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Assessing Mississippians' Preparedness for Disasters Using the Citizen Corps National Survey 2009

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The University of Southern Mississippi

ASSESSING MISSISSIPPIANS' PREPAREDNESS FOR DISASTERS
USING THE CITIZEN CORPS NATIONAL SURVEY 2009

by

Carl Huston Mangum II

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

August 2010

ABSTRACT

ASSESSING MISSISSIPPIANS' PREPAREDNESS FOR DISASTERS

USING THE CITIZEN CORPS NATIONAL SURVEY 2009

by Carl Huston Mangum II

August 2010

Disaster preparedness, a shared responsibility of all citizens and disaster agencies, is the most critical component in minimizing risk and damage from disaster. Mississippi has been affected by some of the most devastating disasters in American history, both in terms of physical destruction and human life. The purpose of this study was to assess Mississippians' disaster preparedness by replicating The 2009 Citizen Corps National Survey (CCNS). The 65 question 2009 CCNS was slightly modified to survey 678 randomly selected Mississippians about the Citizen Corps Personal Disaster Preparedness Model: Demographics, Volunteering, Drills/Exercises, Community Plan, Household Plan, Disaster Supplies, Prevention, Self-efficacy, Reliance, Stages of Change, Severity, Risk Awareness/Perception, and Utility/Response Efficacy. A computer assisted telephone interviewing system was used to obtain data during December 2009. Findings included: a) less than half of Mississippi respondents have food and water stored as disaster supplies; b) 59% expected to rely on emergency personnel for assistance in the first 72 hours of a disaster; c) and natural disasters were perceived as the most likely disaster to affect local communities. Mississippians reported higher levels of reliance on themselves, neighbors, and churches for assistance after a disaster than the national respondents. Results indicated that while Mississippians' level of preparedness was

comparable in most categories of the CCNS to those of citizens' nationwide, improvement is needed. This study provides Mississippi-specific data that may be used for benchmarking and planning by nurses as well as health and disaster agencies at all levels.

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A Dissertation
Submitted to the Graduate School
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for the Degree of Doctor of Philosophy

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DEDICATION

This writer would like to dedicate this dissertation to Dorothy Faye Mangum and Christina Marie Mangum. To my mother, Dorothy, I love you and miss you. Thank you for everything you did for me. I hope you are proud. To my wife, Christina, thanks for being there for me, this is for both of us. I love you.

ACKNOWLEDGMENTS

This writer would like to thank the dissertation director, Dr. Bonnie Harbaugh, for her advice and support throughout this project. I have learned much thanks to you.

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CHAPTER I

INTRODUCTION

Disaster preparedness is important because adequate preparation can save citizens' lives (Craighead County Office of Emergency Management, n.d). Nursing is one of the professions at the forefront of disaster preparedness (Cox & Briggs, 2004; Wynd, 2006), as they are the largest professional group involved in health care, and they have the specialized knowledge needed to care for victims of disasters. While nurses nationally and worldwide are involved in disaster planning, response, and recovery, they need adequate knowledge about the degree of disaster preparedness that exists within their sphere of influence to plan efficiently.

The purpose of this study was to assess Mississippians' preparedness for disasters. This study is based on the Citizen Corps 2009 National Survey. Citizen Corps is the Federal Emergency Management Agency's (FEMA) grassroots strategy to bring together government and community leaders to involve citizens in all-hazards emergency preparedness and resilience. Citizen Corps asks citizens to embrace the personal responsibility to be prepared; to get training in first aid and emergency skills; and to volunteer to support local emergency responders, disaster relief, and community safety. Data related to individual preparedness is available on the national level, but no comprehensive data existed for Mississippi. This study provides that important data for government and community leaders to use to improve and maintain citizen preparedness for disasters.

Disasters are acute, deadly, destructive, disruptive events that occur when a hazard interacts with human vulnerability (Shultz, Espinel, Galea, & Ressiman, 2006). Disasters cause human suffering, injury and death, and often include the destruction of structures and infrastructure necessary for safety, shelter, food and water (Disaster Relief Act Amendments, 1974; Erickson, 1976; Lundy & Butts, 2009). The after-effects of disasters, such as loss of loved ones, relocation, injuries, post-traumatic stress, survivor guilt, depression, job loss, and financial instability can persist long after the actual physical disaster is over (Erickson, 1976; Gerrity & Flynn, 1997; Procter & Cheek, 1995).

In the United States, government agencies at the federal, state, and local levels exist to prepare citizens for, and to recover from, disasters. These agencies provide a myriad of human services such as rescue operations, communication, health care, shelters, water, food, emergency clothing and money, safety and protection of people and property. While private organizations, such as the American Red Cross and Salvation Army also play important roles during disasters, the focus of this dissertation is on the role of governmental agencies in promoting preparedness for disasters. Preparedness consists of efforts to increase readiness for disaster response and recovery operations (Bullock, Haddow, Coppola, Ergin, Westerman, & Yeletaysi, 2006).

National government disaster agencies Americans rely upon are The U.S. Department of Homeland Security (DHS) and its sub-agency The Federal Emergency Management Agency (FEMA), The U.S. Department of Health and Human Services (HHS), and the Department of Defense (DOD). States also have disaster-related entities ready to assist its citizens, such as The National Guard, and State Emergency

Management Agencies. At the local levels, counties have emergency response agencies, which utilize local resources such as hospitals, shelters, police and sheriff departments to promote preparedness and to distribute aid to those in need. However, it is the well-prepared individual and family who are the most basic, and yet most critical, element of disaster preparedness (Gruber, 2009). Knowledge of safety and survival tactics, and stockpiling of critical resources helps individuals and families cope with the effects of disaster until outside help arrives. Further, individual preparedness frees resources that others, who are not as well prepared, are more vulnerable, or are more adversely affected, may need (Bullock et al., 2006).

Disasters may be categorized as human generated or natural (Noji, 1997).

Human-generated disasters result from human actions, whether intentional (warfare, nuclear, chemical or biological exposures, riots, terrorism) or unintentional (accidents, structural collapse, explosions, fire, toxic and pollution exposures). In contrast, natural disasters are the result of humans interacting with the weather, the earth, and organisms of our world. Natural disasters may be classified as meteorological (hurricanes, tornados, snowstorms, drought), topological (landslides, avalanches, floods), underground (earthquakes, volcanic eruptions, tidal waves), and bacteriological (communicable disease epidemics and insect swarms) (Noji, 1997).

On August 29, 2005 the state of Mississippi experienced a natural disaster of epic proportions when Katrina, a Category 4 Hurricane made landfall on the Mississippi Gulf Coast. The National Hurricane Center (2009) uses the Saffir-Simpson Hurricane Scale, which defines a Category 4 Hurricane as having winds of 131-155 miles per hour with extensive damage and inland flooding. Katrina swept up two-thirds the length of the

state, causing extensive wind and water damage up to 300 miles north of the Mississippi Coast. Hurricane Katrina caused enough damage for 49 Mississippi counties to be declared federal disaster areas (Federal Emergency Management Agency, 2005), which equates to 1.9 million affected Mississippi citizens (U.S. Census Bureau, 2009). In low lying areas of the Gulf Coast, and on the beachfront, wind and storm surge eradicated miles of homes, schools, banks, colleges, churches, electrical and water services, literally washing them out to sea. Entire towns and communities, such as Bay St. Louis and Waveland were almost completely lost through the massive destruction of property, infrastructure, and the resulting relocation of its citizens (Brunker, 2005).

Approximately 238 people lost their lives in Mississippi, and thousands more were injured (Mississippi State Department of Health, n.d.). The loss of property, homes, jobs and businesses resulted in economic hardship for thousands of Mississippians during that period, and many are still affected today, almost five years later, by the storm's aftermath (Chunovic, 2009). While exact levels of disaster preparedness of Mississippians prior to Katrina are unknown, and many acts of heroism and charity helped alleviate suffering, it is likely that better preparedness would have lessened the overall impact of the disaster (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

Disaster Preparedness in the United States

The need for disaster preparedness dates back through the early history of the United States. Early disaster-preparedness systems can most accurately be described as civil defense systems, organized to protect citizens from attack by enemies who may do them harm (Homeland Security National Preparedness Task Force, 2006). As civil

defense systems evolved, the usefulness of local, trained responders was readily recognized by officials and the public, and so basic civil defense systems were expanded, changed and re-organized to respond not only to war-related disasters, but to a greater variety of natural and man-made disasters.

The Evolution of Civil Defense

One of the earliest examples of a civil defense system in the United States was documented in 1692; the village of Bedford, New York kept a paid drummer on lookout status, who signaled any approaching attack by Native Americans (The Stamford Historical Society, 1996). However, it was during the 20th Century (to meet the challenges of World War I [WWI] and II [WWII]) that this country's civil defense system evolved into a formal response of the government and citizens in the event of any attack on American soil (Homeland Security National Preparedness Task Force, 2006).

During WWI Civil defense came into play when the United States suffered several attacks by Germans and their supporters (Suburban Emergency Management Project Biot#243, 2005). Although a few of these attacks were in form of small acts of sabotage in American cities, most were German U-boat attacks on merchant and passenger ships. The most famous attack on a ship, the sinking of the Lusitania, resulted in almost 1,200 deaths, 131 of them American (Suburban Emergency Management Project Biot#243, 2005; U.S. Department of State, n.d.). On August 29, 1916 the United States Army Appropriation Act established the Council of National Defense (Suburban Emergency Management Project Biot#243, 2005). This council was designed to gather needed resources for citizens in the event of attack. With positive citizen response to the Council of National Defense at the federal level, state and local councils were

subsequently encouraged to form thus creating a tri-level system. After the end of World War I the councils went inactive but the system established a blueprint for the future. (Suburban Emergency Management Project Biot#243, 2005).

Between WWI and WWII, the Civil Air Patrol was created at the state level. The Civil Air Patrol commissioned civilian pilots to patrol the coast and borders and assist in search and rescue missions. The Civil Air Patrol is an active part of disaster response today. From search and rescue to damage assessment the Civil Air Patrol has many missions it can respond to when called on during disasters (Civil Air Patrol, 2009).

During the early 1940's the Office of Civilian Defense (OCD) was formed. The primary purpose of the OCD was to promote protective measures, elevate national morale, and provide a means for local participation in the defense program. (Suburban Emergency Management Project Biot#243, 2005). The OCD system had several components including the Civil Defense Corps (Suburban Emergency Management Project Biot#243, 2005). Under the direction of the OCD, the Civil Defense Corps organized millions of volunteers who trained to fight fires, decontaminate after chemical weapon attacks, provide first aid, and other duties, such as the building of shelters, restoration of essential services, and evacuation and care of evacuees. All of these activities were geared around warfare (Suburban Emergency Management Project Biot#243, 2005).

At the beginning of World War II, following the devastating attack on Pearl Harbor by Japan, the civil defense system had become more formal and detailed, and played a larger and more meaningful role in American society. Federal, state, and local governments had explicit responsibilities and participated in civil defense. Non-attack

disaster preparedness remained almost entirely the responsibility of the States, while federal funding was reserved for attack preparedness. The OCD began the development of air raid drills, blackouts, and sand bag stockpiling. There were approximately 10 million volunteers available to assist in carrying out the tasks throughout the country (Homeland Security National Preparedness Task Force, 2006; Suburban Emergency Management Project Biot#243, 2005).

Governmental disaster agency responsibilities have evolved since the decades of the 1940s and 1950s, as risk to citizens and American safety was also heightened, in response to the Cold War threat of nuclear devastation. Congress enacted the Federal Civil Defense Act of 1950, which placed most of the civil defense burden on the States and created the Federal Civil Defense Administration (FCDA) to formulate a national policy to guide the States efforts (Homeland Security National Preparedness Taskforce, 2006).

The Catalyst of Change for Future Disaster Preparedness

The seminal events that brought attention to U.S. vulnerability in disaster preparedness in the U.S. were the terrorist attacks of September 11, 2001. The human-generated devastation visited upon the citizens of New York City, military personnel in the Pentagon, and the passengers aboard the airliners abruptly changed the national landscape related to disaster preparedness and response. Spurred by the potential for further terrorist acts, which might be biological, toxic, or nuclear in nature, disaster agencies at all levels were forced to re-examine their policies and procedures. This re-examination resulted in the creation of U.S. Department of Homeland Security (DHS).

The DHS's mission and responsibilities include intelligence and warning, domestic counterterrorism, protecting critical infrastructure, defending against catastrophic terrorism, and emergency preparedness and response. DHS also serves as the primary federal point of contact for state and local governments, the private sector, and the American People (Homeland Security National Preparedness Task Force, 2006). The Federal Emergency Management Agency (FEMA) is a part of DHS and has the mission to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards (Federal Emergency Management Agency, 2009).

State agencies such as the Mississippi Emergency Management Agency (MEMA) have a mission to ensure that Mississippi is prepared to respond to emergencies, recover from them, and mitigate against their impacts (Mississippi Emergency Management Agency, 2009a). These state agencies operate similarly to DHS and FEMA, only at the state level.

At the local level within Mississippi are the county and city emergency management agencies (EMAs). They may have different names within each community, but their essential roles are to coordinate and provide disaster responders at the local level. The EMAs employ very small staffs and serve as on site informational resources for MEMA and FEMA, as well as for the citizens they serve (Mississippi Emergency Management Agency, 2009b).

Because of the changes brought about by the events of September 11, 2001, a more organized disaster preparedness and response infrastructure at the local, state and

federal levels was in place to deal with the devastating effects of Hurricane Katrina in August of 2005.

Disaster Response Systems in Place Today

At the present, U.S. citizens rely upon the DHS, which has oversight of FEMA, as the primary federal responding agency to disasters. The agency was not designed for mass response, but to allocate resources, such as materials and supplies to the disaster area, for dispersion by state responders, local responders, and volunteers.

Regarding state levels of response, each state has an agency that is organizationally responsible to the governor. In Mississippi, MEMA serves as such an agency (Mississippi Emergency Management Agency, 2009a). MEMA, similar in concept to FEMA, is responsible for establishing correct allocation of resources to the community level. Ideally, MEMA can maintain control of the disaster response at the state level. Local communities, towns, and cities also have EMAs, which are usually divided along county geographical lines. Ideally, the local government and citizens make decisions that affect the citizens at the local level. If the magnitude of the disaster merits a higher level of oversight, then the local agency calls for assistance at the state level. If the magnitude of the disaster merits a higher level of oversight than can reasonably and safely be handled at the state level, then the state level calls for assistance at the federal level (Federal Emergency Management Agency, 2008).

Individual Disaster Preparedness

The DHS, along with FEMA, strongly stresses the need for emergency preparedness at the individual citizen level (www.ready.gov, 2009). Citizens and families have the crucial responsibility of preparing for disasters. Appropriate and diligent

planning at the family level impacts survival and recovery (Business Wire, 2005).

Although rescue responders will eventually reach all levels in the community, the response time may not always be fast enough for survival effectiveness. Individual and family disaster preparation may be the single component that saves lives during and after a disaster. An added benefit of having a core of well prepared individuals and families during a disaster is that they may offer assistance to others. Further, these prepared families will not need to use resources, such as water, food, or shelter immediately, thus freeing those resources for others to use.

The well-prepared individual and family are asked by disaster preparedness agencies to do specific tasks to prepare for or prevent a disaster. Each person or family should have accurate information and knowledge, an evacuation plan, and adequate supplies (American Red Cross, 2009; U.S. Department of Homeland Security, 2009). There are many resources for individuals and families to assist in preparing for disasters. The websites <http://www.ready.gov>, <http://www.redcross.org>, and <http://www.msema.org> are three examples of these resources.

DHS sponsors the ready.gov site. It contains checklists and suggestions for families on how to prepare for disasters. Get a kit, make a plan, and be informed are the topic areas. All of the resources stress the importance of storing nonperishable food and water. First-aid kits, flashlights with extra batteries, and medications are just part of the list of items that should be part of the kit. In making personal disaster plans, being prepared to shelter in place or to evacuate are the two family choices. Having out of state contacts who can act as an information clearinghouse provides a way for the family to stay connected if they are separated before, during, or after a disaster. It is also important

that the family know and understand the emergency plans for school and work. Plans need to be updated when there are changes in the family or reviewed at least every six months (Department of Homeland Security, 2009). Another area for citizens is the reporting of suspicious behavior to the proper authorities. As terrorists prepare for an attack they carry out certain tasks. The seven signs of terrorism include: surveillance, elicitation, testing security, acquiring supplies, suspicious persons who do not belong, dry or trial runs, and deploying assets or getting into position (Suburban Emergency Management Project Biot#178, 2005).

However, preparedness involves more than simply acquiring resources and remaining vigilant. Preparedness is related to several factors, such as the individual's or family's perceptions of the probability of the event taking place, the resources available to them, and their willingness to take the steps necessary to engage in preparedness behaviors, often measured using Stages of Change Transactional Model (Prochaska & DiClemente, 1982; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

The Role of Nurses in Disaster Preparedness

Nurses serve important roles in disaster preparedness. Because nurses possess health knowledge, organizational and leadership skills, and high levels of public trust, nurses make effective leaders, educators, planners, researchers, and first responders when dealing with disasters (Lundy & Butts, 2009).

One of the earliest, well-documented cases of nursing during disasters was that of Florence Nightingale and her nurses, who worked tirelessly to save lives of British soldiers wounded during the Crimean War by providing good nutrition, clean water,

clean air, proper sanitation and hygiene (Tomey & Alligood, 1998). Her methods proved successful then, as they do now, when caring for disaster victims affected by or at risk for injury, infection, shock, malnutrition, dehydration, and stress.

Nurses have been helping people prepare for, and respond to disasters in the United States for hundreds of years. In the United States, formal medical treatment on the battlefield began during the American Civil War. Dr. Bernard John Dowling Irwin is credited with establishing the first tent field hospital during the battle of Shiloh (Fahey, 2006). The field hospital used there remains a centerpiece of casualty care evacuation systems. Nurses played a large role during the Civil War. Organization of supplies and personnel were vital to reducing mortality during the Civil War. Nursing pioneers Dorothea Dix and Clara Barton, who helped create the American Red Cross, both served during the war (Civil War Nurses, 2003).

