly scheduled meetings increase…attendance…accountability…preparedness." According to panelist F, "Regularly scheduled meetings are easier to attend than sporadic meetings [and] more gets done. Sporadic meetings may drop to no meetings at all." Citing the "real world dynamics of personnel changes in organizations," Panelist E concluded, "Emergency planning must [be] an ongoing process." More generally, Panelist F mentioned "the ever-changing nature of things." The responses answer the first research

question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 16. For this yes-no item, panelists were asked whether they agreed that planning meetings should occur in a variety of formats (web-based, face-to-face, phone-based, etc.) in order to facilitate the involvement of people with disabilities and/or their advocates. All 11 respondents marked "Yes." As panelist J remarked, "All formats may be needed to communicate with people with different disabilities." The responses directly address the first research question. Panelist H noted:

> The more forums disaster planning is carried out in, the better participation you will get. Some may find it more convenient to participate in web-based meetings, phone based meetings, etc. due to their availability and lifestyle changes in the course of time.

The responses address the first research question, According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Item 17. This open-ended summary question asked panelists to state any other ideas or comments they may have had about emergency planners and people with disabilities working together to prepare for disasters. One respondent C noted, "The working relationship between these two groups needs to be an ongoing process." Participant H observed that when the two groups work together "both groups will benefit because the feedback from both groups will better address any potential unforeseen

scenarios and bring them out into the open." The responses directly address the first research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?

Summary of emergency planning. The 12 items discussed above were presented in three different formats: yes-no, agree-disagree according to a 4-point Likert scale, and open-ended. Except for yes-no item 5 and Likert item 10, all the items allowed for open-ended responses. For the two yes-no items, all the panelists (100%) checked "yes." Consensus for the two agree-disagree Likert scale questions was also achieved, with all the panelists agreeing on both questions, and none disagreeing.

Upon analyzing the data, the researcher noted two persistent themes. The first of these is the necessity of emergency responders having direct input from people with disabilities throughout the planning phase of emergency preparedness. Typical of the comments were, "Planners need to know about the realistic needs of people with disabilities" (G); "They bring to the table specialized knowledge" (F); "They can provide solutions to logistical issues" (F); and "Their active participation can make the difference in saving a life " (F). These and many similar remarks reinforce the conclusions of other researchers, including McCambell (2003), Davis and Mincin (2005), Gibson and Hayunga (2006), Rowland, White, Fox, and Rooney (2007), The other major theme running through the responses is the empowerment of people with disabilities when they are active on their own behalf. As panelist (B) put it, "They learn their own responsibilities in preparing for an emergency." According to (C) "Their input would be vital–they would be able to share the concerns and needs that go hand in hand with their

particular disability." Such comments from the study's panel of experts support the claims of activists such as Hilary Styron and Marcie Roth (Tady, 2006).

Emergency program: Training. This section of the round-one questionnaire, consisting of items 18-23, was designed to answer the second research question: According to a panel of experts, what will help members of the emergency preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills? Because item 8, a training item, was placed unintentionally in the planning part of the questionnaire, it too will be discussed in this section.

Item 8. For this open-ended item, panelists were asked to discuss what type of training they would recommend to evacuate people with disabilities during an emergency. Responding to the question, nine of the 11 panelists proposed a number of specific components for an emergency-response training program. Panelists A and E both advocated that the program include training in functional needs. Panelist B cited "proper lifting and transporting techniques"; as did panelists C, "Definitely how to properly carry someone!!!!"; G and I, "Learn/Practice any special transport techniques—lifting do's & don'ts, vehicle requirements." Panelist B also mentioned communication and "how to find/use alternate communication modes." The "independent living model" was noted as a source to refer to for information by panelist E; "Training from the Center for Disability Issues and the Health Professions (CDIHP)" was promoted by panelist F. Panelist G proposed "basic transfer education, sighted guide training, training in keeping people calm." Panelist H added "cribbing—for people trapped under large objects, confined space entry, and level A/SCBA training for hazardous environments" to the list. Panelist

J recommended that training involve familiarization of an organizations' Emergency Action Plans (EAPs). These responses directly address research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 18. For this open-ended item, panelists were asked to provide three to five reasons people with disabilities and their advocates should be strongly urged to participate actively in training activities. Among reasons given were that such activities could help responders understand the realistic needs of people with disabilities. Panelist A maintained, "[People with disabilities] are able to provide guidance as to the training material and information." According to panelist C, "With their help…in a mock emergency situation, the responders would actually have to keep their particular disability in mind." Another panelist E cited the "opportunity to train non-disabled community on the needs of people with disabilities," adding "[Their] visible presence will ensure disability issues will not be overlooked." In a similar vein, panelist H remarked, "This will be their chance to be heard during the disaster planning process." Panelist I noted:

> First responders learn by doing. If they can work with disabled people and observe what is needed…, they can perform at a higher level of care and compassion when needed. First responders think in the abstract until shown a more realistic view.

These answers all address the second research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness

programs and drills?

Item 19. In an open-ended item closely related to item 8 in the preceding section, panelists were asked what training (such as wheelchair transfers, disability assessments, working with assistive devices, guiding a blind person through a crowd, American Sign Language, etc.) emergency responders should have in order to assist people with disabilities during an evacuation. Not surprisingly, some of the responses overlapped those of item 8. For example, panelist H stated that "training in use of stair chair, sign language, and practice in drills and scenarios involving people with various disabilities such as blindness, deafness, para/quadriplegic, etc." would be helpful. The responses directly address research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 20. Similar to both items 8 and 19, but with an emphasis of the active participation of people with disabilities and their advocates, open-ended item 20, asked what training (such as incident command structure, shelter management, counseling, etc.) would help people with disabilities understand how emergency planners operate during an emergency or evacuation. One panelist A suggested, "Basic FEMA classes and ICS [Incident Command Structure] would be helpful." Another D recommended "people with disabilities and caregivers become volunteers with the Red Cross Disaster Response and Community Emergency Response Team (CERT) programs." Panelist I recommended that people with disabilities participate in shelter drill exercises, which "would raise awareness for all participants." The responses directly address research question 2: According to a panel of experts, what will help members of the emergency-preparedness

community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 21. This open-ended question asked panelists to list three to five reasons planners should evaluate the execution of an emergency planning exercise. All panelists endorsed the premise that such an evaluation would be useful. Panelist D's response was typical: "Emergency exercise results are a valuable tool in addressing shortfalls in the plan or its execution." Similarly, panelist B set forth three points: "To know what works well. To know what doesn't work well. To improve the areas that don't work well." Claiming that evaluation is an integral part of any plan to "work out the kinks/flaws," panelist F went on to explain, "Situations may arise which were not anticipated in the planning phase. Debriefing facilitates identifying what needs to be improved." Panelist I added, "There needs to be cumulative knowledge. Lessons learned by each person help only that person unless shared." Emphasizing the inclusion of people with disabilities, panelist K wrote, "Planners should discuss and involve persons with disabilities in 'after action review' to capture the true impact of the disaster and to improve plans for the future." The responses relate to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 22. For this open-ended summary question, panelists were asked to state any other ideas or comments they may have had about emergency planners and people with disabilities working together in the training aspects of emergency preparedness. Only four of the 11 panelists responded. Panelist H noted, "If both…groups work together to

design [an] emergency-preparedness training program, that…training would [have] more value added because it would have feedback from both planners and people with disabilities." Panelist J stated, "Working together is essential—to successful outcomes." In contrast to the brevity of the comments from those few panelists who chose to respond to item 22, panelist K, raised and addressed the issue of language sensitivity at length:

> Speak of the person first, then the disability. Emphasize abilities, not limitation. Do not label people as part of a disability group—don't say "the disabled." Say "people with disabilities." A "disability" is a functional limitation that interferes with a person's ability to walk, hear, talk or learn. A "handicap" is a situation or barrier imposed by society, the environment or oneself. Accept person[s] with disabilities as individuals, entitled to the same respect and treatment you would want for yourself. Treat adults with disabilities as adults. Do not patronize them by telling them how courageous they are, patting them on the back or talking to them like children.…Speak directly to the person with a disability rather than through a companion.…Offer assistance, but wait until your offer is accepted before you help.…Be considerate of the extra time a person with a disability may need. Let the person set the pace in talking or walking.

