

**Emergency Management: A Case Study of Special Needs  
Populations and Disaster Preparedness**

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By

Jessica Windsor

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Jessica Windsor

Liberty University

APPROVED BY:

Dr. Melissa Stewart, Committee Chair

Dr. Jimmy Johnson, Committee Member

### Abstract

This research study intends to analyze the information and knowledge that is obtained by emergency managers and mitigation plans regarding the special needs population to better assist the resilience of the individuals within that population. This study focuses on whether the emergency managers' understanding of the demands of the special needs population affects the finalized mitigation plans for their respective locations in terms of the action plans developed to assist the special needs population. This study uses a mixed-methods research approach in which quantitative research was conducted utilizing quantitative and conducts a survey, using qualitative research, to participants and examination of mitigation plans that were associated with the study participants. Study analysis shows that emergency managers in local government agree that necessary information regarding the special needs population is obtained and that adequate training is provided to emergency responders regarding the special needs' populations; however, there is a lack of evidence found in the mitigation plans that supports the emergency managers responses. Evidence suggests that emergency managers have more confidence regarding their knowledge of the special needs population than is referenced in respective mitigation plans.

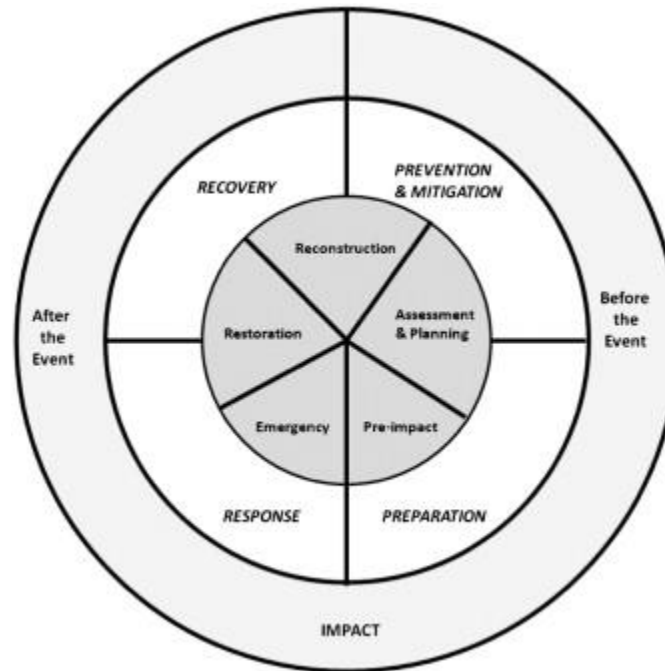
## Disaster Mitigation

Since 2010, there have been 121 disaster events resulting in 5,252 deaths within the United States. Individually, each of these events also resulted in more than a billion dollars in damages. These events included severe storms (70), flooding (18), tornadoes (12), drought (8), wildfire (7), winter storm (5), and freeze (1) (U.S. Billion-Dollar Weather and Climate Disasters, 2020). While these numbers only show a percentage of the actual number of disasters that have occurred in the United States within this timeframe, a community needs to be prepared to assist all members of the community for a disaster. When looking more in-depth, there is a need to consider those individuals that may require more assistance than others when disaster strikes. In 2010, approximately 19% of the population, or 56.7 million people, were reported to have a disability of some form. Based on a report that was given in 2010, there has been an increase in the disabled population by 2.2 million from 2005-2010 (Bernstein, 2012).

In preparation for a disaster, emergency managers must find answers to questions such as 1. What has occurred and what is occurring now? 2. What can and should be done now? 3. What resources are available? And 4. What resources are still going to be needed? (Laakso & Palomaki, 2013). The disaster life cycle which includes mitigation, preparedness, response, and recovery allows for a breakdown of the disaster process, providing emergency managers the capabilities to organize the tasks and resources needed based upon these categorical phases (Phillips, Neal, & Webb, 2017). Emergency management aims to protect lives, property, and the environment with the utilization of the disaster cycle, acknowledging that this cycle is continuous. This continuous cycle is accomplished by the application of repeating disaster cycle phases and making changes based upon what is learned from previous disasters (see Figure 1).

The planning that is conducted is meant to provide a guide for initiating and managing a disaster (Fagel, 2011).

**Figure 1**



Laakso, K., & Palomäki, J. (2013). The importance of a common understanding in emergency management. *Technological Forecasting and Social Change*, 80(9), 1703-1713. doi:10.1016/j.techfore.2012.12.012

The aforementioned disaster life cycle works in conjunction with the preparation and response activities that are meant to take place in terms of a disaster. For this research, a disaster is defined as a major accident or incident in which there is a high number of individuals that are killed or seriously injured (Laakso & Palomaki, 2013), such as in 2017 where 25 million Americans or nearly 8% of the population was affected by disasters that occurred in that year (FEMA, Disasters Affected 8% of U.S. Population in 2017, FEMA Notes in Review of Historic Year, 2018), and there is damage to the environment or property (Laakso & Palomaki, 2013). Examples of such disasters are:

- A hurricane or tornado causing major damage

- A major incident involving hazardous materials
- A major disruption in the supply of goods/heavily needed items
- A major storm in which electricity and warming mechanisms are unavailable

### **Emergency Management Strategies**

The systems that are put into place to assist individuals with coping and experiencing disasters are known as emergency management systems, and the purpose of these plans is to reduce the risks and impacts from disaster and restore communities to normal as quickly as possible. Emergency management is structured to be intergovernmental and intercommunity to better understand how systems work and develop effective strategies within systems that individuals depend on, which is also known as the whole community approach. Failures within the emergency management system often result in damages and fatalities that are avoidable (Williams & Webb, 2020).

Emergency management strategies that are developed must utilize sufficient economic and personnel resources to address the needs within the community. These strategies must be flexible and allow for outside individuals, agencies, or organizations to assist in meeting community needs following a disaster. Generally, these outside individuals, agencies, or organizations will only be available for a limited amount of time, during periods of high demand requiring immediate and maximum action (Williams & Webb, 2020).

Research suggests that most emergency managers acknowledge the need for support and assistance from outside organizations, which may include The Salvation Army, The American Red Cross, Church organizations, Samaritans Purse, and The Methodist Group. Organizations such as these generate additional resources to the planning teams that focus on the needs of the special needs population (Williams & Webb, 2020).

This study attempts to address how emergency management focuses on the needs of the vulnerable population and the actions that are utilized to advocate for the special needs population. The goal is to provide a better understanding of the knowledge that emergency managers hold regarding the special needs population and the strategies that are employed to meet the needs of this specific population.

### **Mitigation**

The disaster preparedness cycle begins with mitigation, which involves efforts to build a more resilient community, aiming towards a goal of protecting the community by increasing safety measures (Phillips et al., 2017). Mitigation is defined as those actions or activities that are undertaken to eliminate or decrease the risks associated with hazards aimed towards community members and infrastructure (Islam & Ryan, 2016). Two forms of mitigation can take place: structural and non-structural. Structural mitigation involves ensuring that infrastructure can withstand specific disasters to provide more resilience against the effects of hazards (Phillips et al., 2017). Examples of this include safe rooms, blast-resistant window installation, and dams. Non-structural mitigation involves activities that occur within the community to develop increased resilience (Phillips et al., 2017). Examples of such include insurance purchases, zoning codes, educational pamphlets, and training exercises.

With consideration of those with special needs in mind, there is a multitude of mitigation strategies that can be implemented to reduce further vulnerability. These strategies, which should be developed with the help of medical facilities and medical professionals, include but are not limited to developing a generator operations plan; identifying alternate locations for operational continuity; retrofitting walls; safe room locations near trailer parks; installation of disaster

alerting devices such as sirens and alarms; and installation of wheelchair accessible evacuation devices (Koenig & Schultz, 2010).

Hazard mitigation plans should benefit the individuals within the community, and more specifically the special needs population. To achieve this goal, emergency managers and mitigation planners must utilize scientific knowledge and informal knowledge concerning the special needs residents of the locale, and coordinate the mitigation policies to the specific needs of the situation being examined (Horney, Simon, Grabich, & Berke, 2015). There are several ways in which the special needs population may present unique challenges to mitigation plans such as enhanced evacuation strategies for the disabled, increasing shelter possibilities, and the need for additional warning techniques; however, there are opportunities to engage multiple individuals, organizations, and advocacy groups that can provide needed information (Dries, et al., 2014). This form of mitigation effort allows for open dialogue presenting vulnerability issues within the community and public concerns. With the awareness and engagement of the special needs populations during mitigation planning, there is potential for improved post-disaster outcomes (Horney, et al., 2015). Further, limiting the access disparities in a mitigation plan improves the overall effectiveness of the plan (Indrakanti, Mikler, II, & Tiwari, 2016).