All through the turn of the twentieth century and into the twenty-first century nurses responded to many disasters. Examples include The Jacksonville Yellow Fever Epidemic of 1888, The Johnstown Flood of 1889, The Galveston Hurricane of 1900, The San Francisco Earthquake of 1906, The Influenza Pandemic of 1918–1919, The Tulsa Race Riot of 1921, The Cocoanut Grove Fire of 1942, The San Francisco Earthquake of 1989, The Oklahoma City Bombing of 1995, and The September 11th attacks of 2001 (D’Antonio & Whelan, 2004). More recently nurses assisted during Hurricanes Katrina and Rita of 2005, Hurricanes Gustav and Ike of 2008, and the Pandemic H1N1 Flu of 2009 (D’Antonio & Whelan, 2004).

In 1909 the American Red Cross was able to test its new communication system for the first time by calling up nurses to respond to a destructive tornado in Purvis,

Mississippi. This was a seminal experience that facilitated formal involvement of nurses in disaster response. (Kernodle, 1949)

During the Cold War between the U.S. and the Soviet Union that followed World War II, the nursing profession was challenged to prepare for mass disasters. Army Nurse Corps officer Harriet H. Werley made significant contributions to the field of nursing in mass disaster preparation, education, and research during the 1950s (Leifer & Glass, 2008). These advancements have continued through the Vietnam War, Desert Storm, the Iraq war, and the war in Afghanistan, and have increased survival rates greatly (Leifer & Glass, 2008). The knowledge gained from dealing with man-made military disasters can be readily transferred for use with civilians.

Civilian disaster preparedness is important to nurses in the U.S and world-wide. The International Council of Nurses (ICN) report their foci related to disaster nursing are developing information resources, raising the awareness of disaster nursing, strengthening its Disaster Response Network, developing disaster nursing competencies, and forging international partnerships aimed at improving disaster relief coordination and capacity building (Kingma, 2008).

The National Institute of Nursing Research (NINR), part of the National Institutes of Health (NIH) U.S. Department of Health and Human Services (HHS) lists their NINR strategic plan priorities for research. These priorities include developing models for first responders in events such as natural disasters, environmental hazards, and other emergency situations as an area of research emphasis (National Institute of Nursing Research, 2006).

The Joint Commission for Accreditation of Healthcare Organizations (JCAHO) developed new disaster guidelines in 2001 (Koenig, 2001). These include an emphasis on community involvement so that hospitals are not planning without input from others, identification of the specific roles of response personnel, and the hospital preparing for the needs of patient, staff, and their families. Healthcare organizations, such as nursing homes and hospitals rely heavily upon nursing leaders and nurses to execute these guidelines.

Other nursing entities including the Emergency Nurses Association, National Association of School Nurses, and the Mississippi Nurses Association have position statements or have offered training related to disaster preparedness and response (National Association of School Nurses, 2005)

Nurses are the largest segment of healthcare providers in the United States (Bureau of Labor Statistics, 2009). Their education, leadership and planning abilities and their ability to plan, prepare and respond in all types of disasters uniquely qualifies nurses to participate in disaster organizations. Nurses have been and will continue to be at the forefront of disasters at all levels. For effective disaster planning and education, nurses need to know the present status of preparation in their states.

Summary

The United States has experienced many different types of disasters in its history, and nurses have been involved in and responded to most of these disasters. The disaster preparedness and response paradigm continues to evolve at all levels of government and for individuals and families. The role of nurses in disaster preparedness continues to expand and deepen, with nurse involvement at all levels of preparedness and response.

Continuing to assess the public's disaster preparedness and developing new ways to plan responses to disasters are some of the important contributions that nurses have to offer to disaster preparedness efforts in our nation.

CHAPTER II

BACKGROUND AND THEORETICAL FRAMEWORK

Introduction

The theoretical framework for the original nationwide FEMA/Citizen Corps study (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b) and survey instrument is The Citizen Corps Personal Disaster Preparedness Model (PDP)(see Appendix A; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b). Because this is a replication study, the same model and survey were used.

The PDP Model utilizes the theoretical support structure of the Extended Parallel Process Model (EPP Model) (Witte, 1992) and the Stages of Change /Transtheoretical Model (SC/T Model) (Prochaska & DiClemente, 1982). The PDP Model segments the population based on their perceptions of threat and efficacy of response to disasters, and provides associated areas of focus for outreach social marketing that targets specific barriers and motivation (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

The PDP Model applies the EPP Model's descriptions of factors that influence responses to threats: 1) A person's perception of a threat is composed of two components, a) threat severity, defined as the individual's belief about the seriousness of the threat, and b) threat susceptibility, defined as the individual's beliefs about his or her chances of experiencing the threat; 2) A person's assessment of the value of a recommended protective action is also composed of two components, a) self-efficacy, defined as having the capability of responding to reduce risk , and b) response efficacy,

defined as perceiving that an effective response is available (Witte, 1992). The main point is that if a person does not perceive that he is at risk for a particular disaster, then the person will not engage in protective behaviors. If, on the other hand, a person has a high perception of threat, but has low perceived efficacy, the person will not engage in preparedness or protective actions; instead they may be in denial, rationalize the situation or ignore the situation. When perceived threat is high and perceived efficacy is high, a person engages in danger control response – which is another way of saying that they are motivated to protect themselves from the danger (Kamin & Freeman, 2006).

The PDP Model (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), predicts that individuals who are threatened will take one of two courses of action: Danger control or fear control. In danger control, the individual seeks to reduce the risk. In fear control, the individual seeks to reduce the perception of the risk. Danger control is outer-focused and directed towards a solution, while fear control is inner-focused and directed away from a solution. For danger control to be selected, a person needs to perceive that an effective response is available (response efficacy) and that they are capable of utilizing this response to reduce the risk (self efficacy). If danger control is not selected, then action defaults to fear control (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

According to SC/T Model (Prochaska & DiClemente, 1982), people possess varying degrees of readiness to change or actual involvement in behavior change. The model places individuals in five stages, which indicate their readiness to attempt, make, or sustain behavior change. The five stages are Precontemplation, Contemplation,

Preparation, Action, and Maintenance (Kamin & Freeman, 2006). The premise of the SC/T Model is that behavior change does not happen in one step. Rather, people tend to progress through different stages on their way to successful change. Also, each of us progresses through the stages at our own rate. So expecting behavior change by simply telling someone to change may be counterproductive because they may not be ready to change. Within the SC/T Model, each individual must decide for himself or herself when a stage is completed and when it is time to move on to the next stage (Prochaska & DiClemente, 1982).

There are five stages in the SC/T Model. The first stage is Precontemplation, in which the individual is intending to change or is thinking about change in the near future (usually measured by the next six months). The second stage is Contemplation, in which the individual is not prepared to take action at present, but is intending to take action within the next six months. The third stage is Preparation, in which the individual is actively considering changing his or her in the immediate future (e.g. within the next month). The fourth stage is Action, in which the individual has actually made an overt behavior change in the recent past, but the changes are not well established (maintained for six months or less). The fifth and final stage is Maintenance, in which the individual has changed his or her behavior, maintained the change for more than six months, and is working to sustain the change (Prochaska & DiClemente, 1982). In disaster preparedness the goal is to have families reach the maintenance stage. In the maintenance stage, the family has made changes in disaster preparedness, by having a kit, a plan, and is informed (Prochaska & DiClemente, 1982). The preparedness behavior outcomes identified in the PDP (see Appendix A) are depicted in the vertical arrow on the far right

of the model. The arrow shows a progressive movement through the stages of change to the ultimate outcome of increased numbers of individuals maintaining recommended preparedness behaviors (Kamin & Freeman, 2006).

Literature Review

Introduction

A multitude of documents have been published about disaster preparedness, especially during the past decade and since the destruction wrought by the attacks of September 11, 2001 and Hurricanes Katrina, and Gustav. The terms “disaster” and “preparedness” were entered as key terms in the following research databases with the following results: OVID, 425 articles; EBSCOhost/CINAHL, 315 articles; PubMed, 1,726 articles. Citizen Corps keeps a list of current disaster preparedness articles on its website; at the writing of this dissertation, there were 101 articles available (http://www.citizencorps.gov/pdf/Citizen_Corps_Survey_DB_7_8_2008b.pdf).

After review of all documents and articles, only four studies were found that had specific individual preparedness data about Mississippians. Of those, most focused on hurricane preparedness, all were telephone poll/survey studies, and all were descriptive. Overall, the results of these studies indicate alarming deficits in disaster preparedness (2008 National Mason-Dixon Hurricane Poll [National Hurricane Survival Initiative, 2008]; Hurricane Readiness in High-Risk Areas, 2007 [Blendon, Buhr, Benson, Weldon, & Herrmann, 2007]; The Public’s Preparedness for Hurricanes in Four Affected Regions, 2007 [Blendon, Benson, DesRoches, Lyon-Daniel, Mitchell & Pollard, 2007]; Where the American Public Stands on Terrorism and Preparedness Five Years After September 11.

One-Year After Hurricane Katrina, 2006 [Redlener, Grant, Berman, Johnson & Abramson, 2006]).

Hurricane and Related Disaster Preparedness Studies

The Harvard School of Public Health conducted The Public's Preparedness for Hurricanes in Four Affected Regions with telephone interviews using an independent research company (International Communications Research, Media, PA) during October 3-9, 2005, less than two months after Hurricane Katrina struck. The purpose of the study was to examine how prepared people were in communities outside the main areas devastated by Hurricanes Katrina and Rita and for major hurricanes in the future, what factors were related to why people did not evacuate, and what concerns people had in communities that took in evacuees from the hurricanes (Blendon, Benson et al., 2007). There were 2,006 completed surveys from randomly selected adults in Dallas, Houston, Baton Rouge, and the states of Mississippi/Alabama (excluding the immediate Gulf Coast counties of those states). The survey asked about experience with Hurricanes Katrina and Rita, evacuation, readiness, and stress. The authors did not provide results by gender, age, race or ethnicity. They did provide results by regional breakdown.

The researchers (Blendon, Benson et al., 2007) found that overall, 47% of people surveyed in the four regions reported that they were prepared for the past hurricane(s) or another major hurricane in the near future (Dallas, 41%; Houston, 48%; Baton Rouge, 54 %; Mississippi/Alabama, 43%). The results also indicated that overall, 47% of respondents said they would be very or somewhat interested in learning more from outside sources about what supplies to have on-hand in order to be prepared (Dallas,

58%; Houston, 57%; Baton Rouge, 66%; Mississippi/Alabama, 66%), and how to evacuate if there were another major hurricane (Dallas, 52%; Houston, 66%; Baton Rouge, 69%; Mississippi/Alabama, 65%). Initial perusal of these aforementioned studies indicates commonalities with results across all research sites. Combining all four regions, a higher proportion of African American than non-Hispanic Whites reported that they were very or somewhat interested in learning more. Within the Mississippi/Alabama region, these same proportions of results held true: response for African Americans was 86%, and for White (non-Hispanic) was 57%. In preparation for future hurricanes participants in Baton Rouge and Houston responded significantly higher than other regions to the following question. ‘After Hurricane Katrina, we took additional steps to prepare for another major hurricane and if there was another major hurricane in the next month: think you/your family are very prepared, have plan for how to get out of your community, and have plan for contacting family members.’ Blendon, Benson et al. (2007) concluded, “ It is instructive that even communities that have experienced recent and very real threats by natural disasters still have insufficient plans and capacity in place regarding disaster preparation and readiness” (p.175). The authors further concluded that there were substantial needs for intervention to prepare and minimize hurricane disaster impact within the following areas: assistance for disaster planning, increased positive coping strategies for stress post-disaster, and the availability of quality information for wide audiences (Blendon, Benson et al., 2007). The Hurricane Readiness in High-Risk Areas was a study conducted for the Harvard School of Public Health via telephone by an independent research company (International Communications Research, [Media, PA]) (Blendon, Buhr et al., 2007). Interviews were conducted from June 18 to July 10, 2007,

among a randomly selected representative sample of 5,046 respondents age 18 and older in coastal counties of Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, and North Carolina. Study participants who were interviewed lived in all counties located within twenty miles of the coastline for each of these states. This was a descriptive study with a total of 54 questions. The focus areas included threat perceptions, disaster preparedness with food and water, evacuation, and planning/communication.

Analyses revealed that 47% of the interviewees were worried a major hurricane would hit their community during the next six months, while 78% reported they were prepared if a major hurricane were to strike their community in the next six months. When asked if they knew the location of an evacuation center in their community, 60% responded yes. The Mississippi results revealed that there were 54% worried that a major hurricane would hit in the next six months, 88% reported they were prepared, and 71% reported they knew the location of on evacuation center (Blendon, Buhr et al., 2007).

The Mason-Dixon Hurricane Poll conducted between May 6 and May 11, 2009 was commissioned by American Initiatives, an organization that launched the 2009 National Hurricane Survival Initiative (National Hurricane Survival Initiative, 2009). The National Hurricane Survival Initiative is a public education and safety outreach partnership that includes the National Hurricane Center, the National Emergency Management Association, The Salvation Army and the International Hurricane Research Center at Florida International University.

The researchers at Mason-Dixon Polling & Research surveyed 1,100 citizens residing in the Atlantic and Gulf Coast regions by telephone (National Hurricane Survival

Initiative, 2009). The survey consisted of 37 yes or no and Likert scale type questions. The questions addressed family disaster kits, planning, evacuation and information gathering. Despite the catastrophic 2005 hurricane seasons, analyses of the data showed that 54% respondents did not feel vulnerable to a hurricane or related tornado or flooding, 56% did not have a family disaster plan, and 67% had no hurricane survival kit or supplies. Further, 85% said they had not taken any steps in the past year to make their homes stronger. Alarming, the poll reported, that 20% believed that it's the government's responsibility to provide vital resources (food, water, medicine and shelter) in the first few hours and days after a hurricane, and another 7% did not know who was responsible for providing resources in that immediate time frame. The authors concluded that relying on outside resources could pose serious problems for victims, not only after a hurricane, but after a lesser storm or tornado that knocked out electricity for a period of time. The recommendation for residents threatened by disasters such as hurricanes is that they should be prepared to have at least a three-day supply of water, food and medicines on hand for their household use. No breakdowns of results by demographics or for Mississippi were reported (National Hurricane Survival Initiative, 2009).

The Harvard School of Public Health Project on the Public and Biological Security conducted the Hurricane Readiness in High-Risk Areas Coastal Mississippi from May 27 to June 18, 2008 (Blendon, Buhr, Benson, Weldon & Herrmann, 2008). The study was conducted early in the 2008 hurricane season, almost three years after Hurricane Katrina. Citizens from all 3 counties within twenty miles of the coastline of Mississippi were surveyed. Demographic analyses revealed that 74% of respondents were

white and 18% were African American. Also, 50% had at least a high school education (Blendon et al., 2008).

The major findings indicated that 52% of coastal Mississippians were worried that a major hurricane would hit their community during the next six months, 88% were prepared if a major hurricane hit their community, and 72% knew the location of an evacuation center. When respondents were asked to estimate whether, compared to past years, they thought that their community was more or less prepared for a major hurricane, 55% reported being more prepared, 5% reported being less prepared and 35% reported being about the same (Blendon et al., 2008). No further breakdowns of results by demographics were reported. This study provided data related to hurricane disaster preparedness in Mississippi coastal counties. A more comprehensive study with other types of disasters and including the entire State of Mississippi needs to be completed.

Comprehensive Disaster Preparedness

The Columbia University Mailman School of Public Health conducted annual studies titled, Where the American Public Stands on Terrorism, Security, and Disaster Preparedness (Redlener et al., 2006). This series of studies, which have been conducted from 2002 to 2007, provides comprehensive disaster preparation and perceptions of the American public, and thus can analyze yearly trends from year to year. Each survey, including the current one, includes a specific set of questions repeated every year, which generate trend data, as well as questions specific to events current to each study period. Repeated questions ask about confidence in government; willingness and ability to evacuate; extent of personal and family preparedness; and perceptions of community preparedness (Redlener, Abramson, Stehling-Ariza, Grant & Johnson, 2007).

Regarding terrorist attacks, the 2006 survey of Americans (Redlener et al., 2006) indicated erosion in confidence in government ability to protect them in case of a terrorist attack. Specifically, in 2006, only 44% of Americans believed that the federal government could protect their community from a terrorist attack, compared to 62% in 2003 (Redlener et al., 2006). The researchers noted that this is the second consecutive year that fewer than half of Americans believed that their government could protect them effectively. Other findings indicated that only 31% of Americans believed that their community has an adequate terrorist attack response plan currently in place; however, 51% believe that there is a community plan in the case of a natural disaster. The researchers noted that these statistics do not differ from 2005 (Redlener et al., 2006).

Individual preparedness levels in 2006 were similar to previous years, indicating that 31% had a basic family plan and 66% felt personally unprepared (Redlener et al., 2006). Reasons given by respondents for not having an individual or family preparedness plan included not having enough time (26%), not knowing what to do to achieve basic preparedness (22%), and 3% said it is because they already felt prepared (Redlener et al., 2006). The study results indicate that the concerns of African-Americans are higher than other groups. Nearly three-quarters (73%) have concerns about the possibility of a natural disaster or emergency weather event in their community (compared to 50% for Non-Hispanic Whites and 58% for Latinos). Further, 66% of African Americans are concerned about the possibility of a terror attack in their community (compared to 36% for Non-Hispanic Whites and 60% for Latinos) (Redlener et al., 2006).

When examining the 2006 data geographically, findings indicated that one year after Hurricane Katrina, 78% of Louisiana and Mississippi residents were concerned that

there will be another natural disaster/weather event in their community compared to 54% nationally (Redlener et al., 2006). Further, residents of Louisiana and Mississippi believed that they were more prepared for a natural disaster than other Americans (68% vs. 57%). Notably, after Katrina, only 47% of residents of these states have confidence in the ability of government to respond appropriately to a natural disaster compared to other Americans (47% vs. 54%). The authors concluded that “Katrina motivated almost two-thirds (63%) of Louisiana and Mississippi residents to become personally prepared for major disasters, compared to 45% nationally” (Redlener et al., p. 5).