Panelists' responses directly address the second research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 23. For this open-ended item, which closely parallels item 13, panelists were asked to list three to five reasons people with disabilities should be utilized to enhance an

emergency-preparedness program. Echoing many other panelists' responses, Panelist D responded, "No one [better] understands [the] issues to be addressed in an emergency-preparedness program than people who deal with disabilities every waking moment." Panelist C noted, "They know what their needs and comfort points are. More efficient procedures could be discovered. They know what works and what doesn't." Panelist H added, "People with disabilities can act as an ambassador for the groups they are representing." These responses answer the second research question: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Summary of emergency training. In this section (items 18-23 plus item 8 from the planning section), which focused on training, all questions were open-ended. In reviewing panelists' responses, the researcher noted the consensus on the inclusion and active participation of people with disabilities in all the training aspects of an emergency-preparedness program. Moreover, all respondents agreed that emergency responders should include people representing a wide range of disabilities and be drawn from diverse settings in devising, executing, and evaluating training exercises and drills. As one panelist stated, their "visible presence will ensure disability issues will not be overlooked." Another noted, "First responders learn by doing. [They] think in the abstract until shown a more realistic view." The panelists' consensus on these issues supports the conclusions of such scholars as Davis and Mincin (2005), Gibson and Hayunga (2006), McCambell (2003), and Rowland et al., (2007) as well as those of activists such as Hilary Styron and Marcie Roth (Tady, 2006).

Despite the panel's consensus on the inclusion of people with disabilities working together with emergency responders in devising, executing, and evaluating the emergency response training program, there was no consensus on what the most important components of that program should be. Instead, individual responders proposed a number of different components, with no single component being mentioned by more than three panel members.

Emergency program: Sustaining. Although the final two items, items 24 and 25, on the round-one questionnaire do not directly answer either of the two research questions, they provide additional insight into the importance of continuing the program once it has been planned and implemented. Of the two final items, the first, item 24 elicited responses from all but one of the panelists. In contrast, only four panelists chose to respond to the last item, item 25.

Item 24. For this item, panelists were asked in a yes-no format whether they believed that in order to sustain an emergency-preparedness program, current participants should connect with other local, regional, and national communities working with people with disabilities. Of the 11 panelists, 10 checked "Yes" on the questionnaire. The 11th panelist left the item blank. Panelist K elaborated:

> It is essential [because] catastrophic events will occur at different times, have variable durations, and may vary in the severity; therefore, full or partial delegation of authority may be necessary to execute essential functions and services. Therefore the guidance for those organizational elements for which control and direction will devolve, including: essential functions and services, rotating operations geographically as applicable, supporting tasks, points of

contact, resources and phone numbers.

The responses relate to both the first research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?—and the second—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 25. This open-ended summary item asked panelists to state any other ideas or comments they may have about sustaining the emergency-planning program. Only four of the 11 responded. In a summary statement, panelist H noted:

> It is very important to sustain and maintain a disaster planning program because during a large event there are many elements of a disaster plan that needs to be immobilized. A response is like a machine, and planning is the oil that keeps the machine operating at its full potential.

The responses relate to both the first research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?—and the second—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Summary of emergency sustaining. As noted earlier, panelists responded less

fully to the two items in this final portion of the round one questionnaire than they did in the planning and training sections. In responding to the sustaining section of the round-one questionnaire, consensus that current participants should continue to connect with local regional and national communities that work with people with disabilities in order to sustain the emergency-preparedness program was achieved.

Round-One Summary

In responding to the questionnaire, panelists reached consensus on a number of recommendations to help emergency responders and people with disabilities come together to prepare for emergencies. Although the panel's recommendations addressed each of the research questions, the levels of agreement in the responses to the two research questions differed. In answering the first research question—What will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?—the responses reflect consensus in every area addressed. Although there was considerable agreement among the panelists in answering the second research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?—there was one major area in which the experts differed: the training program. In this section, the answers to each research question contained in the round-one data are summarized and the areas of agreement and disagreement among the panelists set forth.

Answering research question 1: Round one. Answering the first research question—What will help members of the emergency-preparedness community and

people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?— the study's panel of experts achieved consensus on the following five recommendations for people involved in emergency planning: (a) consult organizations that provide services to people with disabilities, (b) interact with individuals who are living with a wide range of disabilities and who are drawn from a wide range of settings, (c) hold regularly scheduled meetings in a variety of formats, (d) be sensitive in the language used when addressing or referring to people with disabilities, and (e) encourage people with disabilities to be proactive on their own behalf.

According to the panel of experts, consulting disability-specific networks and organizations that provide services to people with disabilities will help emergency responders and people with disabilities come together to plan for emergencies. Such organizations will not only provide planners with access to activists and other people with disabilities, but these organizations may also already have emergency plans of their own in place to share. Moreover, as one panelist pointed out, not only can their plans serve as potential blueprints for the emergency planners, but these organizations may guide them toward funding sources.

Interacting with individuals who are living with a wide range of disabilities and who are drawn from a wide range of settings will also help planners come together to plan. When planners are familiar with people with differing disabilities, they are likely to include what panelist (I) called more "mitigations" in their plans. At the same time, planners need to include people from a variety of settings, such as centers for independent living, schools, and transportation systems. As one expert explained, in an

emergency, there is a difference between the needs of the person and those of the facility. Just as people's functional needs are distinct, so evacuation plans vary according to the setting.

Holding regularly scheduled meetings in a variety of formats will also help emergency responders and people with disabilities to come together to plan for emergencies. As the panelists noted, the work of planning for emergencies is continuous and ongoing. Regular meetings increase active participation in the planning process. Moreover, by meeting regularly, the planners can exchange new information and update their goals. Utilizing a variety of meeting formats, such as face-to-face, phone-based, and web-based, in their meetings, will also enhance active participation in the planning process. Not everyone can attend every meeting in person. Furthermore, multiple formats may be needed to include people with different disabilities.

The panelists also agreed that language sensitivity is central to active participation and successful outcomes in all phases of emergency planning. Planners should be conscious of first addressing the person, then the disability. They should avoid using terms such as the disabled or the disabled population; instead, they should refer to people with disabilities or to a person living with visual impairment.

Finally, panelists agreed that in order for emergency responders and people with disabilities to come together to plan for emergencies, the latter must be proactive on their own behalf. For example, they should contact their local city halls or their county offices of emergency services, and become active in the American Red Cross. In emergencies, people with disabilities cannot take their personal safety for granted. By participating fully in the planning process, they not only empower themselves, asserting personal

responsibility and enhancing their own commitment to safety, but they also make their needs visible to the planners, teaching them, influencing the decisions, rectifying mistakes made in the past, and improving outcomes when the next disaster strikes. By the same token, panelists recommended that emergency responders should encourage and support the active participation of people with disabilities in emergency programs.

