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The Impact of Federal Emergency Management Legislation on At-Risk and Vulnerable Populations for Disaster Preparedness and Response

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Joseph Catalino

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Walden University
2015

Abstract

The Impact of Federal Emergency Management Legislation on At-Risk and Vulnerable
Populations for Disaster Preparedness and Response

by

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MPA, Walden University, 2009

MSA, Central Michigan University, 2005

BS, Southern Illinois University-Carbondale, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

It is well documented that in the aftermath of a natural or human caused disaster, certain at-risk and vulnerable populations suffer significantly more than do other population groups. As a result, Congress enacted the Post-Katrina Emergency Management Reform Act (PKEMRA) in part to address deficiencies in providing aid to vulnerable populations, though little is known if the PKEMRA has resulted as it was intended. The purpose of this phenomenological study was to assess the impact of the PKEMRA on addressing emergency preparedness deficits related to at-risk and vulnerable populations. The theoretical framework followed Howard's conceptualization of game and drama theory. The research questions focused on the extent to which the PKEMRA recommendations improved disaster lifecycle outcomes for at-risk and vulnerable groups in Orleans Parish, LA between Hurricanes Katrina in 2005 and Isaac in 2012. Data were collected through semi-structured interviews of 5 emergency managers with knowledge and experience local to Orleans Parish, LA. Interview data were systematically reviewed using inductive coding and categorized for thematic analysis. Key study findings indicated that the improvements made to family location registries, evacuation procedures, and disaster resources for these populations in Orleans Parish were not a result of the PKEMRA, but of the state and local emergency agencies without input from the federal government. This study contributes to social change by promoting greater transparency of federal programs targeting at-risk and vulnerable populations, making direct recommendations to use Orleans Parish as a relevant example to address the needs of these populations. Such a review will serve as an exportable model for similar communities across the country.

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Dedication

For my grandfather, the smartest person I have ever known. A boy from the streets who succeeded, failed, and succeeded again; you could not out wit, out charm, out play, or out think him. He had a 7th grade education.

And for Joan, this represents one of the many challenges we have faced together. No matter how big the obstacle, we always come out on top. You are my rock. Your constant support and encouragement has made all the difference in getting this done. Thank you.

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Chapter 1: Introduction of the Study

Recent disasters such as Hurricane Katrina and the terrorist acts on September 11, 2001 (9/11) challenged concepts and theories related to communication, information sharing, resource allocation, management authorities, public/private cooperation, interagency coordination, and effective disaster preparedness, response, and recovery (Wallask, 2009, p. 1).

One observation from both 9/11 and Hurricane Katrina is that the United States Government (USG) was not designed or equipped to be a first responder, or serve as the single resource during a disaster (Parker, Stern, Paglia, & Brown, 2009, p. 206). Lessons learned from such events have resulted in a number of initiatives at the federal, state, and local levels. Such initiatives cross public and private sector boundaries. Communities across the nation are struggling with disaster preparedness and are addressing emergency management from new perspectives including community-based planning and public/private partnerships.

The Homeland Security Act (HSA) of 2002 and the Post Katrina Emergency Management Reform Act (Post Katrina Act or PKEMRA) of 2006 address various components of the disaster life-cycle including preparedness, mitigation, response, and recovery. The HSA directed the restructuring of dozens of federal agencies, including the Federal Emergency Management Agency (FEMA); and the Post Katrina Act was used to improve disaster related efficiencies and processes for federal, state, local, and tribal agencies.

The topic for this research study was the impact of federal legislation on at-risk and vulnerable populations for disaster preparedness and response. This chapter includes a background to the problem, discussion of the problem statement, purpose of the study, explanation of the research questions, conceptual framework, definition of terms, assumptions and limitations, and significance of the study and expected social change. I evaluated whether or not recommendations made in the Post Katrina Act were implemented for the at-risk and vulnerable citizens of Orleans Parish, LA and if such enhancements resulted in better outcomes during Hurricane Isaac in 2012. Through this study, understanding the implications of the Post Katrina Act will contribute to overall disaster preparedness of the nation. This has a significant social implication as we face disaster after disaster of both natural and man-made origins and attempt to provide for all citizens.

Orleans Parish, Louisiana was selected for this case study because it was heavily impacted community during Hurricane Katrina in 2005 and by all weather related emergencies since. Orleans Parish also provides relevant demographics related to this research. With a population of approximately 343,000 people, of which 67% are minority groups (U.S. Census Bureau, 2014), the pre and post disaster preparedness levels of Orleans Parish will contribute to the literature on disaster preparedness related to at-risk and vulnerable populations across the country. According to the Health Policy Center at the Urban Institute, racial and ethnic minority groups are among the vulnerable population (Urban Institute, 2014). Communities are comprised of representatives from multiple socioeconomic groups and ethnic and immigrant populations. In many urban

areas, mixed social classes live within blocks or miles of one another with limited interaction and contact on a regular basis. When disasters strike, people respond through a combination of instinct, experience, and means. Often, response actions are different among social groups. As a result of the differences in actions and disproportionate suffering across social groups, recovery is stifled for at-risk groups (Fussell, Sastry, & VanLandingham, 2010, p. 5).

Eisenman, Cordasco, Asch, Golden, and Glik (2007) asserted that at-risk populations (minority groups, and lower-income earners), are left with minimal resources, information, and limited access to critical life-saving supplies and surplus when responding to disaster (p. 109). At-risk populations are less prepared for disaster and thus, suffer to a greater degree than those with means (Hoffman, 2008, p. 1496). Financial wherewithal, access to information (literacy, technology, media), and trust of government all contribute to disparities in disasters. I examined the implementation of the Post Katrina Act recommendations for Orleans Parish level and to evaluate preparedness levels and effectiveness for this community in the years that followed Hurricane Katrina.

Background of the Problem

Disasters are not new phenomena for the United States and have affected citizens long before the devastating 2005 hurricane season. Communities across the country have altered behaviors and lifestyles to account for known weather hazards through evacuation, structural advancements, and legislation and governance.

Current researchers on disaster impact suggested that disproportionate suffering and loss by the at-risk and vulnerable populations compared to those of higher

socioeconomic means as those less fortunate experience degraded social networks, additional challenges, and limited access to resources (Messias, Barrington, & Lacy, 2012, p. 101). There are major gaps in the government's knowledge of the discipline on how to effectively improve conditions of disabled persons during a disaster (Vaughn, 2009).

For the at-risk and vulnerable populations, lack of resources, access to relevant information related to the event, and a distrust of government create a situation requiring greater support from public sector agencies called to respond to the disaster. As experienced during Hurricane Katrina in 2005, the response from the federal government to aid citizens in distress lacked a comprehensive, efficient process resulting in untimely, inaccurate, and exceptionally high costs on the taxpayer. Mobilization, personnel, and mission focus problems complicated the federal response to Katrina (Schneider, 2005, p. 515).

Emergency management and disaster response requires a collective, concerted effort. It is not simply the federal government's responsibility or capability to own (US Government Accountability, 2008). One solution to the public, versus private, versus individual responsibility conundrum in the emergency management community is the implementation of public/private partnerships. A number of public/private partnerships exist throughout the country. Focusing on relationships, capabilities, and planning for disasters before the event occurs, private/private partnerships hope to strengthen a community's ability to mitigate and survive a disaster.

Such initiatives serve a multitude of stakeholders such as for-profit businesses that can better execute continuity of operations plans ensuring their risk mitigation procedures and techniques are effective; not-for-profit and Nongovernmental Organizations (NGO) that can better synchronize their efforts through a wider community outreach; and citizens who can benefit from a whole-of-society planning effort where in some cases, have the private sector leading response and recovery (Smith & Sutter, 2013, p. 166).

The federal government has instituted a Whole Community concept to emergency preparedness and response (A Whole Community, 2011). This includes private industry, the NGO community, and personal responsibility. Placing responsibility on the individual, family, and community is one thing, giving them the tools and resources to self-sustain is another story. By focusing on meeting the basic needs of the larger population, the government has included other-than-government actors to strengthen community resiliency (A Whole Community, 2011).

The lack of effectiveness and a likely gap in implementation of relevant, specific initiatives targeting at-risk and vulnerable populations might be supplemented by public/private partnerships. Public/private partnerships are a new focus of FEMA to improve, enhance, and expand capabilities during a disaster (Public-Private Partnerships, 2013). Research on the at-risk and vulnerable populations in America provided critical information necessary to contribute to the overall response posture of the nation. There are direct implications to literature on this subject and promote social change in Chapter 2. Strengthening the country and its ability to manage emergencies can only be

accomplished by empowering the citizens. Community-level initiatives focusing on at-risk individuals may satisfy this component of emergency preparedness.

While much is being done at senior government levels to improve efficiencies and develop collaborative processes among federal agencies, this includes federal to state relationships and federal to private sector relationships, some among the population are ill-equipped to protect and care for their families during disasters (Eisenman, Cordasco, Asch, Golden, & Glik, 2007, p. 109). The Post Katrina Act provides direction and recommendations to strengthen the federal government's ability to respond to disaster and create more efficient processes. For the \$10 billion in funding from 2001-2009 and planning that has occurred as response and reaction to 9/11 and Hurricane Katrina, community-level preparedness outcomes focusing on vulnerable populations is inconsistent (Hoffman, 2008, p. 1501) and may not have achieved desired results related to disaster response capacity in the United States. Those living below the poverty line, with limited English competency, and distrust of government, suffer a much greater extent during disasters than those of higher socioeconomic means. A minority group where a single mother is the head of household is dependent on others for support (Curtis, Mills, & Leitner, 2007, p. 323) requires a different action plan in a disaster than others. Managing a disaster while addressing such disparities and reliance on federal resources during a disaster are the center of this discussion.

The underserved were mentioned in the Post Katrina Act with a few recommendations addressing the group, yet the Act seems to fall short in bettering the preparedness and response posture of at-risk and vulnerable populations. This problem

impacts the overall national response capability and increasing challenges regarding emergency management effectiveness (Runkle, Brock-Martin, Karmaus, & Svendsen (2012, p.24). Recent storm seasons following Hurricane Katrina offered an opportunity to evaluate preparedness and response capabilities for communities throughout the Gulf States.

The 21st century risk environment demands better preparedness for disasters. Each citizen is important and at-risk and vulnerable populations face disasters with a clear disadvantage. This study is needed to help level the playing field and give all individuals the same chance at effectively managing a disaster.

Problem Statement

The problem addressed in this study is the need to understand to what extent have recommendations of the Post Katrina Act had on improving disaster preparedness and response capabilities for at-risk and vulnerable populations in Orleans Parish, LA between Hurricane Katrina in 2005 and Hurricane Isaac in 2012.

Previous research findings on at-risk and vulnerable populations and disasters have yielded consistent themes related to perceptions, deficits, and common problems across the disaster management spectrum. Rosenkoetter, Covan, Cob, Bunting, and Weinrich (2007) conducted an empirical study on older adults and evacuation during a disaster concluding that timely and accurate communication is critical. In a study of nursing home evacuees from Katrina, Laditka et al (2008) reached beyond the obvious need to address the elder population in nursing homes as they identify the need for follow on care of mental health requirements and culturally specific needs. Li, Airriess, Chen,

Leong, and Keith (2010) focused on migration, evacuation, and return of specific minority groups. Messias, Barrington, and Lacy (2012) studied Latino social network dynamics and showcased the need for better coordination resources for minority groups with compromised access and understanding of available resources. Such studies present a clear gap in the literature on at-risk and vulnerable populations and disaster.

Purpose of the Study

The purpose of this research was to expand on current research related to emergency management improvements for at-risk populations and disasters by evaluating the Post Katrina Act, and contribute to social change by bringing awareness to the efficacy of recent disaster policy deficits targeting these groups. Ultimately, this study offers recommendations to reduce the disproportionate effects of disasters on population groups in a community through increased legislation across the multiple levels of coordination and response.

Early engagement, before the disaster, requires a whole of society approach, and when all social groups are included, can better position the entire community to survive and mitigate disaster impacts. This is a current and relevant social concern as we face disasters each season and or that can be characterized as population wellness, community-driven Economic Development, Social Capital, Information and Communication, and Community Competence (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008, p. 127). The goal was to determine if at-risk and vulnerable populations are better equipped to face disasters today and explore the phenomenon of social behaviors when impacted by disasters. There is not a one-size-fits-all national

community. This is evident in how citizens react to potentially catastrophic events. If there is a better understanding of those reactions and influences, there can be alternatives to suffering through the status quo and improve disaster-related outcomes for more people.

Research Questions

The research questions are as follows:

1. How have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012?
2. How has FEMA Region VI, which includes Louisiana, identified and addressed “gaps in the region concerning the response to individuals with special needs”?
3. How have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and Emergency Support Function-6 (ESF-6) programs aided in evacuation planning and execution for Orleans Parish, LA?

Theoretical Framework

The theoretical framework for this study follows Howard’s (2007) game and drama theory. Drama theory expands on Howard’s original game theory, which suggests that whenever humans are forced to interact (Binmore, 2007, p. 2), they will weigh options and scenarios to better their economic, personal, social, or other position (Bennett, &

Howard, 1996). Chapter 2 includes a more detailed explanation of game theory and the relation to at-risk and vulnerable populations. This theory relates to the study approach that focuses on the reaction of citizens to a disaster make decisions based on preference and understanding of what they believe. In the literary classic *Leviathan*, Hobbes (as cited in Piiriame, 2006, p. 4) suggested conflict exists in humanity as a constant and that man while preferring peace over war, must continually fight to maintain order in life. Drama and game theory are modern interpretations of Hobbes' war of every man against every man (as cited in Piiriame, 2006) and the belief in conflict in the state of nature.

The concept that grounds this study is that individuals make decisions through passion and that human nature drives us toward survival regardless of means. For at-risk and vulnerable populations, disasters pose significant problems that may or may not be addressed within the community. As such, different socioeconomic groups respond to disasters and ultimately survive to different levels of success than others. The study approach evaluated whether recommendations from the Post Katrina Act have influenced the way certain social groups prepare for and respond to disasters. This is further described in Chapter 2.

Drama and game theory are often used to test behaviors among populations through simulations or games. Similarly, emergency management professionals in the Orleans Parish area answered leading questions used to frame behaviors like those seen in a simulation.

The Post Katrina Act has addressed specific deficiencies in emergency management capabilities and functions of the federal government. Among the identified issues in the Post Katrina Act were organization-specific provisions for the Department of Homeland Security (DHS) and FEMA, disaster planning, disaster assistance activities, and regional preparedness. Relative to this research were the Post Katrina Act's National Emergency Family Registry and Locator System, Disaster-Related Information Services, Transportation Assistance to Individuals and Households, and Logistics.

Among the many recommendations within the Post Katrina Act, a number target at-risk and vulnerable populations. The extent of how well the recommendations were implemented was in question and this research sought to gauge the effectiveness of the Act. According to a Government Accountability Office (2008) report focusing on *Actions Taken to Implement the Post-Katrina Emergency Management Reform Act of 2006*, FEMA reported new policies designed to improve communication with limited English speaking and special needs populations.

The Post Katrina Act is an example of the government reacting to an identified need related to its citizens. The theoretical framework of this study offered a deeper orientation of the act from simply a reaction-turned-legislation. Using previous studies addressing at-risk and vulnerable populations, and a proven disadvantage when preparing for and managing disasters, this framework sought to challenge the research questions and offer concrete insight into the future of preparation and mitigation for certain populations.

Conceptually, this research offers insight into actual implementation of the legislation's intent, thereby actually benefiting the citizen. Storms like Hurricane Katrina may not come around very often, but for communities in Mississippi and Louisiana, each storm season brings reason to address disaster preparedness. A nation of such means as the United States, can effectively improve disaster outcomes. I tested the theory of the government's response and reaction to disasters with legislation and guidance. This is explained in further detail in Chapter 2.

Nature of the Study

For this research, I utilized a single qualitative case study to measure the effects of legislation passed in response to recent disasters and its impact on at-risk and vulnerable populations in Orleans Parish through comparative analysis of preparedness postures for Hurricanes Katrina and Isaac. In public administration, case studies provide offer insight from both evolutionary and current practices in the field (McNabb, 2008, p. xxiii). The results of this research communicate the effectiveness of legislation and its implementation by public administrators. I evaluated data from interviews with emergency management personnel that served Orleans Parish and the state of Louisiana for multiple hurricane seasons before, during, and after Katrina in 2005.

One reason for a qualitative versus quantitative analysis is sample size as qualitative studies can generate compelling results with smaller sample sizes. Qualitative studies achieve results without saturation of multiple perceptions (Glaser & Strauss, (1967). This will be detailed further in Chapter 3.

Definition of Terms

At-risk Populations: Physically disabled, deaf, and non-English speaking (Taylor, Balfanz-Vertiz, Humrickhouse, & Jurik, 2010, p. 2).

Business Executives for National Security (BENS): Nonprofit organization focusing on national security issues as they relate to private sector business concerns (About Us, 2013).

Community Resilience: The connection of capabilities, resources, and collaborations creating increased sustainability during social disturbances (Norris et al., 2008, p. 127).

Disaster Management Resources: Information, planning, kits, shelter locations, community warning systems, and other supportive material or services to mitigate a disaster (Are You Ready, 2014, p. 13).

Distrust of Government: The doubt in government officials (Cook & Gronke, 2005), and purposeful neglect of public sector-directed orders and law.

Emergency Support Function-6 (ESF-6): Emergency Support Functions are annexes to the National Response Framework (NRF) that provide structure and guidance for federal interagency support. ESF-6 is dedicated to mass care, emergency assistance, disaster housing, and human services (Emergency Support Functions, 2008).

Federal Emergency Management Agency (FEMA): The United States federal agency designed to support emergency management system for the nation (U. S. Department of Homeland Security, 2010).

Federal Response Plan (FRP): The first federal agency sponsored guidance on coordinated response to disasters in America (Federal Response Plan, 2003).

Homeland Security Act (HSA): Federal legislation combining 22 agencies into a newly formed Department of Homeland Security in 2003 (U. S. Department of Homeland Security, 2003).

Information Sharing: The exchange of data either through electronic means or other between sectors and entities to support collaboration and cooperation (Gil-Garcia, 2012).

Interagency Coordination: A mutually beneficial coordination and cooperation among various agencies at all levels of government (Gil-Garcia, 2012).

Limited English Proficiency: Individuals with an other-than-English primary language or who have limited ability to read, write, or understand English (U. S. Department of Justice, 2011).

Minority Groups: Subordinate societal group with narrow opportunities (University of Dayton, 2008).