The Citizen Corps employed Macros International to conduct survey research related to disaster preparedness in the U.S. for several years (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009a; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2003). Citizen Corps Surveys offer comprehensive data on the public’s thoughts, perceptions, and behaviors related to preparedness and community safety for multiple types of hazards. Findings from these surveys provide valuable insights for increasing personal preparedness, civic engagement, and community resilience (U.S. Department of Homeland Security, 2009b).

The Citizen Corps surveys have sequentially built on one another to attempt to be comprehensive on what are perceived as the most relevant disaster perceptions of Americans. The 2009 survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b). reported several key findings including: 56% of individuals reported having “supplies set aside in their home to be used only in the case of a disaster”; 44% of individuals reported having a household emergency plan, with

the most commonly mentioned primary reason for not preparing was the belief that emergency responders such as fire, police, or emergency personnel would help them (30%); 36% of individuals reported thinking that a natural disaster would ever affect their community; and Black respondents were more likely to have higher risk perceptions about disasters; that is, they were more likely than White respondents to believe that the majority of the disasters discussed were likely to occur in their communities (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

The Citizen Corps National Surveys provide a comprehensive method of evaluating citizen preparedness and reasoning behind some of the choices people make concerning planning, training, and behaviors. The 2009 Citizen Corps National Survey will provide the template for assessing Mississippi citizens.

Summary

Disaster preparedness in Mississippi has recently been dominated by hurricane preparedness due to the location of the state and Hurricanes Katrina and Gustav. Disaster preparedness is not a onetime occurrence; it is an ongoing process. Government, health care providers, and citizens must continually plan and prepare for the next disaster. Studies have been done in an attempt to gauge this preparedness, and are limited to descriptive poll surveys, as the purpose of the studies were to assess the levels of disaster preparedness of individuals. These studies show that there is still much to be done in educating and motivating citizens to prepare nationwide. There are deficits in this knowledge base. There has been no comprehensive assessment of citizen preparedness in the State of Mississippi until this study. This information is needed to evaluate the level

of preparedness and the disaster threat and efficacy perceptions of Mississippians, thus providing the rationale for performing this study.

CHAPTER III

RESEARCH METHOD

The purpose of this study was to assess Mississippian's preparedness for disasters. While FEMA has been conducting citizen preparedness surveys for several years since the attacks of September 11, 2001 (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2003; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009a; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), none of these studies have focused on the entire state of Mississippi. By building on FEMA's previous record of useful and successful nation-wide preparedness surveys and methods, this researcher collected Mississippi-focused data that provided an accurate, representative assessment of preparedness. This Mississippi data was used to make comparisons with national preparedness data and will be used for benchmarking and planning.

Research Questions

FEMA developed the following questions to guide the study being replicated (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), and are therefore used in this study:

1. To what extent are individuals prepared for disasters?
2. What barriers do individuals perceive in preparing for disasters?
3. What is the perception of vulnerability to different types of disasters?
4. How do people perceive the utility of preparedness?

5. In which stage of the Stages of Change model (Precontemplation, Contemplation, Preparation, Action, and Maintenance) are individuals relative to disaster preparedness?
6. How does disaster preparedness differ by demographic characteristics?
7. What is the perceived social responsibility for reporting suspicious behavior?

The final question was added by the researcher:

8. How does Mississippian's disaster preparedness compare to the U.S. level of preparedness?

Research Design and Approach

The design of this study was descriptive, and was accomplished by using a telephone poll survey approach. By replicating previous studies methods and instruments, validity and reliability of questions and methods for the present research was strengthened, and allowed for direct comparison to the earlier data gathered.

Setting and Sample

The setting for this study was the State of Mississippi, USA. The United States Census Bureau estimated the 2008 census for Mississippi was 2,938,618 (U.S. Census Bureau, 2009).

The sample was a randomly selected representative sample of Mississippians aged 18 or older, who have a land-line phone in their home. Subjects were identified by using published telephone numbers within Mississippi. Inclusion criteria included able to speak English and being able to speak for the household. Power analyses calculations indicate that, based on the study's planned statistical analyses, the population of Mississippi, and using a random sample, a minimum sample size of 384 is needed to be representative of

the population, such that p will be within $\pm .05$ of the population proportion with a 95 percent level of confidence (Krejcie & Morgan, 1970). Krejcie & Morgan (1970) explain, “It should be noted that as the population increases [past 1,000,000], the sample size [required] increases at a diminishing rate and remains relatively constant at slightly more than 380 cases” (p.607). Even though the minimum sample size required was calculated at 384, a target of 672 completed surveys was set because the resources were adequate for that number of interviews. This is a 1.75% greater sample size. This ensured that a more than adequate representative sample is obtained, and more than satisfied sample size requirements needed to represent the given population with a 95 percent level of confidence.

Instrumentation and Materials

The survey used in this study was a slightly revised version of The 2009 Citizen Corps National Survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), which was the instrument used in the original FEMA study that this study replicated (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b). The 2009 Citizen Corps National Survey was the third in a series of surveys developed from two previous FEMA Community Preparedness Division studies: Using the Citizen Corps National Survey 2007 (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009a), and The 2003 Citizen Corps Survey of U.S. Households (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2003). The 2003 Citizen Corps Survey of U.S. Households provided baseline nation-wide data on individual preparedness for disasters (U.S. Department of Homeland Security/Federal Emergency

Management Agency, 2009a). The Citizen Corps National Survey 2007 was designed with additional areas, such as exploring motivational barriers to preparedness, examining individuals' preparedness in multiple locations, and improving some of the 2003 questions.

The 2009 Citizen Corps National Survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b) was designed to measure the public's knowledge, attitudes, and behaviors relative to preparing for a range of hazards. The survey was based on the PCP Model (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), and consists of 56 multiple choice questions that ask for a categorical response, or for the degree of agreement or disagreement with statements on a Likert type scale. The 2009 Citizen Corps National Survey (2009) consists of 13 sections that reflect the respondent's perceptions, knowledge, attitudes, and behaviors relative to preparing for a range of hazards. The sections are: Utility/Response Efficacy, Risk Awareness/Perception, Severity, Stages of Change, Self Efficacy, Prevention, Reliance, Disaster Supplies, Community Plan, Household Plan, Drills/Exercises, Volunteering, and Demographics. The survey took approximately 15 minutes to complete (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

The entire 2009 Citizen Corps National Survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b) was used in this study; however, minor revisions were made to fit Mississippi respondents. These revisions consisted of: Removing 'subways' in one question about public transportation, removing one question about which state the respondent lives in and replaced it with, 'Did you live

at this zip code during Hurricane Katrina?’ and added one question, ‘Were you affected by Hurricane Katrina?’. The slightly revised instrument was renamed The Citizen Corps Survey 2009 for Mississippi, to avoid confusion with the original survey (see Appendix B).

Procedure

The Citizen Corps National Survey 2009 for Mississippi was conducted in December of 2009, at the end of the hurricane season, which ended November 30. The survey was administered by trained interviewers at Macro International (Rockville, MD), using a computer-assisted telephone digital dialing system. Data were collected over a three week period. The interviewers informed potential subjects that participation was voluntary and confidential, and those who agreed to be in the study were verbally provided contact information in case of any questions about the research or its results.

Interviewers at Macro International (Rockville, MD) imputed survey data directly into the computer assisted telephone interviewing software program CARAVAN (ICF Macros, 2009) as the respondent answered the questions. Macro International (Rockville, MD) delivered the raw data in SPSS 17 and Excel formats for analysis by the researcher and statistician, Thomas Moore. Macro International (Rockville, MD) has been directly involved with developing and conducting the Citizen Corps national surveys. Under contract to FEMA’s Community Preparedness Division, Macro International (Rockville, MD), an applied research and consulting firm, supported the survey design, data collection, and analysis and reporting of the 2003, 2007, and 2009 Citizen Corps surveys (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2003; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009a; U.S.

Department of Homeland Security/Federal Emergency Management Agency, 2009b).

Macro International (Rockville, MD) conducts extensive training for employees in computer assisted telephone interviewing. Telephone interviewers are audited for consistency in delivering questions, and for accurate data input into CARAVAN by ICF Macros (ICF Macros, 2009).

Data Analysis

After the survey, data files were received from Macro International (Rockville, MD), SPSS 17 was used to randomly select 10% of the subject files (n=67), which were visually scanned for possible systematic errors. SPSS 17 was also used to complete the computations. In keeping with the original study being replicated, the research questions were answered using Univariate statistics, such as frequencies, percentages, means, and standard deviations. Research questions that required comparisons were answered using percentages, illustrating differences using tables of side-by side visual comparisons.

Protection of Human Subjects

Institutional Review Board approval (see Appendix C) was obtained from the University of Mississippi Medical Center, exemption was granted (IRB File # 2009-02350). Institutional Review Board approval was also obtained from The University of Southern Mississippi, exemption approval (Protocol Number 29120201). There was no identifiable information on the survey form that could link the participant with the survey form. Each subject was identified only by a case number. All participants were asked if they were 18 years old or older and if they would agree to participate in the survey. The following is the statement that was read to the participant very early in the process: "Your telephone number was chosen randomly. I will not ask for your name, address, or

other personal information that can identify you. You do not have to answer any question you do not want to, and you can end the interview at any time. Your participation in this survey is entirely voluntary. Your answers to the survey questions will be held confidential by ICF Macro. Your name or any other information that could identify you will not be associated with your responses or used in any reports. If you have any questions, I will provide a telephone number—either here at ICF Macro, University of Mississippi Medical Center or the University of Southern Mississippi School of Nursing, or related Institutional Review Boards who approved this study,—for you to call to get more information or to validate this research. This interview may be monitored for quality assurance purposes”.

Assumptions of the Study

It was assumed that:

1. Participants were residents of Mississippi.
2. Each participant was a non-institutionalized adult at or above the age of 18.
3. Each adult participant could speak for themselves as well as the family.
4. Participants understood the term “Disaster Preparedness”

Limitations

The following limitations were identified.

1. The sample population was a convenience sample.
2. The participants answered questions based on their subjective perceptions of preparedness.
3. The individual’s history with disasters was unknown.

4. The respondents were only from Mississippi, limiting generalizability to other populations

CHAPTER IV

ANALYSIS OF DATA

Assessing Mississippians Preparedness for Disasters Using the Citizen Corps National Survey 2009 was conducted to gain a better understanding of the disaster preparedness level of Mississippians. Citizen Corps completed three national surveys in 2003, 2007, 2009, and each of these national surveys became progressively more comprehensive and detailed. The 2009 Citizen Corps National Survey was slightly modified and used for this study. The 2009 survey instrument elicited data about each concept/ variable of the Citizen Corps Personal Disaster Preparedness (PDP) Model: Demographics, volunteering, drills / exercises, community plan, household plan, disaster supplies, prevention, self-efficacy, reliance, stages of change, severity, risk awareness / perception, and utility / response efficacy. The 56 question instrument was administered by ICF/Macros using a computer assisted telephone interviewing system during December 2009. A total of 678 completed surveys were obtained, with a minimum of 384 required to achieve a representative random sample. The results from Assessing Mississippians Preparedness for Disasters Using the Citizen Corps 2009 National Survey are organized according to the research questions. First, however, the demographic description of the sample is presented. Data in this chapter are presented side by side for each question where comparisons are appropriate.

Presentation of Descriptive Characteristics of Respondents

The demographic data from this survey are presented in Tables 1 through 10. The National Survey N= 4461 and the Mississippi Survey N=678.

The majority of respondents from Mississippi were female (66%). Approximately two-thirds of the respondents were female (66%) for Mississippi compared to one-half (51%) for the national survey. The majority of Mississippi respondents were 55 or older (52%). No data for the national respondents was reported. Most Mississippi respondents had a college degree (44%), or some college (25%), while 24% had a High School education. When compared to national statistics, Mississippi had more High School graduates and those with some college, but fewer with Associate, Bachelors, and Master's Degrees. A majority of Mississippians reported themselves as very religious (63%) or somewhat religious (29%). Mississippians were far more religious than the national respondents, who reported themselves as very religious (37%) and somewhat religious (41%). Respondents were asked to describe their race and 76.5 % stated White, 20.1% stated Black/African American, 0.4% chose Asian, 0.7% responded American Indian, and 1.3% indicated Other. National breakdown of race was not reported. Mississippi had few respondents who were Hispanic/Latino (2%). This compares to 14% of national respondents reporting Hispanic/Latino descent. Almost half (47%) of Mississippians made \$49,999 or less per year, while 38% made \$50,000 or more per year. This compares to 36% and 51% respectively for the national respondents. Mississippians described themselves to be more rural than the national respondents with 54% compared to 30%. Mississippians reported that 21% of them were urban dwellers, compared to 25% of national respondents. Mississippians reported that 23% lived in suburban areas, compared to 43% nationally. Most Mississippi respondents (66%) reported that they were affected by Hurricane Katrina, and most (77%) lived in the same zip code now as when Katrina hit Mississippi in 2005.

Table 1

Gender

Gender	National 2009	Mississippi 2009
Male	49%	34%
Female	51%	66%

Table 2

Age

	National 2009	Mississippi 2009
18 - 34	N/A	10%
35 - 54	N/A	31%
55 and older	N/A	52%
Refused	N/A	5%

Table 3

Education Level

What is the highest level of education you have received?	National 2009	Mississippi 2009
Less than 12th grade	6%	7%
High School Graduate or GED	19%	24%
Some College but No Degree	23%	25%
Associate Degree in College	13%	11%
Bachelor's Degree	23%	19%
Masters Degree	12%	9%
Doctorate Degree	4%	5%

Table 4

Religious

How religious would you say you are? Would you say...	National 2009	Mississippi 2009
Very Religious	7%	63%
Somewhat Religious	41%	29%
Barely Religious	9%	3%
Not at all religious	11%	4%

Table 5

Race

	National 2009	Mississippi 2009
White	N/A	76.5%
Black, African American	N/A	20.1%
Asian	N/A	.4%
American Indian or Alaska Native	N/A	.7%
Native Hawaiian or Other Pacific Islander	N/A	0%
Other	N/A	1.3%

Table 6

Hispanic, Latino Origin

Are you of Hispanic, Latino, or Spanish origin?	National 2009	Mississippi 2009
Yes	14%	2%
No	85%	98%

Table 7

Household Income

Which of the following income ranges represents your annual household income in 2008?	National 2009	Mississippi 2009
Less than \$25,000	16%	24%
\$25,000 to less than \$50,000	20%	23%
\$50,000 to less than \$75,000	19%	14%
\$75,000 or more	32%	24%

Table 8

Geographic

	National 2009	Mississippi 2009
Urban	25%	21%
Suburban	43%	23%
Rural	30%	54%

Table 9

Katrina Zip Code

Did you live at this zip code in August 2005 when Hurricane Katrina struck?	Mississippi 2009
Yes	77%
No	22%

Table 10

Affected by Katrina

Were you affected by Hurricane Katrina?	Mississippi 2009
Yes	65%
No	35%

Analysis of Data by Research Questions

The following research questions were developed by FEMA for the original 2009 National Citizen Corp survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), which was the basis for this study, and were therefore used in this study:

1. To what extent are individuals prepared for disasters?
2. What barriers do individuals perceive in preparing for disasters?
3. What is the perception of vulnerability to different types of disasters?
4. How do people perceive the utility of preparedness?

5. In which stage of the Stages of Change model (Precontemplation, Contemplation, Preparation, Action, and Maintenance) are individuals relative to disaster preparedness?
6. How does disaster preparedness differ by demographic characteristics?
7. What is the perceived social responsibility for reporting suspicious behavior?

The final question was added by the researcher:

8. How does Mississippian's disaster preparedness compare to the U.S. level of preparedness?

Research Question 1

The following concepts/variables from The Citizen Corps Personal Disaster Preparedness Model (PDP)(see Appendix A; U.S. Department of Homeland Security, 2006) were used to gather data related to being prepared for disasters: Disaster Supplies, Household Plan, Familiarity with Community Systems, Volunteerism, Knowledge of Immediate Response, Participation in Drills, Preparedness Training, and Perceived Preparedness versus Actual Preparedness.

Tables 11 and 12 present the data for Question 1 related to Disaster Supplies. The Mississippi survey showed that almost two-thirds of Mississippians (63%) surveyed have disaster supplies gathered in the home, 42% had supplies in their workplace, and 29% had supplies in their car. Nationally, a lower number of respondents had disaster supplies set aside in the home (57%) but slightly more had supplies in the workplace (45%) and their car (34%).

Participants were asked about overall disasters for which they have prepared. Without aiding the participants, interviewers asked, "Could you tell me the disaster

supplies you have in your home?” All answers are represented in the table no matter what order the participant stated them. Less than half (46% and 43%) of Mississippians had basic supplies of food or water set aside for disasters. Mississippians reported significantly lower amounts of a supply of packaged food, supply of bottled water, flashlight, battery powered radio, batteries, and first-aid kits than the national respondents. Mississippians reported slightly more eyeglasses, photocopies of personal information, financial documents, and cash.

Table 11

*Disaster Supplies in Multiple Locations**

	National 2009	Mississippi 2009
In your home	57%	63%
In your workplace	45%	42%
In your car	34%	29%

* Do you have supplies set aside in ... to be used only in the case of a disaster?

Table 12

*Home Disaster Supplies**

	National 2009	Mississippi 2009
Supply of packaged food	77%	46%
Supply of bottled water	71%	43%

Table 12 (continued).