### **Preparedness**

The preparedness phase involves improving response capabilities before a disaster (Phillips et al., 2017). During this phase, emergency managers should acquire procedures and gather together the resources that are needed in the event of a disaster (Islam & Ryan, 2016). Strategy development, training exercises, resource identification, facility designation, and other activities that will provide more resilience and allow for an increase in resilience are all part of



preparedness. While disasters are expected, there is a connection between the risk an individual sees to themselves and the level of preparation they assume (Paton, 2003).

Preparedness is conducted on a multitude of levels, involving individuals, households, public/private and non-profit organizations, communities, and state and federal agencies (Phillips et al., 2017). An intricate part of planning is awareness of declarations available regarding disasters when needed. First, the emergency declaration is generally made before a disaster occurs and is meant to enhance coordination and evacuation efforts. Second, the major disaster declaration comes after the disaster occurs and is utilized once a local or state government finds itself to be overwhelmed and needs recovery assistance (McCarthy, 2009).

Warnings, given by different levels of media and technology, should reach each person in an efficient time no matter the individuals' location. This allows for lives to be saved, damage to be reduced, and recovery to occur more quickly (Lane, 2000). Warnings are now able to be personalized for each disaster as needed. More importantly, it is considered vital that warnings reach the at-risk population to help them achieve a better chance of survival (Lane, 2000). Additional preparedness activities that should be considered include; building partnerships with outside organizations, evacuation planning, development of special needs registry, and development of disaster exercises (Koenig & Schultz, 2010). These exercises must begin with focusing on the special needs of the population and partnering with different organizations to simulate disasters and the disaster response that should occur. Members of the special needs population should be involved in the planning, exercise, and evaluation of these exercises, as this allows for a more in-depth understanding of the needs and data sources (Ringel et al., 2009). A great guide for conducting disaster exercises that include the special needs population is *Integrating Individuals with Access and Functional Needs in Exercises Toolkit for North*

*Carolina Emergency Managers*, which explains the reason why these individuals should be involved in the disaster exercises, how to recruit them, and then goals that can be utilized within mitigation plans (Kailes, 2015).

Preparedness actions taken before a disaster should consider all members of the community; however, the special needs community may need additional steps taken to allow for improved resilience opportunities. Mitigation planners and emergency managers should know the community, allowing for an understanding of what some individuals may offer and what others may need (Koenig & Schultz, 2010). For example, community-based organizations may generally commit to locating individuals in the special needs population, understanding and providing them the resources that are needed, and building trust with those community members (Nick et al., 2009). The expertise that can be provided to emergency managers concerning the special needs population within the community by medical personnel or community-based organizations may assist the emergency managers in reducing risk (Koenig & Schultz, 2010). Results from a previous study, in which the goal was to identify resources and begin making plans into actions, indicated that participants who were a part of the special needs population were initially unclear about the roles they had in disaster preparedness (Nick, et al., 2009).

## **Response**

When a disaster occurs, the next step in the disaster preparedness cycle is the response. The primary goal of disaster response is to protect the lives involved, safeguard the environment, and prevent further destruction to infrastructure and property (Bowman et al., 2005). A situational assessment should begin the response phase (Fagel, 2012), and should focus on driving down the impact of secondary damage (i.e., death toll, critical infrastructure loss, and critical services) (Phillips et al., 2017). There are two parts of disaster response that emergency

managers should focus on initial assessment from a disaster, and the issues arising from the response efforts (Phillips et al., 2017). Disaster response utilizes the Incident Command System (ICS), a federal incident management concept, to provide fundamentally sound and nationwide acceptance of response measures (O'Neill, 2005). A further consideration is given to damage assessments, allowing emergency managers to develop an understanding of the need for food, shelter, and debris removal (Luther, 2006).

A close investigation of the ICS program shows that there is room for the establishment of a role of Special Needs Advisor to the Incident Commander. While this position is made by the discretion of the incident commander, there is no record of a position within the ICS (Labor, n.d.). Leaving this position unfilled has the potential to put individuals with special needs at risk during disasters especially when considering most mitigation plans fail to address evacuation for persons with disabilities; fail to meet the need to keep together people with disabilities, family members, caregivers, and durable medical equipment, acknowledge that traditional emergency notification and communication methods are not accessible for people with certain disabilities; fail to ensure that the local or regional Red Cross is equipped with adequate disability-related knowledge, experience, training, and resources to serve people with disabilities who seek sheltering at mass care facilities; fail to require communication in mass care shelters be accessible to people who are deaf, deaf-blind or hard of hearing, those who are blind or who have low vision, and individuals with cognitive disabilities; and fail to provide increased planning for the smaller percentage of persons who are medically fragile (Styron, n.d.).

Along with the widely accepted ICS, responders utilize the Simple Triage and Rapid Treatment (START) system to quickly assess and treat victims from a disaster. Research suggests the START system may not provide an accurate reading of a patient's status, which

potentially results in an increase in deaths due to critical injuries not being seen or patients being labeled inaccurately. Further research provides that START is only 44.6% precise on average (Kahn et al., 2009). START is designed to assist responders in identifying medical problems that could cause a patient's death within one hour, which has the responder looking at breathing problems, head injury, and bleeding (Lavelle, 2010). When considering the special needs population, there is room for inadequate triage assessments due to the potential likelihood for the special needs population to have breathing difficulties, mental illness, and other health needs (Lewin & Altman, 2000). These health needs that the special needs population faces may affect the triage assessment they receive. Despite what system is utilized for response measures, emergency managers should work towards effective collaboration amongst all organizations involved (Perry, 2007).

The response phase of the cycle is dependent on the level of preparedness that occurred. Activities occurring during this phase include the implementation of response plans, search and rescue missions, damage assessments, and meeting humanitarian needs (Volunteers, n.d.). Those that are included in the special needs population may need additional response measures taken for survival. During the response phase, emergency managers should consider emergency medical intervention, opening special needs and medically necessary shelters, operation of generators, and opening a medication distribution center. Continuity of care is also considered vital to the special needs population individuals, as disruptions in care increase the risk these individuals have (Koenig & Schultz, 2010).

## **Recovery**

The community has an opportunity, during the recovery phase, to allow individuals and businesses to reconsider the infrastructure rebuilding for an increase in resilience, transportation

pathways, and protection of the environment (Phillips et al., 2017). Long-term recovery considerations that should be included involve federal assistance, educating the public on rebuilding plans, preparing mitigation plans for future disasters, rebuilding roads and bridges, protecting the environment, and gathering donations for distribution (Fagel, 2011). Research suggests that recovery is the phase in which implantation of reconstruction, restoration, and rehabilitation occurs (Phillips et al., 2017).

There is an ability for a gap analysis to be conducted concerning resources in future research, allowing for the recognition of the resources needed, so emergency managers may plan for equipment that may not work properly and establish back-up equipment that may be needed (Islam & Ryan, 2016). The resources acquired provide for a successful recovery phase short-term and long-term, meaning resources must be in proper working order and easily employed. Recovery actions may include releasing individuals from shelters, restoring utilities, debris removal, and reconstruction (Koenig & Schultz, 2010).

The special needs population is placed at an increased risk, due to their special health concerns that may affect the individuals breathing or mental health status (Lewin & Altman, 2000), for additional health concerns post-disaster from debris and the debris removal process (Koenig & Schultz, 2010). Some symptoms that have been found to have occurred from the debris removal process include irritated airways, fatigue, headaches, and dizzy spells. These symptoms can be caused by dust settling inside of a house, mold growing from floodwaters, hazardous chemicals, and/or toxic waste exposure (Koenig & Schultz, 2010), which can enhance health problems amongst the individuals in the special needs population. While the mitigation and response plans are anticipated to address the impact of the disaster on the community, there is much development and focus needed on the secondary surge for medical care when looking at

the whole community and additional needs for the special needs population. This relates to the increased demand for medical resources needed to meet the increased surge for long-term recovery (Runkle et al., 2012).

### **Special Needs Populations**

Individuals labeled as at-risk or that are a part of the special needs population, are more likely to experience increased devastation resulting from a disaster. This increased risk may be due to their inability to perform activities of daily living which may include bathing, dressing, toileting, eating, mobility, and following medication regimes. These activities may be impacted due to blocked roads, downed telephone lines, damaged infrastructure, and healthcare aides being unavailable (Mace & Doyle, 2017). Emergency managers and planners must identify those in the community who are a part of the special needs population to effectively plan mitigation strategies and response and recovery efforts (Hoffman, 2009). To better identify these persons, emergency managers should have an adequate understanding of what qualifies as special needs populations. These individuals are defined in emergency management based on their differing experiences of disasters based on characteristics that include gender and age, economic status, disability, and race (Williams & Webb, 2020). The Federal Emergency Management Agency (FEMA) defines special needs populations as

A population whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to maintaining independence, communication, transportation, supervision, and medical care. Individuals in need of additional response assistance may include those who have disabilities, who are from diverse cultures, who have limited English proficiency, who are non-English-speaking, or who are transportation disadvantaged (FEMA, n.d., p. 2, para 5).