National Emergency Family Registry and Locator System (NEFRLS): Developed after Hurricanes Katrina and Rita, NEFRLS is an activated national database to reconnect displaced citizens with family and friends, if registered (National Emergency Family Registry, 2013).

National Preparedness Guidelines (NPG): National, domestic, all-hazards preparedness goal through synchronized efforts across all levels of government (National Preparedness Guidelines, 2013).

National Response Framework (NRF): Guidance for the unified response to all-hazards and disasters in America. Replaced the NRP in 2008 (U. S. Department of Homeland Security, 2011).

National Response Plan (NRP): National plan to guide and direct emergency response actions in America (National Response Plan, 2003).

Not-for-profit/Non-Governmental Organizations: An organization independent from government created to support civil and civic interests for the public good (United Nations Rule, n.d.).

Post Katrina Emergency Management Reform Act: Law passed in 2006 addressing lessons learned from Hurricane Katrina in 2005 (U. S. Department of Homeland Security, 2008).

Post-Traumatic Stress Disorder (PTSD): Medical condition caused by a person's inability to process and manage recollections of traumatic experiences as they feel frightened when they are not in danger (National Institutes of Health, 2013).

Private Sector: For-profit industry groups and not-for-profit organizations (also called Non-Governmental Organizations (NGO)) (U. S. Department of Homeland Security, 2008).

Public/Private Partnership: Collaborative, team-centric entities with representation from both the public and private sectors (U. S. Department of Homeland Security, 2010).

Special Needs Populations: Citizens requiring additional assistance before, during, or after an incident as a result of physical or mental disability (U. S. Department of Health, 2008).

United States Government (USG): The inclusion of the legislative, executive, and judicial branches of government and all agencies and offices within.

Vulnerable Populations: Those with physical and mental disabilities, elderly, pregnant women, children, prisoners, economically disadvantaged minority groups, undocumented workers, and those with limited English proficiency (Hoffman, 2008, p. 1499).

2009 H1N1 Flu: Influenza virus causing a global pandemic resulting in illness and deaths (Centers for Disease and Control, 2009).

Assumptions

I assumed that all material analyzed was accurately collected. For the interview portion of the research, I assumed that the attitudes of the participants are stable. Further, I assumed each interviewee will be forthright in their information and do not intend to lead the researcher to any less-than-factual conclusions as, according to Howard's drama theory, emotional response may affect answers to survey questions related to their personal experiences of multiple disasters. This emotional response assumed to influence respondent's perceptions and bias that they are neglected by government and that as a result of such neglect, suffered greater. This is important in the context of the study to understand the relationship between federal legislation and citizens it is designed to serve. I also assumed that this group is representative of emergency management

professionals with experience managing disasters before, during, and after Hurricane Katrina.

Scope and Delimitations

The scope of this research covered residents of one Parish in Louisiana and will not cover all impacted residents of Hurricanes Katrina and Isaac. Orleans Parish was selected to control the sample population and provide a narrow margin to work within. The boundaries of the study include affected populations of Hurricane Katrina in 2005 and Hurricane Isaac in 2012 in Orleans Parish, LA. This study is limited to those respondents who agree to the interview. The boundaries of this study using variables such as geography, time, and event, are similar to other locations within the state and United States for additional studies. Such details for the study lend to transferability (Morrow, 2005) thus providing a foundation for discussion on how this can be useful in other research projects (Shenton, 2004).

Limitations

Limitations of this study included the following factors (a) interviewees may have answered questions based on a personal agenda, (b) the respondents may have operated with a personal bias for or against the federal government, and (c) the selected parish, while similar in geography, time, and event, may not be representative of other how other parts of the country responded to Hurricane Katrina in 2005 and subsequent hurricane seasons that followed. Such limitations may weaken the methodological approach therefore affecting transferability. Bias for or against the federal government may affect interview outcomes. This has positive and negative implications. Positively, emotional

response follows the theoretical framework for this study, as game theory is based on behavior decisions. Negatively, one's emotional response may not accurately describe his or her actions, but their emotions. To reduce these limitations, the interview questions were developed specifically to address biases and participant relevancy.

My experiences created a personal bias as I have participated in numerous disaster response scenarios and have established opinions and perceptions relative to the subject. To maintain conformability and objectivity, multiple sources will be sought (triangulation) to minimize personal bias and influence on the results. I viewed and analyzed data objectively, avoid generalizations, provide supporting references, avoid comments based on personal experiences, and use sensitive language.

Significance of the Study and Expected Social Change

Emergency management and disaster response is a large field. Natural and man-made disasters face communities every day. Funding, resources, and authorities contribute to the complexities of emergency management. I explored the community resiliency aspect of emergency management and highlight significant components necessary to improve emergency management capabilities from the federal level down to the individuals in each community. Specifically, I addressed the effectiveness of implementation of federal legislation, and its impact on at-risk and vulnerable populations.

As the United States and international community face more and more disasters separately and together (in the case of a global pandemic), technology and social media continue to develop and support disaster response. Future implications of this current

study are the precursor to disaster planning and mitigation through advanced technology means.

The ultimate goal of this research is to develop strong, resilient communities capable of surviving disasters with less dependency on the federal resource base. This social change component could assist in building capacity where there is none, establishing and sustaining relationships among disparate groups, all working together to provide safer, more secure communities across the nation and world.

Summary

This study of the preparedness level of Orleans Parish as it relates to the implementation of recommendations from the Post Katrina Act expands the existing body of knowledge related to emergency preparedness for at-risk and vulnerable populations. This elaboration offers greater insight and recommendations to increase capacity and resources for at-risk and vulnerable populations. Chapter 2 is a review of literature directly related to the problem statement and research questions. The literature review offers comparisons and contrasts of differing points of view as they relate to the research questions and positions. The literature summarizes support for the intended research and validates the theories examined. Research methods, design, data sources, procedures, researcher's role, and data analysis are covered in Chapter 3 of the dissertation. The research methods chapter explains the qualitative research design and is the explicit description of how the selected methodology supports the intended research. Chapter 4 is a detail of the observations chronicled through the data collection and offers results of selected sources providing necessary information to support the overall research problem.

The data collection and analysis in Chapter 4 supports my position. Chapter 5 presents a summary, conclusions, and recommendations as to how the research satisfied the original intent. Specifically, Chapter 5 is a summary of why and how the study was accomplished, interpret all findings; offer conclusions addressing research questions, and state implications for social change.

Chapter 2: Literature Review

Introduction

The many theories identified in the literature review include wide acceptance that disasters impact all facets of a community, region or country, and that government agencies attempt to mitigate challenges associated with disaster management mainly after the fact. Emergency management is heavily focused on response and recovery, not prevention and mitigation. Researchers and government reports indicated that preparedness exists as a challenging concept as money holders in agencies and organizations would rather support and fund other areas of their business objectives than invest in something that might never be used. Often, interest and support for a disaster preparedness program comes after a catastrophic event. The United States Government Accountability Office's (GAO) preliminary observations on the emergency management lifecycle experienced during Hurricane Katrina, highlight lessons learned from the catastrophic event were similar to those identified after Hurricane Andrew in 1992, and Hurricane Hugo in 1989 (Government Accountability, 2006).

Each member of society, from individuals and families to public sector agencies at all levels of government, not-for-profits and the business community; all have a vested interest in preparedness. Most literature on emergency preparedness is focused on the post incident period and not on preparation. Further, while current researchers identified at-risk and vulnerable populations as prime victims during a disaster, it exposes a gap in how to better the position of this group. This research built upon current literature and

added a significant component; how well have recommendations from the Post Katrina Act benefited at-risk and vulnerable populations when preparing for disasters.

Relative to the research topic, this chapter is an exploration of at-risk and vulnerable populations; distrust in government; trust in the private sector; public private partnerships; government reports and key legislation; and specific recommendations from the Post Katrina Act. The chapter concludes with a summary of major themes and gaps in the literature as well as how this research expands knowledge in the discipline while providing a transition to Chapter 3.

I explored enhancements to the emergency management processes and procedures related to at-risk and vulnerable populations. Much research can be found highlighting the suffering of at-risk and vulnerable populations, but few sources exist that address the betterment of processes and outcomes for such groups in disasters. The debate over security and preparedness is had regularly in this country; but, it is not known if individuals are actually more prepared. Further, we have neglected those most in need during times of disaster. This research study contributes to the gap in literature regarding at-risk and vulnerable populations and the impact from disaster.

Organization of the Literature Review

The following literature review offers an exhaustive review of literature with selective citations directly related to the problem statement and research questions:

1. How have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012?

2. How has FEMA Region VI which includes Louisiana, identified and addressed “gaps in the region concerning the response to individuals with special needs”?
3. How have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and Emergency Support Function-6 (ESF-6) programs aided in evacuation planning and execution for Orleans Parish, LA?

This literature review is focused on the topic area of at-risk and vulnerable populations and the impact from disasters with specific focus on Orleans Parish, Louisiana, the Post-Katrina Act of 2006, and the Homeland Security Act of 2002. For these interest areas, research databases selected included Academic Search Complete, Health & Medical Complete, Health Sciences: A SAGE Full-Text Collection, and SAGE Premier 2010. Various government publications, including Government Accountability Office reports, and federal legislation, were accessed.

The combination of databases and sources provided a broad perspective on the many facets related to the problem statement, research questions and hypotheses, study questions, and objectives. Using keywords such as, *at-risk and vulnerable populations, community resiliency, disaster preparedness, disaster response, emergency management, emergency preparedness, public/private partnerships, vulnerable populations, after actions, implementation* and *the Post Katrina Emergency Management Reform Act*, literature was compiled and resulted in a substantial collection of relevant material. Additionally, the concepts of *game* and *drama theory* were explored resulting in articles

addressing Howard's theory on how individuals analyze and respond to conflict situations.

Relevance to the Research Questions

The events of 9/11 and Hurricane Katrina forced many to analyze emergency management theories and concepts of the day. Lessons learned from the two events have created significant literature related to emergency management and disaster preparedness (Brattberg, 2012). Among the many products of 9/11 were a new cabinet position in government to manage a new federal agency in the Department of Homeland Security (DHS), a military combatant command focusing on homeland defense in US Northern Command (NORTHCOM), and numerous periodicals centered on security and preparedness. Such responses to the significant acts of 9/11 and Katrina were broad, sweeping changes at the federal and national level. After Hurricane Katrina, FEMA encouraged citizens to be more responsible for themselves in the preparation of disasters (Community Preparedness Toolkit, 2013). The Post Katrina Act of 2006 made recommendations to better prepare citizens for future events, but little research has gone into validating these recommendations and proving they met the challenge of modern day disasters. My intention in this literature review was to explore existing theories and concepts regarding at-risk and vulnerable populations and their impact from disaster, the government's approach to risk mitigation through legislation, and identify a gap between what has been done and what needs to be done to better prepare all citizens for future disasters.

As documented in numerous GAO reports and scholarly journals, analysis of disaster impact literature reveals an interesting lifecycle of events. In the moments immediately following a disaster event, analysis is conducted to identify proper and improper processes and procedures as they related to the event. As the dust settles from the chaos, the information gleaned from disaster analysis becomes recommendations on how to better approach future disaster events. From Hurricane Hugo, to Andrew, and on to Katrina, recommendations are either implemented or neglected. As a result, our preparedness is either strengthened or stifled.

Theoretical Frameworks

Howard, creator of classical game theory, suggested players, options, scenarios, and preferences are the essential elements of the model (Bennett, & Howard, 1996, p. 604). Players, or individuals, “have differing perceptions of the issue in which they are engaged. They may thus see as many different scenarios as possible, or misperceive one another’s preferences, or even disagree as to who the relevant actors are” (Bennett, & Howard, 1996, p. 605). Howard asserted that decisions are made rationally, through “means/end rationality, procedural rationality, consistency of beliefs, rationality of argument, (and) use of available evidence” (p. 607). Citizens negotiating a disaster face one or more of Howard’s descriptions of rational decision making.

For events such as 9/11 and Hurricane Katrina, the post event analysis and scrutiny of what went right and what went wrong led to recommendations and new guidance from government authorities. Such recommendations are the response from federal authorities to a perceived problem with emergency management policies; but,

they do not address the individuals involved in disasters. No current research found focused on decision making by citizens during a disaster. New guidance on what should happen pre disaster is found in the Homeland Security Act of 2002, the 9/11 Commission Report, and the Post Katrina Act of 2006 but again, at the federal level. I sought to explore the situations (or scenarios) forcing emergency managers to implement changes to preparedness, response, and recovery plans targeting at-risk and vulnerable populations during a disaster. Howard's (1996) game theory provides a unique and specific approach to behaviors during the disaster lifecycle.

Game Theory

Howard's game theory is used to study and evaluate how individuals and groups made decisions to resolve conflict through mathematical analysis. Game theory has been used in economics, biology, and notably in humanitarian operations (Muggy, & Heier Stamm, 2014). There is considerable research done on Howard's game theory, and a few researchers who used game theory to evaluate decisions during a disaster. Ehtamo, Heliovaara, Korhonen, and Hostikka (2010) applied game theory to evaluate evacuees' decisions during a simulated disaster response scenario. The researchers' highlighted behaviors and perceptions used by individuals when negotiating exits. Familiarity with certain egress routes, congestion, or challenges due to smoke and fire all influenced behaviors (Ehtamo et al., 2010, p. 114). Ehtamo et al used "best-response dynamics" (2010, p. 114) in their assessment of behaviors during disasters.

Murray-Jones, Stubbs, and Howard expand on game theory and conflict in an article on human interactions in peace and stabilization operations (2003). The author's

contention is that emotion is the driver for behaviors and during challenging, difficult situations lead to rational and irrational behavior. Individuals reach a moment of truth after evaluating issues and dilemmas, all of which affects decision making consciously or unconsciously (Murray-Jones, Stubbs, & Howard, 2003, p. 3). Of note from the study, Murray-Jones and colleagues suggest that once the affected players in a situation accept a common position, the individual or group will execute decisions (2003, p. 6). This is consistent with my research study as I explored influencers to behaviors during disasters such as trust and distrust of government and private systems.

It is important to review key legislation and the potential impact on at-risk and vulnerable populations by its recommendations. After the discussion on legislation, the literature examined in the review comprised of selected components of the legislation as it relates to at-risk and vulnerable populations and disaster preparedness.

Key Legislation and Government Publications

Current national guidance for disaster preparedness and response include the National Response Framework (NRF) and National Preparedness Guidelines (NPG). Both documents provide content encouraging disaster preparedness efforts that traverse all levels of government and sectors (National Preparedness Guidelines, 2007) and are the latest evolutions of federal and national direction from FEMA. Such guidance follows Homeland Security Presidential Directive-8 (HSPD-8) instituted by President George W. Bush in 2003 and later replaced by President Obama in 2011 with Presidential Policy Directive-8 (PPD-8). The United States has struggled with emergency management and homeland security long before 9/11.

Since its inception through Executive Order in 1979, FEMA has undergone numerous transformations as conditions have changed as a result of disaster and leadership. One major change to FEMA came under the direction of President Clinton. Appointed by Clinton, Witt developed the Federal Response Plan (FRP). The purpose of the FRP was to bring consensus among the 27 Federal agencies establishing a coordinating element for the federal resource base to support state and local governments when disasters exceeded their capacity (Federal Response Plan, 1992). The content within the FRP focuses solely on the federal government's responsibility during major disasters. The FRP makes no mention of at-risk or vulnerable populations and mentions the private sector minimally and serves as a guiding document for all levels of government and sectors to serve disaster victims at the most basic level (Federal Response Plan, 1992). The private sector is listed as an emergency management partner, but nothing further describes their involvement in a disaster. The intent of the FRP was not to expand beyond the basic provisions and coordination.

In the years since the FRP was developed, a number of major changes have followed. The George W. Bush administration attempted to overhaul the FRP by introducing the National Response Plan (NRP). The notable change with the NRP was the expansion of response responsibilities and capabilities from just the Federal government to a national interest to include state, local, tribal, and the private sector. A Notice of Change to the NRP released in 2006 accounted considerations related to reorganization in DHS and federal lessons learned from Hurricanes Katrina, Wilma, and Rita in 2005 (Notice of Change, 2006).

Another set of revisions came to the NRP in 2008 by changing from a plan to a framework expanded the role of disaster preparedness and response to entities outside the federal government including state, local, and tribal communities as well as industry and non-profit groups (National Response Framework, n.d). The emphasis of this language intended to support a whole-of-nation approach to disaster management. However, as Birkland (2009) suggested, “The NRF process is a clear example of, again, the federal tendency to look at emergency management failures as evidence for the need for more centralized planning from the top down” (p. 429). Centralized planning generally follows government-to-government lines from the federal-to-state-to-local levels. This has historically not included the private sector.

While earlier editions of the nation’s emergency response documents mentioned the private sector, the NRF is the first to dedicate an entire Support Function to Private-Sector Coordination. The Private-Sector Coordination Support Annex of the NRF provides guidance on collaborative disaster management between the public and private sectors (National Response Framework, n.d.). This annex does not direct the private sector to participate in a response but is designed to address federal coordination with those private sector entities responding to a disaster. However, even as the federal government is reaching out to other partners in disaster response found in the private sector and NGO communities, at-risk and vulnerable populations benefit by their local community-based resources.

Legislative efforts and government analysis address the many complexities and inadequacies across the lifecycle of emergency management observed through 9/11 and

Hurricane Katrina. The GAO's report on preparedness, response, and recovery for Hurricane Katrina offers a critical examination of the government's responsibility to the citizen during a disaster. Specifically, the report focuses on command and control, the role and responsibility of the Federal Emergency Management Agency's (FEMA) as a disaster unit and support to the state, and to empower FEMA to manage reserve units (Government Accountability, 2006). This high-level analysis followed criticism of the federal government's performance managing the disaster. In a separate report, the GAO drills deeper and suggests the National Disaster Medical System (NDMS) does not account for all transportation-disadvantaged persons in a disaster (Government Accountability, 2006).

In November of 2002, President George W. Bush directed a commission to explore the events leading up to the terror attacks on September 11, 2001. The government's official report, the 9/11 Commission Report was presented in July of 2004. The report dissects the events of September 11, 2001, describes modern terrorism, counterterrorism, and the America's preparedness on that day. The following excerpt from the report is essential to this discussion on community preparedness:

Emergency response is a product of preparedness. On the morning of September 11, 2001, the last best hope for the community of people working in or visiting the World Trade Center rested not with national policymakers but with private firms and local public servants, especially the first responders: fire, police, emergency medical service, and building safety professionals. (The 9/11 Commission Report, 2004, p. 278)

In the chaos of the event, emergency management personnel functioned in accordance with current protocols. Citizens responded, reacted, and were directed based on information available at the time. For all the pre-coordination and scenario-driven planning, “the response to the attacks on 9/11 was necessarily improvised” (The 9/11 Commission Report, 2004, p. 314). A year after the report was released; Hurricane Katrina hit U.S. shores creating havoc for the nation. Improvisation again led the day and many were left to manage their own situation. The report calls on individual preparedness and personal responsibility to increase survivability in disasters (The 9/11 Commission Report, 2004, p. 318). All citizens are affected by disasters, but how much so for the already disadvantaged?