	National 2009	Mississippi 2009
Flashlight	43%	26%
Portable, battery-powered radio	20%	11%
Batteries	28%	14%
First –aid kit	39%	25%
Eyeglasses	0%	2%
Medications	11%	9%
Photocopies of personal identification	1%	3%
Financial documents	1%	3%
Cash	1%	3%

*These responses were unaided and asked as part of a multiple response question. The results represent the total percent of respondents mentioning the existence of the particular item in their home as part of their disaster preparedness supplies. Respondents were asked “Could you tell me the disaster supplies you have in your home?”

Table 13 presents the data for Question 1 related to Household Plan. Emergency planning is a key component of preparation. Individuals should have a plan of what to do in case of a disaster. The data show that fewer than half of Mississippians have a disaster plan. Mississippi respondents (45%) answered similarly when compared to the national respondents (44%) with less than half saying they have a household plan.

Table 13

*Household Disaster Preparedness Plan**

	National 2009	Mississippi 2009
Yes	44%	45%
No	55%	54%

* Respondents were asked “Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?”

Tables 14 and 15 present the data for Question 1 related to Community Plans/Systems Familiarity. A Likert type scale was used for this question. Respondents were asked “Using a scale of 1 to 5, with 5 being ‘very familiar’ and 1 being ‘not at all familiar,’ how familiar are you with community plans/systems?” The ‘most familiar’ response is the combination of Likert scales answers 4 and 5. The ‘least familiar’ response is the combination of Likert scale answers 1 and 2. Mississippians were most familiar with how to get local information about a public health emergency, such as the H1N1 virus or swine flu (62%), and alerts and warning systems in their community (60%). Mississippians were least familiar with community evacuation routes (43%) and information on what your local hazards are and shelter locations near you each with (39%). The percentages for the Mississippi respondents were higher by up to 18% for most familiar on all types of community plans/systems. Most Mississippians reported that the Media (66%) was their major source of information related to H1N1. The percentages of Mississippians getting information from various sources about H1N1 were lower than the national survey in all areas.

Table 14
*Familiarity with Community Plans/Systems**

	Most Familiar		Least Familiar	
	National 2009	Mississippi 2009	National 2009	Mississippi 2009
Alerts and warning systems in your community	50%	60%	30%	28%
How to get local information about a public health emergency, such as the H1N1 virus or swine flu	47%	62%	30%	22%
Official sources of public safety information	38%	50%	38%	28%
How to get help with evacuating or getting to a shelter	34%	47%	47%	37%
Information on what your local hazards are	33%	40%	48%	39%
Shelter locations near you	30%	47%	54%	39%
Community evacuation routes	28%	46%	58%	43%

* Each percentage represents top-and-bottom-box scores, respectively. Those stating 4 or 5 (top-box, most familiar) and 1 or 2 (bottom-box, least familiar) are measured on a scale of 1 to 5; with 5 being “very familiar” and 1 being “not at all familiar”. Respondents were asked “Using a scale of 1 to 5 with 5 being ‘very familiar’ and 1 being ‘not at all familiar,’ how familiar are you with...?”

Table 15

*Sources for Information on H1N1**

	National Survey 2009	Mississippi Survey 2009
Media	86%	66%
Workplace	25%	5%
Schools or Childcare Facilities	23%	2%
Healthcare provider	18%	8%
Local Government official	14%	1%
Faith-Based Organization	7%	1%
Neighborhood Association	3%	1%
None	5%	4%
Other	3%	8%

These responses were unaided and asked as part of a multiple response question. Respondents were asked, "From which organizations in your community have you received information about the recent outbreak of the H1N1 virus or swine flu?"

Tables 16 and 17 present data on Question 1 Volunteering. Mississippians responded that 25% had volunteered in the past twelve months to help support an emergency responder organization. Almost one-half (47%) have volunteered during a disaster. Compared to the national data, 13% more Mississippians volunteered during a disaster and 2% more volunteered in the past twelve months.

Table 16

*Volunteering for Emergency Responder/Community Safety**

	National Survey 2009	Mississippi Survey 2009
Yes	23%	25%
No	77%	75%

* Respondents were asked, "During the past 12 months, have you given any time to help support emergency responder organization or an organization that focuses on community safety, such as Neighborhood Watch?"

Table 17

*Volunteering to Help in a Disaster**

	National Survey 2009	Mississippi Survey 2009
Yes	34%	47%
No	66%	53%

* Respondents were asked, "Have you ever volunteer to help in a disaster?"

Table 18 presents data on Question 1 Knowledge of Immediate Response. A Likert type scale was used for this question. Respondents were asked "Using a scale of 1 to 5, with 5 being 'very confident' and 1 being 'not at all confident,' How confident are you in your ability to know what to do in the first 5 minutes of different disasters". The 'confident' response is the combination of Likert scales answers 4 and 5. The 'non confident' response is the combination of Likert scale answers 1 and 2. Mississippians responded that they were most confident of their knowledge of how to respond to a sudden natural disaster such as an earthquake or tornado that occurs without warning (50%) followed by a hazardous material accident such as the release of a chemical agent

(30%). Mississippians were the least confident in their knowledge related to a terrorist act such as an explosion of a radiological or dirty bomb (61%) followed by an explosion or bomb (51%). Compared to the national respondents, Mississippians were about the same in regards to a terrorist act, less confident in a sudden natural disaster or an explosion or bomb, and a little more confident in a hazardous materials accident.

Table 18

*Confidence in Knowledge of How to Respond in the First Five Minutes**

	National 2009 Confident	Mississippi 2009 Confident	National 2009 Nonconfident	Mississippi 2009 Nonconfident
A sudden natural disaster such as an earthquake or tornado that occurs without warning	53%	50%	22%	25%
An explosion or bomb	31%	26%	44%	51%
A hazardous material accident such as the release of a chemical agent	26%	30%	50%	47%
A terrorist act such as an explosion of a radiological or dirty bomb	20%	21%	59%	61%

*Each percentage represents top-and-bottom-box scores, respectively. Those stating 4 or 5 (top-box, confident) and 1 or 2 (bottom-box, not confident) are measured on a scale of 1 to 5; with 5 being “very confident” and 1 being “not at all confident”). Respondents were asked “How confident are you in your ability to know what to do in the first 5 minutes of...?”

Tables 19, 20, and 21 present data on Question 1 related to Drills and Exercises. Mississippians reported overall low numbers (10-42%) in participating in drills and training exercises. If Mississippians had participated in a drill, most (43%) reported that they had been a part of workplace evacuation drills and only 25% answered they had completed a workplace shelter-in-place drills. In comparing the Mississippi and national results, they are similar. There was only a 1% difference in workplace evacuation drill, and home shelter in place drills, and only a 2% in difference in workplace shelter in place drill. School shelter in place drills were the same for both groups at 14%. When examining the responses to questions about motivators for preparedness training, almost no one was motivated for preparedness training. Mandatory training for the job or school was the highest response at 17%. Compared to the national data, Mississippians were within 2% on participation in drills except for school evacuation drills where they were 4% lower. Mississippians were similar to the national respondents when participating in preparedness training programs in these areas: talked about getting prepared with others in their community, attended a meeting on how to be better prepared for a disaster, and attended training as part of a Community Emergency Response Team or CERT in the last 2 years. Mississippians were an average of 10% lower, with 27% and 25%, respectfully for attending first aid skills training and attending CPR training.

Table 19

*Participation in Drills**

	National 2009	Mississippi 2009
Workplace evacuation drill	42%	43%
Workplace shelter-in-place drill	27%	25%
School evacuation drill	23%	19%
School shelter-in-place drill	14%	14%
Home evacuation drill	14%	12%
Home shelter in place drill	10%	9%

*Respondents indicating they had participated in the specific type of drill in the past 12 months.

Table 20

*Preparedness Training Programs**

	National 2009	Mississippi 2009
Attended first aid skills training	37%	27%
Attended CPR Training	36%	25%
Talked about getting prepared with others in their community	35%	35%
Attended a meeting on how to be better prepared for a disaster	25%	26%

Table 20 (continued).

	National 2009	Mississippi 2009
Attended training as part of a Community Emergency Response Team or CERT	13%	13%

*Respondents indicating they had conducted the action in the past 2 years.

Table 21

*Motivators for Preparedness Training**

	National 2009	Mississippi 2009
Mandatory for job/school	48%	17%
Concern for safety of family or friends	21%	5%
Because others (family or friends) did	14%	1%
General interest/hobby	5%	1%
Concern for personal safety	7%	4%
To have the necessary skill to help others	9%	3%
Easy to sign up	7%	2%
Desire to be prepared	14%	4%
Other	14%	9%

*These responses were unaided and asked as part of a multiple response question. The results represent the total percent of respondents mentioning the particular motivator from the list. Respondents were asked, "What motivated you to take this training?"

Research Question 2

The following concepts/variables were used to gather data related to perception in preparing for disasters: Barriers to Preparedness Activities, Barriers to Preparedness Training, and Expectation of Reliance on Others.

Table 22 presents data related to Question 2, Barriers to Preparedness Activities.

When examining Barriers to Preparedness, Mississippians rated their primary reasons higher than the national respondents except for I just have not had the time (3% lower). The following items, I think that emergency responders, such as fire, police or emergency personnel will help me, I do not know what I am supposed to do, and I do not want to think about it, were 7% higher for the Mississippi respondents.

Table 22

*Primary Reasons Cited as Barriers to Preparedness**

	National 2009 Primary Reason	Mississippi 2009 Primary Reason	National 2009 Not a Reason at All	Mississippi 2009 Not a Reason at All
I think that emergency responders will help me	30%	37%	32%	24%
I just have not had the time	25%	22%	46%	51%
I do not know what I am supposed to do	23%	30%	43%	41%
It costs too much	18%	22%	57%	58%

Table 22 (continued).

	National 2009 Primary Reason	Mississippi 2009 Primary Reason	National 2009 Not a Reason at All	Mississippi 2009 Not a Reason at All
I do not want to think about it	16%	23%	57%	53%
I do not think I would be able to	13%	21%	67%	55%

*Respondents were asked to identify potential reasons for not preparing as a “primary reason, somewhat of a reason, or not a reason at all.”

Table 23 presents data related to Question 2, Barriers to Preparedness Training.

These responses were unaided and asked as part of a multiple response question.

The results represent the total percent of respondents mentioning the particular motivator from the list. The most frequent barrier to preparedness training for Mississippians (18%) was that it was too difficult to get information on what to do, with the answer I haven’t thought about it second at 11%. The national responses were quite higher with difficult to get information on what to do at 31% and 22% saying it was a lack of time.

Table 23

*Barriers to Preparedness Training**

	National 2009	Mississippi 2009
Difficult to get information on what to do	31%	18%

Table 23 (continued)

	National 2009	Mississippi 2009
Lack of time	22%	8%
Haven't thought about it	18%	11%
Don't think it is important	9%	2%
Don't think it will be effective	4%	2%
Lack of money/too expensive	2%	1%
Other	17%	16%

*These responses were unaided and asked as part of a multiple response question. The results represent the total percent of respondents mentioning the particular motivator from the list. Respondents were asked, "What is the main reason you have not received any preparedness training?"

Tables 24, 25, and 26 present data related to Question 2, Expectation of Reliance on Others.

For the expectation of reliance on others question each percentage represents top-box scores. Those stating 4 or 5 (most relied upon) are on a scale of 1 to 5, with 5 being "expect to rely on a great deal" and 1 being "do not expect to rely on at all" for assistance in the first 72 hours following a disaster. For Mississippians, relying on household members (66%) was the most frequent response followed by fire, police, and emergency personnel (59%), and people in my neighborhood (56%). The lowest response for Mississippians was reliance on state and federal agencies, including FEMA (31%). In comparison, the national survey had responses in the same order of frequencies except with slightly higher percentages. The exception was relying on people in the neighborhood, which was 7% less (49%) for national respondents. Mississippians rated

themselves very religious at 63% compared to 37% of the national respondents. Only 7% of Mississippians said they were barely or not at all religious compared to 20% of the nationally surveyed respondents.

Respondents were asked, “In the event of a disaster, would you expect to need help to evacuate from the area?” Mississippians responded similarly to respondents in the national survey with 40% of them needing help compared to 42% of the national respondents needing help.

In past large scale disasters, needing help evacuating has been an issue for many. These responses were unaided and asked as part of a multiple response question. The results represent the total percent of respondents mentioning a need for help with evacuation. Respondents who indicated they would “expect to need help to evacuate the area” were asked, “What kind of help do you think you would need to evacuate from the area?” Mississippians’ responses were low compared to the national responses. Needed transportation out of the area was the highest need for Mississippians (18%), with information on the evacuation route (6%) following second, and Mississippians responded that they needed no help from state or federal government agencies (0%). The national responses were needed transportation out of the area (50%), followed by information on the evacuation route (22%), and help from state or federal government agencies (9%).

Table 24

*Expectation of Reliance on Others**

	National 2009	Mississippi 2009
Household members	70%	66%
Fire, police, and emergency personnel	61%	59%
People in my neighborhood	49%	56%
Nonprofit organizations, such as The American Red Cross or the Salvation Army	42%	40%
Faith-based community, such as congregation	39%	55%
State and federal government agencies, including FEMA	36%	31%

*Each percentage represents top-box scores. Those stating 4 or 5 (top-box, most relied upon) are on a scale of 1 to 5, with 5 being “expect to rely on a great deal” and 1 being “do not expect to rely on at all” for assistance in the first 72 hours following a disaster. Respondents were asked, “In the first 72 hours following a disaster, please indicate how much you would expect to rely on the following for assistance.”

Table 25

*Reliance on Help from Others During an Evacuation**

	National 2009	Mississippi 2009
Yes	42%	40%
No	55%	56%

*Respondents were asked, “In the event of a disaster, would you expect to need help to evacuate from the area?”

Table 26

*The Kind of Help Needed to Evacuate**

	National 2009	Mississippi 2009
Transportation out of the area	50%	18%
Information on the evacuation route	22%	6%
State or federal government agency	9%	0%
Don't have a place to go	8%	3%
Have a disability and need help getting out of home/workplace	5%	3%
Concerned about getting gas for my vehicle	3%	2%
Help evacuating pets	1%	1%
Other	16%	11%

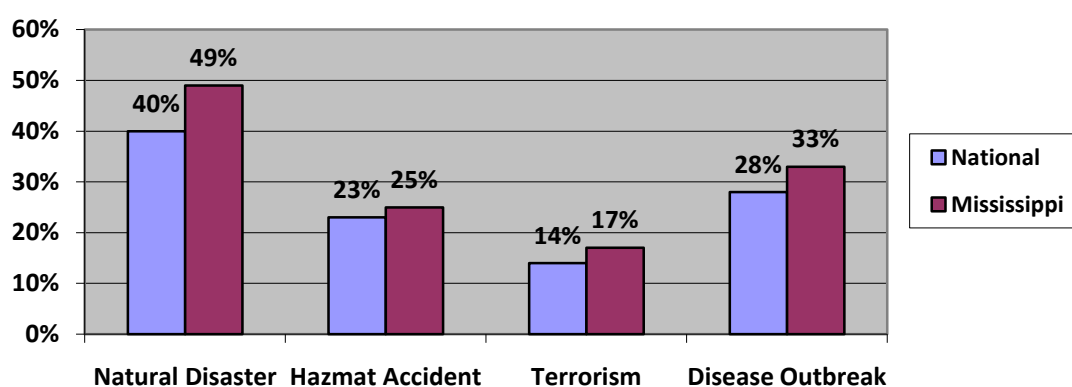
These responses were unaided and asked as part of a multiple response question. The results represent the total percent of respondents mentioning a need for help with evacuation. Respondents who indicated they would "expect to need help to evacuate the area" were asked, "What kind of help do you think you would need to evacuate from the area?"

Research Question 3

Figure 1 and Figure 2 present data related to Question 3, Perception of Risks and Perception of Severity.

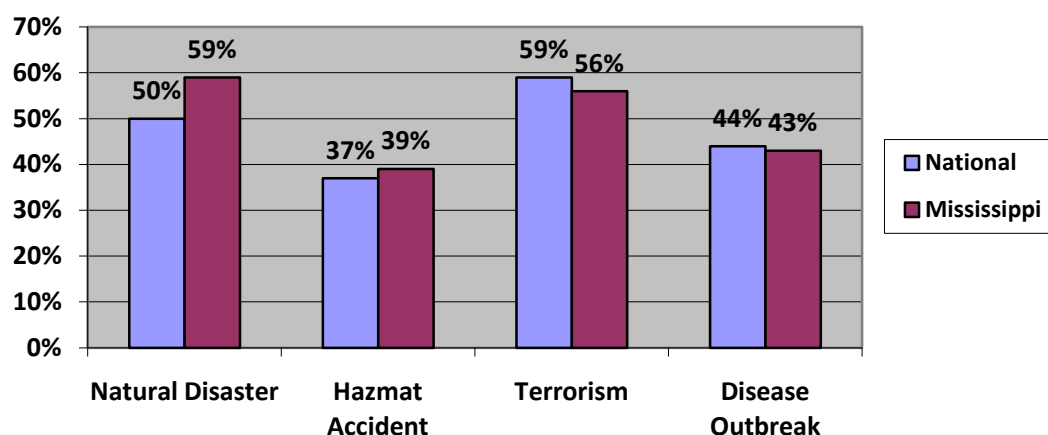
Respondents were asked, "On a scale of 1 to 5, with 5 being 'very likely' and 1 being 'not likely at all,' how likely do you think some type of ...will ever occur in your community?" For reporting, the scores of 4 and 5 were grouped together. Mississippians responded that natural disasters (49%) were most likely to occur followed by disease outbreak (33%), hazmat accident (25%), and terrorism (17%). The national responses were slightly lower; with natural disasters the most frequent answer (40%), followed by

disease outbreak (28%), hazmat accident (23%), and terrorism (14%). Respondents were asked, “If a...were to happen in your community, how severe do you think the impact would be to you?” The Mississippi respondents rated natural disasters (59%) as the highest, with terrorism (56%), disease outbreak (43%), and hazmat accident (39%). The national respondents reported differently: Terrorism (59%), natural disasters (50%), disease outbreak (44%), and hazmat accident (37%).