Answering research question 2: Round one. In responding to the training items presented in the round-one questionnaire, panelists reached consensus on several recommendations to help emergency responders and people with disabilities participate together in emergency-preparedness programs and drills. These recommendations, which address and partially answer the second research question—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?,—include the following: (a) Include people with disabilities in all phases of training, (b) work with nonprofits to achieve a uniform training program, (c) regularly evaluate exercises and drills, and (d) are language sensitive. However, in one important area, the components of an emergency training program, the panelists did not reach consensus.

Panelists reached consensus on the point that in order for emergency responders and people with disabilities to come together to train for emergencies, the latter must not only be included, but also must actively participate in all phases of the training program. Their participation serves as a constant reminder to the able-bodied community of their existence, their needs, and the input they provide, as subject-matter experts, during a drill and how these could improve an emergency response. Their participation illustrates to an

emergency responder how to respond properly to a person with a disability. As panelist I explained, “First responders learn by doing. If they can work with disabled people and observe what is needed and what is the greatest help, they can perform at a higher level of care and compassion when needed.”

In addition, panelists agreed that emergency responders and nonprofit organizations should work together to develop a uniform training program. If all these groups are trained in similar ways, collaboration among these groups will be smoother as they assist people with disabilities when a disaster happens.

Panelists also agreed that emergency training exercises and drills must be held and evaluated regularly. Panelist I noted, “Training people must never stop. People forget what they learned. New people never knew it.” By evaluating an exercise, panelists agreed, planners learn what worked well and what needs to be improved. Observing that knowledge is a cumulative process, panelists noted that after an exercise or drill, emergency responders and people with disability can brainstorm together to build on what they’ve learned. As panelist E stated, “Post disaster discussions are important for documenting insights for implementation and institutionalization of needed improvements.”

Moreover, panelists agreed that in the training, as in the planning aspects of emergency preparedness, everyone concerned should be sensitive to the language they employ, speaking of the person before mentioning his or her disability and addressing the person with a disability directly rather than to a companion or assistant.

However, in spite of the numerous areas of agreement among the panelists, there was one aspect of the training program upon which the panelists did not agree: the

training program's components. As noted earlier, in the course of round one of the study, the panelists cited 16 different components that one or more members of the group deemed essential to a successful training program. Of the 16 training-program components, 14 were proposed in the responses to item 8 of the questionnaire: The 15th component (keeping people calm) appeared in a response to item 19 of the questionnaire, and the 16th (language sensitivity) appeared in a response to item 22. Of the 16 components, 12 were cited once in the responses to the first questionnaire; one component was cited twice; two components were cited by three panelists; and one component was cited by four panelists. Therefore, although research question 2—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?—was partially answered in the first round, with the panel of experts agreeing to many of its recommendations, on one important aspect of the training program, its particular components, no agreement was obtained.

Round-Two Analysis

Because consensus was already achieved for all items pertaining to research question 1 and was reflected in the data from this first Delphi round, the researcher determined that it would not be useful to pursue any of these agreed-upon issues any further in a second round. By the same reasoning, he decided not to follow up on any of the training recommendations to which all or nearly all of the panelists agreed in round one. However, upon reflecting further upon the panelists' responses and after reviewing the literature, the researcher determined that despite the wide agreement on the broad outlines of a training program for emergency responders and people with disabilities,

there was as yet no consensus on just which components such a training program should include. Because of the variation among the panelists regarding the components of the training program and because the importance of such a program to emergency preparedness features so prominently in the literature (Rooney & White, 2007; Rowland et al., 2007), the researcher decided to explore this issue further in a second Delphi round. By addressing the issue of and seeking consensus on the training-program's components in round two of this study, the researcher sought to complete the answer to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills? In the following sections, the round-two questionnaire is described, the data it elicited from the panelists examined item by item, and the results as they pertain to research question 2 explained and summarized.

Round-two questionnaire. The round-two questionnaire consisted of 17 items, 16 of which were based on the 16 different training-program components panelists proposed in responding to the first questionnaire. For the round-two questionnaire, panelists were asked to indicate the extent to which they agreed or disagreed, according to a 4-point Likert scale, that a particular component was essential to the success of an emergency-preparedness training program. In addition, they were asked to comment in an open-ended manner on each of their Likert-scale responses. At the end of the questionnaire, a 17th item asked panelists to write down any additional ideas and comments they had about the emergency-preparedness training program. In the second Delphi round, the researcher's objective was to see whether the panel could reach

consensus on which of the 16 components were essential to the success of the training program, and, therefore, complete the study's answer to the second research question. The summary of the panelists' responses to each of the proposed components follows.

Item 1: Language sensitivity. In responding to the first item in the round-two questionnaire, "Language Sensitivity (words used to identify people with disabilities) is essential to the success of the training program," six of the 11 panelists strongly agreed with the statement, four agreed, and one did not respond. Only one panelist (A) chose to comment, stating, "Professional First Responders should already have this skill." Item 1 of the round-two questionnaire directly addressed research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 2: Alternate communication modes. For this item, "Recognizing Alternate Communication Modes (i.e., nonwritten communication, Braile, etc.) is essential to the success of the training program" eight of the 11 responders strongly agreed, two agreed, and one did not respond. The single comment stated, "Only very basic information about Alternate Communication Modes is necessary for first responders" (D). All responses related directly to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 3: Lifting and transporting. In responses to the third item, "Knowledge of Lifting and Transporting Techniques is essential to the success of the training program" nine of the 11 strongly agreed, one agreed, and one did not respond. No comments or

suggestions were provided. The responses to this item all address research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 4: Postdisaster care. Responding to the item, "Postdisaster Care is essential to the success of the training program," only eight of the 11 panelists responded, four strongly agreeing, two agreeing, two disagreeing, and one strongly disagreeing with the statement. Two panelists included comments, (D) remarking, "It is very important to care for the responders after the fact so they themselves do not become 'casualties' of the disaster." All responses directly answer research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 5: Nursing home-assisted living-hospital evacuation. Of the 10 panelists who responded to the statement, "Nursing Home-Assisted Living-Hospital Evacuation is essential to the success of the training program" seven strongly agreed, three agreed, and one did not respond. "Planning within a city or regional area" (G) was the single comment. All responses to item 5 answer research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 6: Functional capacity. For this item, "Understanding Functional Capacity is essential to the success of the training program," three of the 11 panelists strongly

agreed, six agreed, one disagreed, and one did not respond. Of the two comments provided, panelist (A) noted, "Even the most capable of people when under stress or fatigue may not be up to their functional capability." Underscoring the question, panelist (I) noted, "Being aware of Functional Capacity might be a better term here." Panelists' responses to item 6 relate directly to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 7: Independent living model. For item 7, "Utilizing the Independent Living Model is essential to the success of the training program," three of the 11 panelists strongly agreed, five agreed, two disagreed, and panelist (C) commenting, "I don't know what the Independent Living Model is, so I have no opinion," did not attempt to answer the question. There were no other comments for this item. All responses related to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 8: CDIHP. For this item, "CDIHP (Center for Disability Issues and the Health Professions) training is essential to the success of the training program," three of the 11 panelists strongly agreed, three agreed, two disagreed, and three did not respond. Of the nonrespondents, two stated that they were not familiar with the CDIHP. Only panelist (F) chose to comment, remarking "Training in Awareness of Disability Issues is important, but CDIHP training is likely in greater depth than is necessary for First Responders." All responses addressed research question 2: According to a panel of

experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 9: Keeping people calm. For item 9, "Keeping People Calm is essential to the success of the training program," six of the 11 panelists strongly agreed and five agreed. Panelist (A) wrote, "Keeping People Calm is an admirable goal at the time of an event. Training raises awareness of the desirability of Calm and can inform how organization and pre-planning may enhance that experience." All responses answer research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 10: Guiding the blind. Responding to the statement "Guiding the blind is essential to the success of the training program," four of the 11 panelists strongly agreed and seven agreed. According to panelist (G), the only panelist who provided a comment, "Blind, deaf, those who speak another language, those with cognitive disabilities—training can raise the awareness that segments of the population will need different approaches." All responses to this item directly addressed research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 11: Cribbing. Responding to item 11, which states "Cribbing (i.e., what to do for people trapped under large objects) is essential to the success of the training program," six of the 11 panelists strongly agreed, three agreed, and two did not respond.