The purpose of the study was to identify whether disadvantaged persons have an increased opportunity for transportation and other resources today than during Hurricane Katrina. Lacking from the GAO report are useful recommendations for the general population to better exercise personal responsibility. The series of questions used for the interviews in Chapter 3 are related to GAO reports and other government publications including legislation.

The Post Katrina Emergency Reform Act

Immediately following the 2005 hurricane season, Congress passed the Post Katrina Emergency Reform Act to address major shortfalls and deficits found during the catastrophic weather event. Within the Post Katrina Act are numerous recommendations relative to roles and responsibilities of federal agencies as well as compartmented issues

including communication, planning and preparation, preparedness, and assistance activities (U.S. Government Accountability, 2006).

Birkland (2009) asserted that “Mass casualty attacks and disasters generate domestic political pressure to “do something” (p. 424). This is true of the government’s response to 9/11 and Hurricane Katrina. The Post Katrina Act is no exception. While reactive in nature, the Act targets specific challenges identified in both preparation and response to Katrina. The goal of the Act was to strengthen FEMA’s role and offer clarification to its relationship within the larger DHS organization. The Post Katrina Act is the single document for ensuring changes to the disaster management lifecycle are made for the nation to better prepare and respond to disasters in the future. As this study discusses, disasters have occurred since Hurricane Katrina. Hurricanes, floods, wild land fires, tornadoes, and other significant events have challenged the nation’s emergency management system.

For this study, the Post Katrina Act was dissected and all recommendations and actions effecting to at-risk and vulnerable citizens were analyzed. Among the 300-plus provisions within the act calling for action, only a few target at-risk and vulnerable populations. Of note, the majority of provisions address high-level coordination and institutional changes of the departments within DHS and FEMA as they affect government officials, roles, and responsibilities. The provisions addressed in this research study include the National Emergency Family Registry and Locator System; Disaster-Related Information Services; Transportation Assistance to Individuals and Households; and Individuals with Disabilities.

In October of 2011, FEMA administrator Mr. Craig Fugate provided an update to congress on the Post Katrina Act five years since its passing. Fugate stressed a whole of community approach to disaster preparedness highlighting that “a federal-centric approach will not yield success” (Fugate, 2011, p. 2) noting that collaboration among public and private sectors to include not-for-profit organizations is key to effective planning. The Disability Working Group was discussed as a first-ever capability within FEMA designed to address “access and functional needs of children and adults with disabilities” (Fugate, 2011, p. 6). There was no mention of at-risk or vulnerable populations, minority groups, or other disadvantaged socio-economic with the exception of those with disabilities.

At-Risk, Vulnerable, and Disabled Populations

The purpose of previous studies related to at-risk, vulnerable, and other compromised social groups was to focus on who these populations are, and how they are impacted from a disaster. The methodologies used in a number of studies centered on review and analysis of previously published information. As discussed, the testimony of FEMA Administrator Fugate broadly covered improvements in disaster preparation over the five years since the Post Katrina Act was passed. Lacking in existing literature is a study addressing specific recommendations from the Post Katrina Act and the effectiveness of those recommendations as they relate to at-risk and vulnerable populations.

There is limited research on racial and ethnic minorities as confirmed by Andrulis, Siddiqui, and Ganter (2007, p. 1269). Andrulis et al have published some of the

available research regarding at-risk and vulnerable populations and disaster impact. One article specifically focused on preparing racially and ethnically diverse social groups for emergencies (Andrulis, Siddiqui, & Gantner, 2007, p. 1269). The purpose of their study focused on how prevalent racial and ethnic minorities were “considered in public health emergency preparedness and to identify leading research; promising efforts, and resources for training, education, and initiative development” (Andrulis et al., 2007, p. 1270).

This study is relevant as it addresses widens the emergency preparedness aperture to include at-risk and vulnerable populations. The methodology utilized for the study was a review of existing material. The theoretical framework for their research was to evaluate written guidance and publications on minorities being part of preparedness planning. Spanning 30 years of publications, including an internet search of available electronic publications, the authors exposed a reality that racial and ethnic groups are neglected in nearly 50% of web sites offering information on emergency preparedness and less than 13% focused on diverse communities (Andrulis et al, 2007, p. 1271). The authors did however identify communication gaps, conflicting messaging from authorities, language barriers, and misunderstanding as contributors to the disaster scenario faced by minority groups during Katrina (Andrulis et al., 2007, p. 1269). Looking through the game theory lens, the authors conclude the many factors leading to certain decisions are a result of their social group placement.

Among the myriad reasons for the disparities among social groups and impact from the disaster, the authors accredited a lack of a comprehensive approach to all

citizens as a contributing factor. Additionally, accountability and census of persons throughout the community lacked, as well as access to information and resources, and multi-modal options to evacuate for all potential victims. Andrulis et al suggest there are a number of initiatives designed to provide information to minority groups and diverse populations about disaster preparedness. However, their research does not evaluate the effectiveness of the many programs designed to influence decision making by the target audiences. The cursory review of existing publications and internet web sites conducted by Andrulis et al is an important component of a study on at-risk and vulnerable populations in the impact from disaster.

Hutchins, Truman, Merlin, and Redd (2009) discuss vulnerable populations and disparities during disasters in an *American Journal of Public Health* article. The authors described the disproportion of disaster impact on income levels and race. Citing statistics from Hurricane Katrina, the article suggests more should be done to protect vulnerable populations from disaster, specifically, pandemic influenza. The study highlights challenges of the vulnerable population of pregnant, HIV and other immune-compromised patients, and the elderly. Hutchins et al suggested that during a public health event, the vulnerable population will suffer at high levels due to loss of support and that a solution may be found in partnerships and collaboration, and communication. Hutchins et al focus on a component of the vulnerable population. Even though there are other social groups that might be considered vulnerable, the study clearly shows a problem for many in the community (Hutchins et al., 2009, p. 246). The description of socioeconomic challenges is descriptive and offers relevant insight into the problem.

Race, as a socially differentiating characteristic, is only one component of the argument for vulnerable populations. Hutchins et al do not explore how race affects a social group's trust of government at any level. Their article is a discussion, not an analytical study using any methodology. The authors defined at-risk and vulnerable populations and present clear justification for preparedness programs targeting such groups, as well as the challenges when serving these populations. However, the authors do not assess any programs designed to address at-risk and vulnerable populations nor do they evaluate any guidance or direction from public offices.

According to Wilson, Temple, Milliron, Vazques, Packard, and Rudy (2008), a lack of preparedness has detrimental impacts on community-level groups. In their study, Wilson and colleagues suggest multiple factors contribute to a community's ability to prepare, respond, and rebuild from disaster, most importantly, the local economic and social conditions fashion the outcome (Wilson, Milliron, Vazques, Packard, & Rudy, 2008). For many communities, a disaster of any size could have crippling affects to many sectors responsible for the health and well-being of that community. Communities lack adequate disaster preparation and are therefore dependent on government resources as a result (Wilson et al., 2008). The authors conclude that when entrusted to large agencies, personal safety and welfare are unlikely to serve the best interest of the community (Wilson et al., 2008). Again, the concept of capacity through partnerships is not addressed further highlighting a gap in literature.

Physical disabilities create grave challenges during disaster response. Taylor, Balfanz-Vertiz, Humrickhouse, and Jurik conducted a research study using a

decontamination drill focusing on the disabled, deaf, and those with limited English proficiency. The methodology for their study was an experiment using people with disabilities versus able-bodied participants holding cards listing a disability.

Transportation Assistance and the Elderly

Effective preparedness is the common theme surrounding the discussion of transportation and evacuation during disasters. Rosenkoetter, Covan, Cobb, Bunting, and Weinrich studied evacuation and older adults and conclude that communication and access to information may lead to better outcomes for elderly, low-income individuals in a disaster (2007, p. 166). Rosenkoetter and colleagues cite the likelihood of citizens to follow direction of public officials in the next disaster is directly linked to their experiences during the previous disaster (2007, p. 166). One significant finding was that while many websites post relevant information related to evacuation plans, many citizens in this subpopulation do not have access to a computer (Rosenkoetter, Vovan, Cobb, Bunting, & Weinrich, 2007, p. 166).

Rosenkoetter et al evaluated the Older Adult Disaster Evacuation Assessment (OADEA) that targeted demographics including age, ethnicity, income, education, living arrangement, and health status (p. 164) and used a dependent variable of overall willingness to evacuate in the future based on previous disaster experiences. Findings were consistent with other studies confirming those with lower incomes, pre-existing health conditions, and other dependencies require additional support during disasters (p. 166). This study, while forward in its projection of the next disaster, highlights the deficit

in effective preparedness identified earlier and offers little to overcome deficits identified in community preparedness.

Distrust in Government

Distrust in government is a potential reason for certain behaviors during a disaster. Distrust may indicate a lack of consistent messaging and unity for a community entering or recovering from a disaster. Authors McIvor, Paton, and Johnston (2009) offer insight into community preparedness modeling and relationships between the citizen and civic leaders. In their article, the authors explore personal beliefs regarding disasters and how those beliefs affect preparedness decisions. The study used a qualitative methodology. According to the authors, the results of the study indicate community members do not make decisions independent of external factors such as groupthink and perception of pending disaster severity, but by weighted importance of the messaging by authorities (2009, p. 39). One significant finding was the variable of trust in civic leaders. Community members that trusted their leadership believed they were prepared whereas those that distrusted leadership believed the opposite.

The authors explored multiple components of community preparedness for disaster, relationships among individuals, community, and societal factors. Also, the study compared preparedness for two types of disasters (flood, earthquake) using the Means-end Chain analysis to link attributes to values through the laddering technique. The ladder diagrams appear to successfully reach the end goal objective of attainment of values. The Means-end Chain analysis on personal perceptions related to hazards and protective preparedness offers an interesting perspective for research of at-risk and

vulnerable populations during disasters. The research methodology and subsequent findings are a baseline for which the following research expands upon, specifically, how preparedness decisions are made (McIvor, & Paton, 2008, p. 42).

Trust in Private Industry

Among the lessons learned from Hurricane Katrina was the speed and accuracy of support to disaster affected areas by private industry. A month after Hurricane Katrina made landfall, Erin Hayes of ABC news reported how an operations center tracked the storm and potential effects and as a result prepositioned supplies in the projected impact region (Hayes, 2005). This operation center was not owned by a government agency but by retail giant Wal-Mart. In their Global Operations Center, Wal-Mart monitors and tracks all potential impacts to their business. Part of their business interest is to support communities, which rely on their stores for goods and services. Utilizing their resources and proven ability to move commodities, Wal-Mart exceeded the best response times and capabilities of FEMA or other government agencies (Hayes, 2005).

Hayes' article describes the difference between a retailer and FEMA in that the Federal agency is responsible for search and rescue, moving equipment, people, and medical supplies whereas the retailer has one role, to deliver supplies. While Wal-Mart might have basked in a positive spotlight for moving commodities faster and more efficiently than a Federal agency, the retail giant operates under a different set of rules and responsibilities. Similarly, FEMA is bound by specific constraints in its mission. Not all businesses have the capacity, resources, or ability to respond as Wal-Mart. "In 2007, Wal-Mart, Sam's Club and the Wal-Mart Foundation gave \$296 million to communities

across the United States (Wal-Mart, 2008). For one single company to donate nearly \$300 million to American communities, the USG should consider the private sector as a non-traditional element of National power.

Wal-Mart is not alone in their support of communities in disaster. According to the Business Roundtable, an association of chief executive officers of leading U.S. companies dedicated to public policy advocacy in the United States, chief executive officers from many companies met at the White House (November 2006) to explore how private industry can contribute to the nation's system for disaster preparedness and response. The CEOs are members of Business Roundtable's Partnership for Disaster Response, a task force that coordinates the resources and capabilities of the private sector to enhance and accelerate on-the-ground relief and recovery following major natural disasters. The Business Roundtable's Partnership for Disaster Relief collected and donated over \$360 million in cash and donations following Hurricane Katrina (Business Roundtable, 2006).

Initiatives such as the Business Roundtable's Partnership for Disaster Relief and willingness from the federal government as seen in the National Response Framework (NRF) and the Private Sector Coordination Annex indicate a potential linkage between private sector groups and the USG. Perhaps a collaborative approach to disaster response and recovery between FEMA and large retailers would allow each to operate in their appropriate means while leveraging each other's strengths. The disparate members of a community bring different strengths to the disaster preparedness, response, and recovery.

From small and businesses, NGOs, and individual efforts, communities might have solutions to the preparedness gaps seen post-Katrina.

Partnerships

The Business Roundtable may collect and manage donations as well as advocate for fair and equitable public policy in America, but what about public/private partnerships? Of note are a few on-going initiatives involving cross-sector collaboration among public and private groups. Specifically, the Business Executives for National Security (BENS), the All Hazards Consortium, and the ReadyCommunities Partnership are leading the charge for public/private partnerships linking industry and not-for-profits and local and Federal Government.

BENS is “a nationwide, non-partisan organization, (and) is the primary channel through which senior business executives can help enhance the nation's security. BENS members use their business experience to drive our agenda, deliver our message to decision makers and make certain that the changes we propose are put into practice. BENS has only one special interest: to help make America safe and secure” (Business Executives for National Security, 2013). BENS has launched a number of partnerships to date. The first was the New Jersey Business Force (NJBF), which debuted in 2002. Partnerships in Atlanta, Colorado, and Iowa among others soon followed.

Community relations in disaster response are critical for the successful management of a disaster. Andi Milens of the Jewish Council for Public Affairs suggests relationships among community organizations are critical components of a comprehensive preparedness/response model for society (Milens, 2007, p. 57). Milens

advocates for an approach of pre-coordination and collaboration before the event. By eliminating common chaos and confusion among players, pre-coordination is key (Milens, 2007). When addressing the value of partnerships between government and the private sector, Milens insists her experience with coordination with the American Red Cross identified the right players and helped create more efficient communication lines (2007, p. 57).

BENS, the All Hazards Consortium, and the ReadyCommunities Partnership campaign represent a few key initiatives setting the pace for a new strategy in disaster preparation, response, and recovery. Perhaps the oldest umbrella organization of its kind, the National Voluntary Organizations Active in Disaster (NVOAD) have facilitated resource management among multiple players for over 30 years and continues to be a cornerstone in disaster services. A goal of these types of partnerships is to mature through exercises and real-world events for community members to see their value and support such initiatives.

Family Registries

A significant event such as displacement from family, home, and community causes significant mental stress on individuals. Not knowing where family and friends are during disasters is especially hard on many. According to Coker, Hanks, Eggleston, Risser, Tee, Chronister, Triosi, Arafat, and Franzini, the impact on mental health of displaced individuals was significant during Hurricane Katrina (2006).

In a study of Hurricane Katrina evacuees housed in Houston, TX, Coker and colleagues explore Post-Traumatic Stress Disorder (PTSD) and its relation to factors

including socioeconomic status, race/ethnicity, and mental health conditions (2006, p. 89). Coker et al suggest that low-income and minority groups are at risk for PTSD (2009, p. 89). For some, the idea of finding family members was off-putting for fear that they would find out they were dead. Reuniting with family members can alleviate stresses associated with displacement during a disaster. Rowe and Liddle assert that a number of displaced families that faced Katrina without the means of higher socioeconomic groups have never returned to their homes (2008, p. 133). One provision in the Post Katrina Act was to address the impact of separation and displacement of family and friends. FEMA's solution is the National Emergency Family Registry and Locator System (NEFRLS). The NEFRLS is to address location problems for families having difficulties reuniting with others. The system is only active during presidentially declared disasters and mass evacuations. Displaced individuals are required to register with the NEFRLS either on-line or by phone with their location. During federal-level disasters, family members can call the NEFRLS hotline to try to reunite with separated family and friends.

Through a Memorandum of Understanding (MOU) with the National Center for Missing and Exploited Children, and the American Red Cross, the NEFRLS intends to complement and strengthen information sharing for families. However, this service or capability has historically been found in the American Red Cross with their Safe and Well program. There is no mention of the NEFRLS on the American Red Cross website (American Red Cross, 2012). Literature discussing the effectiveness of the NEFRLS or the importance of a family registry is lacking. This researcher found few resources

addressing the issue. The NEFRLS was activated during Hurricane Isaac and will be evaluated during this study.

Information Services

Communication during a disaster has numerous associated challenges. The communication-during-disaster conundrum has consistently been an issue after each disaster event. Hurricane Katrina was no different. For emergency management services, connectivity, interoperability among communication devices, and timeliness of data reporting all pose problems across all phases of the disaster management cycle. For disaster victims with limited resources (radio, television, cellular phone), communication is a real issue. Adding limited English proficiency to those with special needs increases the challenges and the list of deficient resources.

Messias, Barrington, and Lacy (2012) explored social networks among the Latino community and other minority groups through a qualitative study used to identify the gaps associated related to communication during Hurricane Katrina. The researchers intended to evaluate social networks in disaster preparation for Latino populations highlighting the near 50% of Spanish-speaking citizens of the hardest hit areas of Katrina spoke English poorly (Messias, Barrington, & Lacy, 2012, p 101). Additionally, the authors note the reactionary behaviors to the disaster by various minority groups driven by access to resources, distrust of government assistance, including fear of deportation (2012, p. 102). The methodology for this study was a semi-structured interview with low-income mothers enrolled in community colleges in the New Orleans area. Data was analyzed through open coding and translation.

Highlights from this study indicate a large population with limited English, distrust of authorities, and feelings of isolation (Messias, Barrington, & Lacy, 2012).

The findings of this particular study highlight an important factor in disaster migration; those of low-incomes gravitate to others in their social network of equally limited means. This compounds problems for evacuation, healthcare, and other response-specific requirements (2012, p. 103). Further, as the disaster continued on, support from within an already overwhelmed community became problematic. The experiences among such social networks resulted in the post-Katrina beliefs of the government's response and overall perceptions of neglect and bias with certain minority groups (Messias, Barrington, & Lacy, 2012, p. 104).