*Figure 1. Perception of Risks**

*Likelihood each disaster would occur, top-box scores (those stating 4 or 5, on a scale of 1 to 5; 5 being “very likely” that the disaster would occur and 1 being “not likely at all” that the disaster would occur). Respondents were asked, “On a scale of 1 to 5, with 5 being ‘very likely’ and 1 being ‘not likely at all,’ how likely do you think some type of ...will ever occur in your community?”



*Figure 2. Perception of Severity**

*Perceived severity of the impact of each disaster, top-box scores (those stating 4 or 5, on a scale of 1 to 5; 5 being “very severe” disaster and 1 being “not severe at all” for a perceived impact of a disaster). Respondents were asked, “If a...were to happen in your community, how severe do you think the impact would be to you?”

Research Question 4

Tables 27 and 28 present data related to Question 4, Utility of Advanced Preparation.

Respondents were asked, “On a scale of 1 to 5, with 5 being ‘very likely’ and 1 being ‘not likely at all,’ “How much do you think preparing for a...will make a difference in how you handle the situation?” For reporting, the scores of 4 and 5 were grouped together. Mississippians reported that their perception of the effectiveness of advance preparations being useful were natural disasters (67%), disease outbreak (52%), hazmat accident (46%), explosion or bomb (43%), and terrorist act (41%). The national survey respondents reported the useful advance preparations ranked as: Natural disasters (67%), explosion or bomb (57%), disease outbreak (52%), hazmat accident (49%), and terrorist act (45%). Both Mississippi and the US respondents ranked the not useful advance preparations in the same order: Terrorist act, explosion or bomb, hazmat accident, disease outbreak, and natural disasters.

When the words preparing or prepared were used, they referred to actions people can take at any time to prevent or reduce the impact of disasters on their lives. Respondents were asked, “On a scale of 1 to 5, with 5 being ‘very likely’ and 1 being ‘not likely at all,’ “How confident are you about your own ability to prepare for a disaster?”, For reporting, the scores of 4 and 5 were grouped together. Respondents conveyed 50% of Mississippians were very confident with 25% not confident at all. The national respondents reported 61% confident and 14% not confident.

Table 27

*Perceptions of Effectiveness of Advance Preparations**

	National 2009 Useful	Mississippi 2009 Useful	National 2009 Not Useful	Mississippi 2009 Not Useful
Natural Disaster	67%	67%	13%	13%
Terrorist Act	45%	41%	34%	38%
Hazardous Materials Accident	49%	46%	29%	31%
Explosion or Bomb	57%	43%	32%	37%
Disease Outbreak	52%	52%	24%	23%

*Utility of advance preparation for disasters, top-box scores (those stating 4 or 5, on a scale of 1 to 5; 5 being “very much” useful and 1 being “not at all” useful). Respondents were asked, “How much do you think preparing for a...will make a difference in how you handle the situation?”

Table 28

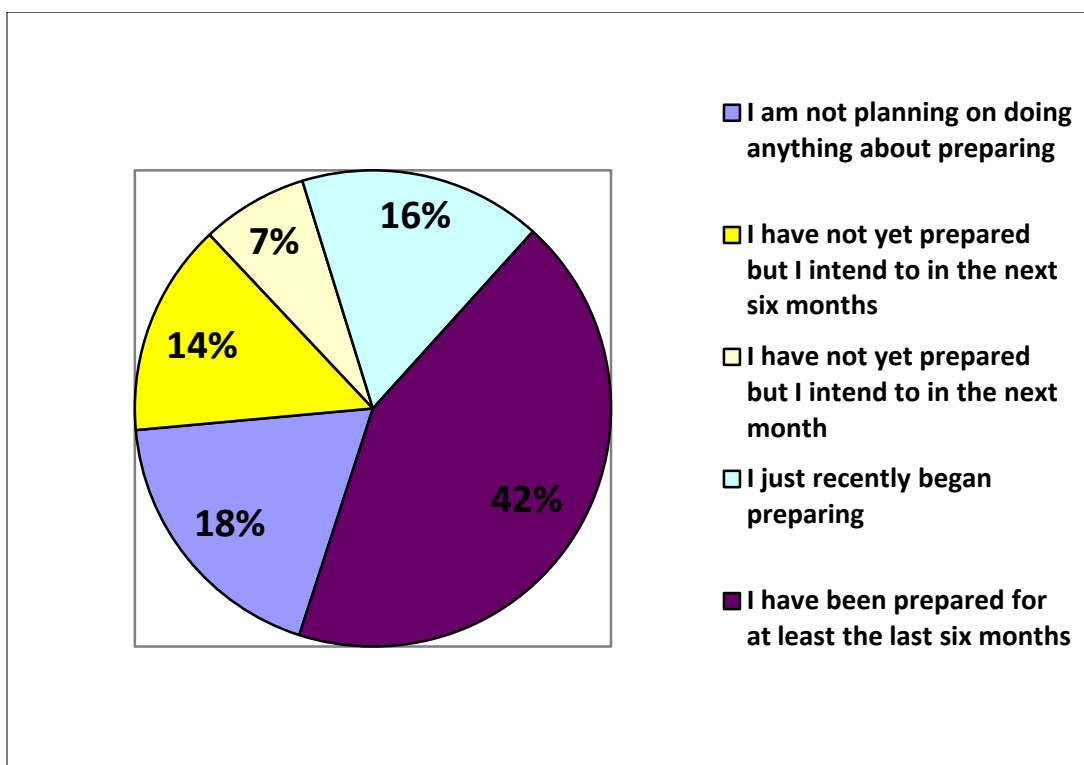
*Levels in Confidence in Ability to Prepare for Disasters**

	National 2009	Mississippi 2009
Very Confident	61%	50%
Not At All Confident	14%	25%

*Levels in confidence in ability to prepare for disasters, top-box scores (those stating 4 or 5, on a scale of 1 to 5; 5 being "very" confident and 1 being "not at all" confident). Respondents were asked, "How confident are you about your own ability to prepare for a disaster?"

Research Question 5

Figure 3 presents data related to Question 5, Stages of Change.



*Figure 3. In Thinking about Preparing Yourself For a Major Disaster, Which Best Represents Your Preparedness?**

*Respondents were asked, "In thinking about preparing yourself for a major disaster, which best represents your preparedness?"

The Stages of Change model was used in this survey to determine individuals' perceptions of their relative stage of change within the preparedness change process. Participants were asked which of the statements in Figure 3 best matched their level of preparedness. The stages with the greatest percentage of individuals represented opposite ends of the Stage of Change spectrum, with over one-third of individuals (42%) stating that they had been prepared for at least the past six months, and the second largest number stating they were not planning to do anything about preparing (18%).

Research Question 6

Race, gender, geography, and education of Mississippians were used to examine how disaster preparedness differed by demographic characteristics. Disaster preparedness, for this question was defined as perception of threat (severity), disaster supplies, and household plan.

Tables 29 through 40 present data related to Question 6. These tables show cross tab analyses of disaster preparedness by Mississippians' demographic characteristics. Tables 29 through 32 addresses Threat Severity, Tables 33 through 36 address Disaster Supplies, and Tables 37 through 40 address Household Plans. For purposes of reporting only White and Black/African American data were used. The other races in the survey add up to 2.4%, and represented only 17 respondents, thus were not included.

Respondents were asked if certain disasters happened in their community how severe the impact would be to them. African Americans viewed natural disasters, hazmat accidents, a disease outbreak and terrorism at a higher percentage of very severe than Whites. Natural disasters represented the highest percentage for both races.

When severity was examined by gender, females chose the rating very severe up to 15% higher than males in all categories. Females reported natural disasters and terrorism as the highest rated at very severe with 63% and 61% respectively. Males rated hazmat as not severe at 36%.

Geographically, people in the urban setting rated natural disasters, terrorism, and hazmat accidents as the highest percentage of very severe impact. People in the rural setting identified disease outbreak as their highest very severe. Suburban respondents choose natural disasters and terrorism equally as very severe.

In reviewing education levels and severity, people with college degrees rated natural disasters, terrorism, and disease outbreak at a higher percentage than non college graduates. The non college graduates rated hazmat accident as the highest very severe impact event for them.

In the area of disaster supplies on hand, African Americans and Whites were similar, except for flashlight and batteries. African Americans identified having a flashlight and batteries on hand 5% more than Whites.

Gender, geography, and education level are very similar in the responses for each sub-category related to disaster supplies. Females had a higher percentage of medications on hand. People in rural settings ranked higher for food and water on hand. Respondents with less than a 12th grade education overall ranked food and water higher while people with a doctorate ranked food and water the lowest.

Table 29

*Race: Severity Cross Tab**

	Natural Disaster Very Severe	Natural Disaster Not Severe	Terrorism Very Severe	Terrorism Not Severe	Hazmat Accident Very Severe	Hazmat Accident Not Severe	Disease Outbreak Very Severe	Disease Outbreak Not Severe
White	57%	13%	55%	20%	35%	32%	43%	24%
Black, African American	66%	15%	55%	21%	49%	28%	46%	31%
Asian	67%	33%	67%	0%	100%	0%	33%	0%
American Indian or Native Alaskan	80%	20%	80%	20%	0%	80%	20%	40%
Other	67%	22%	78%	11%	78%	11%	67%	11%

*White n=519, Black n=136, Asian n=3, American Indian n=5, Other n=9

Table 30

Gender: Severity Cross Tab*

	Natural Disasters Very Severe	Natural Disasters Not Severe	Terrorism Very Severe	Terrorism Not Severe	Hazmat Accident Very Severe	Hazmat Accident Not Severe	Disease Outbreak Very Severe	Disease Outbreak Not Severe
Male	50%	20%	46%	29%	32%	36%	34%	31%
Female	63%	10%	61%	15%	42%	29%	48%	23%

*Female n=448, Male n=230

Table 31

*Geography: Severity Cross Tab**

	Natural Disasters Very Severe	Natural Disasters Not Severe	Terrorism Very Severe	Terrorism Not Severe	Hazmat Accident Very Severe	Hazmat Accident Not Severe	Disease Outbreak Very Severe	Disease Outbreak Not Severe
Urban	63%	11%	59%	20%	47%	26%	44%	23%
Suburban	55%	14%	55%	19%	36%	27%	37%	28%
Rural	50%	15%	55%	20%	37%	35%	46%	24%

*Urban n=142, Suburban n=157, Rural n=365

Table 32

*Education: Severity Cross Tab**

	Natural Disasters Very Severe	Natural Disasters Not Severe	Terrorism Very Severe	Terrorism Not Severe	Hazmat Accident Very Severe	Hazmat Accident Not Severe	Disease Outbreak Very Severe	Disease Outbreak Not Severe
Less than 12 th Grade (no diploma)	54%	17%	50%	20%	46%	30%	50%	37%
High School Graduate or GED	59%	17%	56%	22%	44%	29%	45%	24%
Some college but no degree	56%	15%	54%	20%	41%	33%	40%	30%
Associate Degree	66%	10%	60%	21%	31%	38%	45%	16%
Bachelor's Degree	59%	12%	55%	18%	31%	26%	36%	30%
Masters Degree	62%	13%	63%	16%	35%	35%	59%	17%
Doctorate Degree	65%	13%	42%	23%	42%	26%	42%	16%

*<12 grade n=46, HS Grad n=165, some college n=171, Assoc. n=77, Bach. n=121, Masters n=63, Doc. n=31

Table 33

*Race: Disaster Supplies Cross Tab **

	Water	Food	Light	Radio	Batteries	First Aid	Glasses	Meds	ID	Financial Docs	Cash
White	27%	29%	15%	7%	5%	15%	2%	5%	2%	2%	2%
Black, African American	25%	26%	21%	8%	10%	15%	0%	5%	1%	1%	1%
American Indian or Native Alaskan	36%	36%	9%	0%	9%	18%	0%	0%	0%	9%	0%
Other	24%	24%	12%	6%	18%	12%	6%	6%	6%	6%	6%

*White n=519, Black n=136, Asian n=3, American Indian n=5, Other n=9

Table 34

*Gender: Disaster Supplies Cross Tab**

	Water	Food	Light	Radio	Batteries	First Aid	Glasses	Meds	ID	Financial Documents	Cash
Male	9%	20%	12%	7%	9%	14%	1%	3%	1%	1%	1%
Female	11%	18%	12%	6%	9%	10%	1%	6%	2%	2%	2%

*Female n=448, Male n=230

Table 35

*Geography: Disaster Supplies Cross Tab **

	Water	Food	Light	Radio	Batteries	First Aid	Glasses	Med	ID	Financial Docs	Cash
Urban	20%	18%	12%	6%	6%	11%	0%	4%	0%	1%	0%
Suburban	17%	19%	13%	6%	9%	13%	2%	4%	1%	2%	2%
Rural	21%	22%	11%	5%	8%	10%	1%	4%	1%	1%	1%

*Urban n=142, Suburban n=157, Rural n=365

Table 36

*Education: Disaster Supplies Cross Tab**

	Water	Food	Light	Radio	Batteries	First Aid	Glasses	Med	ID	Financial Docs.	Cash
Less than 12 th Grade (no diploma)	26%	27 %	10%	6%	10%	10 %	2%	0%	0 %	0%	0%
High School Graduate or GED	20%	22 %	12%	6%	8%	11 %	1%	5%	1 %	1%	0%
Some college but no degree	23%	23 %	12%	4%	8%	12 %	1%	4%	0 %	1%	1%
Associate Degree	21%	24 %	14%	5%	8%	12 %	2%	6%	1 %	1%	1%
Bachelor's Degree	20%	22 %	12%	4%	7%	11 %	1%	2%	1 %	2%	1%
Masters Degree	21%	28 %	12%	8%	12%	16 %	7%	8%	3 %	2%	3%
Doctorate Degree	14%	18 %	16%	9%	10%	9%	1%	6%	6 %	3%	2%

*<12th Grade n=46 , HS Graduate n=165, Some college n=171, Assoc Degree n=77, Bach Degree n=121, Masters Degree n=63, Doc Degree n=31

Table 37

*Race: Household Plans Cross Tab**

	Yes	No
White	45%	55%
Black, African American	46%	54%
Asian	67%	33%
American Indian or Native Alaskan	60%	40%
Other	55%	45%

*White n=519, Black n=136, Asian n=3, American Indian n=5, Other n=9

Table 38

*Gender: Household Plans Cross Tab **

	Yes	No
Female	44%	56%
Male	49%	51%

*Female n=448, Male n=230

Table 39

*Geography: Household Plans Cross Tab **

	Yes	No
Urban	40%	60%
Suburban	43%	57%
Rural	48%	52%

*Urban n=142, Suburban n=157, Rural n=365

Table 40

*Education: Household Plans Cross Tab **

	Yes	No
Less than 12 th Grade (no diploma)	26%	74%
High School Graduate or GED	40%	60%
Associate Degree	55%	45%
Bachelor's Degree	43%	57%
Masters Degree	41%	59%
Doctorate Degree	55%	45%

*<12th Grade n=46 , HS Graduate n=165, Some college n=171, Assoc Degree n=77, Bach Degree n=121, Masters Degree n=63, Doc Degree n=31

Research Question 7

Tables 41, through 45 present data related to Question 7, Perceived Social Responsibility for reporting suspicious behavior. Mississippians reported that they very strongly believe (98%) they have a personal responsibility to report suspicious behavior or circumstances. The national respondents also reported a strong belief (96%) in having a personal responsibility to report suspicious behavior or circumstances to the authorities. In reply to the question, “In the past 12 months, have you seen any suspicious behavior or circumstances?” 88% of Mississippians stated they had seen suspicious behavior or circumstances. National respondents reported that 86% had seen suspicious behavior or circumstances.

When Mississippians who saw suspicious behavior were asked, “What did you do?” 57% replied that they called the police or a tip line, followed by 18% doing nothing. The national respondents reported that 67% called the police, with 13% doing nothing.

Table 41

*Personal Responsibility to Report**

	National 2009	Mississippi 2009
Yes	96%	98%
No	4%	2%

*Do you feel you have a personal responsibility to report suspicious behavior or circumstances to the authorities?

Table 42

*Seen Suspicious Behavior**

	National 2009	Mississippi 2009
Yes	86%	88%
No	14%	12%

*In the past 12 months, have you seen any suspicious behavior or circumstances?

Table 43

What Did You Do?

	National 2009	Mississippi 2009
Called police or tip line	64%	57%

Table 43 (continued).

	National 2009	Mississippi 2009
Did nothing	11%	18%
Called a neighbor or friend	6%	5%
Waited for someone else to do something	1%	1%
Left the area, situation, event	13%	1%

Table 44

*Religious: Responsibility to Report Cross Tab**

Mississippi 2009	Yes
Very Religious	98%
Somewhat Religious	98%
Barely Religious	100%
Not at All Religious	93%

*Very Religious n=424, Somewhat Religious n=195, Barely Religious n=22, Not at all religious n=28

Table 45

*Income Level: Responsibility to Report Cross Tab**

Mississippi 2009	Yes
Less than \$25,000	98%
\$25,000 to less than \$50,000	98%
\$50,000 to less than \$75,000	97%
\$75,000 or more	99%

*< than 25,000 n=159, 25,000 to 50,000 n=153, 50,000 to 75,000 n=96, >75,000 n=163

Research Question 8

In comparing Mississippi demographic data to the national data, more females (66%) responded, compared to 51%. Fewer Mississippians (44%) had college degrees compared to 52% nationally, and only 2% were of Hispanic, Latino, or Spanish origin, whereas nationally that percentage was 14%. A majority of Mississippians (63%) reported being very religious, whereas 37% reported in that category in the national survey. In Mississippi, 24% of respondents, and nationally 16% of respondents, reported incomes less than \$25,000. Mississippi had 24% respondents with incomes of \$75,000 or more while the nation had 32%. Three-quarters of the Mississippi respondents lived at their current zip code when Hurricane Katrina struck in 2005 and two-thirds reported being affected by Hurricane Katrina.