Two panelists provided comments, with panelist (D) noting, "Firemen and paramedics, should already have this skill"; panelist (A) observed, "This isn't a People with Disabilities issue, it is a People issue. CERT and Fire Dept training includes it. Police & Utility companies? Probably not." All responses pertained to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 12: Confined-space entry. Responding to the statement, "Confined Space Entry is essential to the success of the training program," six of the 11 panelists strongly agreed, three agreed, and two did not respond. Two panelists were not sure of what the term, confined space meant, with panelist (A) speculating, "Confined by what? Collapsed structure? Confined by fallen structure contents?" This panelist went on to remark, "Here again, this isn't strictly a Persons with Disabilities issue." The third and only other panelist to comment, panelist (D), thought that item 12 was identical to item 11 (cribbing). The responses all addressed research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 13: Hazardous environments. For item 13, "Operating in Hazardous Environments is essential to the success of the training program," six of the 11 panelists strongly agreed and five agreed. Two panelists provided comments, the first, panelist (D), merely to remark, "same as above." The second panelist, panelist (A), stated:

Training to know what constitutes an Hazardous Environment and what not to get

into is essential. Washing after exposure to Haz Mat is essential. CERTs are told to stay out of Hazardous Environments. Fire personnel are trained and suited up to deal with most hazards.

All responses pertained directly to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 14: Special-vehicle requirements. Responding to this statement, "Knowledge of Special Vehicle Requirements is essential to the success of the training program," three of the 11 panelists strongly agreed, six agreed, and two disagreed. Two people commented, the first, panelist (D), noting merely "same as above." The second, panelist (H), wrote, "Training can address which segments of the population might need special transport." Responses addressed research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 15: Utilizing communication. Responding to item 15 "Utilizing Communication (i.e., two-way radios) is essential to the success of the training program," seven of the 11 panelists strongly agreed and four agreed. This item elicited two responses, one of which, from panelist (D), was again "same as above." The second, panelist (A), wrote, "Radios are faster than runners. Communication is essential. Training can review alternative modes and emphasize the importance of communication." All responses address research question 2: According to a panel of experts, what will help

members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 16: EAPs. For the 16th item, "Knowing Organizations' Emergency Action Plans (EAPs) is essential to the success of the training program," five of the 11 panelists strongly agreed, three agreed, two disagreed, and one did not respond. In the comments section, panelist (A) wrote:

> There are Chiefs and there are Indians. Chiefs need to know the plan. Indians need clear direction from Chiefs. Training can emphasize—organizational structure—areas of responsibility—overall mission of the organization and broad goals of EAPs—encourage review and familiarity of EAPs.

The only other commenter, panelist (D), noted, "Professional responders and Caregivers should already have this training." All responses directly pertain to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Item 17: Additional ideas. The final item on the questionnaire contained an open-ended catchall statement: "In the space below, please jot down any additional ideas or suggestions." Only four of the 11 panelists chose to comment. The first of these responders, panelist (D), noted, "provided leadership is important." The second, panelist (A), observed, "All the items in this questionnaire represent elements of a disaster training program that should be included in every training program. [All are] essential to the success of the training program." A third panelist, panelist (H), stated, "The program may have to be a different levels depending on those to be trained and the skills they

already possess." The fourth and final person to respond, panelist (E), wrote, "I answered these questions based on my perceived training needs for first responders. I didn't think they would be involved with post-care." The responses relate to research question 2: According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

Answering research question 2: Round two. In round two, the answer to research question 2—According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills—that was partially answered in the previous round, was completed.

In the answer to research question 2 provided by responses to the round-two questionnaire, the level of agreement among the panelists is strongest (100% of the 11 panelists) for four of the 16 components proposed: item 9 (Keeping People Calm), item 10 (Guiding the Blind), item 13 (Operating in Hazardous Environments), and item 15 (Utilizing Communications). All 11 panelists (100%) agreed that each of these components is essential to the success of the training program. Although still strong, the agreement among the panelists was weakest for item 8 (CDIHP) and item 4 (Postdisaster Care). While these two components elicited, respectively, 76% and 75% agreement among the panelists who responded for items 8, 9, and 10, the percentage of agreement falls to 55% when it is based upon the total number of panelists ($N = 11$) participating in the study. Interestingly, the lowest level of agreement is accompanied by the lowest number of panelists responding. For example, component item 4 (Postdisaster Care),

which together with component item 8 (CDIHP), received the least support for inclusion in the training program also elicited the only "strongly disagree" (as opposed to "disagree," "agree," or "strongly agree") response from any panelist participating in round two of the study. As the responses to the round-two questionnaire clearly demonstrate, considering and prioritizing a list of components for a training program previously generated by individual experts allowed emergency responders and people with disabilities to come together to prepare for emergencies.

In this round, consensus was achieved for all of the proposed components. In asserting this claim, it should be noted that the researcher's definition of "agreement" (a) combined the "strongly agree" and the "agree" Likert options offered to respondents in the round-two questionnaire, and (b) required the concurrence of at least 75% of those panelists who chose to respond. Under these conditions, panelists reached consensus on all 16 components; that is to say, at least 75% of the panelists agreed that each of the 16 proposed components is essential to the success of an emergency-preparedness training program. In fact, for 10 of the 16 proposed components, 100% of the responding panelists ($N = 9$ to 11) agreed that each of these 10 components is essential to the program's success; for another four of the 16 proposed components, 80% to 90% of the responding panelists ($N = 9$ to 11) agreed that those components should be included; finally, for the remaining two of the 16 proposed components, 75% to 76% of the responding panelists agreed that they are essential.

However, in analyzing the round two-data, although all of the panelists did answer five of the 16 components in the second questionnaire—item 15 (Utilizing Communications), item 13 (Hazardous Environments), item 9 (Keeping People Calm),

item 11 (Guiding the Blind), and item 14 (Special Vehicle Requirements)—it should be noted that not all 11 members of the panel of experts responded to every question. For example, of the 11 panelists, only 10 answered item 1 (Language Sensitivity), item 2 (Alternate Communication Modes), item 3 (Lifting and Transporting Techniques), item 5 (Nursing Home-Assisted Living-Hospital Evacuation), item 6 (Understanding Functional Capacity), item 7 (Using Independent Living Model), and item 16 (Knowing EAPs); only nine answered item 11 (Cribbing) and item 12 (Confined Space Entry); and only eight answered item 4 (Post Disaster Care) and item 8 (CDIHP). If the percentage of responses to a given item is based upon the total pool of 11 panelists instead of upon the number of panelists responding (N = 8 to 11), the percentage of panelists agreeing with the inclusion of four of the 16 components proposed for the training program falls below 75%, with two items, item 7 (Utilizing the Independent Living Model) and item16 (Knowing EPAs) each obtaining 73% agreement (N = 10) and two more for item 4 (Postdisaster Care) and item 8 (CDIHP training) each receiving 55% (N = 8) agreement among the respondents. Because of this, when the percentages of agreement are based upon the total number of panelists in the pool (N = 11) rather than upon the number of panelists who responded to a given item in the questionnaire (N = 8 to 11), consensus, as defined for this study by the researcher (at least 75% agreement), was not achieved, although a majority of panelists did agree that each of the four items in the questionnaire is essential to a successful training program.