Putting It Together

In 2005, the *Journal of Community Practice* released an article originally published in 1942 by DeWitt Smith. Smith's work titled, *Organizing for Disaster Preparedness* highlights the importance of organizing a "national community for disaster preparedness...to coordinate the work of local units throughout the country and actually to direct and conduct those phases of the work which by their nature must be done on a national, regional, state, or other territorial basis larger than a county or local community" (Smith, 2005, p. 134). Smith calls for cooperation and understanding, "of all appropriate national agencies, governmental and private" (Smith, 2005, p. 134) with equity in disaster preparedness, response, and recovery. Ironically, Smith delivered this paper at the Sixty-Ninth Annual Conference of Social Work in New Orleans, Louisiana. Smith's

perspectives and vision while focused on his present day were clearly ahead of his time. This literature review revealed a continued deficit in emergency preparedness and very little advancement the 7 years between Katrina and Isaac let alone the decades from Smith's findings in 1942.

In a study on community coordination strategies, Kapucu (2008) sought to identify how coordination and collaboration before a disaster resulted in better outcomes for the community. Kapucu asserts, "The ability to respond is largely determined by the social structures and processes in place" (2008, p. 239) for a community during a disaster. To strengthen such social structures, participation in pre-disaster planning and preparedness initiatives is essential (Kapucu, 2008). Disaster planning crosses all sectors and community members, cooperation pre-disaster are essential. The author reports findings from the study that supports pre-coordination efforts as a benefit to the overall effectiveness of emergency management efforts (Kapucu, 2008, p. 255). This is an important concept relative to the study on legislation and recommendations affecting at-risk and vulnerable populations; pre-disaster coordination includes all community groups.

Recapping the tremendous capacity of resources and funding the private sector provides annually (over \$600 million from the Business Roundtable and Wal-Mart between the years 2005-2007), it is obvious for-profit industry is willing to support disaster relief. With organizations such as NVOAD, BENS, the All Hazards Consortium, and the Ready Communities Partnership, not-for-profit organizations stand ready. Stronger communities are less reliant on local, state, and Federal resources and are more

efficient and preferred. Government cannot manage disasters alone. Given the right national plan, government can do what it was designed to do, support the citizen.

This speaks to a larger problem related to disaster preparedness, response, and recovery. The private sector is the backbone of the United States (US) economy. Even in economic downturns, industry continues to make a profit. For any business, their priority in a disaster is to remain open longer, or reopen sooner. Disasters have a direct impact on this business concept. A number of Nongovernmental Organizations (NGO) solely exists to provide direct services to those in need during a disaster. Among the many services and function of the NGO community are to feed, shelter, clothe, provide medical services, and help disaster victims rebuild. NGOs are also affected by disasters. With limited donations and resources, their mission is compromised. The public sector is often criticized for its inability to manage disasters and provide for the citizen. The local, state, and federal government has responsibility to the citizen, but the citizen relies too heavily on the public sector (Wilson et al., 2008).

Summary

The literature review offered significant support to the theory that at-risk and vulnerable populations suffer a greater extent during a disaster than other groups, and that the federal government has identified this and offers recommendations to alter the paradigm. As discussed by Andrulis et al, racial and ethnic groups are predominately neglected during public health emergencies (2007). In their study, the authors assert that racial and ethnic populations need to be included in preparedness programs. Andrulis et

al confirm “areas most damaged by Katrina were largely populated by low-income African Americans, many living in substandard housing and lacking access to personal transportation for evacuation” (2007, p. 1269). The authors’ researched published reports and information related to at-risk and vulnerable populations in emergencies. Among their findings was the assertion that there is little available literature regarding “strategic interventions or best practices for addressing the needs of this vulnerable group” (Andrulis, 2007, p. 1271). Additionally, Rosenkoetter, Covan, Cobb, Bunting, and Weinrich provided relevant context to the challenges in evacuating elderly and low-income individuals citing communication and access deficits to critical information (2007, p. 166). After surveying nearly 140 participants, Rosenkoetter et al concluded, “trust and belief in county officials and the media were the best predictors of willingness to evacuate” (2007, p. 160). Chronic conditions, limited transportation options, and “unique needs, beliefs, and circumstances” (2007, p. 161) all highlight the importance of improving preparedness processes and outcomes for the at-risk and vulnerable populations. Messias, Barrington, and Lacy highlight the significant challenges for non-English speaking citizens to receive current, relevant information during a disaster (2012). This research “highlights the need for further examination of how disasters may exacerbate or ameliorate existing social inequalities along the lines of class, ethnicity, gender, race or immigration status” (Messias, Barrington, & Lacy, 2012, p. 118). Focusing on the Latino populations of New Orleans, Messias and colleagues (2012) cite wider social networks as a factor for some to have access to critical information regarding a disaster. Those with smaller social circles tend to have less

access to information or resources (Messias, Barrington, & Lacy, 2012). These studies represent clear indications that at-risk and vulnerable populations are key factors in disaster management, but also indicate a gap in the literature related to improvements or recommendations for improvements for these groups. Specifically, current literature fails to address the improvement of emergency management techniques despite the many national level initiatives at play. Again, current literature clearly singles out at-risk and vulnerable populations as true victims of a disaster and that the federal government can make recommendations to counter the impact on certain socioeconomic groups, without a vehicle to drive implementation, communities remain at a substandard level of preparedness.

This study supports the gap in literature regarding better preparation for at-risk and vulnerable populations as it highlights clear and specific reasons for disparities among populations relative to disaster response. This extends knowledge in the discipline by offering insight into why individuals suffer during disasters.

Through a compare and contrast study, Chapter 3 is a collection of definitive information to answer the research questions, challenge identified assumptions, and identify a way ahead for communities as they prepare for the next disaster while contributing to the body of knowledge related to at-risk and vulnerable populations and disaster management.

Chapter 3: Research Methods

Introduction

This research extends the knowledge of at-risk and vulnerable populations and disasters by exploring the Post Katrina Act and its recommendations for certain social groups. The results of the study led to recommend solutions to gaps in preparedness among at-risk and vulnerable populations.

According to Creswell (2009), “the method section is the most concrete, specific part of the proposal (p. 145).” In order to satisfy the intent of this important research component, it is necessary to include many components in the method section including research design, researcher’s role, data sources, participants, procedures, and data analysis. This chapter is a description of the essential components of the research methods and subsequent analysis highlights significant deficits regarding a lack of comprehensive approaches to disaster management for communities. The intention of this research was not simply to criticize current perceptions and realities related to disaster preparedness and response, but to generate data that will challenge our mitigation and management strategies for future disasters.

The success story for disaster management in the United States has yet to be written. While successful programs exist, there is ample opportunity to better the odds for our communities. This research sets the stage for future discussions and solutions. The facts are provided by citizens of communities that have experienced first-hand the effect of a disaster on a less-than-comprehensive community-based strategy.

Research Design

The research questions addressed in this study were:

1. How have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012?
2. How has FEMA Region VI, which includes Louisiana, identified and addressed “gaps in the region concerning the response to individuals with special needs”?
3. How have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and Emergency Support Function-6 (ESF-6) programs aided in evacuation planning and execution for Orleans Parish, LA?

This qualitative case study of community preparedness and functional abilities of emergency management agencies during a disaster worked within the boundaries of the research questions while accounting for patterns of behavior.

According to Babbie (2009), the right sampling in social research is critical to a successful study. Babbie discussed political polling and election results and highlighted the 1936 election in which Roosevelt won the presidency over an opponent predicted to win through polling. Babbie asserted that the reason for the disparity between polling and actual votes lies in the sampling frame. The polling sample comprised of wealthy individuals. Following the Great Depression, the underserved population all voted for Roosevelt’s New Deal. This factor was not accounted for in any of the pre-election strategies and the result was a very different election outcome than expected. Similar to

the election polling, surveying different social groups might yield different results. If a survey was conducted targeting only income earners over \$100,000.00 per annum, the results of a line of questioning focusing on preventative medicine or evacuation plans might identify that the polling sample was well prepared. Conversely, a survey focusing on poverty level social groups might reveal a lack of disaster preparedness and response services or options during an evacuation period.

The same is true for disaster impact. In many communities, those that have means to prepare or evacuate often fare better than those with less resources and opportunity and may respond to questions related to their experience based on emotion and perception instead of objectively. Therefore, the target demographic for the interview portion of this study was emergency managers with first-hand knowledge and experience serving the at-risk and vulnerable populations of Orleans Parish, LA. One intention to selecting this group was to limit any bias expressed by victims during the disaster. This study was focused on the impact of federal legislation in its attempt to improve preparedness and response capabilities targeting at-risk and vulnerable populations of Orleans Parish, LA. Of the 343,000 residents of Orleans Parish, 67% are minority groups (U.S. Census Bureau, 2014). The Health Policy Center at the Urban Institute suggests that racial and ethnic minority groups are among the vulnerable population (Urban Institute, 2014). The criteria for an adequate “disaster” in this study were contained in an event requiring a declaration at either the state or federal level. Storm seasons from 2006-2012 were used as each provided ample declared disasters to select from. Both Hurricane Katrina in 2005 and Hurricane Isaac in 2012 were declared disasters by the state of Louisiana. Nearly all-

major disasters with declarations offer a population of potential respondents that faced events addressing each of the research questions.

Other Methodologies Considered

In Chapter 2, the Means-end Chain analysis used by McIvor et al (2009) to gauge personal perceptions of civic leaders offered solid findings of relationships with community members and elected officials. For this current study, Means-end Chain methodology was not used, as there was less interest in linking attributes of values, than in identifying specific differences among social groups relative to personal experiences with disasters.

Another qualitative method considered for this research was a survey. The survey option and research focus may have successfully met criteria found in phenomenology studies. According to Creswell (2007), phenomenology requires a number of individuals that have experienced the same event. In the case of a disaster, a researcher would likely successfully identify a group of individuals that had experienced the same disaster. However, coordinating with enough individuals to create a sample size large enough to provide a meaningful study would be extremely labor intensive. Therefore, a survey was dismissed for this study and the semi-structured interview method was selected. As a result, Creswell's standard interview protocol (2007) was used for this project. This included a recorded session with multiple interviewees following a predetermined set of questions.

Researcher's Role

As researcher, my role was that of manager of data and facilitator of the experiment. For this initiative, I had no prior interaction with the participants. However, I developed an original set of interview questions (Appendix A) intent on exposing specific findings related to the implementations of the Post Katrina Act. In doing so, my personal bias and individual experiences during disaster periods had the potential to affect the development of the research instrument. It is because of my own interest and desire to strengthen the disaster management field that I embarked on this research journey. To counter this bias, the interview questions target components of the Post Katrina Act and not include any personal opinions or theories. The questions were specific in order to direct the responses toward the Post Katrina Act and its impact on preparedness. The result is an interview tool reflective of my original research intentions and aligned with the research questions of the study. I have no other ethical issues as this research is not relative to my current work environment or other associated interests.

Research Questions

The central research problem explored in this study is to what extent have recommendations of the Post Katrina Act had on improving disaster preparedness and response capabilities for at-risk and vulnerable populations in Orleans Parish, LA between Hurricane Katrina in 2005 and Hurricane Isaac in 2012. To address the research problem, I developed interview questions to gauge perspectives from the emergency management professionals from the public sector in the area targeting staff of the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) (see

Appendix B). The intent of the interviews with GOHSEP members was to bring to light themes related to the research problem that after evaluation will contribute to the understanding of the phenomena under investigation. The interviews provided comprehensive data to address the following research questions:

1. How have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012?
2. How has FEMA Region VI which includes Louisiana, identified and addressed “gaps in the region concerning the response to individuals with special needs”?
3. How have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and Emergency Support Function-6 (ESF-6) programs aided in evacuation planning and execution for Orleans Parish, LA?

Methodology

Participants

Five emergency management professionals from Louisiana were selected for interviews as they have the responsibility for responding to disasters and work directly in the implementation of disaster response protocols. To justify the sampling, selected participants were all emergency managers with direct experience providing emergency management services to Orleans Parish, LA before, during, and after Hurricane Katrina in 2005. Orleans Parish, LA was important to the study as it is an impacted community based on disaster declarations Louisiana Hurricane Katrina (DR-1603), and Louisiana Hurricane Isaac (DR-4080).

Procedures

Three methods to orchestrate the interviews were considered. The interview questions could have been conducted over the phone, in-person, or administered through an on-line survey tool such as Survey Monkey. In-person interviews would provide one-on-one contact and may provide greater insight into the research questions, and required physically traveling to Louisiana. Phone interviews might be easier to schedule and conduct, but would lose any personal interaction. An on-line survey tool would cleanly capture all responses, but similar to the phone interview, would be without any personal interaction. The proposed sample size is five interviews, which, according to Dukes (1984) is within the three-10 recommended for a qualitative, phenomenology study.

I chose to travel to Louisiana to conduct the interviews. I was introduced to the first participant and through snowball sampling came in contact with the remaining four participants. Snowball sampling is effective when dealing with distant populations (Trochim, & Donnelly, 2007, p. 50). There are many emergency managers in the state of Louisiana and through snowball sampling I was able to secure participants that had relevant experience with Orleans Parish, LA during multiple hurricane seasons, yet were displaced throughout Louisiana.

Instrumentation

A researcher-produced interview tool containing 15 items was used for data collection (Appendix B). The interview questions focused on specific recommendations and components of the Post Katrina Emergency Management Reform Act of 2006. Each question directly ties back to one or more of the stated research questions. Developing the

instrument to these specifications will establish sufficiency of data collection relative to the research question.

Data Collection

The research site of this study was Baton Rouge and New Orleans, LA with focus on Orleans Parish, LA. Orleans Parish, LA has a population of 343,000 and has suffered through Hurricane Katrina in 2005 and subsequent hurricanes including Gustav in 2008 and Isaac in 2012. Nearly three quarters of the Orleans Parish population are minority groups, with 60.1% being African American. The median household income from 2009-2013 was \$37,146 with 27.3% living below the poverty line (U.S. Census Bureau, 2014). In an effort to gauge impact of the Post Katrina Emergency Management Act in its intention to improve outcomes for at-risk and vulnerable populations during disasters, the interviews were conducted with local and state emergency managers in Louisiana during July of 2014. This was done in an effort to protect the needs of the at-risk and vulnerable populations of Orleans Parish. The participants selected to represent the equities of this subpopulation were the emergency managers entrusted with their care during a disaster. This follows Creswell's advocacy and participatory worldview that suggests without such representation, the needs of groups being studied can be "marginalized or disenfranchised" (2007, p. 9).

The researcher was introduced to one emergency manager through a mutual contact. The first emergency manager contacted then referred the researcher to other emergency managers and through snowball sampling the remaining participants were

identified. A final report of findings will be submitted to the GOHSEP and Louisiana State University's Stephenson Disaster Management Institute.

Data Analysis Plan

To address the research questions, participants were asked 15 open-ended interview questions in a 60 minute recorded interview, one time. Participants consisted of public sector emergency management professionals of the GOHSEP and the City of New Orleans. All participants were emergency managers before, during, and after Hurricane Katrina and were instrumental in the evolution of emergency management practices for Louisiana. Participants' responses to the interview questions were assessed for commonalities.

Commonalities extracted from the responses were coded to become potential themes. Themes are revealed when agreement among multiple participants' responses are noted. Responses from which the themes are extracted were referred to as excerpts. Data were examined for irregularities and are presented in the results.

Analysis Justification

Case study qualitative research involves studying a subject through one or more cases with a common link, such as the GOHSEP during hurricanes. The goal of the case study was to create a greater understanding of the case itself; not to create findings that are generalizable to the larger population (Johansson, 2003). The case is the object of the study, and that case should be a functioning unit that is examined in its natural context (Johansson, 2003). Case studies provide the content to examine more than one source of data and are best used when the researcher has clearly identifiable cases within

boundaries and seeks to develop an in-depth understanding of the cases (Creswell, 2007) and are used to gain a better understanding of the how and why decisions were taken and implemented.

Prior to beginning the analysis, data were read through to gain an understanding of the positions and perspectives of the respondents. A coding process must be developed to validate the accuracy of the information collected (Creswell, 2009). Once these steps have been completed, a researcher can identify themes and derive and interpret meaning from the qualitative research. Data were examined and re-examined for emerging patterns and meaningful themes. Extraction of the original codes, or meaning units, should be relatable to the original research design. The initial coding revealed components of the how and why that answered the research questions, and coding expanded as themes formed. Analysis of the data will focus around a descriptive framework (Creswell, 2007); the purpose of which is to help determine causal links.

Sample Size

Qualitative analysis typically requires a smaller sample size than quantitative analysis. These sample sizes should be large enough to obtain feedback for understanding most or all perceptions. Obtaining information from multiple perceptions will lead to saturation. Saturation occurs when additional perspectives are not gained by the inclusion of additional participants in the study (Glaser and Strauss (1967). There are no specific rules when determining an appropriate sample size in qualitative research. Qualitative sample size may best be determined by the time allotted, resources available, and study

objectives (Patton, 1990). According to Dukes (1984), three to 10 subjects are appropriate for a phenomenology study.

Trustworthiness

To address credibility and dependability in the study, multiple sources were used to gather and cross reference data. Triangulation was used through the original interviews being analyzed against government reports indicating implementation. The interview questions used thick descriptions for transferability to other research projects. I designed a research tool that is transparent and honest to maintain integrity of the data and avoid potentially harmful consequences (Simundic, 2012).

Ethical Procedures

As the researcher, I had the responsibility to respect each participant. All appropriate and applicable agreements by the IRB were maintained and honored. Each objective for the study was clearly described and acknowledged by each participant.

Summary

The purpose of this qualitative study was to explore the impact of federal legislation on at-risk and vulnerable populations for disaster preparedness and response. Disasters affect individuals, families, businesses, and non-profit organizations differently, and studying the impact of federal legislation on at-risk and vulnerable populations by interviewing emergency managers responsible for preparedness and response during Hurricane Katrina and Hurricane Isaac will add to the body of literature regarding emergency management improvements post-Hurricane Katrina. Orleans Parish, Louisiana is a diverse community with a number of at-risk and vulnerable groups as 23%

of all residents are disabled (National Organization on Disability, 2006); nearly 3/4 of Hurricane Katrina related deaths in New Orleans were elderly, and during Hurricane Katrina, African American males mortality rates were up to four times higher than whites (Brunkard, Namulanda, & Ratard 2005).

Emergency managers with direct contact with the at-risk and vulnerable populations during Hurricane Katrina will validate this research study and contribute to future studies to evaluate the effectiveness of federal recommendations targeting improved outcomes for disaster management. According to Howard's game theory, humans react differently to difficult environments (1996). As a result, game theory was applied to the research questions to understand the decisions made by emergency managers at the state and local levels as they prepared for future disasters impacting the at-risk and vulnerable populations of Orleans Parish, LA.