While similar, the Department of Health and Human Services (DHHS) differs in defining the population by first utilizing the term at-risk, and further defines this population as

In addition to those individuals specifically recognized as at-risk in section 2802(b)(4)(B) of the PHS Act (E.g., children, senior citizens, and pregnant women), individuals who may need additional response assistance should include those who: have disabilities; live in institutionalized settings; are from diverse cultures; have limited English proficiency or are non-English speaking; are transportation disadvantaged; have chronic medical disorders, and/or have a pharmacological dependency. In simple terms, at-risk populations are those who have, in addition to their medical needs, other needs that may interfere with their ability to access or receive medical care. Such needs could include additional needs in one or more of the following functional areas: independence, communication, transportation, supervision, and medical care (Services, 2011, para 6).

The United States Department of Transportation minimally defines the population yet provides additional persons to qualify as special needs.

people with disabilities, people with medical conditions, congregate and residential care facilities, people with no access to a vehicle, homeless populations, correctional facilities, and people with service animals and household pets (Transportation, 2009, para 3).

For this study, the special needs populations will be defined as the homeless, children and the elderly, individuals with mental and physical disabilities, and individuals that do not speak the local common language (Hoffman, 2009). The variety of needs that comes with the multitude of disabilities defined allows for an understanding that the qualifying conditions under any definition are not always similar as shown in Table 1, leading some researchers to believe that the term special needs population should be changed to a more defined term (Lavin et al., 2012). This table also allows for a more comprehensive understanding of the variety of disabilities that are potentially being faced by community members, allowing emergency managers to plan accordingly.

**Table 1**  
Disabilities and Other Functional Needs

Disability and Other Functional Needs	Disaster Preparedness Needs
Visually Impaired	<ul style="list-style-type: none"> <li>• May be reluctant to leave familiar surroundings when the request is from a stranger</li> <li>• Guide dog may be confused or disoriented</li> <li>• People who are blind or partially sighted may need to depend on others to lead them, and their dog, during a disaster</li> </ul>
Hearing Impaired	<ul style="list-style-type: none"> <li>• Special arrangements to receive warnings</li> </ul>
Mobility Impaired	<ul style="list-style-type: none"> <li>• Special arrangements to get to a shelter.</li> </ul>
Non-English Speaking	<ul style="list-style-type: none"> <li>• May need assistance planning for and responding to emergencies • Community and cultural groups may be able to help keep people informed.</li> </ul>
Medical Conditions	<ul style="list-style-type: none"> <li>• Know the location and availability of more than one facility if dependent on a dialysis machine or other life-sustaining equipment or treatment.</li> </ul>
Intellectual Disabilities	<ul style="list-style-type: none"> <li>• May need help responding to emergencies and getting to a shelter.</li> </ul>

Adapted from Lavin et al., (2012). Reconsidering "Special Needs" Populations During a Disaster. *Annual Review of Nursing Research*, 125-147. Retrieved from <https://connect.springerpub.com/content/sgrarnr/30/1/125.full.pdf>

With an understanding concerning the special needs populations and how they are identified, there must be recognition placed on emergency management phases, which include mitigation, preparedness, response, and recovery. Further review will be given concerning the challenges that are faced when implementing each of the phases regarding the special needs population as identified previously.

**Current Policies**



Emergency preparedness materials and exercises should be completed with the special needs population in mind, with consideration given to those members that may have vision or hearing difficulties (Klaimen et al., 2010). There are many policies relating to disaster management that are meant to enhance mitigation planning and relief efforts such as the Coastal Zone Management Act, the Clean Water Act, the National Environmental Policy Act, and the Environmental Impact Statement (Islam & Ryan, 2016). This also includes the Disaster Relief and Emergency Assistance Act, also known as the Stafford Act. The Stafford Act requires that information relating to disasters be made available in a format that is understood by the special needs population (Security, 2019). This Act provides non-emergency disaster assistance, requiring that an effective mitigation plan is in place. Under the Stafford Act is the Hazard Mitigation Grant Program, which can implement mitigation steps or update the mitigation plan. Likewise, the Pre-Disaster Mitigation Grant Program assists in upholding or developing a mitigation plan (FEMA, Hazard Mitigation Planning Laws, Regulations & Policies, 2019). The Pre-Disaster Mitigation Grant Program does not mention the special needs population, yet places focus on community safety and vitality.

The Disaster Mitigation Act of 2000 is another policy in place that requires an approved state or local mitigation plan to be established before a disaster occurs. This policy does not mention the special needs population, instead places a focus on the states or local communities developing a mitigation plan. Within that requirement is the stipulation that individuals in the community are to contribute to the planning process and documentation be provided for said process. This mitigation plan must be reviewed and/or revised every three years, or sooner if there are remarkable impacts or changes to the community (FEMA, Hazard Mitigation Planning Laws, Regulations & Policies, 2019).

One final policy to consider is the National Flood Insurance Act of 1968. This Act gives authority to the Flood Mitigation Assistance grant program to reduce or eliminate the claims that are filed under the National Flood Insurance Program (NFIP). Further, the National Flood Insurance Act of 1968 provides for the funding needed for flood mitigation projects. Additional funding is given for the development of plans and the costs associated with managing said plans (FEMA, Hazard Mitigation Planning Laws, Regulations & Policies, 2019).

After Hurricane Katrina, new policies have emerged, with one plan being implemented is the U.S Department of Transportation plans for highway evacuation measures (Koenig & Schultz, 2010). Specific to the special needs population, the Federal Highway Administration continuously works to develop an action plan for the transportation of the special needs population members to facilities near where they live. After experiencing a lawsuit, FEMA worked to include the special needs population members and the advocacy organizations into the policy and program planning to make temporary housing more accessible. The National Disaster Housing Strategy and Plan (NDHSP) recognizes the importance of partnership with advocacy groups, yet has been in draft since 2009 (Koenig & Schultz, 2010). NDHSP addresses the special needs population in objective 3B when discussing the need to understand and evaluate the housing and community needs under Federal fair housing for individuals with disabilities and other special needs (FEMA, National Disaster Housing Strategy Implementation Plan, 2010). Further, FEMA states in the NDSHP under Task 3B2:

Educate stakeholders on forms of assistance identified in Strategy Annex 3: Summary of Programs for Special Needs and Low-Income Populations, Including Provision of Housing Units for Individuals with Disabilities and Housing Opportunities for Persons with AIDS (HOPWA) Program.

Understanding the legal requirements regarding the special needs population is discussed in task 3B3, with task 4G2 discussing the need to identify special medical needs shelters as

opposed to general mass care shelters for the population (FEMA, National Disaster Housing Strategy Implementation Plan, 2010). The overall focus on the special needs population within the NDHSP is to

describe programs directed to meet the needs of special needs and low-income populations and ensure that a sufficient number of housing units are provided for individuals with disabilities; and —Not later than 270 days after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of Congress a report describing in detail the National Disaster Housing Strategy, including programs directed to meeting the needs of special needs populations (FEMA, National Disaster Housing Strategy Implementation Plan, 2010).

### **Challenges**

When looking at the disaster phases and the policies that are set forth concerning the special needs population, some challenges arise with plan implementation, especially regarding communication (Klaiman et al., 2010). Challenges exist early in the disaster planning process, as there must be an identification of the special needs population and where they reside. This can be done by looking at registries and online databases; however, this process can be extremely long or inaccessible to the searcher (Lindley, 2009). Data such as that obtained from the registries must be shared with the transportation systems, or there will be a lack of knowledge regarding the location and needs of the special needs population within the respective communities (Lindley, 2009).

Much of the emergency warning and preparedness materials have not been prepared for those individuals that experience vision or hearing difficulties, or other medical problems (Klaiman et al., 2010). This was observed in a court case in New York City in which the court found that the city's emergency plan considered avenues of communicating emergency warnings, evacuation possibilities, and accessible shelters. However, these proposals were not placed into implementation and therefore the city was not in compliance with policy regulations

regarding the special needs population (Rutkow et al., 2015). Along with the issue of obtaining information about disasters, the special needs population also faces challenges regarding evacuations (Klaiman et al., 2010). Disaster evacuations lead to an overwhelming amount of pressure placed on transportation systems, particularly when evacuating the special needs population (Lindley, 2009). There are further risks to these individuals that must be considered when preparing for an evacuation or changing the sheltering of these individuals wherever they are located (Lindley, 2009).