Mississippians reported that 63% have disaster supplies in the home, which is higher than the nation at 57%. The national survey reports that 45% have disaster supplies in their workplace and 34% have disaster supplies in their car. The Mississippi survey shows 42% have disaster supplies in their workplace and 29% have them in their

car. One area of large difference between Mississippi and the nation was home disaster supplies. Mississippians reported that 46% have a supply of packaged food and 43% have a supply of bottled water, whereas nationally, 77% have a supply of packaged food and 71% have supply of bottled water. Both reported about the same percentages in the category of having a household disaster plan (44% and 45%). Mississippians conveyed higher percentages for familiarity with community plans/systems for all areas. Another large area of difference is the sources for information on H1N1. The national survey showed the top five sources were media (86%), workplace(25%), schools or childcare facilities(23%), healthcare provider(18%), and local government official (14%). The sources for Mississippi were media (66%), workplace (5%), schools or childcare facilities (2%), healthcare provider (8%), and local government official (1%).

In volunteering, the survey results were about the same for volunteering for emergency responder/community safety, with Mississippians having 25% who have volunteered, and nationally 23% reported having volunteered. When asked if they had ever volunteered to help during a disaster, Mississippians responded 47% had, and the national survey respondents reported only 34% had volunteered. In preparedness and drill, respondents in both surveys answered similarly. In preparedness training programs the national survey was higher in attended first aid skills training and attended CPR training by 10% and 11%. The motivators for training were different between the two groups of respondents. The top three for the national survey was mandatory for job/school (48%), concern for safety of family or friends (21%), or because others (family or friends) did (14%). The Mississippi survey responses were mandatory for job/school (17%), concern for safety of family or friends (5%), or because others (family

or friends) did (1%). For the category barriers to preparedness training, fewer Mississippians claimed the top three barriers, difficult to get information, lack of time, haven't thought about it when compared to the national respondents. Another area with a large difference was the kind of help needed to evacuate. Mississippians only reported 18% needed help with transportation out of the area with national respondents reporting 50%.

The perception of risk and severity conveyed by the respondents in both studies was similar. Mississippians chose natural disasters as the highest risk and severity. The national respondents chose natural disaster as highest risk and terrorism as highest in severity. The perceived social responsibility for reporting suspicious behavior was similar for both surveys, with 88% of Mississippians have seen suspicious behavior or circumstances and 98% reported they have a personal responsibility to report the behavior. The most common response when asked what they did was calling the police or a tip line.

Summary

The Citizen Corps Survey 2009 for Mississippi gathered large amounts of data related to citizen preparedness. Those findings present a picture of Mississippi citizen's disaster preparedness that reveals Mississippi as a state that is not fully prepared and needs more intervention in disaster planning. On the positive side, planners will now have a better understanding of Mississippi's strengths and weaknesses in the areas indicated on the Citizen Corps Personal Behavior Change Model for disaster preparedness. Appropriate interventions need to be well thought out in order to be

effectively enacted. Knowledge from this study will facilitate tailored planning and education for citizens throughout the state in a variety of types of disasters.

CHAPTER V

FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Introduction

It was the terrorist attacks of September 11, 2001 that caused disaster preparedness to become a renewed priority for our nation. Following the tragedies of that day, government at all levels embedded stronger collaboration with nongovernmental civic and private sector organizations and the general public in policies and practices. The Citizen Corps grassroots model of community preparedness has spread across the country, and Americans have been asked to become fully aware, trained, and practiced in how to respond to potential threats and hazards.

Summary of the Study

Assessing Mississippians Preparedness for Disasters Using the 2009 Citizen Corps National Survey was designed to do the same for Mississippi as the Citizen Corps did for the Nation: Evaluate progress in personal preparedness by measuring the public's knowledge, attitudes, and behaviors relative to preparing for a range of hazards.

The design of this study was descriptive, and used a randomized sample telephone poll survey approach. By replicating previous studies' methods and instruments (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), validity and reliability of questions and methods for the present research was strengthened, and allowed for direct comparison to the earlier data gathered.

Presently, there are no national or state goals or standards that have been set related to the optimum levels of disaster preparedness for U.S. or Mississippi citizens. Therefore, it is not possible to examine the findings of this study in relation to any

specific standard; it is only possible to examine the Mississippi data from the perspective of a) how demographics may have influenced the responses, b) identification of disaster preparedness areas that are the strongest and areas that need to be improved, c) to compare the findings with National levels, d) compare the results of this study to those of previous comparable disaster preparedness studies, and e) examine how the findings relate to the Citizen Corps Personal Behavior Change Model for disaster preparedness.

Findings

The randomized sampling resulted in a sample that was primarily female, older, white, and most were affected by Katrina. The response rate was highest among older citizens over the age of sixty-five. This may be due to the availability of non-employed citizens answering the telephone during normal working hours, and a heightened willingness to take the time to respond to a telephonic survey, when other daily activities such as childrearing and employment obligations are not competing for their time. Another reason might be that older citizens are more likely to have land line telephones than are younger citizens, which would have the effect of skewing the age of respondents to the older group.

Most respondents in this study had incomes of less than \$50,000. Citizens with high incomes generally have an improved sense of well being and better preparedness for extraneous life events. This could lead to a sense of being better prepared for extreme emergencies, as well. Additionally, those with higher incomes tend to live in physical structures that are capable of sustaining strong winds and rains. In economically challenged states such as Mississippi, this is particularly true, with extreme variations in income levels that reflect extreme variations in housing. The United States Department of

Homeland Security/ Federal Emergency Management Agency's 2009 survey (2009b) supported that assertion, as African American respondents from lower socio-economic levels were more likely to believe that disasters were more likely to affect their homes and communities. Redlener et al. (2006) also assert that the concerns of African Americans are higher than other groups regarding emergency preparedness and the possibility of terrorist attacks.

With 65% of respondents being affected by Hurricane Katrina, this researcher expected that the Mississippians would have had higher percentages of packaged food (46%), bottled water (43%), and a household disaster plan (45%). The experience of Hurricane Katrina four years earlier does not seem to have inspired Mississippians to train, plan and prepare in large numbers for disasters. This finding is mirrored in the results of the Mason-Dixon Poll conducted through the National Hurricane Survival Initiative (2009), which reported that even after experiencing a disaster, 85% of the respondents had taken no steps to fortify their homes and/or determined any actions to make their homes safer. These results provide evidence for the need for even greater educational endeavors for Mississippians and for reinforcing safety plans and emergency preparedness interventions on a consistent and ongoing basis.

One finding indicated that there was a large difference between Mississippians and the national respondents in religion. Mississippians, as part of the so called "Bible Belt" are known for being among the most religious citizens in the nation. This study confirms that Mississippians are much more likely to be very and somewhat religious than the nation. These findings have implications for how to reach Mississippians with education and preparedness training. Perhaps faith based organizations can be used to

disseminate disaster preparedness information, particularly since Mississippians did not indicate a willingness to rely on the government for assistance, but did indicate that they would rely on faith-based organizations.

The remainder of the findings will be organized and presented by each of the research questions.

Research Question 1

Disaster preparedness encompasses all aspects of the Citizen Corps Personal Behavior Change Model for disaster preparedness (see Appendix A). U.S. Department of Homeland Security/Federal Emergency Management Agency reports that , “This model was intended to serve as a tool to help design successful outreach/social marketing approaches and as a framework to conduct further research into the motivating factors and barriers to personal preparedness for disasters” (2006, p.1). This is important because the U.S. Department of Homeland Security/Federal Emergency Management Agency states, “by examining the complexities of how individual factors, perceptions of threats, and beliefs about efficacy influence personal behavior, outreach and social marketing practices can be refined to achieve greater personal preparedness” (2006, p.12).

Overall about half of Mississippians appear to be prepared for disasters. Two thirds respondents have disaster supplies set aside for emergencies. Almost half have food and water as part of their supplies on hand. About one-half have a disaster plan for the home. About one-half has familiarity with community preparedness and response plans. Two-thirds said their source for information on H1N1 comes from the media. One-quarter had volunteered within the past year with an emergency responder organization with almost one-half volunteering in time of a disaster. One-quarter to one-half report they know what to do in the first five minutes of certain disasters. A little more than one-

third have participated in a drill. Around one-quarter of the respondents reported having participated in formal preparedness training. One fifth reported that the training was required for work or school.

Demographics may have played a role in the findings of Question 1. Respondents 55 years old and older make up 52% of the sample. Volunteering and participating in drills may be affected by age. This age group may have little or no training for disasters; this is reflected the survey finding that less than half knew what to do in the first five minutes of disasters. Further, older citizens may not have access to disaster training at a workplace if they are retired, nor at schools.

Previous studies (Blendon, Benson et. al., 2007) mirror these findings, which show that even communities that have experienced major disasters do not tend to fully learn from these events in such a manner that improved disaster planning and/ or wide dissemination of useful life saving strategies are successfully implemented.

The findings indicate some strength in the area of disaster preparedness: 63% of Mississippians have some type of disaster supplies in the home, 60% have familiarity with alert and warning systems in their community, 47% have volunteered during a disaster, and 50% are confident in their knowledge of what to do in the first five minutes of a sudden natural disaster.

The findings also indicate areas that need improvement in the area of disaster preparedness: Just less than half of the Mississippi respondents have disaster supplies in their workplace or car and packaged food and bottled water. The media (66%) appears to be the primary source of information for H1N1, only a small percent knew what to do in

case of an explosion or bomb (26%), and there is very little motivation for preparedness training with the highest rating at 17%.

Based on these findings, one area for disaster preparedness improvement is to encourage citizens to increase the amount of disaster supplies they set aside in the home, workplace, and cars. Another intervention would be to design new modalities and methods of educating about disease outbreaks including H1N1. Also important would be providing more civilian level training on what to do in the first five minutes of a sudden all hazards disaster. Probably one of the most important interventions would be to develop, recognize and employ programs using specific motivators for preparedness training and planning. The use of churches for training is one example. Hopefully this will allow more citizens to become prepared.

Research Question 2

Within the Citizen Corps Personal Behavior Change Model for disaster preparedness, barriers are defined as: “Something that inhibits an individual from engaging in a preparedness activity. A barrier can be real or perceived. Overcoming a barrier can be “internal” (within the person’s control) or “external” (outside the person’s control)” (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2006, p.13). It is important to understand which barriers to disaster preparedness Mississippi citizens identify because of how barriers relate to the Citizen Corps Personal Behavior Change Model for disaster preparedness. If government entities responsible for disaster preparedness and response have the information of how the citizens identify or recognize preparedness activities and the barriers to it, the agency would know better how to educate, train, and support those citizens.

The primary reasons Mississippians reported as barriers to their preparedness were: I think that emergency responders, such as fire, police or emergency personnel will help me, I do not know what I am supposed to do, and I do not want to think about it. These findings were similar to those in the 2009 national survey.

The top two barriers to Mississippians' preparedness training were that it was difficult to get information on what to do and that they haven't thought about it. These responses indicate a reliance on others during disasters. About one-half to two-thirds of respondents answered they expected to depend on household members, people in the neighborhood, fire, police and emergency personnel during a disaster. Forty percent revealed they would be relying on others for help with evacuation. The highest response was the need for transportation out of the area.

This dependency upon others in disaster mentality is also reported in The National Hurricane Survival Initiative (2009), which reported that 20% of its respondents believed it was the government's responsibility to provide critical assistance in the first few hours and days after a hurricane. Redliner et al. (2006) also reported similar findings, with reasons given by their respondents for not having an individual or family preparedness plan including not having enough time and not knowing what to do to achieve basic preparedness.

However, Mississippians' strongest area in what barriers do individuals perceive in preparing for disasters is that 58% of Mississippians do not perceive preparing costs too much. One would think that because Mississippi is one of the poorest states, that costs might be a frequently cited barrier.

The areas of improvement for which interventions are needed for Mississippi citizens are: To educate citizens in order to reduce the heavy dependence on emergency personnel for help during a disaster; and reliance on others for evacuation. In this way, emergency personnel can be utilized for the most critical situations and decrease the dependence on others for evacuation.

Research Question 3

Within the Citizen Corps Personal Behavior Change Model for disaster preparedness, Perception of Vulnerability is defined as: how likely one thinks that a specific type of disaster would ever occur in their community (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b). Perception of Vulnerability is important to understand for Mississippi because being familiar with the citizens' perception of how vulnerable they think they are to a variety of disasters provides planners with information on how likely citizens are to prepare for disasters. The Citizen Corps Personal Behavior Change Model for disaster preparedness speaks to vulnerability in the threat/efficacy profile. By being unaware or dismissive of a threat increases vulnerability to the effects of the disaster.

One-half of Mississippi respondents perceived that they were at risk for a natural disaster, followed by disease outbreak, hazardous materials accident, and an act of terrorism. The perception of severity by the respondents rated natural disasters as the highest, followed by act of terrorism, disease outbreak, and then hazardous materials accident. Educating individuals about their communities' vulnerabilities to natural disasters as well as concerns with utility outages, extreme heat or cold, and other disruptive circumstances should increase awareness of risks and, in turn, increase

motivation to prepare. Before perceptions of vulnerability to terrorism or disease outbreak lead to an increase in individuals' motivation to prepare for these hazards, a greater appreciation of the utility and effectiveness of advance preparation for these types of events is needed (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b). The findings of Blendon, Behr et al. in 2007 support the finding of residents' perception of vulnerability, where 54% of Mississippians reported they worried a major hurricane would strike in the next six months.

The finding that most Mississippians viewed natural disasters and terrorism as their highest vulnerability, gives disaster agencies a starting place to educate its citizens. According to the Citizen Corp Personal Disaster Preparation Model, citizens are more likely to respond to preparation education and behaviors if they perceive a viable threat. More education is needed in informing Mississippians about the threats that terrorism, hazmat accidents, and disease outbreaks present to Mississippians.

Additional research is needed about the perception of risks for all hazards disasters such as natural disasters, terrorism, hazmat accidents, and disease outbreaks. The understanding of how and why citizens perceive potential threats and how severe they will be is critical in determining how to prepare the public.

Research Question 4

The Utility of Preparedness, simply put, means is something worth doing? U.S. Department of Homeland Security/Federal Emergency Management Agency (2009b) reported:

The survey measured individuals' perceptions of the efficacy or utility of preparing in advance for a disaster. Participants were asked whether preparation,

planning, and emergency supplies would help them handle the situation in the event of four different categories of disasters: a natural disaster, an act of terrorism, a hazardous materials accident, and a severe disease outbreak. (p. 28)

The Utility of Preparedness is important because if citizens do not sense that the benefits of preparing for disasters are tangible they will not do it or do it well. The Citizen Corps Personal Behavior Change Model for disaster preparedness addresses this in the threat/efficacy profile. The model proposes that education and preparedness training may not be useful if the citizen does not perceive gain. They may view it as a waste of time and resources, thus not worth doing.

Participants were asked how much preparing in advance would help them be able to handle specific types of disasters: a terrorist act, a hazardous materials accident, an explosion or bomb, a highly contagious disease outbreak, and a natural disaster. Two-thirds of the respondents felt that preparing for a natural disaster would make a difference. One-half believed preparing for a disease outbreak would be helpful, followed by hazardous material accident, explosion or bomb, then terrorist attack.

Sixty-five percent of Mississippi respondents stated they were affected by Hurricane Katrina. Of that 65%, 83% report that preparation, planning and emergency supplies will help for natural disasters. As for a terrorist attack (60%), disease outbreak (78%), and a hazmat incident (70%) said the supplies will help. In natural disasters 83% of White and 74% of Black/African Americans conveyed that preparation, planning, and emergency supplies will help.

The finding that the majority of respondents perceive there is effectiveness in advance preparations for natural disasters is encouraging. This indicates that

Mississippians, in the presence of a perceived threat will perform disaster preparedness activities.

However, the advanced preparations Mississippians believe are worthwhile may be related only to natural disasters. Less than half of Mississippians perceive the effectiveness of advance preparations for a terrorist attack, hazardous materials accident, and an explosion or bomb are useful. Also, only 50% are confident in their ability to prepare for disasters.

Interventions directed at disaster preparedness improvement in Mississippi citizens may include more intense education and training of civilians on the effectiveness of advanced preparations for disasters. Being better prepared for one type of disaster makes one better prepared for all disasters. Half of the Mississippi respondents conveyed they were very confident in their ability to prepare. By taking measurable steps for increasing confidence in being able to prepare for disasters government agencies may be able to improve citizen preparedness and response.

Research Question 5

The Stages of Change model was used in this survey to determine individuals' perceptions of their relative stage of change within the preparedness change process. Where Mississippi citizens are in the Stages of Change model is important to disaster planning because state agencies responsible for disaster planning and response will know what level the public is at. Education, training, and communication for citizens is based on what stage they are currently in.

Participants were asked which of the statements in the chart below best matched their level of preparedness. The stages with the greatest percentage of individuals

represented opposite ends of the Stage of Change spectrum, with over one-third of individuals (42%) stating that they had been prepared for at least the past six months, and the second largest number stating they were not planning to do anything about preparing (18%) . The national survey (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b) reported similar results.

In reviewing age as a factor in the Stages of Change, the statistics were similar for each age group. All age groups, 18-35, 36-54, and 55-up, rated the Maintenance stage as the highest with 44%, 41%, and 42%, respectively. The age groups also reported 14%, 13%, and 21% in the precontemplation staging; I am not planning to do anything about preparing. The 2009 national survey shows different results, with 35% of the respondents situated in the maintenance stage and 23% in the precontemplation stage.

In evaluating gender as it relates to the Stages of Change, both males and females chose the maintenance stage most frequently, at 50% and 38% respectively. The second highest rating by gender was the precontemplation stage at 16% for males and 19% for females. Males reported higher levels of preparedness.

In examining these Stage of Change findings, the fact that 42% of Mississippians have been prepared for at least six months and are in the maintenance stage is encouraging. However, it is disconcerting that almost one fifth of respondents are in the precontemplation stage and do not intend on doing anything to prepare.