While there is no single format for qualitative research (Creswell, 2008, p. 42), this study followed common elements found in qualitative efforts. The researcher-developed, open-ended interview questions were written specifically to draw data needed to test the research questions as they relate to the Post Katrina Emergency Management Reform Act. Each interview was audio recorded and the content was transcribed, analyzed, and coded for themes and findings. This chapter described the research methodology including procedures and instrumentation, data collection plan, data analysis plan, analysis justification, sample size, and ethical procedures. The population sample was representatives from the GOHSEP. Chapter 4 includes a detailed description of the research findings.

Chapter 4: Results

Introduction

The purpose of this qualitative study was to expand on current research related to at-risk populations and disasters by evaluating the Post Katrina Act, and to contribute to social change by bringing awareness to the efficacy of recent disaster policy deficits among at-risk and vulnerable populations. Further, the purpose of this study was to offer recommendations to reduce the disproportionate effects of disasters on population groups in a community. I utilized a case study design for the study and conducted interviews with emergency management professionals to obtain the qualitative data, which informs this study. The following research questions guided this study:

Research Question 1: How have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012?

Research Question 2: Has FEMA Region VI, which includes Louisiana, identified gaps in the region concerning the response to individuals with special needs?

Research Question 3: Have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and ESF-6 programs aided in evacuation planning and execution for Orleans Parish, LA?

The interviews provided comprehensive data to address the primary research questions.

In this chapter I will begin by discussing the setting of the study and the demographics of the study participants. I will then provide a discussion of the data collection procedures I utilized in the conduct of this study. The chapter will continue

with a delineation of the procedures I used to analyze the collected data. I will then discuss the implementation of the trustworthiness strategies introduced in Chapter 3 of this paper. I will then present the results of the study, organized by research question. The chapter will conclude with a summary of the material presented in this chapter and a transition to the final chapter of this paper.

Setting

The research site of this study was Baton Rouge and New Orleans, Louisiana with a focus on Orleans Parish, LA. Orleans Parish has an estimated population of 343,000. 60% of Orleans Parish, LA's population is black or African American with 33% of the total population holding bachelor's degrees or higher. Median household income is \$37,146 with 27.3% of the population living below the poverty line (U.S. Census Bureau, 2014). Hurricane Katrina has affected Orleans Parish, LA in 2005, as have nearly all hurricanes since. Interviews were conducted during July of 2014 with the GOHSEP. GOHSEP is the coordinating agency for all state disaster declarations made by the governor of Louisiana. To this end, the GOHSEP operates across the many verticals within the disaster management cycle including preparedness, prevention, response, disaster recovery, and mitigation. At the time of interview, no extenuating organizational conditions were present to my knowledge. Participants did not indicate to me any personal conditions that may have influenced their reports; however the influence of personal conditions cannot be precluded in interview-based research.

Demographics

During Hurricane Katrina, Orleans Parish reported high evacuation rates for

minority groups comprised of predominately African Americans who were poor and educationally disadvantaged (Congressional Research Service, 2005). Sixty-two percent or 62% of those evacuated from Louisiana returned to pre-Katrina addresses (Groen, & Polivka, 2008, p. 38). Orleans Parish was a smaller community during Hurricane Isaac in 2012 than in 2005, but similar demographics remain (U.S. Census Bureau, 2013).

Emergency managers with personal experience responding to Orleans Parish, Louisiana were selected for this study to accurately determine the impact of any legislation or affiliated recommendations from the Post Katrina Emergency Management Reform Act and to represent the equities of the disaster victims. The participants of the study have served or are currently serving in the Operations and Preparedness Sections of the Louisiana Governor's Office of Homeland Security and Emergency Preparedness, the Louisiana Department of Health and Hospitals, the Louisiana Department of Children and Family Services, and the New Orleans Office of Homeland Security and Emergency Preparedness. Participants comprised of one female and four males.

Orleans Parish, LA is important to the study, as this parish was an affected community during both declared declarations for Louisiana Hurricane Katrina (DR-1603), and Louisiana Hurricane Isaac (DR-4080). Those interviewed had served as emergency managers for both declared disasters. Each of the interviewees has served in multiple roles throughout their careers as emergency managers and state and local officials in Louisiana. The two hurricanes, Katrina in 2005 and Isaac in 2012, were selected to compare the preparedness posture of state and local agencies. 2012 is seven

years after Hurricane Katrina in which time improvements could have been made. One revelation from the interviews was the unanimous agreement among participants that by Hurricane Gustav in 2008, all major revisions and improvements to Louisiana's emergency management lifecycle were made.

Data Collection

I traveled to Louisiana in the month of July 2014 and visited both Baton Rouge and New Orleans (July 7) to conduct face-to-face interviews with five emergency professionals in individual interview sessions who were active managers during Hurricanes Katrina and Isaac. After conducting the interviews, I transcribed the audio recordings to enable the thematic analysis of the textual data using the constant comparative method (Glaser & Strauss, 1967) with the consent of participants. I utilized this interview protocol to conduct the interviews in this study. Each interview was scheduled for 60 minutes yet the actual time spent with each interviewee varied.

Participant	Interview Duration	Location
1	57:18	Private office at the Department of Health and Hospitals, Baton Rouge, Louisiana
2	50:22	Private office at the Department of Children and Family Services, Baton Rouge, Louisiana
3	45:05	Via phone call; researcher utilized a private office at the Stephenson Disaster Management Institute, Louisiana State University, Baton Rouge, Louisiana

4	85:23	Private office at the Stephenson Disaster Management Institute, Louisiana State University, Baton Rouge, Louisiana
5	65:33	Private office at the New Orleans office of Homeland Security and Emergency Preparedness, New Orleans, Louisiana

Table 1: Interview Details

The interviews were conducted in the offices of each of the participants. One interview was conducted on the phone due to scheduling conflicts, but occurred on the same day as the others (July 7). No unusual circumstantial factors significantly influenced the data collection process, however, in one instance, participant 2 recalled difficult memories of disturbing images of deceased victims. I sat silent while the participant regained composure, and then continued the interview at their prompting. After a short pause, the interview reconvened without further intermissions.

I developed an original interview tool containing 15 items for data collection using information obtained in the literature review. Among the subjects explored in the literature review that contributed to the interview tool included the Post Katrina Emergency Management Reform Act, evacuations and transportation needs and requirements during disaster, family registries, access to disaster related information, and training and exercises. I created the questions with the aim of eliciting information specific to the responses toward the Post Katrina Act and its influence on preparedness for emergency and disaster response in Orleans Parish, Louisiana. The result was an

interview tool reflective of my original research intentions and aligned with the research questions of the study.

The 15 original questions listed below were designed based on specific recommendations made in the Post Katrina Emergency Management Reform Act of 2006 that support disaster preparedness and response improvements for at-risk and vulnerable populations covering topics including the National Evacuation Tracking System (NMETS), the National Emergency Family Registry and Locator System (NEFRLS), and Emergency Support Function-6 (ESF-6), Mass Care, Emergency Assistance, Housing, and Human Services. Interview questions were as follows:

- 1) The Post Katrina Emergency Management Reform Act (PKEMRA) directs the Federal Emergency Management Agency (FEMA) administrator to “establish two emergency locator and reunification services: the National Emergency Child Locator Center (NECLC), to be located within the National Center for Missing and Exploited Children (NCMEC), and the National Emergency Family Registry and Locator System (NEFRLS),” please describe the experiences of the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) during Hurricane Isaac working with these services in Orleans Parish, LA.
- 2) The PKEMRA established responsibilities for the National Integration Center (NIC) including the National Response Framework’s (NRF’s) Volunteer and Donation Processes involving Emergency Support Function-6 (ESF-6), Mass

Care, Emergency Assistance, Housing, and Human Services. Please describe how the NIC has improved on ESF-6 programs for at-risk and vulnerable citizens of Orleans Parish, LA leading up to and during Hurricane Isaac in 2012.

- 3) The PKEMRA established the NEFRLS. How did the GOHSEP educate and utilize the NEFRLS for the at-risk and vulnerable community members of Orleans Parish, LA for Hurricane Isaac in 2012?
- 4) The PKEMRA ensures “that disaster-related information is made available in understandable formats for population groups with limited English proficiency and for individuals with special needs.” Please describe any initiatives directed from FEMA that address Disaster-Related Information Services in Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 5) The PKEMRA authorized “transportation assistance to relocate displaced individuals to and from alternate locations for short- or long-term accommodations, or return them to their pre-disaster primary residences.” Please describe any transportation assistance programs related to the Mass Sheltering and Housing Assistance Strategy for the at-risk and vulnerable residents of Orleans Parish, LA during Hurricane Isaac in 2012.
- 6) The PKEMRA directed the creation of the National Mass Evacuation Tracking Systems (NMETS). Please describe how the NMETS has been implemented for

the at-risk and vulnerable citizens of Orleans Parish, LA during Hurricane Isaac in

2012.

- 7) The PKEMRA “allows grants made to state, local, and tribal governments by DHS through the State Homeland Security Program (SHSP) or the Urban Area Security Initiative (UASI) to be used to establish programs for the development and maintenance of mass evacuation plans, prepare for the execution of mass evacuation plans, and conduct exercises of mass evacuation plans. Please describe any grants utilized for Evacuation Plans and Exercises for the at-risk and vulnerable citizens of Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 8) Under the PKEMRA’s Target Capabilities and Preparedness Priorities, FEMA established “the following eight priorities to guide preparedness efforts: (1) expand regional collaboration; (2) implement National Infrastructure Management System (NIMS) and the National Response Framework (NRF); (3) implement the National Infrastructure Protection Plan (NIPP); (4) strengthen information sharing and collaboration capabilities; (5) strengthen communication capabilities; (6) strengthen chemical, biological, radiological, nuclear, and explosive detection, response, and decontamination capabilities; (7) strengthen medical surge and mass prophylaxis capabilities; and (8) strengthen planning and citizen preparedness capabilities.” Please describe how these priorities have

improved the preparedness of the at-risk and vulnerable citizens of Orleans

Parish, LA for Hurricane Isaac in 2012.

- 9) The PKEMRA required FEMA to “carry out a national training program and a national exercise program.” Please describe how this national training program has improved preparedness for the at-risk and vulnerable citizens of Orleans Parish, LA for Hurricane Isaac in 2012.
- 10) The PKEMRA required the National Disaster Housing Strategy (NDHS), please describe how GOHSEP had adopted the NDHS strategies based on federal direction and guidance to improve preparedness for at-risk and vulnerable citizens of Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 11) FEMA’s Gap Analysis Program used by the Disaster Operations Directorate used to identify capability gaps in responding to Special Needs Populations “examines transportation and evacuation, sheltering/mass care (general and special needs populations and companion animals), and other areas.” Please describe how the Gap Analysis Program related to Special Needs Populations has affected the at-risk and vulnerable population of Orleans Parish, LA during Hurricane Isaac in 2012.
- 12) The PKEMRA established a Regional Emergency Communications Coordination Working Group (RECCWG) for each regional office. Please describe the

coordination and “establishment of federal, state, local, or tribal support services

and networks designed to address immediate and critical human needs in

responding to disasters” through FEMA Region VI’s RECCWG and the impact to

the at-risk and vulnerable citizens of Orleans Parish, LA during Hurricane Isaac in

2012.

- 13) The PKEMRA appointed a Disability Coordinator position, which led to the Office of Disability Integration and Coordination (ODIC), produced information on the *Preparedness Resources for Individuals, Preparedness Resources for Communities, and Tools for Communicating With All Audiences, Including People with Disabilities*. Please describe how any/all information was distributed to at-risk and vulnerable populations in Orleans Parish, LA in preparation of Hurricane Isaac in 2012.

- 14) Please discuss the effectiveness of the NEFRLS utilized during Hurricane Isaac in 2012 compared to Hurricane Katrina in 2005 when the NEFRLS did not exist.

- 15) What type of emergency management reform legislation would you like to see passed to support at-risk and vulnerable populations?

These specific topics were analyzed in Chapter 2. The data collection process summarized above followed the methods presented in Chapter 3. No unusual circumstantial factors significantly influenced the data collection process.

Data Analysis

Thematic analysis, as described by Braun and Clarke (2006), was utilized to analyze the data collected in this study. The use of thematic analysis in case study research has copious validation within the literature (Johns & McNamara, 2014; Lopes, Coyle, & Gallie, 2014; Peirson, Ciliska, Dobbins, & Mowat, 2012; Zimmerman, Yeatman, Jones, & Murdoch, 2015). The data upon which the thematic analysis was performed consisted of typed transcripts of semi-structured individual interviews. The researcher's objective in thematic analysis is to examine the collected data to discover commonalities and trends throughout the dataset (Vaismoradi, Turunen, & Bondas, 2013).

The analytic procedures described by Braun and Clarke (2006) consists of six steps for performing thematic analysis in qualitative research. In the initial step of the analytic process, the researcher performs transcription of the data and reads over the data to acquire a general awareness of the overall content. To accomplish this step, I read through all of the interview transcripts to develop a general idea of the participants' views on the topic of emergency management and preparedness post-Hurricane Katrina.

The next step of the analysis involves the coding of the collected data. To code the data, the researcher examines the data to denote and label meaningful phrases or statements across the data, and organizes the data according to the emerging codes (Vaismoradi et al., 2013). To begin the process, I read through the data iteratively to look for commonly-used words, phrases, and ideas. Upon identifying these phrases and ideas, I then compared them to identify conceptual similarities. These similarities guided the

establishment of conceptual labels, or codes. I examined participant responses for discrepancies, or comments which appeared to contradict the consensus established by other participants. In such cases where I discovered discrepant information, these findings were noted and factored into the overall analysis of data. The initial coding provided some preliminary answers to the research questions. However, as the analysis progressed in the next step of the analysis, more relevant themes began to form.

In the third step, the researcher initiates the process of arranging the codes into initial themes, and searches through the entire dataset to find corroboration for each identified theme (Braun and Clarke, 2006). Through this process, I began to identify the primary themes of the collected data. As the initial themes were identified, I read and re-read the data, coding for these themes and looking for emerging patterns between the identified themes. I continued this phase of the process until all data relevant to each theme had been identified and coded.

In the fourth step of the analysis, the researcher evaluates the initial themes by comparing them to the coded data and comparing them to the dataset in its entirety to ascertain the thematic structure of the dataset (Clarke & Braun, 2013). In this stage of the analysis, I began to delineate the attributes of each theme, and ascertain the connection existing between the themes. I determined the thematic structure of the dataset by combining or reorganizing some of the themes, and discarding those which did not possess relevant support within the interviews.

The fifth step of the analysis comprised the honing of each theme to yield named and clearly-delineated themes (Braun and Clarke, 2006). This step resulted in the

development of 15 named themes, which were organized according to the research question to which they pertained. In regard to Research Question 1, the named themes were: (a) coordination between state and federal agencies has improved since Hurricane Katrina, (b) pre storm planning efforts have increased since Hurricane Katrina, (c) storm preparedness and citizen education initiatives have expanded since Hurricane Katrina, (d) family reunification strategies have improved since the hurricane, and (e) Isaac was not a significant test of the improvements made following Hurricane Katrina. In relation to Research Question 2, the named themes were: (a) ADA compliance, (b) providing for sick and non-ambulatory population, (c) language-barriers, (d) transportation, and (e) animals. These themes indicated that maintaining compliance with ADA specifications, offering services to sick and immobile citizens, overcoming language barriers, coordinating transportation for needy citizens, and providing services to assist individuals with pets and livestock were all identified as significant gaps in service provision for citizens with special needs. In regard to Research Question 3, the named themes were: (a) the establishment of more transit options, (b) funding, (c) the establishment of more sheltering options, (d) the establishment of regional coordinating efforts, and (e) the NMETS has not been implemented. These themes indicated that a number of changes have occurred as a result of the discussed programs and policies including a wider array of transportation and sheltering options, greater regional coordination, and more substantial funding constraints. However, the low incidence of NMETS implementation throughout the region indicates that these changes cannot be

attributed to that program. I will discuss these themes in greater detail in the subsections to follow.

For the last step of the analysis, I produced a narrative describing the research findings, which incorporated quotations from the interviews to corroborate the identified themes, and connected the themes to the research questions. In the presentation of the results narrative, discrepant opinions were noted and compared to the more commonly expressed opinions they contradicted. The resulting narrative serves to answer the research questions by depicting themes that describe emergency preparedness and response in FEMA Region IV following Hurricane Katrina.

Evidence of Trustworthiness

Credibility

Credibility refers to the degree to which the results of a study are trustworthy and are an accurate reflection of reality (Shenton, 2004; Tracy, 2010). To address credibility, data triangulation was used to gather information from multiple participants and cross reference data to arrive at well supported findings (Morrow, 2005). I further enhanced credibility through the use of an iterative process of questioning (Shenton, 2004). Iterative questioning referred to my asking participants to revisit previously discussed items, or to discuss them in greater detail. Through this iterative questioning, I was able to identify any inconsistencies in their statements. Any such inconsistencies were explored further through probing and clarifying questions, allowing me to obtain a true and accurate account of the participant's perspective. The second credibility strategy I employed was using methods that would encourage participants to provide honest

information (Shenton, 2004). As recommended by Shenton (2004), I attempted to encourage honesty among the participants by informing them from the outset of the interview that their participation was strictly voluntary and that they could withdraw from the interview at any time. The voluntary status of their participation was also confirmed through the informed consent process (see Appendix A). I explained to the participants that they were free to respond with any details they believed were appropriate to answer the question.

To further enhance the credibility of the collected data, I utilized encouraging phrases such as “okay” and “I understand” to indicate active listening during the interviews (Kriplean, Toomim, Morgan, Borning, & Ko, 2012). Louw, Todd, and Jimakorn (2011) reported, “In general, active listening aims to deepen the interviewer’s understanding of the speakers’ preoccupations and interests by creating empathy and making the speaker feel well listened to” (p. 72). I attempted to establish a rapport with each participant, and utilized encouraging phrases to indicate active listening. Several researchers have maintained that by making participants feel more comfortable, it is more probable that the participants will give honest accounts during interviews (Qu & Dumay, 2011; Turner, 2010). Finally, the provision of thick description is another strategy I incorporated into the study to improve credibility. Thick description requires the researcher to contextualize the description of behaviors and ideas to facilitate meaningful interpretation by the reader (Lincoln, & Guba, 1985). The processes by which I utilized thick description are described in greater detail in the next section.