### **Policies relating to Special Needs Population**

Compliance with legal policies relating to the special needs population involves utilizing a mixture of federal statutes, regulations, and legal documents that focus on disaster planning regarding the special needs population. This works to ensure that consideration is given to those individuals with disabilities regarding their accessibility and functional needs (Flowers, 2016). When considering the challenges that are posed regarding disaster planning, there must also be a significant amount of recognition placed on the special needs population during the planning phases, as these individuals may not be able to receive warnings or be able to provide the care and protection they may need.

The Post-Katrina Emergency Management Reform Act of 2006 added that disability was to be a protected class in the Stafford Act. Responding to this, FEMA developed ten vital concepts of non-discrimination that should be followed. They include self-determination; no “one size fits all”; equal opportunity; inclusion; integration; physical access; equal access; effective communication; program modifications; and no charge (Flowers, 2016, p. 571).

President Donald Trump signed the Pandemic and All-Hazards Preparedness and Advancing Innovation Act into law in June 2019. Under this law was the establishment of the

National Advisory Committee on Individuals with Disabilities and Disasters, which includes government leaders, healthcare professionals, and individuals that have disabilities. The goal of this committee involves reviewing set policies and advocating for changes that are needed for the special needs population to have ensured safe measures in place during disaster planning (Diament, 2019).

Before this law, the Americans with Disabilities Act (ADA) was implemented in July 1990 and required that preparedness and response activities must be available to individuals with disabilities. Further, action steps that follow ADA guidelines were given, requiring that disaster planning, and disaster notification is given to those with disabilities. The plan also required that evacuation and sheltering of individuals with disabilities be done in a manner that acknowledges the possible needs of this group during all phases of the disaster (Jones, 2010). The ADA is meant to guarantee that individuals with disabilities have the same opportunities to benefit from services and activities that others do (United States Department of Justice, 2020, February).

The Rehabilitation Act of 1973 requires that equal access be given to all individuals for state and local programs, services, or activities that receive federal funding. It was later amended to state that federal funding was not necessary for individuals to have guaranteed access. Further, it was provided that equal access extends beyond state and local programs, services, or activities to include organizations that are acting on behalf of the state or local government (Flowers, 2016). The case of *Olmstead v. L.C. ex rel. Zimring* provides the basis on which it is illegal to segregate individuals that have disabilities, considering it to be discriminatory (Flowers, 2016).

The Olmstead court determined that reasonable modifications must be made, to avoid discrimination, to programs, services, and activities which they included be:

Preparation, testing of preparedness, notification, community evacuation and transportation, emergency shelter programs, temporary lodging and housing,

social services and emergency disaster-related programs, emergency medical care and services, relocation programs, activities, and services, transition and transportation back to the community, emergency and disaster recovery programs, and remediation of damage caused by emergency or disaster (Flowers, 2016, p. 569).

As a result of these modifications, the Civil Rights Division of the Department of Justice created documents to help ensure ADA compliance for emergency management. State and local governments must use chapter 7 of the ADA Best Practices Tool Kit for State and Local Governments when developing disaster mitigation plans (Flowers, 2016).

### **Statements of the problem**

Disaster planning should ensure that individuals within the special needs population as well as their support systems, are involved in the disaster phases planning to allow for alternative and adaptive strategies to be implemented (Krahn et al., 2015). Previously, children and adults with disabilities were institutionalized until an extensive list of legislation and policy implementation began to make changes (Krahn et al., 2015). When looking at disasters, the disadvantages that the special needs population faces involve communication inefficiencies, unavailable transportation, loss of electricity and other power sources, and shelters that are not equipped to handle their specific needs (Rutkow et al., 2015). Research studies show that when specifically looking at Hurricane Katrina, there were 90 response-specific failures from all levels of government, with many focused on the special needs population (White et al., 2006).

The resulting failures that were found from Hurricane Katrina that pertain to the special needs population include how members of this population often had their needs overlooked or disregarded by responders and emergency management leaders. Experiences from the special needs population concerning their evacuation, sheltering, and recovery varied greatly compared to individuals that do not have disabilities (Frieden, 2006). Many special needs individuals found

they were unable to evacuate, as transportation was inaccessible to them due to evacuation busses not having wheelchair lifts. Additionally, it was found that individuals with visual and hearing difficulties experienced issues with receiving information regarding their safety such as evacuation or sheltering needs, as the communication that was given did not comply with federal laws (Frieden, 2006).

There is a limited amount of research available regarding the special needs population during disaster planning, with inefficient data obtainable (Krahn et al., 2015), with the information that is limited being the specific needs of the individuals within the special needs population during a disaster and where these individuals are located. What is known is that the members of the special needs community and those agencies that are equipped to serve that population are not generally a part of the disaster planning process (Klaiman, et al., 2010). With an estimated 50 million people in the United States having a disability (White et al., 2006), this means approximately 26 percent of the population may require additional assistance during a disaster. Consider hurricane Katrina, where it was found that approximately 38 percent of those people that did not evacuate listed the reason as due to having a disability that affected their mobility, or they were a caregiver of said person (Krahn et al., 2015).

Special needs registries that are used extensively to address planning needs before a disaster, are found to have internal problems. They tend to lack inclusion criteria, determinates of eligibility, ownership, and the ability to update and maintain the list due to the Health Insurance Portability and Accountability Act (HIPAA) privacy laws. The additional concern lies in whether individuals will register, as some may view the registry as placing additional burdens on the disabled, compared to other individuals. These registries must remain voluntary, respect confidentiality, and be updated as frequently as possible (Flowers, 2016).

Most disaster planning materials are not adapted for the special needs population. Additionally, disaster planners and emergency responders generally have inefficient training to care for the special needs population during a disaster (Klaiman et al., 2010). This is further represented by the 2009 and 2013 lawsuits against Los Angeles and New York City, respectively, in which it was found that both cities violated the very laws that protected the special needs population. In the case of Los Angeles, the suing disability rights organization claimed that the city's emergency plan failed to plan for emergency warnings to individuals with hearing and cognitive impairments as well as not preparing for the evacuation or sheltering needs of the special needs population (Rutkow, et al., 2015). The federal court found that New York City was unsuccessful in the preparatory and planning needs regarding evacuation, sheltering, and communication needs concerning the special needs population, specifically in the case of para-transit options being available during a disaster (Rutkow et al., 2015).

This study strives to show how emergency managers and other mitigation planners address the demands of the special needs populations and help to advocate for these requirements to be a priority. These needs may differ based on the individual within the special needs populations but may include communication, transportation, and medical care during and after a disaster (Williams & Webb, 2020). Focus is put on the strategies that emergency managers and mitigation planners utilize to understand the demands of the special needs populations within their locale, and how the emergency managers and mitigation planners demonstrate the understanding of the whereabouts of the special needs populations.

### **Research**

*What effect does knowledge of the needs of special populations have on disaster planning specific to these populations?*



## Research Method

The goal of this research is to provide additional analysis concerning how emergency management leaders assist and provide the necessary resources to their special needs population. A mixed-methods research approach was taken, integrating both quantitative and qualitative data within a single research inquiry, which allows for integration between the research data compare to separate analysis' (Wisdom & Creswell, 2013). This research method allowed the researcher to compare the quantitative data found from a survey to the qualitative data found within mitigation plans, comparing the data in one study, as opposed to multiple studies being necessary. Disadvantages to utilizing the mixed-methods research approach include the analysis, coding, and integration of the unstructured data with the numerical data. One advantage to this approach is the allowance of the sequential design, in which the qualitative data allows for vital and unexpected information to be found that may not be seen through the quantitative data (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007).

Using a mixed-methods research approach, the study was conducted by employing a quantitative research method, by a distribution of surveys constructed of four questions to be responded to with the use of a Likert Scale. An additional three questions were posed utilizing subjective views on training and mitigation plans that are accurate for each participant's respective area. Further qualitative research will be gathered by obtaining the disaster plans that are current for each respondent's location. The descriptive data that is obtained through the disaster plans will be compared alongside the quantitative measures obtained, with results merged for final interpretation. Participants were emailed the survey and responded to the survey by emailing in the responses. Hazard mitigation plans were obtained by the researcher by utilizing online web searches for each location, obtaining the plan that is currently in place. For

this study, the independent variable is the emergency managers that completed the study within the Southeastern United States. The dependent variable is the hazard mitigation plan that is currently being implemented for those respective locations.