Summary

This chapter presented and analyzed the results of this Delphi study. Consisting of two Delphi rounds, the study addressed two research questions: (a) According to a panel

of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?; and (b) According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

In the first round, a panel of experts responded to a questionnaire focusing on the planning, training, and sustaining aspects of an emergency-preparedness program. In addition, a preliminary section of the questionnaire asked panelists about their jobs and organizational titles and affiliations as well as their personal experience, if any, with emergency rescue. Data pertaining to planning that were obtained in the first round answered the first research question, with consensus among the panelists achieved. Data relating to emergency training were also obtained in round one of the study. Although panelists reached consensus on most of the training issues presented in the questionnaire, on one key issue, the most essential components of an emergency training program, the panelists' suggestions varied widely.

As a result of the variation on this single issue, the researcher devised a second questionnaire based on the 16 components individual panelists proposed in the round-one questionnaire. This second questionnaire, designed to complete the answer to research question 2, became the research instrument for round two of the study. For this second round, panelists were asked to evaluate each of 16 training-program components proposed in round one according to a 4-point Likert scale and to comment on their responses. Analysis of the data revealed that the panelists had reached consensus and that

inclusion of the 16 components is essential to the success of an emergency training program. Examination of the data also revealed that the levels of agreement differed, with some components receiving more support from the panel than others. Because consensus was reached and because the answer to the second research question was completed, round two became the final round of this Delphi study.

In the next chapter, the study's conclusions is set forth and examined.

Chapter Five: Conclusions

Hurricane Katrina, 9/11, and other recent natural and man-made disasters have shown that in emergencies such as these, the needs of people with disabilities are not being met. A failure of effective preparation among those playing key roles in emergency planning and response is at the heart of the problem. In order to address better the needs of people with disabilities when disaster strikes, the researcher designed a study to explore ways to improve the process.

After convening a panel of experts composed of emergency responders and people with disabilities, the researcher, employing the Delphi method for consensus, administered two questionnaires. In responding to the first questionnaire, the panel proposed 16 different components that one or more of them considered to be essential to a successful emergency-preparedness training program. The researcher next crafted a second questionnaire based on the 16 components the panel had already generated. Panelists were then asked to indicate the extent to which they agreed or disagreed with the inclusion of each of the proposed components in an emergency-preparedness training program. In responding to the second questionnaire, the panelists prioritized the 16 components on the list, reaching consensus on the relative importance of each of the proposed items to the training program. The results of the study demonstrate a way for emergency responders and people with disabilities to work together to prepare and train for disasters.

Addressing the Issue

After reviewing the literature, the researcher first identified the problem: Key players in emergency planning are not adequately meeting the needs of people with

disabilities when disaster strikes. He next came up with two research questions for the study to address:

1. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in the planning of emergency-preparedness programs and drills?
2. According to a panel of experts, what will help members of the emergency-preparedness community and people with disabilities and/or their advocates participate together in emergency-preparedness programs and drills?

To answer these two research questions, the researcher employed the Delphi methodology. This method, designated the foremost method of communication used and designed to produce dialogue around a central issue (Adler & Ziglio,1996), structures, as Linstone and Turoff (2002) assert, "a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with complex problems with a goal of reaching consensus" (p. 3). At the same time, Helmer and Rescher (as stated in Gatewood & Gatewood, 1983), state, the Delphi has the capacity to minimize "certain negative aspects of group interaction: social persuasion, unwillingness to abandon publicly stated positions, and the bandwagon effect of majority opinion" (p. 88).

Limitations of Study

In reviewing the study, several of its limitations come to mind. One of these is the small number of experts who compose the panel. Had a larger number participated, the results might have changed. For example, the components proposed for the training program might have been different and there might have been more of them. However, it

should be remembered that the purpose of the Delphi method is not to generate and reach consensus on a particular list or number of recommendations, but rather it is a process by which a panel of experts can freely express a variety of individual opinions with the goal of eventually reaching an agreement on some or all of them.

A second limitation of the study was that it drew its participants from one particular region of a single state, California. Other geographic locations in California or in another state might have produced different data. For example, residents of areas with more extreme weather conditions—hurricanes and ice storms, for example—might have come up with a different set of priorities for addressing emergency response. Another example might include residents of large metropolitan areas such as Chicago, New York, or Seattle, which have taller buildings and apartment dwellings than those of this study's city and, therefore, might offer different concerns for people with limited mobility. The researcher's intention was to develop a system for a process that could be used in other regions of the country, not to generate a particular list of components for emergency preparedness training programs everywhere.

A third limitation was the personal relationship between the researcher and the participants. Although he knew members of the panel only casually, he was acquainted with most of them by name and by sight. Had the panel been composed of strangers, different results might have been obtained. However, it should be noted that by selecting the Delphi methodology, the researcher mitigated any effects this slight personal acquaintance might have had upon the panelists' responses and the study's results. Once the Delphi rounds commenced, panelists reflected upon and addressed the issues presented to them in the two questionnaires at the times and in places of their own

choosing. The process, once begun, did not allow for personal interaction either between the researcher and the panelists or among the panelists. Neither the researcher nor other panelists could affect any individual's particular responses while the panelists were working their way through each of the items in the questionnaires.

A fourth limitation is that although the panelists represented a range of ages and occupations, and although the genders were represented in approximately equal numbers (six women and five men), there was the lack of ethnic diversity among the participants. A more diverse panel might have produced different results.

More important than the limited ethnic diversity of the panel, in the researcher's view, was its relative lack of representation among people with disabilities. As the literature has shown repeatedly and as the panelists in this study clearly stated, if lives are to be saved when disaster strikes, the active participation of people with disabilities in all phases of emergency preparedness is essential. Of the 21 potential panelists the researcher invited to participate in the study, there were only three whom he knew to be living with disabilities. Of these three recruits, only two—less than 20% of the total of 11 people constituting the actual panel—completed the two Delphi rounds. An equal number of advocates for people with disabilities were among the 21 original recruits, with only two of these three remaining as participants on the panel, leaving only four of the 11, or less than 40% of the panel's participants who were either living with a disability or were advocates for those who were living with a disability. Because many disabilities are not obvious to other people and because the researcher did not ask the panelists whether they were living with disabilities, there may have been more people living with disabilities than he has noted. In any case, the goal of including as many representatives of this

population as possible in emergency preparedness is one that is widely shared.

In December 2008, the researcher attended a conference in San Diego titled, "The Disability and Special Needs Technical Assistance Conference: Understanding the Four Phases of Emergency Management," which directly addressed the issue. Panelist at that conference strongly endorsed the importance of including people with disabilities in all phases of emergency preparedness. One panelist, Richard Deveylder, the Department of Transportation's senior advisor for accessible transportation, a man who was born without arms or legs, spoke passionately about making the country's roads, railways, and airports more accessible to people with disabilities. Included in his and other panelists' comments was the importance of including people with disabilities as active participants throughout the planning processes at the local, state, and federal level. However, despite the urgency of the need, several attendees noted that in practice it is often difficult to persuade people with disabilities to participate in planning activities. Typical of the comments was that of one planner from the Midwest who said that when he asked people with disabilities to attend emergency preparedness meetings, they did not show up.