Transferability

Transferability refers to the ability of a study's findings to be applied to other contexts or settings (Hanson, Balmer, & Giardino, 2011). I enhanced the transferability of the study through the provision of rich and vivid detail (Morrow, 2005). Vivid detail refers to the inclusion of as many contextual details as possible, rather than a mere listing of facts (Ponterotto, 2006). As Barusch, Gringeri, and George (2011) explained, "Thick description involves rendering a deeply detailed account of one's work so that readers can judge the work's potential for application to other times, places, people, and contexts" (p. 13). To achieve this aim, participants were asked open-ended questions to elicit detailed responses. Burg et al. (2015) maintained that the use of open-ended questions allows participants to offer more specific or substantive responses, encourages participants to offer more spontaneous responses, and prompts participants to elaborate or comment upon existing concepts. The richness and specificity of these responses contributed to the provision of thick description. Further, I utilized thick description in crafting the narrative of participant responses. Thick description requires the researcher to contextualize the description of behaviors and ideas to facilitate meaningful interpretation by the reader (Lincoln & Guba, 1985). This will enable the reader to ascertain the ability of this study to be transferred to other research projects (Shenton, 2004).

Dependability

Dependability concerns the degree to which the study, and its findings, can be replicated by an independent researcher (Shenton, 2004). Dependability is significant in that it denotes consistency of the results across time, investigators, and analytic methods

(Gasson, 2004). In designing the interview protocol, I utilized open-ended questions to maintain integrity of the data and avoid potentially biasing methodological consequences (Simundic, 2012). Through the provision of detailed information concerning the methodological steps used to conduct the study and analyze the data, the replicability of the study was enhanced (Shenton, 2004).

Confirmability

The concept of confirmability pertains to objectivity of the data collection and research findings (Hanson et al., 2011). Confirmability is a measure of the extent to which the results of the study reflect the true opinions of the participants and not those of the researcher (Morrow, 2005). My experiences create the opportunity for personal bias as I have participated in numerous disaster response scenarios and have established opinions and perceptions relative to the subject. To maintain conformability and objectivity, I exercised epoché or bracketing to minimize the influence of my personal bias on the results (Shenton, 2004). I aimed to view and analyze data objectively, avoid generalizations, provide supporting references, avoid comments based on personal experiences, and to use sensitive language when collecting the data and reporting the findings of the research (Morrow, 2005). Cope (2014) asserted that confirmability can be demonstrated through the detailed description of how the research findings and conclusions were derived, and showing that the results stemmed precisely from the data. As suggested by Cope, I exhibited confirmability in this study by supplying vivid quotes from the respondents that portrayed each identified theme.

Results

The thematic analysis of the interview responses yielded several themes pertaining to the topic of emergency preparedness and management since Hurricane Katrina. The thematic results are presented in the following subsections of this paper. Themes were assessed globally across participants and across interview questions. The presentation of themes is organized by the research question to which the theme pertained.

Research Question 1

Research Question 1 of this study asked, how have changes in Federal Emergency Management Policy after Hurricane Katrina in 2005 prepared Orleans Parish, LA for Hurricane Isaac in 2012? In examining the data, several themes emerged in reference to the first research question. I identified the following five themes: (a) coordination between state and federal agencies has improved since Hurricane Katrina, (b) pre storm planning efforts have increased since Hurricane Katrina, (c) storm preparedness and citizen education initiatives have expanded since Hurricane Katrina, (d) family reunification strategies have improved since the hurricane, and (e) Isaac was not a significant test of the improvements made following Hurricane Katrina. I will discuss these themes in greater detail in the subsections to follow.

Increased coordination between state and federal agencies. Three participants commonly discussed the improvement of coordination and collaboration efforts between agencies at the state and national levels. Participant 4 asserted, “Well again I mean that’s what it’s all about bringing the local state federal together. I think we’ve done that

remarkably well.” Participant 1 noted the effectiveness of the collaboration between federal and state agencies saying, “The feds helped us find host states. They helped us... it’s actually FEMA and the state working together on making this happen.” Participant 4 reported that federal officials came to Louisiana to “roll up their sleeves” to assist in planning efforts. Participant 3 offered more support for this assertion saying, “The feds have helped us tremendously in putting together a plan that we can fly out...10,000, 15,000 evacuees.” Participant 4 also maintained that the resources of federal partners enabled regional officials to address critical identified resource gaps.

Increased pre storm planning efforts. All five participants referenced a substantial increase in pre storm planning efforts among emergency officials since Hurricane Katrina. Planning was a substantial theme across all interviews. Participant 5 referenced the development of the City Assistance Evacuation Plan which was described as “a plan by which we utilize chartered bus and air assets.” Other participants also discussed transportation-related evacuation plans. Participant 1 gave the following account.

The movement of people out of state, moving hospital patients out of state that’s all federal assets that’s all fed’s part of the plan. So we have to have our plan how to take care of what we can here, and they have to take care of what we can’t take care of.

Other participants referenced plans for the care of displaced residents. Participant 2 reported, “We’re currently working on a long term health and planning strategy that’s going to be unique to Louisiana.” This participant continued saying, “One thing that we

did was we looked at the guidance and we worked very closely with the office of community development on disaster recovery unit to develop that long term policy strategy.” Participant 1 explained, “There’s a lot of planning around taking care of these folks but it takes all of us to figure out how to get more resources available to us so we can handle much larger numbers.” Participant 4 also discussed the importance of collaborative effort in the planning process saying, “all of our planning, our resourcing was well known by our FEMA partners, the gaps well known, and we worked together to try to bridge those gaps and making sure we could execute our plans.”

In addition to planning, training exercises were commonly cited as another preparatory tool utilized post-Katrina. Participant 2 reported, “We have annual exercises in Orleans parish, it will be evacuation exercises as well as DHHS mass prophylaxis and surge exercises as well.” Participant 3 similarly stated, “Some of our state agencies have made NIMS training a part of their employment so I know DHH has all of their employees take ICS and NIMS training so we’ve implemented that way. We’ve implemented training.” Participant 1 gave the following account.

We’ve done a lot of training with the federal government on different issues. One of them is evacuation and evacuation of New Orleans. Evacuation hospital patients, NDMS had really not done large evacuations until Katrina until Gustav and we still meet every year and drill it. They also come here and they drill with us on how do we pick them up, (a) plane? How do we move patients by bus ...they constantly make us work on numbers report the numbers how are you going to figure out what the numbers are.

Participant 5 expressed a discrepant view, however, arguing that the exercises have not been helpful. This participant cited a lack of realism as the problem saying, “Within the training and exercises the planning scenarios that they use are always completely unrealistic.” Participant 5 continued by explaining that the learned training strategies will not apply in worst-case scenarios. Rather, the answer is to “drop the mic, turn off the lights and leave and wait for someone else to come help you cause [sic] all you’re doing is riding this out.” Participant 5 shared that this realization typically shifts the discussion to short-term survival strategies. Participant 5 maintained that there are “really few and far between out there that offer a realistic training or exercise program that provides much benefit. It’s crazy.”

Increased storm preparedness and citizen education initiatives. Four of the participants pointed to a regional shift toward increased storm preparedness and a push for citizen education initiatives. Participant 3 reported, “each one of the local emergency management offices do different PSA’s they have different programs.” Several participants made reference to the “get a game plan” initiative. Participant 3 stated, “So part of get a game plan ...is GOHSEPs public awareness push and if you go to our website you can see...certain mitigation efforts for your family or for your business.” Participant 1 explained, “We focus a lot on getting the message out.” Participant 4 also discussed the campaign, saying that officials are utilizing TV, radio, and public service announcements to spread awareness. Participant 1 reported the following strategy:

I think out there GOHSEP puts out at the beginning of hurricane season ‘get a game plan.’ They put it out on the website and it’s telling everybody you know

get your things together get prepared to move at a moment's notice have everything ready and it goes out in different languages.

Participant 5, while acknowledging efforts to educate the community presented a different take on the campaign's effectiveness. Participant 5 described the campaign as "very limited as it relates to vulnerable populations." This participant went on to say that these vulnerable populations "don't have the time, the education, or the ability to participate in the structured programs that exist right now."

Improved family reunification strategies. Three of the participants indicated that since Hurricane Katrina, officials have put significant effort into improving family reunification strategies in the event of an emergency. Participant 1 described the difficulty with family reunification efforts in Hurricane Katrina saying, "In Katrina we had a lot of issues where family members would call and say I'm looking for my uncle, looking for grandfather and then we finally find the answer and when we called back they had moved. They had been in a shelter and they moved out to live somewhere else so we had difficulty." Participant 4 backed up this account saying, "to organize the people, and it's hot, you know it's a lot of anxiety...to control all of that, organize it to keep the families together." Participant 2 argued that family reunification tends to be a lower priority for officials during emergency situations due to other, more urgent needs.

Despite facing these challenges in Katrina, officials have implemented new strategies to mitigate these problems. Participant 1 noted the following:

What I think we've done better is people... [knew] what they had to live through, [so] they made it important that they knew where their family members were. Pre

storm a little bit easier to know where your family members are to traveling and you know where they are traveling as opposed to post storm when it's total chaos...I didn't have the issues I had in Katrina cause of where to find people. For instance we moved hospital patients, very sick ICU patients, by NDMS and also by ground here in state so 500 patients out of state which we kept track of with the NDMS so that if a family member called we knew where they were what hospital they were in so that we can make sure we didn't have what happened in Katrina was where we couldn't find people. So we didn't have the issue of knowing where family members were.

Participant 2 also discussed the use of alternative strategies for family reunification.

Participant 2 noted, "We developed a rather large and robust group that worked on that unification" and reported that Team Adam was used "extensively" in relocation services post-Katrina.

Isaac not a significant test of improvements. Despite the noted improvements, three participants reported that Hurricane Isaac did not present a significant test to the region. Participant 1 offered the following explanation:

In Isaac we had an event that was a tropical storm we weren't alarmed cause tropical storms bring rain but wasn't going to be a major event so people would decide if they were going to stay in place and so there wasn't a whole lot of evacuation and really the assets the things you're talking about might not have been that tested because people didn't really leave.

Participant 3 offered a similar account saying, "We activated that air plan in Gustav we

did not do it for Isaac cause they didn't call for mandatory evacuation so we didn't use it but they supported us with planning efforts for air transportation." In discussing post-Katrina evacuation plans, Participant 4 reported the following:

It worked in Gustav that was the benchmark I guess, post Katrina. For Isaac...because of the storm itself, that Isaac was not to a level that we had looked at and working with the national weather service that required a mandatory evacuation of New Orleans area, they stayed put.

Based upon the majority of participant responses, Hurricane Gustav appeared to have been a greater test of the region's preparedness than was Hurricane Isaac. Participant 1 supported this notion saying that Gustav was a "much better" test.

Research Question 2

Research Question 2 of this study asked has FEMA Region VI, which includes Louisiana, identified gaps in the region concerning the response to individuals with special needs? In examining the data, several themes emerged in reference to this question. I identified the following five themes: (a) ADA compliance, (b) providing for sick and non-ambulatory population, (c) language-barriers, (d) transportation, and (e) animals. I will discuss these themes in greater detail in the subsections to follow.

ADA-compliance. Participants indicated that the provision of services which are compliant with mandates of the Americans with Disabilities Act (ADA) has been a significant challenge. Participant 2 reported, "We make sure we meet the ADA compliance... I've got people who are...compliance officers they are part of our legal team and they go to all of the sites and look for any kind of compliance issue."

Participant 3 also emphasized the importance of ADA compliance, but added that “We have no mandate we have no funding, it’s just a group of people that are together that are advocates for people with functional and access needs advocates for people with disabilities.”

Two participants expressed frustration that the regulatory functions of the ADA limit their provision of services to citizens with disabilities. Participant 4 discussed these difficulties using the example of wheelchair bound individuals saying, “We cannot put them in a shelter I mean we can pick them up the stairs...but because we don’t have a ramp . . . we were trying to find a place to put people.” Participant 4 argued that funding limitations are a primary cause of these issues, saying, “Give me some money and we’ll put a ramp there. We aint [sic] got the money so we we’re caught in between.”

Participant 5 reported similar frustrations, stating the following:

I think there’s a lot of issues that we run against particularly as it relates to ADA compliance things like that. Wewhat we run up into is sometimes we get hamstrung not being able to do something because someone somewhere is a lawyer’s too worried that we’re going to violate some sort of federal statute. We’re concerned at the top of the list the protection of life right. The protection and preservation of life then you worry about stabilizing an incident and property. I mean it’s our...the priority should allow us flexibility in how we achieve these things.

Participant 5 continued saying, “We feel hamstrung. We want to provide the best service possible. Absolutely, that’s beyond a doubt. But sometimes that’s not feasible.”

Providing for sick and non-ambulatory population. Three of the five participants also cited the provision of services to sick and non-ambulatory populations as a challenge for the region. Participant 4 discussed these challenges saying, “If you got a major evacuation the at-risk and vulnerable functional needs is [*sic*] huge. And there’s not in my opinion enough resources to be able to manage it.” Participant 1 described the specific challenges with evacuating this population during emergencies recalling that in Hurricane Katrina “the elderly and diabetics and sick people and the train ended up spending a lot of time on the rails so some of these folks were decompensating...so the train plan for evacuation is no longer on the table.” Participant 4 argued a similar point saying, “Can you imagine your elderly mother having to ride a bus for 12 hours that’s not going to work.”

Participant noted that some headway has been made in devising strategies to address these deficiencies. Participant 1 reported that air travel has been adopted as an alternative to train-based transportation. Participant 1 explained, “There is a federal plan on moving people by plane as well as in coach buses so that we move a lot of people very quickly to get out of harm’s way.” Participant 1 also discussed emergency care provision for this population during emergencies explaining, “If a coach bus is filled with the elderly or frail people that need to be looked at ... they’re taken off the bus in our special needs shelter here in Baton Rouge... We take care of them here.” Participant 5 also cited new critical investments in medical assets for emergency care for special needs populations including “a MEDOX liquid oxygen trailer,” “medical needs sheltering trailers,” and “an 18 stretcher patient medical surge bus.”

Language-barriers. Four participants discussed the needs of regional citizens who speak languages other than English. Participants noted the cultural diversity within the region, and expressed recognition of extending their outreach efforts to all citizens. Participants 3 and 4 specifically referenced Vietnamese and Latino citizens. Participants 2 and 5 also discussed the need to communicate with visually and hearing-impaired citizens.

The effort to provide educational information and disaster relief services to these individuals is ongoing, but officials have made some headway in addressing this challenge. All participants made reference to the provision of educational materials in several languages to accommodate citizen needs. Participant 2 reported, “Some of the things we do is multi language, you know any kind of information comes out it will be in four/five different languages. We do have American Sign Language even at the shelters.” Similarly, Participant 3 stated, “Our evacuation guides, I guess, are part of that get a game plan, and the get a game plan and evacuation guides are done in English, Spanish and in Vietnamese.”

Transportation. Three participants commonly referenced the difficulties associated with providing transportation to the substantial special needs population of Orleans Parish. Participant 5 described the scope of the need saying, “30,000 [are] at risk and vulnerable for these reasons. They don’t have the necessary transportation or financial means to make a successful egress to a safe area. Those...in many cases [are] the same people we rescued in 2005.” Participant 4 explained that examination of resource gaps led to the realization that “even if we had 700 buses and we started an

evacuation process ... and even if it worked like clockwork you still had a segment that was not going to get out.” This realization encouraged the development of alternative options.

Participants 3 and 5 both made reference to the establishment of a system of pickup points to help address the transportation issue. Participant 5 offered the following explanation of the pickup point system:

We utilize 17 pickup points throughout the city the 17 pickup points are based on the regional transit authority our public mass transit system. The ridership data. The 17 pickup points utilize the RTA busses to move individuals to the union passenger terminal right around the corner, the bus and train section. From there they load buses which are once again the state chartered buses that take them to state shelters or EMAC shelters depending on how large this is going to be, or we also move individuals on chartered air craft through the airport.

Animals. Three of the five participants highlighted the issue of providing evacuation services to individuals with pets or service animals. Participant 3 stated that officials have encouraged pre-emptive action by asking residents to “get a pet plan.” Participant 5 raised the issue of educating citizens with service animals about emergency preparation. Participant 4 noted the following.

Also included in there that nobody mentioned is pets. We knew that during Katrina quite a few people did not evacuate because they didn’t know where to go with their pet would be welcomed so they ended up dying, they drowned. You can’t have that. So now how do wenot only concern ourselves with sheltering

for people, how can we now take care of the animals these pets?

Participant 2 discussed the strategy that has been implemented to address this issue. This participant reported, “What we’ve done is we looked at our own, we’ve gone through with the parishes and looked at what the special needs are, [and] we’ve adopted a companion animal plan that’s led by Emergency Support Function-11 (ESF-11), that’s Agricultural and Forest.”

Research Question 3

Research Question 3 of this study asked, have the National Mass Evacuation Tracking Systems (NMETS), Mass Sheltering and Housing Assistance Strategy, and Emergency Support Function-6 (ESF-6) programs aided in evacuation planning and execution for Orleans Parish, LA? In examining the data, several themes emerged in reference to this question. I identified the following themes: (a) the establishment of more transit options, (b) funding, (c) the establishment of more sheltering options, (d) the establishment of regional coordinating efforts, and (e) the NMETS has not been implemented. I will discuss these themes in greater detail in the subsections to follow.

Establishment of more transit options. Three of the five participants collectively reported that the introduction of policies related to the Mass Sheltering and Housing Assistance Strategy and ESF-6 program, a greater variety of options has been established for transporting citizens during evacuations. Participant 1 offered the following explanation of developments in the provision of transportation results:

ESF one which is transportation which is our department of transportation here in Louisiana, has a contract for buses that is turned on when we start evacuating and

it's coach buses. They also have worked with the school systems that have school buses available in case it takes a while for the coach buses to get here. So we have school buses, preferably the coach buses that are lined up to go move people. And we also have worked with FEMA to have planes.

Participant 3 gave a similar account saying, "FEMA provides a special contract, they do a contract for transportation planning, and we have agreements with our federal partners and with FEMA, we have a plan to evacuate citizens through what we call our critical transportation needs." Participant 1 reported, "The state had 700 coach buses on contract to move people which didn't exist before." Participant 3 offered more support for this finding saying, "The federal government has supported us with a planning effort to use air to leave our state if we have something." Participant 5 also made mention of the City Evacuation Plan which "moves about 30,000 people with a variety of assets or contracted for." Participant 5 continued by saying that these individuals then become "the responsibility of the state and the air assets are chartered generally from private airlines."