### **Hypothesis**

Limitations regarding the knowledge emergency management leaders and disaster planning members have of the special needs population within their communities and the needs of said population results in inadequate disaster planning for this population.

### **Survey Questions**

Utilizing Likert Scale 1-5 with one meaning Strongly Disagree and five meaning Strongly Agree, the survey will include the following questions:

- 1) When working on the disaster plan, our office contacted individuals or organizations that represent individuals with disabilities to obtain information regarding their specific needs.
- 2) When finalizing the disaster plan, the planning team had specific knowledge regarding the various types of disabilities within the community and the location of those individuals.
- 3) The planning team obtained information related to the special services needed for those individuals with disabilities.
- 4) The training was provided to community leaders and emergency responders regarding how to assist those individuals with disabilities.

Additional questions to be asked will include open-ended questions that allow for additional information to be obtained without the use of the Likert Scale and will include:

- 1) If training has been provided to responders and community leaders, how effective do you believe this training has been?
- 2) Based upon previous experience with the current mitigation plan in place for your locale, do you believe there are improvements to be made regarding the special needs population and disasters? If so, what would they be?
- 3) Is there any other information regarding how your municipality (county, town, etc.) handles disaster preparedness for those with disabilities that you would like to share?

### **Survey Participants**

The participants of this study consist of local emergency management leaders and disaster planning members from the Southeastern Region of the United States, consisting of large and small cities. The states included in the Southeastern Region for the study include Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Maryland, Virginia, and West Virginia. For best results within the study, the number of large and small cities must be kept with equal distribution, meaning that half of the respondents should be from larger cities, a population of more than 100,000 persons, and the other half of respondents, including those from smaller cities. There should be a population of fewer than 100,000 persons listed, to rank as a smaller city.

### **Data Collection**

The survey was emailed to each prospective participant, emergency managers in the Southeastern Region of the United States, with follow-up phone calls if needed to guarantee the email was received (see Appendix A). The average emailed survey response is around 30% (Lindemann, 2019). The researcher sent out 284 emails to the prospective participants, with

follow-up emails sent out to those that had not responded in a timely fashion. The researcher found that there would not be enough data collected as originally envisioned, resulting in it being relatively harder to capture the emergency leaders' level of knowledge of the special needs population concerning disaster planning, based on the knowledge of special needs individuals within the community.

### **Sample Group**

There were 12 participating respondents in this study, for a response rate of 6.7%, which is not comparable to what other studies achieved, 31% (Sheehan, 2001), when utilizing an emailed survey with follow up. This is due to the study occurring during the COVID pandemic and the impact of Hurricane Isaias on the Southeastern United States region. Further responses were not obtained as the researcher understood it was difficult to conduct a research study involving those that work in emergency management during the time of a pandemic and hurricane season. My availability for the study was limited as well, to complete the Masters' thesis on time.

Results are examined to review the knowledge that these leaders have of the special needs populations in their respective communities and the adjustments they make concerning the disaster plans they implement. The focus is on whether the plans that are in place recognize the needed resources and implement planning actions that correspond with needs.

### **Data Analysis**

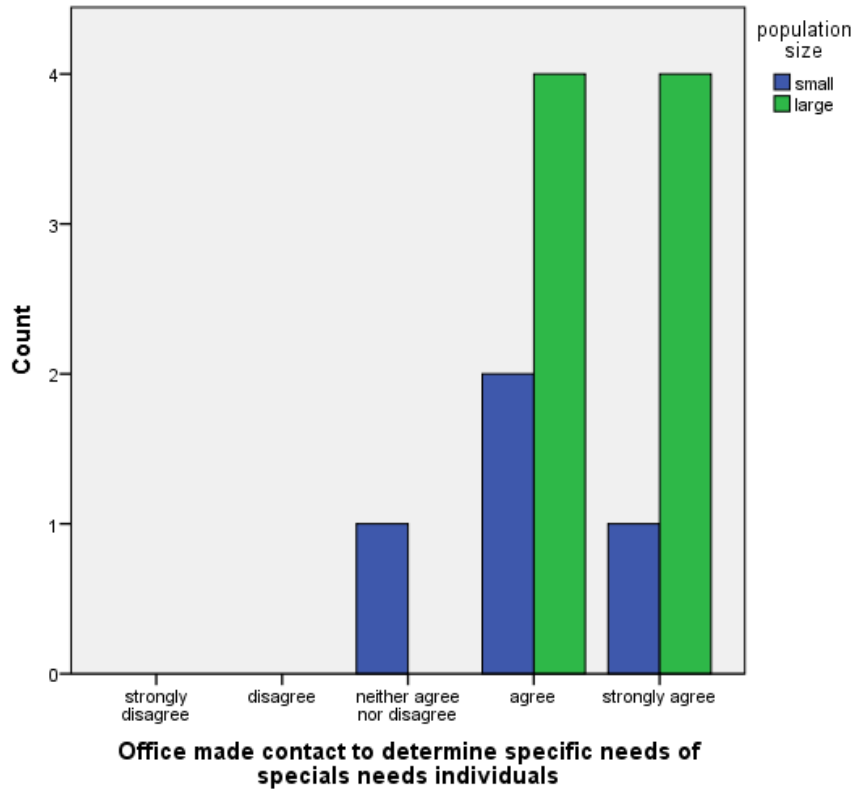
This study accepted a margin of error of 10%, where  $MOE = 0.025 \sqrt{\frac{p(1-p)}{n}}$  (Kluziak, n.d.) and a confidence level of 51%, where  $\bar{x} \pm z \frac{s}{\sqrt{n}}$  (Haponiuk, Mah, & Pal, 2020) with values verified utilizing RaoSoft survey software provider (RaoSoft, 2004). Those participants from

larger cities with populations greater than 100,000 persons made up 66.6% of the study, with participants from smaller cities, populations fewer than 100,000, made up 33.4% of study respondents. The survey was conducted in English, with no incentives offered to prospective participants. All responding participants signed a consent form and were at least 18 years of age or older.

### **Likert Scale Scores Analysis**

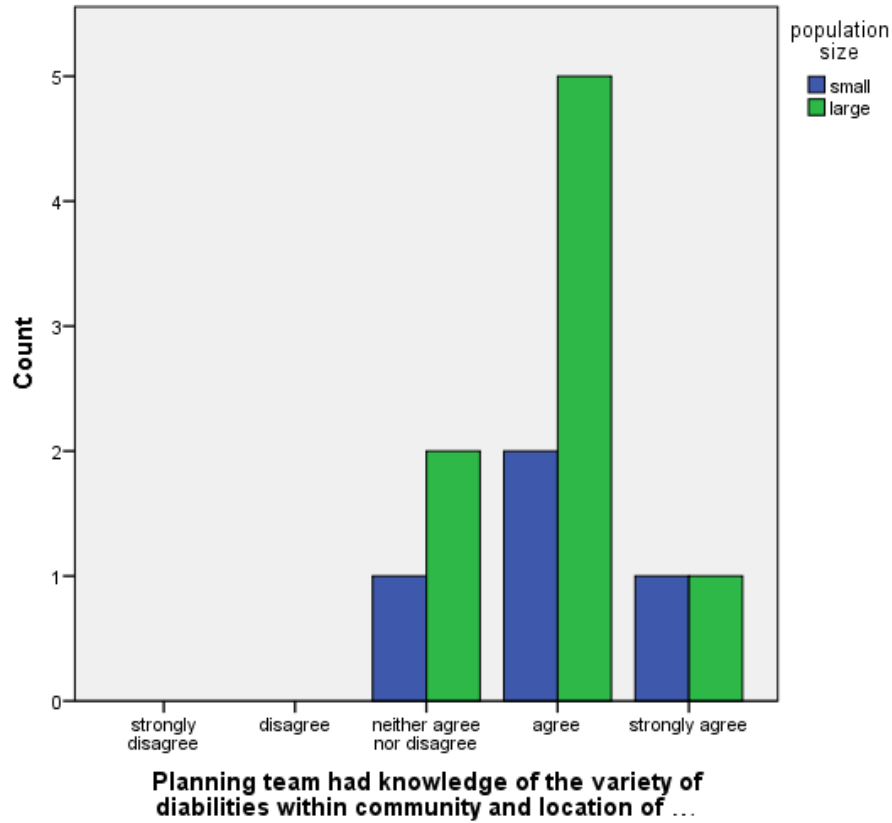
The first analysis of this study reviews the questions that were asked to look at the knowledge of the special needs population within the locale, the types of disabilities that existed in that locale, how the emergency managers obtained the above information, and if the training was provided to emergency responders to assist those individuals in the special needs population. The analysis was placed on each question to show the frequency of responses along with the standard deviation. Question one found that there were no strong disagreements or disagreements. The research found the majority of responses were in agreement with contact being made about the specific needs of the special needs population. SPSS data software calculated a standard deviation for question one to be .651. A breakdown is found for responses to question one in Table 2. When reviewing a breakdown between the larger and smaller communities' responses, the larger community responses had a standard deviation of .535, while the smaller communities had a standard deviation of .816. This suggests that the results from the smaller communities are just slightly more varied compared to the larger communities.