In reflecting on the problem and remembering the particular CERT training program in which he participated, it has occurred to the researcher that one way of recruiting more people with disabilities to participate in emergency preparedness would be to add a new component to this widely used existing program. Although the current CERT program does mention this population in the course of its trainings, it does not include the issue specifically and officially in the course. Adding such a component would not be difficult and seems likely to alleviate the problem.

Applications of Study

It is the researcher's belief that this Delphi study can serve as an example at local, state, and national levels for developing effective emergency-response programs that will better address the needs of people with disabilities. Throughout both rounds of the study, the experts unanimously and repeatedly stated the importance of the inclusion of people with disabilities in every phase of emergency preparedness. Whether answering discrete yes-no and 4-point Likert-scale questions or responding in an open-ended fashion, in multiple ways and at multiple times, the 11 panelists expressed their conviction that including people with disabilities throughout the planning process is essential to saving lives when disaster strikes a community. These conclusions reflect the growing support for inclusion evidenced among emergency responders and for people with disabilities at local, state, and federal levels across the country. Although the study's conclusions are limited to a single area in a particular state, California, it is the researcher's belief that the conclusions obtained in this are applicable everywhere.

In addition to its broader implications for emergency preparedness, the results of this study also point to more immediate practical applications for emergency planners, particularly in regard to the development and execution of emergency-training programs at the community level. In the current economic downturn, a major challenge facing mayors and city managers, as well as governors and federal officials, is the availability of funding. At every level of government, programs are being cut. Of course, developing and implementing programs has always been constrained by financial and political realities. Mayors, city managers, governors, and their consultants will always have to choose from among a number of desirable options. However, more than ever, that

problem is serious and urgent. In the context of this study, for example, in an ideal world, all 16 components recommended by the panel of experts would be included in the proposed emergency-preparedness training program. However, fully implementing such a program would require substantial funding. Given current economic and political realities, those responsible for emergency planning would have to choose from among the panel's recommendations; some components would be included in the program; others would not. Fortunately, as the results of this study show, the Delphi methodology provides a tool that enables emergency planners or elected officials to determine quickly and clearly which of the components proposed by individual members of a panel of experts are essential to the success of an emergency-preparedness training program. By coming together through the Delphi process, the experts were able to prioritize the list, reaching consensus on the relative importance of each proposed component. In practical terms, a mayor or city manager or an emergency-preparedness planning committee could develop a training program with the items most strongly endorsed by the panel of experts and, because of this, enable those implementing the program to decide which to include and which to exclude, should exclusion of some components be necessary.

Recommendations for Further Research

To address the study's limitations, new studies could be conducted designed to expand this study's results. For example, other researchers might want to investigate responses from experts who represented different ethnic mixes. Their results could then be compared with those of this study's results. Again, comparisons among studies taking place in different parts of the country, or comparisons between data obtained in rural and in urban sites might also be enlightening, while extending the scope of this study.

Additionally, it might be useful to explore what data would be obtained with a greater number of panelists—perhaps 25 or even 50, instead of the 11 panelists participating in this study.

Another area of study would be the emerging role of the social media in alerting people about disasters. One recent Red Cross survey shows that 74% of the population expects response agencies to answer social media calls for help within an hour (American Red Cross, 2011). Given the growing importance of social media, the role of this new and evolving method of communication merits further examination.

Near the top of the researcher's list of recommendations for further research would be an investigation of the underlying reasons qualified people with disabilities and/or their advocates are not well represented in emergency-planning groups. This problem might be lessened by determining what factors deter people with disabilities from participating in emergency planning. For example, is getting to the meetings too great a challenge for this population? Do the meeting sites lack ramps, elevators, and accessible restrooms? What about a lack of economic incentives? It seems likely that first responders are usually paid to participate in the emergency-preparedness process, whereas people with disabilities and their advocates are expected to volunteer their services.

Summary

In discussing the problem of emergency response, scholars have pointed out that when disaster strikes, the needs of people with disabilities have often been overlooked. In order to address and begin to remedy this problem, people with disabilities and emergency planners need to coordinate with one another at every phase of the

emergency-preparedness planning and training process. In this study, a panel of experts, consisting of emergency planners dedicated to emergency response and people with disabilities, confirmed this view. The panel noted that by participating in the process, people with disabilities can provide valuable input and guidance regarding emergency response that the planners otherwise might lack. In order to maximize the beneficial effect of people with disabilities on the response process, planners need to reach out to this population to ensure their active participation and people with disabilities need to be proactive on their own behalf. This study demonstrates how both groups can come together to remedy the problem.

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APPENDIX A

Solicitation Letter to Perspective Panelists

Hello!

My name is Mike Castañeda. In partial fulfillment of the research requirements for a doctorate in Learning Technologies at Pepperdine University, I'm conducting a study that aims to demonstrate a way for people with disabilities and emergency planners to collaboratively address the planning, training, and sustaining phases of emergency-preparedness programs. It is my hope that the results of the study will demonstrate how people with and without disabilities can share ideas and reach consensus on emergency preparation for their communities and that the research results will provide a model for similar exchanges to take place elsewhere.

As part of my study, I'm assembling a panel made up of (a) people with disabilities and/or their advocates (b) people who have demonstrated their commitment to public safety. I'm asking you to participate as a panelist because you are either:

1. A person living with a disability who is actively involved with disaster preparedness or a person that works with or advocates for people with disabilities.

2. A professional connected with an organization dedicated to public safety (fire department, police, public health, and other emergency services etc.).

The project will employ the Delphi technique, a data-gathering process that polls people with specialized knowledge on a given topic.

The process is as follows: A questionnaire will be sent out to you and to other panelists asking you to rate the extent to which you agree or disagree with a series of 23 statements relating to people with disabilities and emergency preparedness.

In addition to indicating agreement/disagreement, you will be asked to comment in an open-ended manner on each of your responses. Subsequently, the entire group's responses will be summarized and fed back to the panelists for a second, third and possibly fourth round of responses.

The initial round is estimated to take an average of 20-90 minutes, with subsequent rounds taking significantly less time. The study begins June 15, 2010, and will end no later than August 1, 2010.

The questionnaire will be distributed in two ways: (a) electronically (via email), and/or (b) in a printed document (hard copy).

There are no known risks associated with participation in this project. Potential benefits to participation include providing research information that can benefit people with disabilities when disaster strikes.

In keeping with Pepperdine University's guidelines, the researcher will take the following measures to ensure the confidentiality of your identity and the data you provide for the study: (a) So that none of the responses can be linked to any identifying information, such as a panelist's name or title, a code will be substituted for each name; (b) The researcher will store all printed data in a locked file; (c) All electronic data will be stored in an encrypted, password- protected file on the researcher's computer; (d) If the findings of the study are published or presented to a professional audience, no personally identifying information will be released without your permission.

If you wish to participate, please reply [redacted] by June 1, 2010. Once the study is completed, I'll be happy to share a summary of the results with participants.

Sincerely

Michael A. Castañeda
Doctoral Candidate, Pepperdine University
[redacted]

APPENDIX B

Informed Consent Form

I authorize Michael Castañeda, a doctoral candidate, conducting research in partial fulfillment of requirements for a doctorate in Learning Technologies at Pepperdine University, under the supervision of Dr. Linda Polin to include me in the research project titled “Including People With Disabilities in Emergency Preparedness: A Delphi Study.”