Funding. Most participants made reference to the lack of sufficient funding for services for special needs citizens. Participants generally indicated that due to limited funding, the reach of their services for this population was limited in scope. The Stafford Act was cited by several participants as an area of legislation which could address this critical need. Participant 1 described the Stafford Act as "what we base a lot of the reimbursement to take care of things does not take care of health and medical" Participant 4 addressed this issue saying, "The Stafford Act I think needs some changes but certainly the ...here again...homeland security funding, the hazard mitigation funding is drying

up.” Participant 3 gave a similar account saying, “The laws that tie up our hazard mitigation funding . . . we cannot use that to support mass care or any type of effort like that.” This participant continued by offering the following suggestion:

So if we get all of these mitigation dollars after our federal disaster is declared, if we can gear some of that funding to build more shelters, or to find more space to provide mass care and that includes all populations . . . we can provide mass care services to those functional and access needs population.

Establishment of more sheltering options. Participants often discussed the development of strategies for providing emergency shelter to displaced citizens during evacuations. Participant 1 offered the following explanation.

Red Cross had difficulty cause it was so many people that kept moving in shelters, they had difficulty telling us who was in their shelters but also at the time we didn’t have what we have now is large state shelters so we have host arrangements with host states but in state these folks that are on buses they are going to a state shelter that’s run by the state not by Red Cross. Red Cross assists but it is not a Red Cross shelter it’s a state shelter.

Participant 1 reported that the ESF 6 has enabled officials to quickly move people from shelters into temporary housing. Participant 1 continued saying, “But also . . . they tweaked their process of figuring out who needs the housing and how to make sure they don’t stay in shelters for weeks on end.”

Participant 4 similarly stated that during Hurricane Isaac “you had about 400-500 houses that went under water . . . the feds helped us put them up in hotels or whatever and

then helped them find transitional housing from there.” Participant 5 reported that money received as a result of this legislation was utilized for the sheltering plan and “rewriting the sheltering annex.”

Establishment of regional coordinating efforts. A primary noted benefit of among participants was the implementation of regional coordinators for emergency and disaster planning. Participants indicated that this development enabled collaboration between local regions and regional state partners. Participant 3 offered the following account of regional partnerships since the development of ESF-6:

We’ve taken that and we’ve developed a partnership within our regions to help each other out and to identify you know for instance in sheltering we have a deficit if Orleans or Jefferson Parish evacuate and Arkansas is one of our host states. Texas is one of our host states. So we have partnerships within our regions that we know as a region what our threats hazards and vulnerabilities are and we have identified ready-made resources that we can push if those situations warrant.

Participants 1 and 2 both made reference to the instillation of regional coordinator to assist with collaborative efforts toward emergency preparedness. Participant 2 reported that meetings between regional directors are held on a monthly basis. Participant 1 argued that regional directors are helpful in that “somebody’s on the ground in the region assessing things cause [*sic*] you hear so many rumors you have eyes and ears on the ground helping me with all these issues.”

NMETS not implemented. The tracking of displaced citizens through registries was noted as a significant problem by most participants. However, all participants

reported that the NMETS was not utilized within the region as a system for tracking displaced residents. Participant 3 gave the following explanation:

Well we don't really use the NEFLRS or the NMET or any of those systems.

We've contracted with our own tracking services and I know you went to go and talk to (name removed) so our department of children and family services is our lead state agency that provides the tracking system.

Participant 5 argued that most individuals in the region would be unlikely to possess any awareness of the NMETS system.

Instead, participants pointed to the Phoenix program as the system of choice within the region. Participant 1 explained that registry in the Phoenix system begins after individuals arrive at designated pick up points in New Orleans, and then board local buses and are brought to the train station there. Participant 1 stated, "At that point they are registering to the Phoenix system so that they can track them where they've gone, which bus they're on, which shelter they end up at." In using the Phoenix system, Participant 5 reported, "We had minor hiccups...the first time we went to use it full scale but we exercise it every year and it's been great." Participant 2 acknowledged that although state officials have been collaborating with FEMA on the development of the NMETS system, Phoenix is the predominant system at this time.

Summary

The purpose of this qualitative study was to expand on current research related to at-risk populations and disasters by evaluating the Post Katrina Act, and to contribute to social change. Bringing awareness to the efficacy of recent disaster policy directed at at-

risk and vulnerable populations highlights gaps in the available literature discussed in Chapter 2. This includes themes related to transportation assistance and the elderly, distrust in government, family registries, and information services. Andrulis et al (2007) assessed disparities among the at-risk and vulnerable populations during disaster. Social class placement for minority groups adds to their burden during a disaster. Trust of government, or in many cases distrust of government compounds the problem. Social change will be seen through a renewed and improved trust in government. In their article, McIvor, Paton, and Johnston (2009) suggest that public confidence leads to better outcomes during disasters.

I utilized a case study design for the study and conducted interviews with emergency management professionals to answer the research questions. Several findings emerged from the analysis of the data. Since Hurricane Katrina emergency management professionals in Orleans Parish, LA have implemented a number of policy and strategy changes. Among these changes are: improved family reunification strategies, including enhanced record-keeping and tracking. In addition to increased pre storm long-term planning and efforts, increased coordination between state and federal agencies also emerged as notable strategic policy change. Federal agencies have increasingly assisted state officials with obtaining and disseminating resources in disaster relief efforts. Finally, the findings showed increased storm preparedness efforts since Hurricane Katrina through a push for media-based citizen education initiatives. Based upon the responses of the participants, these changes have resulted in enhanced disaster preparedness for Orleans Parish. However, participants maintained that Hurricane Isaac

was not a significant test of these improvements.

Participants noted a number of identified deficiencies in the provision of services to citizens with special needs. Providing transportation and care services to citizens who are sick, non-ambulatory, or who have language barriers have posed significant challenges for emergency professionals in Orleans Parish. However, substantial planning efforts and innovative implementation strategies are assisting officials with meeting the needs of these populations.

Participants did not cite the National Mass Evacuation Tracking System (NMETS) as a significant aid to evacuation planning and execution among participants. In fact, most participants indicated that NMETS had not been implemented as a tracking system in Orleans Parish, and that the Phoenix program was in use instead. However, participants reported that the Mass Sheltering Housing Assisting Strategy and ESF-6 have been useful in providing additional housing and transit options and regional-level support and coordination in disaster planning efforts. Participants indicated that limited funding imposes confines on the scope of the services Orleans Parish officials are able to provide for special needs citizens, and the Stafford Act was often cited as an area in need of improvement. The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 allow the President to declare major disasters and emergencies. Within the Act are provisions for federal assistance “without discrimination on the grounds of race, color, religion, nationality, sex, age, disability, English proficiency, or economic status” (Stafford Act, 2013, p. 14). However, the interviewees listed the Act as a stumbling block for mass care and other medical emergencies.

The research analyses identified a number of inconsistencies with the Post Katrina Emergency Management Reform Act including the State of Louisiana's failure to adopt federal registry systems such as NMETS, NECLC, and NFRLS; and that FEMA's Gap Analysis program is not utilized. Additionally, the interviews revealed a challenge to this research in that Hurricane Gustav in 2008 is the true benchmark to evaluate improvements to Louisiana's emergency management practices, not Hurricane Isaac in 2012, validating Danna, Bernard, Jones, and Mathews' assertion (2009). Unanimously, each interview participant explained that many major improvements were made to Louisiana's emergency management program after Hurricane Katrina and tested during Hurricane Gustav in 2008. According to the participants, Hurricane Isaac utilized many plans implemented prior to Hurricane Gustav.

Chapter 5 will briefly summarize the results of this study, and present the conclusions that I have drawn from the findings and recommendations to improve emergency management and response during future disasters. I will discuss the implications of the results of the study in the context of the existing literature. The chapter will close with suggestions for future research.

Chapter 5: Recommendations and Conclusions

Overview

The purpose of this qualitative study was to evaluate whether or not recommendations made in the Post Katrina Emergency Management Reform Act of 2006 were implemented for at-risk and vulnerable populations. Specifically, those of Orleans Parish, LA, and to learn if such enhancements made as a result of the Act improved preparedness outcomes on this population since Hurricane Katrina in 2005. Interviews were conducted with emergency management professionals with direct experience with Hurricanes Katrina and Isaac who answered the research questions necessary to fulfill the purpose of this study. The theoretical foundation for this study was Howard's game theory, which suggests that humans react to conflict through economic, personal, and social positions (Bennett, & Howard, 1996, p, 607).

This study fills a gap in related research by exploring the implementation and impact of federal recommendations for disaster management improvements that target at-risk and vulnerable populations. Existing literature related to at-risk and vulnerable populations focuses largely to the disparities in suffering during a disaster and in a few cases made recommendations on how to improve outcomes (Rosenkoetter, Covan, Cobb, Bunting, & Weinrich, 2007). Chapter 2 provided analysis of existing literature related to at-risk and vulnerable populations and disaster (Taylor, Balfanz-Vertiz, Humrickhouse, & Jurik, 2010; Fussell, Sastry, & VanLandingham, 2010; Andrulis, Siddiqui, & Gantner, 2007), as well as information on Howard's game theory (Muggy, & Heier Stamm, 2014; Ehtamo, Heliovaara, Korhonen, & Hostikka, 2010). Available literature regarding the

Post Katrina Emergency Management Reform Act and its impact on disaster preparedness is lacking. This research contributes to the gap in knowledge.

Game-theorists argue that individuals and groups are ruled by emotion when making decisions, both rational and irrational (Murray-Jones, Stubs, & Howard, 2003, p. 1), and that not all parties in a situation will react the same way. Reactions from Hurricane Katrina came in the form of legislation from politicians with the release of the Post Katrina Emergency Management Reform Act, contributions from the private sector (Walmart, 2012), and from collective action from public agencies as discussed by the emergency managers interviewed for this study.

Since Hurricane Katrina, tremendous amounts of financial resources from both the public and private sectors have helped to improve disaster preparedness and response across the country (Hoffman, 2008, p. 1501; Wal-Mart, 2008). However, better coordination among public and private systems is necessary to improve disaster preparedness outcomes (Kapucu, 2008, p. 247). Building relationships and developing trust among disparate groups within a community can lead to improved capabilities when facing disasters (Kapucu, 2008). Communication through coordination with the local media is essential for local and state emergency managers to deliver critical information during a disaster. Additionally, mutual aid agreements offer access to resources between communities that would not otherwise be available. Direction and guidance from the nation's lead federal agencies, and incorporation of policy changes is critical to successfully improving preparedness and response. This research targeted the impact of such federal oversight.

Findings

I evaluated a specific portion of the larger disaster management overhaul that occurred after Hurricane Katrina; that of the impact of federal legislation relating to disaster management improvements aimed at at-risk and vulnerable populations. Using the research questions to formulate the interview tool, and Howard's game theory for the theoretical framework, this study produced a number of key findings based on information obtained from interviews with emergency managers.

The findings address a number of components presented in a 2009 testimony before the Subcommittee on Emergency Communications, Preparedness and Response, Committee on Homeland Security in the House of Representatives on implementations of selected provisions of the Post Katrina Emergency Management Reform Act (Government Accountability, 2009). Specifically, among the updates in emergency management preparedness presented during the 2009 testimony were mass evacuations including a component for special needs populations, family and child locator services, and special needs populations. This research study evaluated the effectiveness of recommendations made at the federal level for these selected groups for improvements in evacuation and citizen tracking.

The findings highlight the significance of engaging state and local stakeholders responsible for the direct execution of emergency management practices led by the federal government. Orleans Parish, LA was selected for this study as a result of the impact from Hurricane Katrina and for its 67% minority rate (U.S. Census Bureau, 2010) including at-risk and vulnerable groups. Interviewees were selected from the many

emergency managers in Louisiana that had direct experience in Hurricanes Katrina and Isaac.

The findings are as follows:

1. An increased level of coordination between state and federal agencies has led to improve processes and conditions for at-risk populations of Orleans Parish, LA.
2. Increases in pre storm planning efforts have helped prepare at-risk and vulnerable population in Orleans Parish and the greater New Orleans area.
3. Increased storm preparedness and citizen education have improved conditions for citizens.
4. Improved family reunification strategies were tested and proved in hurricanes after Katrina.
5. Hurricane Isaac did not emerge as the relevant test of improvements to disaster management in Louisiana, New Orleans, and Orleans Parish; Hurricane Gustav in 2008 was the real marker.

The following is a discussion of the key findings of this research, limitations of the study, offers recommendations for further research, and a description of potential social change implications.

Interpretation of the Findings

The response to Hurricane Katrina resulted in the federal government's development of the Post Katrina Emergency Management Reform Act, which made numerous recommendations to improve emergency management outcomes; motivated

state and local emergency management agencies to evaluate and improve existing policies and practices; and identified why individuals respond (or not) to public officials before, during, and after a disaster.

Highlights from the literature review included an overview of existing federal legislation aimed at improving outcomes for the disaster management lifecycle (U.S. Government Accountability, 2006); a review of the disparities suffered by at-risk and vulnerable populations during a disaster (Andrulis et al., 2007; Messias, Barrington, & Lacy, 2012); and explored the challenges in transportation (Rosenkoetter, Covan, Cobb, Bunting, & Weinrich, 2007), distrust in government (McIvor, & Paton, 2008), and traumatic events due to family displacement (Coker, Hanks, Eggleston, Risser, Tee, Chronister, Triosi, Arafat, & Franzini, 2006), highlighting the need for family registries.

Thematic analysis was used to identify patterned responses in the research. After becoming familiar with the data, I identified codes, searched for patterns, coded the patterns as themes, and then determined the findings. Andrulis et al argued that information related to vulnerable populations is lacking; however, there is literature related to public health preparedness education and training materials emphasizing the “needs of the vulnerable populations” (2007, p. 1272). This was confirmed during the interviews as participant 5 described in detail the outreach initiatives underway through the City of New Orleans. However, participant 5 also described funding challenges associated with material production. There is limited research on the impact of funding discrepancies and subsequent deficiencies in preparing at-risk and vulnerable

populations. This research brings to light the need to scrutinize federal programs that can improve preparedness outcomes for at-risk and vulnerable populations.

Additionally, Rosenkoetter et al highlighted the challenges and neglect in evacuation and transportation during disasters (2009). This was also confirmed through the interviews as participants 1, 3, 4, and 5 described the evolution of transportation initiatives for displaced citizens during disaster. Rosenkoetter and colleagues argue that the most needy during a disaster are also the most distrustful of public officials (2009), which follow McIvor and Patton (2008) who suggest the relationship between the community and public officials can determine the effectiveness of preparedness initiatives. Participant 5 described the lengths that the City of New Orleans has gone through to include at-risk and vulnerable populations into their disaster management plans. Relationships between at-risk citizens and public officials are hardly the topic of available literature. This research contributes to this relatively unexamined component of emergency management.

Coker et al suggest the need to stay with family or be reconnected with family during disasters is critical to mitigating traumatic stress events for displaced citizens (2006). Establishing and implementing National Emergency Family Registry and Locator System and the National Mass Evacuation Tracking Systems were part of the Post Katrina Emergency Management Reform Act, yet all participants confirmed that such national-level program is not part of their procedures. In fact, the interviews revealed a state-run registry system implemented before any guidance from the federal government. This indicates a need to evaluate the National Emergency Family Registry and Locator

System and the National Mass Evacuation Tracking Systems in greater detail, as there is limited information available in current research.

Findings therefore suggest a gap in the literature related to the effectiveness of federally-sponsored recommendations to improve outcomes for at-risk and vulnerable populations in disaster related to access to resources, transportation, and registries. The disparities identified between the direction of federal legislators and state and local emergency management agencies fully support the need to further explore effectiveness of national-level initiatives.

Increased Level of Coordination between State and Federal Agencies

Interview participants confirmed that there has been an increased level of coordination between state and federal agencies. This research revealed findings that indicate Orleans Parish, LA is better prepared for disasters today than they were prior to Hurricane Katrina in 2005 and those improvements to emergency management capabilities at the local and state levels are a result of both federal support and their own initiatives. One participant reported an improved relocation component from the federal government with the following account.

That was a state and federal ...the feds helped us find host states. They helped us ...it's actually FEMA and the state working together on making this happen.

Another participant offered the following account.

we have agreements with our federal partners and with FEMA, we have a plan to evacuate citizens through what we call our critical transportation needs, those without a ride, through our airport so we have I guess, the federal government has

supported us with a planning effort to use air to leave our state if we have something.

The federal government responded with high-level planning support, but very little is attributed to recommendations found in the PKEMRA. Those interviewed were readily able to discuss local and state programs that were improved or created as a result of Hurricane Katrina. The respondents were also able to discuss federal directives that were not implemented due to timing or poor execution at the national level including NMETS. The recommendations evaluated from the PKEMRA have had little impact on the at-risk and vulnerable populations in Orleans Parish, LA. FEMA's Gap Analysis initiatives have done little to identify challenges responding to individuals with special needs. Most significantly, national level programs related to individual tracking and registries have not been implemented in Orleans Parish, LA or for the State of Louisiana. There is no identifiable literature evaluating FEMA's Gap Analysis program. This is consistent with Wilson et al (2008) with the assertion that communities should be less dependent on larger government programs.

Increased Pre Storm Planning Efforts for At-risk and Vulnerable Populations

Howard's game theory suggests that people will react to challenges using their social positions (Howard, 1996). Proving Howard's theory, emergency managers at the state and local levels in Louisiana did not wait for the federal government to direct them. They acted quickly after Hurricane Katrina to increase pre storm planning efforts. Participant 1 attributes the ability to move 2 million individuals during Hurricane Gustav to pre storm planning. Additionally, participant 4 suggested that all Louisiana's pre storm

planning and resource needs are reported up to FEMA. Participant 5 described various improvements in communicating with the at-risk and vulnerable populations of Orleans Parish. According to Rosenkoetter et al citizens will use the previous disaster as the basis for their behaviors for the next one (2007). The improvements made by city managers in New Orleans through outreach and enhanced communication methodologies helped changed perceptions and behaviors prior to Hurricane Gustav.

Increased Storm Preparedness and Citizen Education

Among the challenges between the federal government and the state and local emergency management departments is the ability to provide education materials and resources to the community. Participant 5 expressed dissatisfaction that “the grant funds continue to dwindle” making it nearly impossible to print enough materials for the city’s constituents. Participants 1 and 3 discussed other social media initiatives used by the state and local agencies through TV, radio, and the Internet. However, participant 5 countered all benefits of preparedness initiatives explaining that not all at-risk and vulnerable citizens are capable or willing to “participate in the structured programs that exist right now.” This is consistent with Rosenkoetter et al (2007) and their assertion that those with limited access to technology will be less likely to receive some preparedness information. Andrulis et al (2007) explained that this could be a result of the limited printed information targeting diverse communities.