**Table 2**



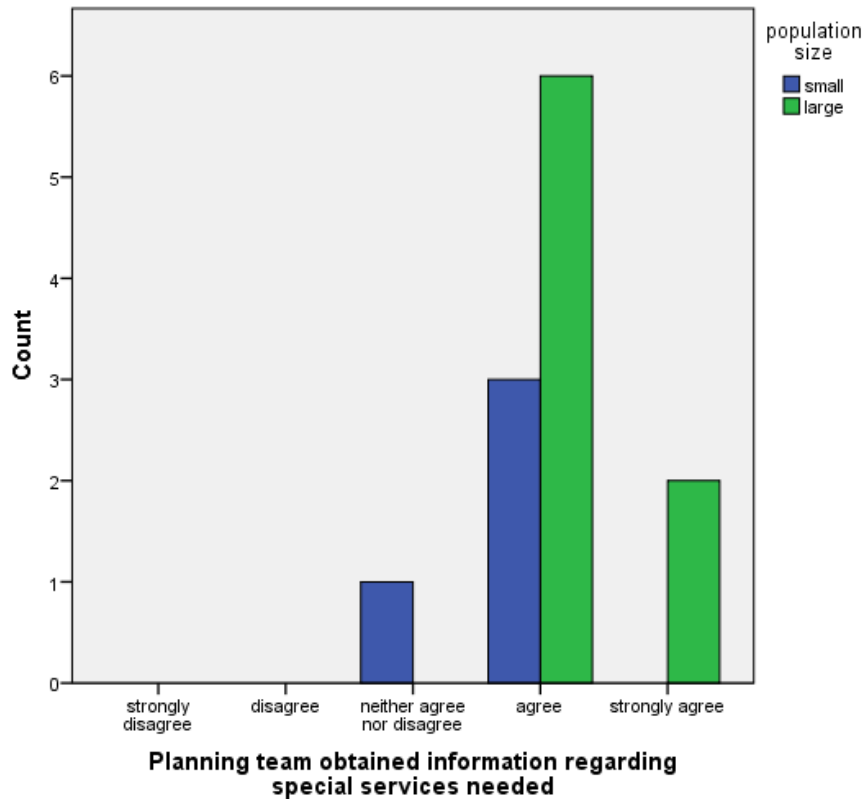
A review of question two showed there to be no responses in strong disagreement or have a disagreement with knowing the disabilities and location of those individuals within their community, as seen in Table 3. The highest number of responses were in agreement with the statement, with those responses coming from larger communities. SPSS data software showed a standard deviation of .669 for question two. Reviewing the differences in responses between large communities and small communities, the large communities had a standard deviation of .641 while the small communities had a standard deviation of .816, resulting in the smaller communities having more varied responses compared to the large communities.

**Table 3**



Question number three focused on responses regarding whether the emergency managers or planning team obtained knowledge of the special services that are needed to care for and assist the special needs population before, during, and after a disaster. As seen in Table 4, the larger communities either agreed or strongly agreed, where the smaller communities agreed, with one smaller community replying they neither agreed nor disagreed. SPSS data software showed a standard deviation of .515 regarding this question. In a breakdown of the large and small communities, the large communities presented with a standard deviation of .463, and the small communities presented with a standard deviation of .500. This shows that there are more varied responses in the small communities, however, there is a minimal difference seen in the responses.

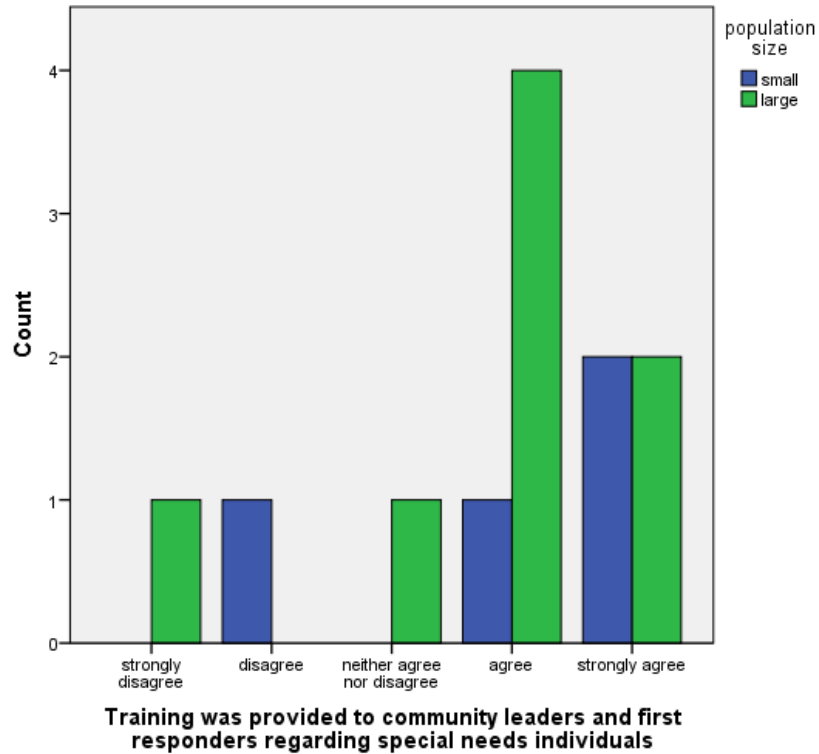
**Table 4**



When analyzing the responses given to question number four, which places a focus on whether training was provided to the community leaders and first responders concerning the special needs individuals, there was a standard deviation shown to be 1.267. Table 5 shows the responses that were given, and it can be seen that there was a variety of responses given between both large and small communities. SPSS data software shows the large community to have a standard deviation of 1.282 while the small communities have a standard deviation of 1.414, resulting in minimal difference analytically found amongst the two community sizes. It was noted that half of the large community responses resulted in to agree, while half of the small community responses resulted in strongly agree, however, both community sizes also showed responses that disagreed or had a strong disagreement.

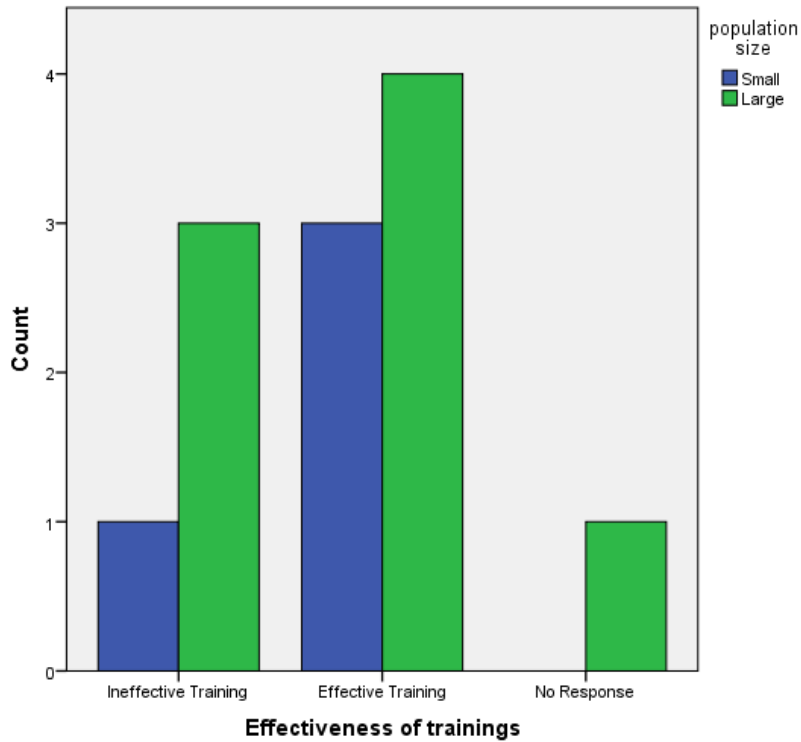


**Table 5**



The second analysis of the study reviews the participants' responses to how effective they believe training has been and if they believe improvements are needed in mitigation plans regarding special needs populations. Responses were evaluated and placed into a category of 1 (ineffective training and improvements needed), 2 (effective training and no improvements needed), or 3 (no response). Table 6 shows the responses given amongst the large and small communities regarding the responses that were given, with a standard deviation of .622. Comparing the difference in responses given by the large and small communities, the large communities had a standard deviation of .707 and the small communities had a standard deviation of .500, resulting in the larger communities having a more varied response.