I understand that my participation in this study is strictly voluntary and that I may withdraw from the study, without penalty or loss of benefits to which I am otherwise entitled, for any reason and at any time.

I understand that the investigator will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused or if an individual discloses an intent to harm himself/herself or others.

I understand that participating in this study may involve the following risks, all of them deemed to be minimal: (a) Loss of time involved in responding to the questionnaire; (b) Boredom; (c) Loss of confidentiality; (Please note: So that none of the responses can be linked to any identifying information, such as a panelist’s name or title, a code will be substituted for each name. All data will be stored in a locked file. If the findings of the study are published or presented to a professional audience, no personally identifying information will be released); (d) Mental distress as a result of the content of the questionnaire; (Please note: No questions on personal topics such as income, health habits, use of illegal substances etc. will be asked; in addition, in accordance with the Delphi methodology, there are no right or wrong or better or worse responses).

I understand that the study, based on a single questionnaire and consisting of a series of 2-3 (and rarely 4) rounds, will be conducted over a period of 2-6 weeks.

I understand that summaries of the responses to the questionnaire will be completed by the researcher and redistributed in the various rounds to participants with the goal of consensus.

Based on the results of a pilot study, the initial round is estimated to take an average of 20-90 minutes, with subsequent rounds estimated to take significantly less time.

I understand that my responses will be used for research purposes only.

I understand that the researcher will substitute a code for my name on the questionnaire and that no one other than the researcher and his academic chair will know the name associated with that code. In the course of this study, no names will be linked to participants' responses. Once the study has been completed, the researcher will continue to respect the confidentiality of the study's participants' names.

I understand that all data will be maintained for a minimum of 3 years.

I understand there is no direct benefit from participation in this study; however, the benefits to the larger community may include improving outcomes for people with disabilities when disaster strikes.

I understand I have the right to refuse to answer any particular question or questions. I also understand that the investigator may find it necessary to end my participation in the study.

I understand that if I have any questions regarding the study procedures, I can contact Michael Castañeda [redacted].

If I have any further questions, I may contact Dr. Linda Polin at Linda.Polin@pepperdine.edu

If I have further questions about my rights as a research participant, I may contact Dr. Doug Leigh, Chairperson of Pepperdine University's Graduate and Professional schools Institutional Review Board [redacted].

I understand to my satisfaction the information in this consent form regarding my participation in this research project. All of my questions have been answered to my satisfaction. I have received a copy of this informed consent form which I have read and understand. I hereby consent to participate in the research described above.

_____

Participant's signature Date

_____

Witness's signature Date

APPENDIX C

Round One Questionnaire

zoomerang

Emergency Preparedness and People with Disabilities

Question 1
What is your current title?

Question 2
What is your current workplace or organizational affiliation?

Question 3
Have you ever been involved in rescue assistance for a person with a disability?

- ❍ Yes
- ❍ No
- ❍ Please explain

Question 4
Have you ever been assisted in rescue (as a person with or without a disability) ?

- ❍ Yes
- ❍ No
- ❍ Please explain

Part I: Planning

This section focuses on the planning of emergency preparedness.

In your responses, you may wish to consider the following profiles. However, the profiles are meant to serve as examples and catalyst to start you thinking. You may have your own personal knowledge of people with different disabilities which you bring to bear on the issue: the inclusion of people with disabilities in emergency planning.

Bob is a 46-year-old quadriplegic (paralyzed arms, legs, and trunk) who uses a motorized wheelchair for mobility. He lives on the 3rd floor of a modern apartment building with two elevators. Bob works from his home office as an architect but often travels to confer with clients or to inspect sites. For transportation, he uses either his own especially adapted van or the city's para-transit service (a van with a lift for transporting people with wheelchairs).

Jennifer, age 23, is deaf. She attends a local community college where she's studying Web design. Like most people who are hearing impaired, she relies on her mobile device (iPhone or Blackberry) to communicate with her friends, many of whom are also hearing-impaired.

Jaime, age 73, is semi-retired. Since the death of his wife 6 months ago, he has been taking antidepressants. Although he regularly engages in fitness walking, a heart condition requires him to take high doses of medication daily. He has also been diagnosed as a borderline diabetic.

Hillary, whose 10-year-old daughter has spina bifida, is a local community advocate for people who are living with this disease. In this capacity, she has organized walkathons, persuaded local TV stations to promote her cause, and written letters to the editor. Her actions have helped raise awareness about spina bifida to people throughout the community.

Bob, Jennifer, and Jaime are examples of the millions of U.S. citizens who live with a wide range of disabilities, while Hillary exemplifies the many able-bodied Americans who care for, or have chosen to advocate for people with disabilities.

Question 5
Do you agree or disagree with the following statement:
Planning is required in order to safely evacuate people with disabilities during an emergency.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	❍	❍	❍	❍

Question 6
Please provide 3-5 examples of how people with disabilities and/or their advocates could become involved in the emergency planning process:

Question 7
Do you agree that emergency planners should have experience interacting with people that have a variety of disabilities?

- ❍ Yes
- ❍ No
- ❍ Additional Comment

Question 8
What type of training would you recommend to safely evacuate people with disabilities during an emergency?

Question 9
What are 3-5 ways that non-profit organizations and emergency planners can collaborate together before a disaster occurs?

Question 10
Do you agree or disagree with the following statement:
Emergency planners should reach out to people with disabilities from a wide range or settings (e.g., senior residential facilities, transportation providers, educational institutions, etc.) in order to prepare for a disaster.

	Strongly agree	Agree	Disagree	Strongly disagree
Please select one response.	❍	❍	❍	❍

Question 11
Please list 3-5 reasons why emergency planners should reach out to people with disabilities from a wide range of settings (e.g., senior residential facilities, transportation providers, educational institutions, etc.):

Question 12
What are 3-5 ways emergency planners may find helpful when consulting with groups and organizations like National Organization on Disability (NOD), Independent Living Centers, disability specific networks like the United Spinal Association, educational institutions, and local residential facilities for seniors, etc.?

Question 13
What are 3-5 benefits of including people with disabilities in the emergency planning process?

Question 14
In involving themselves in the emergency planning process, what are 3 - 5 reasons why people with disabilities and/or their advocates should make active participation in the process a priority?

Question 15
Please list 3-5 reasons why emergency planners should hold regularly scheduled meetings in order to exchange ideas about emergency preparedness with people with disabilities:

Question 16
Do you agree that in order to facilitate the involvement of people with disabilities and/or their advocates, planning meetings should occur in a variety of formats, including web-based, face-to-face, and phone-based formats, etc.?

- ○ Yes
- ○ No
- ○ Please explain

Question 17
In the space below, state any other ideas or comments you may have about emergency planners and people with disabilities working together to prepare for disasters.

Part II: Training

In this section, statements pertaining to training must accompany any community plan for emergency responses requiring evacuation. As you respond to the following statements, keep in mind the four people described previously: Bob, Jennifer, Jaime, and Hillary.

Question 18
Please provide 3-5 reasons why people with disabilities and their advocates should be strongly urged to actively participate in training activities:

Question 19
What training (such as basic wheelchair transfers, disability assessments, working with assistive devices, guiding a blind person through a crowd, American Sign Language, etc.), should emergency responders have in order to better assist people with disabilities during an evacuation?

Question 20
What training (such as incident command structure, shelter management, counseling, etc.), would help people with disabilities understand how emergency planners operate during an emergency or evacuation?