Given these data, an area for improving disaster preparedness may include fresh social marketing strategies to get civilians motivated to prepare and maintain readiness. Considering that older adults may be a large target group and may need additional

assistance, a new emphasis may need to be placed on them. Specifically using training places where older adults frequent: Senior centers, churches, bingo parlors, casinos.

Research Question 6

The demographic characteristics examined included race, gender, geography, and education. These were cross tabbed with perception of severity, disaster supplies on hand, and household disaster plans. The cross tab analyses indicated that the perception of severity had differences by demographics in all areas. Black/African Americans rated natural disasters and hazmat accidents an average of 12% higher than whites. Terrorism and disease outbreak findings were the same. Females rated all categories of disaster preparedness higher by an average of 13%; ranking natural disasters as the highest at 63%. Males rated natural disasters the highest at 50% and the rated hazmat accident lowest at 32%. Geographically, urban and suburban respondents rated natural disaster as the highest at 63% and 55%, while rural respondents rated terrorism as highest at 55%.

Within this study, education levels did make a difference in how severity is viewed. The higher the education level, the more severe natural disasters were rated. Inversely, the lower the education level the more severe hazmat accidents were rated. Terrorism and diseases outbreak by geographic area were mixed, without a distinctive pattern.

Disaster supplies on hand were rated overall less than 50%. Whites have stored food and water slightly more than Black/African Americans (2% to 3%). Gender results for supplies on hand were within 2% of each other. Geographically there was only a 1% to 2% difference. Education levels showed a difference related to food and water, with less than 12th grade education rated the highest with 27% and 26%, with Doctorate degree

rated lowest with 18% and 14%. The other education levels were very similar.

Race showed no difference when it comes to having household plans. Males reported 49%, compared to females, who reported 44% on having a disaster plan. In order, rural, suburban, and then urban were highest to lowest for household plans, with percentages ranging from 48% to 40%. Education levels showed an important point. Less than 12th grade education (26%) was less than half as likely as those with a doctorate degree (55%) to have a household plan.

Understanding differences in Demographics in relation to disaster preparedness is important because: citizens have different needs. As programs and initiatives are developed these differences play a large role in how they are conceived, enacted, and evaluated. The Citizen Corps Personal Behavior Change Model for disaster preparedness takes in account those different demographics and their related needs and calls them individual factors. These individual factors have a direct consequence on the rest of the model. The threat perception is one example. If a particular demographic does not perceive a situation as a threat, that demographic may not prepare for the threat, which could lead to serious consequences.

Differences by demographic characteristics in this study showed Black/African American, females, urban and suburban, and those with higher educations viewed natural disasters as the highest severity rating. There was very little difference in disaster supplies; except for Doctorate degree holders do not have as many supplies on hand. Males, rural citizens, and higher education have more household plans. The 2009 national survey revealed that females believed they would be impacted by: a natural disaster, terrorism, severe disease outbreak, and hazmat accident twice the rate of males (U.S.

Department of Homeland Security/Federal Emergency Management Agency, 2009b). Mississippi female respondents averaged twice that of the females of the national survey related to perceived severity.

Regarding the demographic findings, there are important educational points this information can be used to address. There may be a need to focus education materials and training classes on females. Their perception is high related to the impact disasters can have on them. Also the higher educated Doctorate degree holders may need some education on how to prepare for disasters.

Research Question 7

Reporting suspicious behavior can be a crucial factor in preventing a terrorist attack. The concept of citizens believing they have a responsibility to report suspicious behavior fits into The Citizen Corps Personal Behavior Change Model for disaster preparedness in two areas, the Threat/Profile and Outcomes. As citizens convey they have the responsibility to report, understanding the treat/profile lets them know there are actual potential threats one needs to be aware of. The outcomes demonstrate the knowledge, attitude, and skill changes the need to take place or have taken place in possible terrorist activity. Mississippians seemed to accept reporting suspicious behavior as a responsibility with 98% saying they have a duty to report. Many (88%) have seen suspicious behavior in the past twelve months. Cross tab analyses were conducted in regards to religious and income levels related to having a responsibility to report suspicious behavior. When reviewing how religious the respondents are, the only difference is that people who identified themselves as not at all religious reported a 93% for personal responsibility. The other categories average 99%. In considering income

levels there was no difference in the responsibility to report suspicious behavior. The 2009 national survey shows a similar response with 96% believing it is a personal responsibility.

When asked what they did when they witnessed seeing suspicious behavior 18% of Mississippians and 13% from the 2009 national survey reported they did nothing. The only other higher response for both surveys was called police or tip line, Mississippi 57% and national 64%.

On the positive side, 98% of Mississippians said that they have a duty to report suspicious behavior. This allows communities to have almost constant vigilance, as the evidence suggests a very high number of citizens who are willing to report suspicious behavior. Conversely, the deficit in the findings indicates that 18% of Mississippi respondents did nothing when they witnessed suspicious behavior. Having almost one-fifth of citizens not willing to notify law enforcement or others leaves a gaping hole in the ability for responders to detect possible terrorist attacks, and could allow terrorists to be able to carry out an attack.

The findings indicate that continued education on how to handle suspicious behavior and circumstances is needed. The sense of responsibility to report is there, however, possible training and information on how citizens should report these instances needs to be disseminated.

Research Question 8

Past research (Redliner et al., 2006; Redlener et al., 2007; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009a; U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b), reveals that less

than half of Americans feel prepared for disasters. The 2009 Mississippi Survey supports those findings in all types of disasters. From terrorist attacks, natural disasters, to disease outbreaks, Mississippians and Americans need to prepare more diligently for all types of disasters. Only the important differences between the two surveys will be reported.

In relation to disaster supplies, Mississippians rated 6% higher in having home supplies. Of the types of supplies listed, Mississippians rated up to 31% lower as far as food, water, flashlight, batteries, radio, and first-aid kits.

Mississippians reported up to 18% higher than national respondents in familiarity with community plans/systems. The highest Mississippi respondent percentage (62%) was how to get local information about a public health emergency and the lowest percentage (40%) was information on what your local hazards are. This could be because of the occurrence of the H1N1 flu and the pandemic warnings that were issued in the media at the time of this research. Mississippi respondents rated up to 21% lower in all sources of information on H1N1. Media was the highest Mississippi response percentage for sources of information about H1N1 (66%), and the next highest was healthcare provider (8%). In volunteering to help in a disaster, Mississippians shared that 47% of them have volunteered to help in a disaster, compared to 34% nationally. When examining findings related to attending preparedness training in the past two years, Mississippians reported First-aid and CPR training at 27% and 25%, compared to 37% and 35% nationally. Motivators for preparedness training were very low for the Mississippi participants. The highest motivator for Mississippi was mandatory for job/school at 17%, while concern for the safety of family or friends was only 5%. The

national response was 48% mandatory for job/school and 21% for concern for safety of family or friends.

Primary reasons cited as barriers to preparedness that were up to 7% higher for Mississippi respondents were; I think emergency responders will help me (37% for Mississippians versus 30% for national respondents), I do not know what I am supposed to do (30% versus 23%), I do not think it will make a difference (21% versus 17%), and I do not want to think about it (16% versus 23%). Fewer Mississippians (18%) reported that they would need transportation out of the area in case of a disaster, a full 32% less the national survey. Mississippians were less confident in their ability to prepare for disasters than national respondents at 50% compared to 61%.

Conclusions

The results of the Assessing Mississippians Preparedness for Disasters Using the 2009 Citizen Corps National Survey has provided new and important information about the status of Mississippi disaster preparedness, and how Mississippi compares to the rest of the nation in relation to disaster preparedness. Overall, Mississippians' level of preparedness for disasters is comparable to those of citizens nationwide. The critical question is: Are Mississippians prepared enough? The answer to that question is no. Mississippi has a need for improvement in many areas within the Citizen Corps Personal Behavior Change Model for disaster preparedness. Communication and education to the public must emphasize the importance of self-reliance, the severity of all threats, and convey a more realistic understanding of emergency response capacity. Because of the rural location of many Mississippians, especially in large-scale events, emergency responders will not be able to assist all individuals in an affected area. The high numbers of Mississippians who report that they are religious, and depend on the help of churches and congregations in

disasters may indicate that the use of churches may be a viable venue for disaster training and drills. Messaging should speak to a shared responsibility and stress that everyone has a role to play in preparedness and response (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

Implications

Findings from this study have important implications for the development of more effective communication and outreach strategies to achieve greater levels of preparedness and participation from all Mississippi citizens and disaster preparedness organizations. While the federal and state governments must continue to emphasize the importance of preparedness from a national and state platform, it is clear that effective strategies for preparedness must be implemented at the community level and through social networks. This research gives not only Mississippi agencies, but Federal agencies more information to make decisions on where education and training need to be changed or supported. The idea that only 46% of Mississippians have food and only 43% have water as part of their emergency supplies is alarming. Further, knowing that the majority of Mississippians had experienced Hurricane Katrina, one would think these numbers would be higher. Disaster preparedness affects everyone. Communities are stronger and more resilient, healthier overall when they are prepared for disasters, research indicates.

There are several implications for nurses. First, make sure that all new nurses have the proper training and education related to disaster planning, preparedness, and response. The graduate level nurse has a role in community preparedness and response through education, training, and leadership positions. The PhD level nurse has a role in leadership through policy development, education and research.

Future Research

In looking towards the future, continued research into citizen preparedness and planning for disasters is critical. Building on the current instrument by continuing to assess different demographic groups, and how they fit into the overall preparedness paradigm will improve understanding of the Citizen Corps Personal Behavior Change Model for disaster preparedness. There is also a need to include a more in-depth look at pandemic events such as H1N1 virus. Research on specific education and public communication strategies may assist in narrowing the best way to reach the citizens of Mississippi.

Additional analysis of data broken down into the nine public health regions of Mississippi will give more specific information, which could be used to develop very specific education strategies and plans for those areas of the state. This research strategy is reinforced by the findings of Redliner et al. (2006), which indicated a far higher number of Mississippians who lived within 20 miles of the coast were prepared for a natural disaster (88%), knew evacuation routes (72%), and were very prepared (55%). This sort of analysis strategy could also reveal information related the regional threats such as hurricanes on the coast, earthquakes in the north, and terrorism statewide.

Future research should also include how social networks such as neighborhoods, the workplace, schools, and faith-based communities can be better used to institutionalize preparedness information, training, and drills, and how civic leaders from these sectors can be more fully engaged in government-led community resilience efforts response (U.S. Department of Homeland Security/Federal Emergency Management Agency, 2009b).

Additional nursing research needs to build on past research. Evaluating plans and preparedness for disasters at local, state, and federal levels continues to be important. Developing and testing new ways to educate and train the public, nurses and the medical response community is paramount.

Summary

Preparedness is everyone's responsibility. The ability for the average citizen to plan for, train for, and respond to a disaster is critical, as Mississippi will continue face all types of disasters, man-made and natural, local and widespread catastrophic. The concept that preparedness begins with us as individuals needs to be fostered and nurtured.

The U.S. Department of Homeland Security/Federal Emergency Management Agency, (2009b) summarizes this ideal eloquently,

Civic engagement and personal responsibility are rooted in the founding ideology of our Nation, and these principles have deep and abiding implications for our continued national resilience. Comprehensive assessment of personal preparedness in America must be multifaceted, adaptive, and enduring. It requires investment and leadership from all sectors. In the end, it is the toll on human life and on our way of life that makes resilience such a crucial endeavor. We must work together to strengthen social capital, we must learn from each other and learn to help each other, and we must continue to pursue a culture of preparedness through the active participation of all. (p. 56)

APPENDIX A

CITIZEN CORPS PERSONAL BEHAVIOR CHANGE MODEL

FOR DISASTER PREPAREDNESS



APPENDIX B

THE CITIZEN CORPS NATIONAL SURVEY 2009 FOR MISSISSIPPI

DHS HOUSEHOLD SURVEY- 2009 Mississippi**INTRODUCTION****/ASK ALL/**

S1. Hello, my name is _____ and I am calling from ICF Macro. We are conducting public opinion research under contract with the University of Mississippi Medical Center and in cooperation with the University of Southern Mississippi School of Nursing. For this research, we are obtaining people's views about how well prepared they are for an emergency or disaster in their communities. Is this a private residence?

- 01 Yes, continue
- 02 No, non-residential [Go to S1_02]
- 03 Hang-up
- 04 Answering machine
- 05 //USE ONLY FOR CALLBACK IF SOMEONE WAS ALREADY
SELECTED// (Name) on the phone (Proceed to next question)
- 07 Termination screen
- 99 Refused [TERMINATE, INITIAL REFUSAL]

//If S1=02//

(S1_02) Thank you very much, but we are only interviewing private residences. Thank you for your time.

//ASK IF S1=01,05//

S2. I would like to speak with an adult, age 18 or older, who lives in the household. Would that be you?

- 01 Yes //GO TO Intro2//
- 02 No [ASK TO TRANSFER TO ADULT]
- 99 REFUSED //TERMINATE, INITIAL REFUSAL//

/ASK IF S2=02/

NewS2. May I speak with an adult member of the household?

- 01 Yes, transferring
- 02 Not available //schedule callback//
- 99 REFUSED //TERMINATE, INITIAL REFUSAL//

/ASK IF NEWS2=01/

S3. Hello, my name is _____ and I am calling from ICF Macro. We are conducting public opinion research under contract with the University of Mississippi Medical Center and in cooperation with the University of Southern Mississippi School of

Nursing. For this research, we are obtaining people's views about how well prepared they are for an emergency or disaster in their communities.

01 Continue
99 REFUSED

/IF s2 = 01 or s3 = 01/

Intro2a. The survey will only take about 15 minutes.

Your telephone number was chosen randomly. I will not ask for your name, address, or other personal information that can identify you. You do not have to answer any question you do not want to, and you can end the interview at any time. Your participation in this survey is entirely voluntary. Your answers to the survey questions will be held confidential by ICF Macro. Your name or any other information that could identify you will not be associated with your responses or used in any reports. If you have any questions, I will provide a telephone number—either here at ICF Macro, University of Mississippi Medical Center or the University of Southern Mississippi School of Nursing, or related Institutional Review Boards who approved this study,—for you to call to get more information or to validate this research.

This interview may be monitored for quality assurance purposes.

01 Continue
02 RESPONDENT WANTS MORE INFORMATION
99 REFUSED //TERMINATE, INITIAL REFUSAL//

//IF Intro2a=02//

Intro2b.

[For questions about the survey administration/confidentiality concerns: Nicole Vincent (ICF Macro) 240-747-4942]

IRB RELATED QUESTIONS:

[For questions about the nature of the study or validity of the study: 601- 984-2815] University of Mississippi Medical Center Institutional Review Board

[["This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820."]]

[For questions about the nature of the study or validity of the study: Dr. Bonnie Harbaugh 601 266-5250]

01 Continue
02 Requested callback

99 REFUSED

//TERMINATE, INITIAL REFUSAL//

A. SCREENER

/ASK ALL/

A1. In your current residence, do you live...?

- 01 With family members
- 02 With roommates (including boyfriend/girlfriend)
- 03 With both family members and roommates
- 04 Alone
- 97 Don't Know
- 99 Refused

[if A1=01 or 02 or 03]

A2. Are there children under the age of 18 living in your residence?

- 01 Yes
- 02 No
- 97 Don't Know
- 99 Refused

[if A2=01]

A3. Does at least one of the children currently attend a school outside of your home, including day care or part-time kindergarten?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

A4. Which best describes your job status? [READ LIST] [MUL=2]

- 01 Work full-time
- 02 Work part-time
- 03 Student
- 04 Unemployed
- 05 Retired
- 95 Other
- 97 Don't know
- 99 Refused

B. UTILITY

I'd like to ask you some questions about different kinds of disasters. Throughout this survey, when I use the term "disaster", I am referring to events that could disrupt water, power, transportation, and also emergency and public services for up to three days.

//SPECIAL// THROUGHOUT SURVEY MAKE THIS STATEMENT AVAILABLE TO CALLERS WHEN THEY TYPE "SPECIAL":

/ASK ALL/

B1T.

Throughout this survey, when I use the term "disaster", I am referring to events that could disrupt water, power, transportation, and also emergency and public services for up to three days.

/ASK ALL/

B1. In a **natural disaster**, such as an earthquake, a hurricane, a flood, a tornado, or wildfires, which of the following statements best represents your belief?

- 01 I can handle the situation without any preparation.
- 02 Preparation, planning, and emergency supplies will help me handle the situation.
- 03 Nothing I do to prepare will help me handle the situation.
- 97 Don't know
- 99 Refused

/ASK ALL/

//ROTATE B2-B4//

B2. In an **act of terrorism**, such as a biological, chemical, radiological, or explosive attack, which of the following statements best represents your belief?

- 01 I can handle the situation without any preparation.
- 02 Preparation, planning, and emergency supplies will help me handle the situation.
- 03 Nothing I do to prepare will help me handle the situation.
- 97 Don't know
- 99 Refused

/ASK ALL/

B3. In a **hazardous materials accident**, such as a transportation accident or a power plant accident, which of the following statements best represents your belief?

- 01 I can handle the situation without any preparation.
- 02 Preparation, planning, and emergency supplies will help me handle the situation.
- 03 Nothing I do to prepare will help me handle the situation.
- 97 Don't know
- 99 Refused

/ASK ALL/

B4. In a **severe disease outbreak**, such as a bird flu epidemic, which of the following statements best represents your belief?

01 I can handle the situation without any preparation.

02 Preparation, planning, and emergency supplies will help me handle the situation.

03 Nothing I do to prepare will help me handle the situation.

97 Don't know

99 Refused

C. RISK AWARENESS / PERCEPTION

/ASK ALL/

On a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all," how likely do you think...?

/ASK ALL/

C1. Some type of natural disaster **will ever occur** in your community?

05 VERY LIKELY

04

03

02

01 NOT LIKELY AT ALL

97 Don't know

99 Refused

CATI: DISPLAY LEAD STATEMENT FROM SECTION C INTRO FOR ITEMS C2-C8: "On a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all," how likely do you think...?"