**Table 6**



It should be mentioned that many respondents discussed agencies that they collaborate with regarding the special needs populations within their respective locales, which included the American Red Cross, and Salvation Army. One respondent discussed how utilizing the Function-based Framework (Kailes & Enders, 2007) is a helpful guide when planning for the special needs population. Additional responses added that emergency managers and community leaders strongly urged community members to participate in personal preparedness activities utilizing outreach efforts to discuss goals and objectives. Advanced warning systems were mentioned within responses discussing communication devices for the deaf and hard of hearing community.

**Comparison and Contrast Data Sets Likert Scale Scores Analysis**

When analyzing the responses between the large and small communities, it was found that there was a minimal difference between the two amongst the questions that were given. A few findings revealed that smaller community respondents generally responded to questions

stating they had some knowledge of the special needs population within their locale, of the special services that are needed, or obtained knowledge regarding those needs with a response rate of 3, showing that while there was some knowledge on those questions, there was limited knowledge or obtainment of knowledge within the smaller communities. Further, within the larger community respondents, multiple responses were showing limited knowledge of disabilities within the locale as well. However, the respondents within the larger communities were the only ones to respond acknowledging that no training was provided regarding the assistance that should be given to the special needs population.

Further, responses mentioned the COVID experience for their locale, with one participant stating

COVID-19 is the longest ongoing disaster ever experienced in this county. This has provided some unique challenges, such as how to transport persons with disabilities for COVID testing, dialysis, and other medical treatment.

Another respondent stated:

The development of the...CSEPP Strategic Communication Plan: Reaching Communities with Access and Functional Needs for the ten counties...which could potentially be affected by a chemical emergency. The plan I.D.'s shortfalls, ways we have addressed the barriers, and plans for the future local outreach.

### **Analysis Review**

The final analysis of this study reviewed the disaster plans for the participants' locales, with comparison to disaster plans found in other areas for the Southeastern United States, specifically focusing on the action plans for the special needs population, measuring how the disaster plans address the special needs of these individuals. Disaster mitigation plans were categorized as sufficient, insufficient, or no mention. Sufficient action plans focus on the special needs population (discussed or mentioned in at least 50% of respective action plans or discussions) in which there are numerous references to the special needs population, vulnerable

populations, or mention of specific handicaps that may be seen in the locale. Insufficient action plans (discussed or mentioned in less than 50% of respective action plans or discussions) mention the special needs population, vulnerable population, or specific handicaps, however, do not address them more than twice during goals or injects. The action plans that do not mention the special needs population, vulnerable populations, or specific handicaps of individuals were labeled as no mentions. These discussions or mentions would include vulnerable populations, special healthcare needs, or special needs populations. With 12 mitigation plans reviewed, the results of the analysis are discussed in Mitigation Plans.

### **Mitigation Plans**

The results of this study show that further research needs to be conducted in terms of the special needs populations and the disaster planning that is implemented within communities. The familiarity that is represented by the study's participants, in relationship to the findings of the mitigation plans analysis, provides an opportunity for emergency managers and other hazard mitigation developers to increase their focus regarding the special needs population when developing and implementing disaster action plans. Consideration should be placed on the locations of individuals with special needs, the requirements to meet the demands of their needs, specifically in the time of a disaster, as well as the information that can be gained concerning the specific demands for sheltering purposes. The analysis of this review is represented in Table 7.

The mitigation plan that qualified as adequate belonged to a large community. When reviewing the mitigation plan, it was found that there were mentions of special needs populations and populations of special interest. These mentions were found within the sections labeled "Assumptions", "Local, State, and Federal Regulations", and "Evacuating". This plan defined those individuals that would qualify as a population of special interest. There was further

discussion found within this mitigation plan that involved communication, evacuation, and sheltering needs for these individuals within their defined population of special interest, with a more in-depth discussion that looks towards the need for additional resources to assist in the evacuation of individuals with special needs.

Four communities had mitigation plans deemed to be inadequate. The first community qualifying as inadequate was a large community, in which the terms “special populations” and “special needs population” were found. These terms were found under the sections labeled “Local Critical Facility and Building Data” and “Magnitude of Severity of Flood”. Within this mitigation, a definition for special needs population was found, which stated: “may require special assistance during a flood event, may not be able to protect themselves, or may not understand potential risks”. The only mitigation action plan found stated a goal be to secure additional special needs supplies. However, there was no mention as to what these supplies would be, where they would need to be stored, or what resource would need access to these supplies.

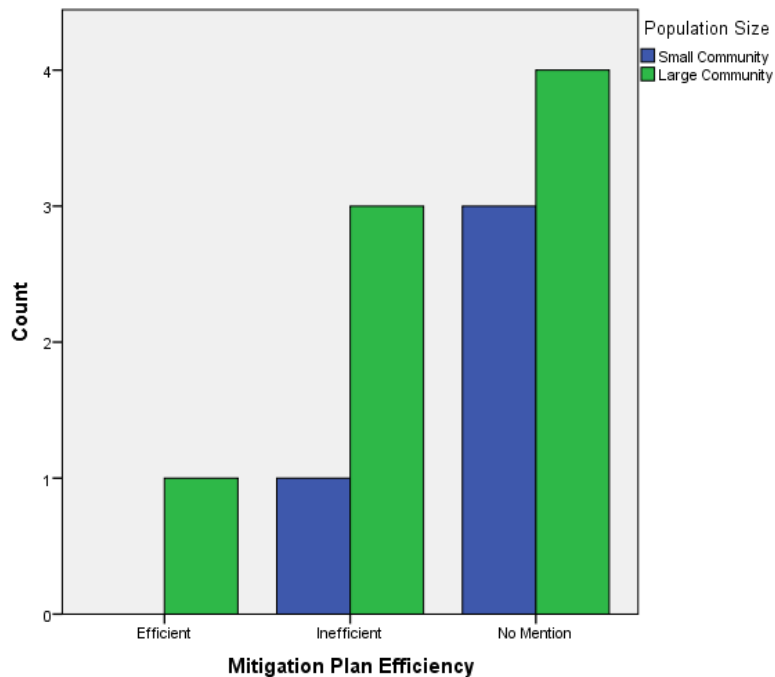
The next mitigation plan that qualified as inadequate belonged to a small community, where the terms “population of special needs,” “special needs population,” and “vulnerable populations” were found. These terms were found under the sections labeled “Radiological” and “Action Plan.” This mitigation plan acknowledged that within the community 1% of the population is deemed to be special needs. Further, the action plan acknowledges the need to identify the critical facilities that can respond to the needs of the special needs population for sheltering purposes.

Another large community had a mitigation plan that qualified as inadequate with the terms “special needs facilities” and “socially vulnerable population” utilized. These terms were

found under the sections labeled “Critical Facilities” and “Vulnerability Assessment.” There was no definition provided as to what individuals would qualify under the terms utilized, however, there was a focus placed on the vulnerability of those individuals. Further evaluation showed that there was a need to acknowledge the special needs facilities, however, there was no clear focus placed on whether this was for evacuation and sheltering purposes or identification of these individuals' location.

The final mitigation plan that was placed within the inadequate category belonged to a large community. This community only had one mention involving the special needs population, which was found in the section labeled “Mitigation Strategies.” This mitigation plan placed a focus on the special medical needs registry when looking at evacuation and sheltering needs. It further placed consideration on expanding the special medical needs registry for a more complete understanding of the needs within the locale.

**Table 7**

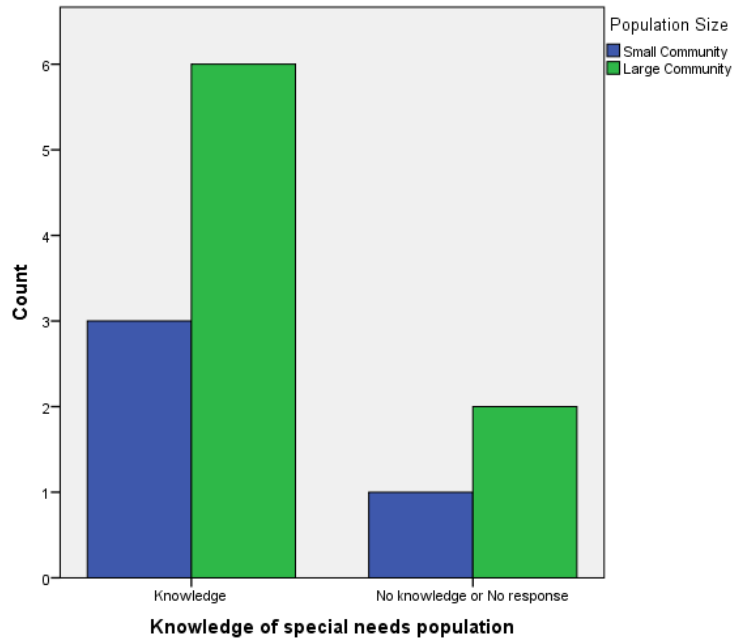


This study showed that emergency managers had a stronger belief in the training and mitigation plans that were provided for communities within the Southeastern United States than is suggested by the mitigation plans. The mitigation plans showed a failure to recognize and develop action plans that focus on the special needs population. No major differences were found between the large and small communities. One notable difference was one larger community defining what individuals would qualify as special needs for their locale, and one small community placed a focus on the evacuation and sheltering needs of the special needs individuals for their community.