Question 21
Please list 3-5 reasons why planners should discuss what worked well in the execution of an emergency planning exercise and what needs to be improved (i.e., lessons learned):

Question 22
In the space below, state any other ideas or comments you may have about emergency planners and people with disabilities working together in the training aspects of emergency preparedness.

Question 23
Please list 3-5 reasons why people with disabilities should be utilized to enhance an emergency preparedness program:

Part III: Sustaining People with Disabilities in Emergency Response Programs

In developing an emergency-response program for your community, you have come to know a number of people like Bob, Jennifer, Jaime, and Hillary. They have all proven themselves to be effective in including people with disabilities in emergency planning and preparedness. However, as time passes, Bob dies, Jennifer goes off to Galludet College for the Hearing Impaired in Washington DC, and Jaime and Hillary move away. In this last section of the questionnaire, you will be asked how best to sustain and improve an emergency-preparedness program that supports people with disabilities over time.

Question 24
Do you believe that in order to sustain an emergency-preparedness program, current participants should connect with other local, regional and national communities working with people with disabilities?

- ○ Yes
- ○ No
- ○ Additional Comments

Question 25
In the space below, state any other ideas or comments you may have about sustaining the emergency-planning program:

Thank You.

APPENDIX D

Round Two Thank You Note

August 17th, 2010

Dear Panelists:

Thank you for your participation in my research study. I'm very pleased with your feedback and grateful for the time you've given me so far.

Enclosed (below) you'll find a summary of your responses to the first round.

Thanks again,

Michael Castañeda

APPENDIX E

Round One Summary

Panel Members: A diverse group of 11 people, including emergency planners, community volunteers, and representatives from non-profit, social service, city and county, private, academic, for profit, and non-profit agencies completed the first round.

Male = 5 Female = 6 Total=11

For Question 5, the panel agreed unanimously that planning is necessary in order to evacuate people with disabilities safely.

For Question 6, in order to become involved in the emergency-planning process, panelists frequently recommended that people with disabilities contact an emergency planning group or office of emergency services. One panelist suggested that people with disabilities involve themselves with Community Emergency Response Team (CERT) advisory groups or planning meetings.

For Question 7, ten panelists agreed that emergency planners should have experience interacting with people who have a variety of disabilities; one panelist disagreed.

For Question 8, panelists recommended 16 types of training for safely evacuating people with disabilities. These included language sensitivity; alternate communication modes; lifting and transporting techniques; post-disaster care; nursing home, assisted-living, and hospital evacuation; understanding functional capacity; the Independent Living model; CDIHP (Center for Disability Issues and Health Professionals; keeping people calm; guiding the blind; cribbing; confined space entry; operating in hazardous environments; utilizing communication, such as 2-way radio; and Emergency Action Plans (EPAs).

For Question 9, several panelists recommended that before a disaster occurs, emergency planners and non-profit organizations collaborate with organizations like the local chapter of the American Red Cross. Other suggestions included identifying at-risk groups, co-creating logistical plans, and implementing a uniform training program, possibly one provided by local health care and social service agencies. One panelist recommended collaborating with people with disabilities.

For Questions 10 and 11, all panelists agreed that emergency planners should reach out to people with disabilities from a wide range of settings. Reasons for doing so include the fact that people with disabilities have a wide spectrum of needs and that they are their own best authorities.

For Question 12, nine panelists recommended that emergency planners strive to gain insight from organizations like NOD, Independent Living Centers, and the various disability-specific networks. One panelist suggested that planners ask these organizations for funding.

For Question 13, panelists cited “buy-In,” “realistic perspective,” and “empowerment” as benefits of including people with disabilities in the emergency-planning process.

For Question 14, several panelists stated that people with disabilities should make active participation in the emergency-planning process a priority because their participation will improve the plan. At the same time, as several others noted, their active participation would allow people with disabilities to “take ownership” of the process.

For Question 15, more than half the panelists thought having emergency planners hold regularly scheduled meeting would allow then to share vital information about the needs of people with disabilities. Several more stated that such meetings would help people with disabilities feel less apprehensive about an emergency.

For Question 16, nearly everyone agreed that planning meetings should occur in a variety of formats, such as web-based, face-to-face, and phone-based.

For Question 17, which was open-ended, panelists recommended that emergency planners and people with disabilities work together on a regular basis, that people with disabilities utilize the Citizen Corps to arrange for training and awareness, and that funding to help people with disabilities prepare for disasters be increased.

For Question 18, the panelists were unanimous in their belief that people with disabilities should participate actively in training activities. As one panelist wrote, by being visibly present, people with disabilities will ensure they won’t be overlooked.

Responses to Question 19 and 20, which focused on recommended training components, largely duplicated responses to Question 8.

For Question 21, all panelists agreed that training exercises should be evaluated after they are completed.

For Question 22, which was open-ended, the five panelists who responded with content all noted that an exchange of information between people with disabilities and emergency responders during the training improves the outcome.

For Question 23, the panelists who responded cited the unique perspective people with disabilities have as a principal reason for their being active

participants in an emergency preparedness program.

In responding to Question 24, all panelists believed that in order to sustain an emergency-preparedness program, emergency planners should connect with other local, regional and national communities that work with people with disabilities.

Only four panelists responded to Question 25. Their responses included the following: all planners should be required to participate in functional- needs training; there is a need for people with disabilities to be included in the emergency-response planning process; there is a need to sustain the program.

APPENDIX F

Round Two Questionnaire

Page 1 - Heading

In the previous round, panelists proposed 16 components for inclusion in the training program.

Please state your level of agreement/disagreement with the inclusion of each of the following components in the training program for first responders.

Page 1 - Question 1 - Rating Scale - Matrix

Language Sensitivity (words used to identify people with disabilities) is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestio

Page 1 - Question 2 - Rating Scale - Matrix

Recognizing Alternate Communication Modes (i.e., non-written communication, Braile, etc.) is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestio

Page 1 - Question 3 - Rating Scale - Matrix

Knowledge of Lifting and Transporting Techniques is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestic

Page 1 - Question 4 - Rating Scale - Matrix

Post-Disaster Care is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestio

Page 1 - Question 5 - Rating Scale - Matrix

Nursing Home/Assisted Living/Hospital Evacuation is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Strongly disagree
Please select one response.	○	○	○	○

Additional comments/suggestic

Page 1 - Question 6 - Rating Scale - Matrix

Understanding Functional Capacity is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 7 - Rating Scale - Matrix

Utilizing the Independent Living Model is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 8 - Rating Scale - Matrix

CDIHP (Center for Disability Issues and the Health Professions) training is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 9 - Rating Scale - Matrix

Keeping People Calm is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 10 - Rating Scale - Matrix

Guiding the Blind is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 11 - Rating Scale - Matrix

Cribbing (i.e., what to do for people trapped under large objects) is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 12 - Rating Scale - Matrix

Confined Space Entry is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○
Additional comments/suggestic				

Page 1 - Question 13 - Rating Scale - Matrix

Operating in Hazardous Environments is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestio

Page 1 - Question 14 - Rating Scale - Matrix

Knowledge of Special Vehicle Requirements is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestic

Page 1 - Question 15 - Rating Scale - Matrix

Utilizing Communication (i.e., two-way radios) is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestic

Page 1 - Question 16 - Rating Scale - Matrix

Knowing Organizations' Emergency Action Plans (EAPs) is essential to the success of the training program.

	Strongly agree	Agree	Disagree	Disagree strongly
Please select one response.	○	○	○	○

Additional comments/suggestic

Page 1 - Question 17 - Open Ended - Comments Box

In the space below, please jot down any additional ideas or suggestions.

Thank You