Improved Family Reunification Strategies

Discussions with the interviewees on family reunification strategies led to the most striking finding and dispute of the PKEMRA. All participants revealed a clear

discrepancy between the federal government's response and that of the state and local managers as FEMA's push for a national locator system has clearly fallen on deaf ears in Louisiana. The NECLC and NFRLS were unanimously dismissed by those interviewed. Louisiana operates its own registry systems incorporated long before the NFRLS.

Participant 1 points to the state registry system as the "true registry that works really well." In short, emergency managers in the City of New Orleans and at the state headquarters in Baton Rouge, LA have spent considerable time and resources improving emergency management conditions for their populations to include the at-risk and vulnerable subpopulations among them, with little input from the PKEMRA. The state and local emergency management offices improved systems and services for their at-risk and vulnerable constituents thereby alleviating some stresses associated with registries and reunification supporting Coker et al (2009) in their suggestion that low-income and minority groups are at risk for PTSD related to fear of displacement and unknowns during a disaster. The literature review in chapter 2 and the data analyzed in chapter 4 support Howard's game theory. Bennett and Howard (1996) suggest that people make decisions through "means/end rationality, procedural rationality, consistency of beliefs, rationality of argument, (and) use of available evidence" (p. 607).

Limitations

The limitations presented in Chapter 1 included (a), interviewees may answer questions based on a personal agenda, (b) the respondents may operate with a personal

bias for or against the federal government, and (c) the selected parish, while similar in geography, time, and event, may not be representative of other how other parts of the country responded to both Hurricane Katrina in 2005 and Hurricane Isaac in 2012. These assumptions proved to be limitations for the study. A number of interviewees were understandably critical of the federal government and personally proud of how the local and state emergency management agencies have responded and evolved after Hurricane Katrina. This limitation is actually part of the recommendations for further research; to empower local and state emergency management agencies.

Among the studies analyzed in Chapter 2 that were written about Hurricane Katrina, was the need to improve our disaster management capabilities for at-risk and vulnerable populations continues (Andrulis et al, 2007, p. 1269). Hutchins et al., (2009) evaluated disaster impact on income levels and race (2009); Wilson et al concluded that community-level groups suffer from a lack of preparedness posture (2008), and that a community should be less dependent on larger groups such as the federal government. Rosenkoetter, Covan, Cobb, Bunting, and Weinrich (2007) assessed evacuation techniques for the elderly population concluding there are many deficits in how this citizen group is managed during disasters. Such studies were conducted evaluating impact on population groups including the at-risk and vulnerable subpopulation yet little was explored or written about on how to improve the outcomes for at-risk and vulnerable populations during a disaster (Hutchins et al., 2009, p. 246). This limitation stems from the available information on at-risk and vulnerable populations. Expanding on this

concept, this research offers additional insight into the challenges in supporting at-risk and vulnerable populations.

The ever-changing political environment trickles down to emergency managers faced with managing disasters. Emergency managers are forced to be innovative and forward-thinking when addressing all aspects of disaster response. As highlighted by the findings, state and local emergency management agencies viewed the deficits experienced during Hurricane Katrina holistically based on what worked and what did not and updated their processes to accommodate newly identified gaps. The at-risk and vulnerable populations add a significant layer of complexity to a disaster, but are not an afterthought for officials in the City of New Orleans and at the state headquarters. For the City of New Orleans and other high-impact areas in the Gulf coast, money and resources have helped emergency managers at the state, local, and national levels better prepare for disasters as described above (Hoffman, 2008). In parallel to improvement efforts on registries, transportation, access to resources, and preparedness described by the interviewees, the Gulf coast has undergone hurricane season after season testing their ability to execute new and improved plans. As learned through the interviews, Hurricane Gustav in 2008 tested the many changes to federal, state, and local plans that were modified after Hurricane Katrina in 2005.

Game theory again was validated as participants responded with personal and emotional recollection of their professional experiences in disaster management. While the questions were developed to reduce this likelihood, emotional responses did occur. This was evident in my interaction with the respondents. My experiences and personal

bias required careful monitoring as to not redirect questions during the interviews to solicit personal influence. I remained impartial during the interviews and minimized any undue influence in my questions.

Selecting Orleans Parish, LA for the study proved useful but focusing on Hurricane Isaac in 2012 was not. Consistent through each interview, all major changes in emergency management processes occurred immediately after Hurricane Katrina in 2005 and were implemented for Hurricane Gustav in 2008. Hurricane Isaac in 2012 did not require the full spectrum of emergency management resources. However, those programs necessary to counter the storm were implemented and again, were proven during Hurricane Gustav in 2008. This did not detract from the interviews or data collected, but was an interesting revelation of how far along the City of New Orleans and the State of Louisiana had come after Hurricane Katrina in 2005 to Hurricane Gustav in 2008. I used Hurricane Isaac in 2012 as it provided additional years of development and change to the emergency management practices in the area.

Social Change Implications

Providing equal resources and provisions for all citizens during a disaster is a difficult undertaking. The goal of the Post Katrina Emergency Management Reform Act was to strengthen FEMA's role across all aspects of the disaster management lifecycle, and was required due to massive missteps during Hurricane Katrina and was a response to political pressure (Birkland, 2009). The goal was not to level the playing field for all citizens affected by disaster.

Emergency management is often described as saving lives, restoring services, and protecting infrastructure. While each is important, there is no price on saving lives. All disaster victims are important and none worth less than another. However, when certain socio-economic groups suffer disproportionately in a disaster, a clear social concern emerges. Every citizen should be offered the same access to resources and opportunity to survive a disaster.

For the general population, most that have the means to navigate the challenges associated with a large disaster on their own do so with little support from the government. It is the subpopulation made up of those with special needs, high risk-low tolerance, living below the poverty line, misunderstanding English, distrusting of government, unsure of their next move, which we need to be responsible for. The implication for social change is paramount; giving all citizens the tools and resources to survive the unthinkable. Individuals have different thresholds for survivability. Increasing the resiliency of one individual strengthens families, which improve efficiencies within a community that ultimately empowers the nation.

This study contributes to social change by advocating for more stringent assessments of federal programs intended to support the lowest common denominators in a disaster. By promoting greater transparency of federal programs targeting at-risk and vulnerable populations, additional research can evaluate effectiveness and drive improvements for all citizens.

Recommendations

The literature review in Chapter 2 explored aspects of emergency management relative to at-risk and vulnerable populations. This included the disproportionate suffering and exposure during disasters for at-risk and vulnerable populations, federal legislation designed to counter such disparities, and an evaluation of studies focused on at-risk and vulnerable populations in disaster. This research identified gaps in the implementation of federal recommendations in emergency management for states and local communities including official analysis and reporting by the GAO suggesting that federal programs fail to address the needs of the at-risk and vulnerable populations (Government Accountability, 2006). Additionally, there is little information available on the Office of Disability and Integration Coordination (ODIC). Recommendations for further research include (a) evaluate preparedness improvements at the state level to determine the most effective and relevant programs addressing the needs of the at-risk and vulnerable populations starting with an in-depth review of the improvements made by the GOHSEP as such initiatives may serve as an exportable model for similar communities across the country, and (b) evaluate the ODIC. ODIC was appointed through the Post Katrina Emergency Management Reform Act.

Specifically, FEMA should empower the Regional Administrators to design and implement evaluation tools relevant to the communities they serve. From the community level assessments, FEMA can incorporate key programs and develop exportable models for use across the country in similarly affected areas. The FEMA Regions should empower and enable states and communities to develop and implement their own

changes as they can tailor solutions based on their specific communities and needs. Allowing states and communities to lead improvements will build capacity, promote resiliency, and strengthen the nation overall. This can be supported by public private partnerships such as the many BENS initiatives across the country. True collaboration among the public and private sectors expands preparedness and response capabilities throughout the community level. Such initiatives promote a whole of society approach to disaster preparedness and response.

Additionally, the ODIC can serve a pivotal role for at-risk and vulnerable populations in communities throughout the country. The ODIC should solicit input from the various not-for-profit organizations chartered to assist the underserved populations in America. Their insight and experience working with at-risk and vulnerable groups can be invaluable to developing guidance and supportive resources to be distributed through the ODIC. The ODIC can endorse FEMA's "whole of society" approach to emergency preparedness and encourage disparate community groups to get involved and collaborate for everyone's benefit (Wilson et al., 2008). There is much work done at multiple levels to improve conditions for at-risk and vulnerable populations in disaster, yet there are problems enacting necessary changes among the various groups.

Conclusion

Chapter 1 introduced the study with a background of the problem, the research questions, and theoretical framework used for the study. The literature review in chapter 2 explored published materials on at-risk and vulnerable populations, distrust of government, and key legislation and government publications targeting the disasters in

America. Chapter 3 outlined the methodology utilized for this study including data collection and analysis. The research results were outlined in chapter 4, and chapter 5 presented the findings.

The events of 9/11 in 2001 and Hurricane Katrina in 2005 challenged all aspects of the disaster management lifecycle. Viewing this research through the lens of Howard's game theory, many actors relative to this study confirmed the assumption that individuals respond and react to crises both independently and based on the actions of others (Ehtamo et al., 2010, p. 117). First, the federal government, faced with public backlash and compulsion to act, passed the Post Katrina Emergency Management Reform Act. This represents a response to the political pressures of the government after such a devastating loss of human life due to paramount failures in coordination and response (Sobel, & Leeson, 2006, p. 55). Secondly, and of significant importance to this study, emergency managers at the local and state levels pushed improvements in communication and coordination with federal counterparts before any legislation directed them to do so. Emergency managers across Louisiana faced the dilemma of time relative to the federal government's response to Katrina.

I focused on one Parish in Louisiana impacted by many hurricanes. The study could easily have selected any number of Parishes in Louisiana or communities in Mississippi, or countless other locations across the country. Additionally, I singled out Hurricane Isaac in 2012 to compare against Hurricane Katrina in 2005, as it was seven years later. Participants of this study identified Hurricane Gustav in 2008 as the best comparison for Hurricane Katrina as many process improvements after Hurricane Katrina

were made within the first few years after Hurricane Katrina. Future research should be conducted on Hurricane Gustav and used as an indicator of how improvements were implemented for subsequent disaster scenarios.

Hurricanes, wild land fires, tornadoes, flooding, and earthquakes are part of the numerous challenges many Americans face. Every community is comprised of multiple socio-economic groups and each citizen deserves the opportunity to survive a disaster, including the at-risk and vulnerable populations among them.

Initiatives such as this project offer hope to those on the underside of privilege and opportunity, who are often neglected and overlooked. We can do so much more within our communities to increase capacity, bolster resiliency, and strengthen our nation. This paper is a small step to improve emergency management for the country. By bridging the gaps between the federal, to the state, down to the local communities, we can achieve much better outcomes before, during, and after disasters, supporting all citizens. Failure to do so perpetrates the on-going disparities across our populations resulting in unnecessary loss of life, distrust, lack of community, and wasteful spending of taxpayer's dollars.

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Appendix A: Consent Form

You are invited to take part in a research study of the implementation of recommendations in the Post Katrina Emergency Management Reform Act (PKEMR) of 2006. The researcher is inviting emergency management professionals who participated in both Hurricanes Katrina and Isaac to be in the study. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Joseph Catalino, who is a doctoral student at Walden University.

Background Information:

The purpose of this study is to get information on improvements to disaster preparedness for at-risk and vulnerable populations of Orleans Parish, LA.

Procedures:

If you agree to be in this study, you will be asked to:

- Participate in a 60 minute recorded interview covering 15 questions, one time.

Here are some sample questions:

- The Post Katrina Emergency Management Reform Act (PKEMRA) directs the FEMA administrator to “establish two emergency locator and reunification services: the National Emergency Child Locator Center, to be located within the National Center for Missing and Exploited Children, and the National Emergency Family Registry and Locator System,” please describe GOHSEP’s experience during Hurricane Isaac working with these services in Orleans Parish, LA.
- The PKEMRA established responsibilities for the National Integration Center (NIC) including the National Response Framework’s (NRF’s) Volunteer and Donation Processes involving Emergency Support Function-6 (ESF-6), Mass Care, Emergency Assistance, Housing, and Human Services. Please describe how

the NIC has improved on ESF-6 programs for Orleans Parish, LA leading up to and during Hurricane Isaac in 2012.

- The PKEMRA established the National Emergency Family Registry and Locator System (NEFRLS). How did the GOHSEP educate and utilize the NEFRLS for community members of Orleans Parish, LA for Hurricane Isaac in 2012?

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at Walden University will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during or after the study. You may stop at any time during the interview.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as remembering events around the hurricane seasons.

Being in this study would not pose risk to your safety or wellbeing except reliving those experiences. This study is important as it will potentially help prepare communities such as Orleans Parish, LA to better prepare and manage future disasters. Therefore your willing participation is essential to this study's outcome.

Payment:

This study is of no cost to you, and the researcher will not provide any payment for participation. Additionally, the researcher is not seeking funding or other personal consideration for this project. This will eliminate any conflicts of interest.

Privacy:

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the

researcher will not include your name or anything else that could identify you in the study reports. The researcher will maintain digital data with password protected means electronically for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via [REDACTED] or joseph.catalino@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is 05-30-14-0069246 and it expires on May 29, 2015.

Please keep this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By returning a completed survey, I understand that I am agreeing to the terms described above.

Printed Name of Participant

Date of consent

Participant's Signature

Researcher's Signature

Appendix B: Interview Questions

Interview Instructions:

Following is a list of questions designed to gather information about the implementation of recommendations of the Post Katrina Emergency Management Reform Act (PKEMRA) of 2006. Each question is open ended, meaning; you are free to respond with any details you believe are appropriate to answer the question.

- 1) The Post Katrina Emergency Management Reform Act (PKEMRA) directs the Federal Emergency Management Agency (FEMA) administrator to “establish two emergency locator and reunification services: the National Emergency Child Locator Center (NECLC), to be located within the National Center for Missing and Exploited Children (NCMEC), and the National Emergency Family Registry and Locator System (NEFRLS),” please describe the experiences of the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) during Hurricane Isaac working with these services in Orleans Parish, LA.
- 2) The PKEMRA established responsibilities for the National Integration Center (NIC) including the National Response Framework’s (NRF’s) Volunteer and Donation Processes involving Emergency Support Function-6 (ESF-6), Mass Care, Emergency Assistance, Housing, and Human Services. Please describe how the NIC has improved on ESF-6 programs for at-risk and vulnerable citizens of Orleans Parish, LA leading up to and during Hurricane Isaac in 2012.
- 3) The PKEMRA established the NEFRLS. How did the GOHSEP educate and utilize the NEFRLS for the at-risk and vulnerable community members of Orleans Parish, LA for Hurricane Isaac in 2012?
- 4) The PKEMRA ensures “that disaster-related information is made available in understandable formats for population groups with limited English proficiency and for individuals with special needs.” Please describe any initiatives directed from FEMA that address Disaster-Related Information Services in Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 5) The PKEMRA authorized “transportation assistance to relocate displaced individuals to and from alternate locations for short- or long-term accommodations, or return them to their pre-disaster primary residences.” Please describe any transportation assistance programs related to the Mass Sheltering and

Housing Assistance Strategy for the at-risk and vulnerable residents of Orleans Parish, LA during Hurricane Isaac in 2012.

- 6) The PKEMRA directed the creation of the National Mass Evacuation Tracking Systems (NMETS). Please describe how the NMETS has been implemented for the at-risk and vulnerable citizens of Orleans Parish, LA during Hurricane Isaac in 2012.
- 7) The PKEMRA “allows grants made to state, local, and tribal governments by DHS through the State Homeland Security Program (SHSP) or the Urban Area Security Initiative (UASI) to be used to establish programs for the development and maintenance of mass evacuation plans, prepare for the execution of mass evacuation plans, and conduct exercises of mass evacuation plans. Please describe any grants utilized for Evacuation Plans and Exercises for the at-risk and vulnerable citizens of Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 8) Under the PKEMRA’s Target Capabilities and Preparedness Priorities, FEMA established “the following eight priorities to guide preparedness efforts: (1) expand regional collaboration; (2) implement National Infrastructure Management System (NIMS) and the National Response Framework (NRF); (3) implement the National Infrastructure Protection Plan (NIPP); (4) strengthen information sharing and collaboration capabilities; (5) strengthen communication capabilities; (6) strengthen chemical, biological, radiological, nuclear, and explosive detection, response, and decontamination capabilities; (7) strengthen medical surge and mass prophylaxis capabilities; and (8) strengthen planning and citizen preparedness capabilities.” Please describe how these priorities have improved the preparedness of the at-risk and vulnerable citizens of Orleans Parish, LA for Hurricane Isaac in 2012.
- 9) The PKEMRA required FEMA to “carry out a national training program and a national exercise program.” Please describe how this national training program has improved preparedness for the at-risk and vulnerable citizens of Orleans Parish, LA for Hurricane Isaac in 2012.
- 10) The PKEMRA required the National Disaster Housing Strategy (NDHS), please describe how GOHSEP had adopted the NDHS strategies based on federal direction and guidance to improve preparedness for at-risk and vulnerable citizens of Orleans Parish, LA leading up to Hurricane Isaac in 2012.
- 11) FEMA’s Gap Analysis Program used by the Disaster Operations Directorate used to identify capability gaps in responding to Special Needs Populations “examines transportation and evacuation, sheltering/mass care (general and special needs populations and companion animals), and other areas.” Please describe how the Gap Analysis Program related to Special Needs Populations has affected the at-

risk and vulnerable population of Orleans Parish, LA during Hurricane Isaac in 2012.

- 12) The PKEMRA established a Regional Emergency Communications Coordination Working Group (RECCWG) for each regional office. Please describe the coordination and “establishment of federal, state, local, or tribal support services and networks designed to address immediate and critical human needs in responding to disasters” through FEMA Region VI’s RECCWG and the impact to the at-risk and vulnerable citizens of Orleans Parish, LA during Hurricane Isaac in 2012.
- 13) The PKEMRA appointed a Disability Coordinator position, which led to the Office of Disability Integration and Coordination (ODIC), produced information on the *Preparedness Resources for Individuals*, *Preparedness Resources for Communities*, and *Tools for Communicating With All Audiences, Including People with Disabilities*. Please describe how any/all information was distributed to at-risk and vulnerable populations in Orleans Parish, LA in preparation of Hurricane Isaac in 2012.
- 14) Please discuss the effectiveness of the NEFRLS utilized during Hurricane Isaac in 2012 compared to Hurricane Katrina in 2005 when the NEFRLS did not exist.
- 15) What type of emergency management reform legislation would you like to see passed to support at-risk and vulnerable populations?