### **Knowledge of Special Needs**

Based on what Table 8 shows, it can be determined that there is a high knowledge of information and knowledge regarding the special needs populations within the respondents' locales. Interestingly, the table shows us that many of the respondents believe the training to not be as effective as they should or need improvements to be more adequate in focusing on the special needs population. This is further represented by the lack of acknowledgment given to the special needs populations within the analyzed mitigation plans that correspond to the respondent's locales.

**Table 8**

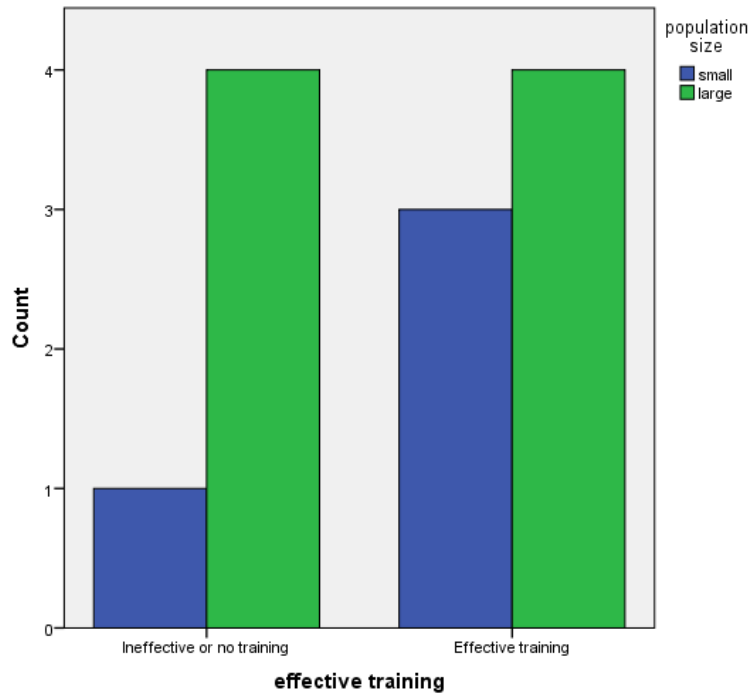


**Effective Training**

The overall review determined that there needs to be further research given by emergency managers (as seen in Table 9) to the specific demands of the special needs population regarding disaster management to provide more adequate training and an increase in the action goals within mitigation plans regarding the steps taken for the special needs population. There should be multiple forms of training provided to first responders and others that are involved in disaster response, particularly training that includes or involve the demands regarding the special needs population. While training can be provided in many ways such as classroom-based, online, simulation, or online, the personnel that develop and provide these trainings recognize that the training will not fit all situations that will occur. Training that is provided will, however, provide more knowledge to the responders regarding the demands of the special needs population.



**Table 9**



**Limitations**

**Pandemic**

The findings of this study must be seen in the light of some limitations. Included in these limitations are the Corona Virus Pandemic that was occurring and the impact of Hurricane Isaias, leaving many individuals working in Emergency Management overwhelmed in their position and unable to participate.

**Time**

The second limitation that needs to be factored in is the time of the study. With the study occurring during the peak of hurricane season, multiple respondents were stating they were unable to participate due to damage and extended needs from hurricane impacts or the need for preparation. I was facing time pressures to complete the study on time, and after the third round

of attempted data collection from prospective participants, it was determined that there was a need to accept a limitation.

### **Research Participants**

A final limitation of the study was the difficulty of engaging individuals to be research participants as some individuals stated they were new to their position, 20%, therefore explaining a lack of knowledge on the topic as a reason for the inability to participate. There were additional prospective participants (3) that stated they could not participate due to their new role in the emergency management position. Previous studies suggest that the turnover rate for Emergency Medical Services (EMS) in 2010 was 10.7% annually, which includes all aspects of EMS paid and volunteer (Patterson et al., 2010). In 2019, studies showed the turnover rate to be an average of 27% between paid and volunteer EMS employees (Moore, 2019).

### **Turnover Rates**

No data could be found regarding turnover rates specifically for Emergency Managers. While there was no issue in the selection of the recruitment sample, the unforeseen numbers of individuals that were inexperienced in their position led to an unexpected limitation. The strict limits placed on prospective participants needed to remain as previously set for the study to be accurate.

### **Conclusion**

Future studies on this topic should consider having a bigger sample size, as the smaller sample size given in this study did not allow for the desired confidence interval. Ideally, the sample size would include equal numbers of participants from larger cities with populations of 100,000 or more, and smaller cities with populations fewer than 100,000.

A more in-depth research study could consider the correlation between the hazard mitigation plans that are implemented in a particular region or locale and the knowledge the special needs individuals and families have of the resources available to them in the time of emergency. This research could be done by surveying the special needs individuals or families that have experienced a disaster in their locale, with comparison made to the hazard mitigation plans that are in effect, showing the plans that are established with caring for those individuals in terms of evacuation, shelter, and recovery plans.

Further research should also be considered into the ways that hazard mitigation developers for locales determine the special needs population within the area, the needs of those individuals, and how it is determined to the self-care, they can provide without outside assistance. The gathering of such information from special needs individuals, as well as how they obtain and utilize those resources, should be considered an integral part of this study, should it be conducted.

Findings from the above study show evidence that there is a higher confidence level in emergency managers and/or hazard mitigation planners regarding the planning that is implemented for special needs populations, compared to the planning that is found within the respective hazard mitigation plans that are currently in effect for the studied locales. Additional time spent researching the needs of these individuals and the resources available to assist them, along with training for the implementation of the aforesaid, will hopefully show a promising increase in the care and attention given towards the special needs population. This could potentially save additional lives resulting from a disaster.

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**Appendix A**

To:	Participant
Subject:	Disaster Management Research for Liberty University
Email:	<p>Dear Sir/Madam,</p> <p>My name is Jessica Windsor and I am completing my Master’s in Public Policy at Liberty University. As part of my studies, I am conducting a survey focusing on disaster management and the needs being met for the special needs population.</p> <p>The purpose of this email is to invite you to participate in this study. Included in this email are the study questions, in which your response is requested. This study will remain anonymous, with the only information being provided includes whether the responses were from larger or smaller cities located within the Southeastern Region of the United States. For this study, the special needs populations will be defined as the homeless, children and the elderly, individuals with mental and physical disabilities, and individuals that do not speak the local common language.</p> <p>Utilizing Likert Scale 1-5 with one meaning Strongly Disagree and five meaning Strongly Agree, the survey will include the following questions:</p> <ol style="list-style-type: none"> <li>1. When working on the disaster plan, our office contacted individuals or organizations that represent individuals with disabilities to obtain information regarding their specific needs.             <p style="text-align: center;">1      2      3      4      5</p> </li> <li>2. When finalizing the disaster plan, the planning team had specific knowledge regarding the various types of disabilities within the community and the location of those individuals.</li> </ol>

	<p>1      2      3      4      5</p> <p>3. The planning team obtained information related to the special services needed for those individuals with disabilities.</p> <p>1      2      3      4      5</p> <p>4. The training was provided to community leaders and emergency responders regarding how to assist those individuals with disabilities.</p> <p>1      2      3      4      5</p> <p>Additional open-ended response questions:</p> <p>1. If training has been provided, how effective do you believe this training has been?</p> <p>2. Based upon previous experience with the current mitigation plan in place for your locale, do you believe there are improvements to be made regarding the special needs population and disasters? If so, what would they be?</p> <p>3. Is there any other information regarding how your municipality (county, town, etc.) handles disaster preparedness for those with disabilities that you would like to share?</p>
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	<p>I would like to extend my appreciation for the time you have taken to respond to this email, as your time may be limited.</p>
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Sincerely, Researcher