/ASK ALL/

C2. Some type of terrorism **will ever occur** in your community? [repeat scale as necessary]

/ASK ALL/

C3. Some type of hazardous materials accident **will ever occur** in your community? [repeat scale as necessary]

/ASK ALL/

C4. Some type of disease outbreak **will ever occur** in your community? [repeat scale as necessary]

D. SEVERITY

/ASK ALL/

D1. If a [fill in from below] were to happen in your community how severe do you think the impact would be to you? Please use a scale of 1 to 5, with 5 being “very severe” and 1 being “not severe at all.”

//ROTATE//

- a. A natural disaster, such as an earthquake, a hurricane, a flood, a tornado, or wildfires
- b. An act of terrorism, such as biological , chemical, radiological, or explosive attack
- c. A hazardous materials accident, such as a transportation accident or a power plant accident
- d. A highly contagious disease outbreak, such as a bird flu epidemic

05 VERY SEVERE
 04
 03
 02
 01 NOT SEVERE AT ALL
 97 Don't know
 99 Refused

E. STAGES OF CHANGE

/ASK ALL/

As we continue with the survey, I will ask you questions about being prepared for a disaster. When I use the words “preparing” or “prepared”, I’m referring to actions people can take at any time to prevent or reduce the impact of disasters on their lives.

/ASK ALL/

E1. How confident are you about your own ability to prepare for a disaster? Please use a scale of 1 to 5, with 5 being “very confident” and 1 being “not at all confident.”

05 VERY CONFIDENT
 04
 03
 02
 01 NOT VERY CONFIDENT
 97 Don't know
 99 Refused

/ASK ALL/

E2. In thinking about preparing yourself for a major disaster, which best represents your preparedness?

[INTERVIEWER: READ LIST]

[SINGLE RESPONSE]

- 01 I have not yet prepared but I intend to in the next 6 months
- 02 I have not yet prepared but I intend to in the next month
- 03 I just recently began preparing
- 04 I have been prepared for at least the past 6 months
- 05 I am not planning to do anything about preparing
- 97 Don't know
- 99 Refused

[If E2=01, 02, or 05]

E3. For each of the following statements, please tell me whether it is "The primary reason", "Somewhat of a reason," or "Not a reason at all" why you have not taken any disaster preparedness steps?

- 01 A Primary Reason
- 02 Somewhat of a reason
- 03 Not a reason at all
- 97 DON'T KNOW
- 99 REFUSED

//ROTATE LIST//

- a. I don't know what I'm supposed to do.
- b. I just haven't had the time.
- c. I don't want to think about it
- d. It costs too much.
- e. I don't think it will make a difference
- f. I don't think I'd be able to
- g. I think that emergency responders, such as fire, police or emergency personnel, will help me.

F. RELIANCE

/ASK ALL/

F1. In the first 72 hours following a disaster, please indicate how much you would expect to rely on the following for assistance. Please use a scale of 1 to 5, with 5 being "expect to rely on a great deal" and 1 being "do not expect to rely on at all."

- 05 EXPECT TO RELY ON A GREAT DEAL
- 04

03
 02
 01 DO NOT EXPECT TO RELY ON AT ALL
 97 DON'T KNOW
 99 REFUSED

//ROTATE LIST//

- a. Household members
- b. People in my neighborhood
- c. Non-profit organizations, such as the American Red Cross or the Salvation Army
- d. My faith community, such as a congregation
- e. Fire, police, emergency personnel
- f. State and Federal Government agencies, including FEMA

/ASK ALL/

F2. In the event of a disaster, would you expect to need help to evacuate from the area?

01 Yes
 02 No
 97 Don't know
 99 Refused

[If F2=01]

F3. What kind of help do you think you would need to evacuate from the area?

DO NOT READ LIST

[PROBE: Anything else? Record all responses] MUL=9

01 DON'T HAVE A PLACE TO GO
 02 INFORMATION ON THE EVACUATION ROUTE
 03 TRANSPORTATION OUT OF THE AREA
 04 HAVE A DISABILITY AND NEED HELP GETTING OUT OF MY HOME/WORKPLACE
 05 HELP EVACUATING MY PET(S)
 06 CONCERNED ABOUT GETTING GAS FOR MY VEHICLE
 95 OTHER [RECORD RESPONSE]
 97 DON'T KNOW
 99 REFUSED

/IF F3=95/

F3oth

ENTER OTHER/SPECIFY _____

G. PERSONAL RESPONSE/EFFICACY**/ASK ALL/**

G1. How confident are you in your ability to know what to do in the first 5 minutes of [fill in from below]? Please use a scale of 1 to 5, with 5 being “very confident” and 1 being “not at all confident.”

//ROTATE//

- a. A terrorist act such as an explosion of a radiological or dirty bomb?
- b. A hazardous materials accident such as the release of a chemical agent?
- c. An explosion or bomb?
- d. A sudden natural disaster such as an earthquake or tornado that occurs without warning?

05 VERY CONFIDENT
 04
 03
 02
 01 NOT VERY CONFIDENT
 97 Don't know
 99 Refused

/ASK ALL/**//ROTATE//**

G2. How much do you think preparing for a [fill in from below] will make a difference in how you handle the situation? Please use a scale of 1 to 5, 5 being “very much” and 1 being “not much at all.”

- a. A terrorist act such as an explosion of a radiological or dirty bomb?
- b. A hazardous materials accident such as the release of a chemical agent?
- c. An explosion or bomb?
- d. A highly contagious disease outbreak such as bird flu?
- e. A natural disaster?

05 VERY MUCH
 04
 03
 02
 01 NOT MUCH AT ALL
 97 Don't know
 99 Refused

/ASK ALL/

G3. In the past 2 years, have you done any of the following? //ROTATE ITEMS a-e//

- 01 Yes
- 02 No
- 97 DON'T KNOW
- 99 REFUSED

- a. Attended a meeting on how to be better prepared for a disaster (yes/no)
- b. Attended CPR training (yes/no)
- c. Attended first aid skills training (yes/no)
- d. Attended training as part of a Community Emergency Response Team or CERT (yes/no)
- e. Talked about getting prepared with others in your community (yes/no)

[If any of G3a-d=01]

G4. What motivated you to take this training? DO NOT READ LIST

[PROBE: Anything else? Record all responses] MUL=9

- 01 MANDATORY FOR JOB/SCHOOL
- 02 EASY TO SIGN UP (E.G., OFFERED AT WORK, SCHOOL OR PLACE OF WORSHIP)
- 03 CONCERN FOR PERSONAL SAFETY
- 04 CONCERN FOR SAFETY OF FAMILY OR OTHERS
- 05 TO HAVE THE NECESSARY SKILLS TO HELP OTHERS
- 06 GENERAL INTEREST/HOBBY
- 07 TO BE PREPARED
- 08 BECAUSE OTHERS (FAMILY OR FRIENDS) DID
- 95 OTHER [RECORD RESPONSE]
- 97 DON'T KNOW
- 99 REFUSED

/IF G4=95/

G4oth

ENTER OTHER SPECIFY _____

[If all of G3a-d < 01 ask G5]

G5. What is the main reason you have not received any preparedness training? DO NOT READ LIST.

[PROBE: Anything else? Record all responses] MUL=8

- 01 LACK OF TIME
- 02 LACK OF MONEY/TOO EXPENSIVE
- 03 DON'T THINK IT'S IMPORTANT
- 04 HAVEN'T THOUGHT ABOUT IT
- 05 DIFFICULT TO GET INFORMATION ON WHAT TO DO
- 06 DON'T THINK IT WILL BE EFFECTIVE
- 07 ALREADY KNOW HOW TO BE PREPARED
- 08 PHYSICALLY UNABLE TO GET TO A TRAINING
- 97 DON'T KNOW
- 99 REFUSED

H. PREVENTION

Now I'd like to ask you a series of questions about noticing and reporting suspicious behavior or circumstances.

/ASK ALL/

H1. In the past 12 months, have you seen any suspicious behavior or circumstances?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

[If H1=01]

H2. What did you do? [DO NOT READ LIST. Record all responses] MUL=5

- 01 CALLED POLICE AND/OR A TIPLINE
- 02 CALLED NEIGHBOR/FRIEND
- 03 WAITED FOR SOMEONE ELSE TO DO SOMETHING
- 04 LEFT THE AREA/SITUATION/EVENT
- 05 NOTHING
- 95 OTHER [RECORD RESPONSE]
- 97 DON'T KNOW
- 99 REFUSED

/IF H2=95/

H2oth

ENTER OTHER SPECIFY _____

/ASK ALL/

H3. Do you feel you have a personal responsibility to report suspicious behavior or circumstances to the authorities?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

I. DISASTER SUPPLIES

For this next set of questions, I'd like to ask you about some specific things you may or may not have done to prepare yourself and/or your household.

/ASK ALL/

I1. Do you have supplies set aside in your home to be used only in the case of a disaster?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

[if I1=01]

I2. Could you tell me the disaster supplies you have in your home? DO NOT READ LIST

[PROBE: Anything else?. Record all responses]

MUL=12

- 1 A SUPPLY OF BOTTLED WATER
- 2 A SUPPLY OF PACKAGED FOOD
- 3 A FLASHLIGHT
- 4 A PORTABLE, BATTERY-POWERED RADIO
- 5 BATTERIES
- 6 A FIRST AID KIT
- 7 EYEGLASSES
- 8 MEDICATIONS
- 9 PHOTOCOPIES OF PERSONAL IDENTIFICATION
- 10 FINANCIAL DOCUMENTS
- 11 CASH
- 95 OTHER [RECORD RESPONSE]
- 97 DON'T KNOW
- 99 REFUSED

/IF I2=95/

I2oth

ENTER OTHER SPECIFY _____

[if I1=01]

I3. How often do you update these supplies? Would you say...

- 01 Never
- 02 Less than once a year
- 03 Once a year
- 04 More than once a year
- 97 Don't know
- 99 Refused

/ASK ALL/

I4. Do you have supplies set aside in your car to be used only in the case of a disaster?

- 01 Yes
- 02 No
- 03 DON'T OWN A CAR
- 97 Don't know
- 99 Refused

[if A4=01 or 02]

I5. Do you have supplies set aside in your workplace to be used only in the case of a disaster?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

J. HOUSEHOLD PLAN

/ASK ALL/

J1. Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

[if J1=01]

J2. Have you discussed this plan with other members in your household?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

J3. Do you have copies of important financial or insurance documents in a safe place to help you rebuild or seek assistance following a disaster?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

K. COMMUNITY PLAN

/ASK ALL/

K1. Using a scale of 1 to 5 with 5 being "very familiar" and 1 being "not at all familiar," how familiar are you with...

//ROTATE//

- a. Alerts and warning systems in your community?
- b. Official sources of public safety information?
- c. Community evacuation routes?
- d. Shelter locations near you?
- e. How to get help with evacuating or getting to a shelter?
- f. Information on what your local hazards are?
- g. How to get local information about a public health emergency, such as the H1N1 virus or swine flu?

- 01 NOT AT ALL FAMILIAR
- 02
- 03
- 04
- 05 VERY FAMILIAR
- 97 Don't know
- 99 Refused

[if A3=01]

K2. Are you aware of the details of the emergency or evacuation plan of the child(ren)'s school including where the school plans to evacuate and how to get information about the child in the event of a disaster?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

K3 From which organizations in your community have you received information about the recent outbreak of the H1N1 virus or swine flu? We are talking about information that may have been provided through TV/radio, emails, flyers, presentation, phone calls)?

[INTERVIEWER: READ ALL RESPONSES. MULTIPLE CHOICES ALLOWED]

- 01 Local media
- 02 Local government official
- 03 Health care provider
- 04 Neighborhood association
- 05 Faith-based organization
- 06 Schools or childcare facilities
- 07 Workplace
- 08 None
- 95 Other [Specify]
- 97 DON'T KNOW
- 99 REFUSED

/ASK IF K3=95/

K3oth

ENTER OTHER/SPECIFY _____

L. DRILLS/EXERCISES

/ASK ALL/

L1. Aside from a fire drill, in the past 12 months, have you participated in any of the following?

//ROTATE ITEMS//

/ASK ALL/

- a. A home evacuation drill

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

- b. A home shelter in place drill (yes/no)

[if A4=01 or 02]

- c. A workplace evacuation drill (yes/no)

[if A4=01 or 02]

d. A workplace shelter in place drill (yes/no)

[if A3=01 OR A4=03]

e. A school evacuation drill (yes/no)

[if A3=01 OR A4=03]

f. A school shelter in place drill (yes/no)

M. VOLUNTEERING

/ASK ALL/

M1. During the past 12 months, have you given any time to help support emergency responder organizations or an organization that focuses on community safety, such as Neighborhood Watch?

01 Yes

02 No

97 Don't know

99 Refused

[if M1=01]

M2. Which one or ones?

01 [Record all responses]

97 Don't know

99 Refused

/ASK IF M2=1/

M2O

ENTER OTHER SPECIFY _____

/ASK ALL/

M3. Have you ever volunteered to help in a disaster?

01 Yes

02 No

97 Don't know

99 Refused

/ASK ALL/

M4. Would you be willing to take a 20 hour training course to be qualified to help your community recover from disasters?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

N. DEMOGRAPHICS AND CONTEXT

/ASK ALL/

Lastly, I would like to ask you for some information about you and your household. Again, all information that you provide will be held confidential.

/ASK ALL/

N1. Would you describe the location of your residence as...?

- 01 Urban
- 02 Suburban
- 03 Rural
- 97 Don't know
- 99 Refused

[if A4=01-03]

N2 Do you generally use public transportation, such as buses, to get to school or work?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N3. What is the highest level of education that you attained? Would it be...?

- 01 Less than 12th Grade (no diploma)
- 02 High School Graduate or GED
- 03 Some College but No Degree
- 04 Associate Degree in College
- 05 Bachelor's Degree
- 06 Masters Degree
- 07 Doctorate Degree
- 97 Don't know
- 99 Refused

/ASK ALL/

N4. Do you have a disability that would affect your capacity to respond to an emergency situation?

- 01 Yes

- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N5. Do you currently live with or care for someone with a disability, including someone elderly who requires assistance?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N6. How religious would you say you are? Would you say...

- 01 Very religious
- 02 Somewhat religious
- 03 Barely religious
- 04 Not at all religious
- 97 Don't know
- 99 Refused

/ASK ALL/

N7. Which of the following best describes your race? Would you consider yourself to be...? MUL=6

- 01 White
- 02 Black or African American
- 03 Asian
- 04 American Indian or Alaska Native
- 05 Native Hawaiian or Other Pacific Islander
- 95 Something else (Specify)
- 97 Don't know
- 99 Refused

/IF N7=95/

N7oth

ENTER OTHER SPECIFY _____

/ASK ALL/

N8. Are you of Hispanic or Latino or Spanish origin?

- 01 Yes

- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N9. In what year were you born?

- 01 Enter response _ _ _ _ //RANGE 1900-1991//
- 9997 Don't know
- 9999 Refused

/ASK ALL/

N10. Which of the following income ranges represents your annual household income in 2008?
Feel free to stop me at the correct range. Was your household income...?

- 01 Less than \$25,000
- 02 \$25,000 to less than \$50,000
- 03 \$50,000 to less than \$75,000
- 04 \$75,000 or more
- 97 Don't know
- 99 Refused

N11.

Did you live at this zip code in August 2005 when Hurricane Katrina struck?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N12. Were you affected by Hurricane Katrina?

- 01 Yes
- 02 No
- 97 Don't know
- 99 Refused

/ASK ALL/

N13. What is your zip code? _ _ _ _ _ //RANGE 5-digit//

- 99997 DON'T KNOW
- 99999 REFUSE

/ASK ALL/

N14. Record gender [Do not ask]

- 01 Men
- 02 Women

/ASK ALL/

Those are all of the questions that I have. On behalf of ICF Macro and The University of Mississippi Medical Center and the University of Southern Mississippi School of Nursing, I would like to thank you for your time and participation. Thank you again.

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

2500 North State Street
Jackson, Mississippi 39216-4505

Institutional Review Board

Telephone (601) 984-2815

Facsimile (601) 984-2961

DHHS FWA #00003630

IORG #0000043

IRB 1 Registration #00000061

IRB 2 Registration #00005033

Exemption Granted

December 14, 2009

Carl Mangum, RN, MSN
School of Nursing
University Of Mississippi Medical Center
2500 North State Street
Jackson, MS 39216-4505

RE: IRB File # 2009-0235

Assessing Mississippians Preparedness for Disasters Using the Citizen Corps
National Survey 2009

Dear Mr. Mangum:

Your Claim of Exemption was reviewed on December 14, 2009 and it was determined that your research protocol meets the criteria for exemption, as defined by the U. S. Department of Health and Human Services Regulations for the Protection of Human Subjects, 45 CFR 46.101(b)

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

You may now begin your research, which is approved to be conducted at UMMC.

Although this research is exempt, you have responsibilities for the ethical conduct of the research under state law and UMC policy, and must comply with the following:

Amendments: You are responsible for reporting any amendments or changes to your research protocol that may affect the determination of exemption and/or the specific category to the IRB. The amendment(s) or change(s) may result in your research no longer being eligible for the exemption that has been granted.

Record Keeping: You are responsible for maintaining a copy of all research related records in a secure location, in the event future verification is necessary. At a minimum these documents include: the research protocol, the claim of exemption application, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to participants, all correspondence to or from the IRB, and any other pertinent documents.

Yearly Progress Report: You are responsible for completing a yearly progress report and submitting it to the IRB. The information in this form will keep us up to date on the progress of the study and help to ensure that the study continues to meet the requirements for exemption.

Final Report: You are responsible for submitting a final report to the IRB at the end of the study.

The Progress Report and Final Report forms are located on our web page, <http://irb.umc.edu/>.

UMC policy requires investigators to provide information about the research protocol to participants and to obtain their permission prior to their participating in the research. The information about the research protocol should be presented to participants in writing, or orally from a written script. When appropriate, the following information should be provided to all research participants of exempt studies:

The purpose of the research;

The extent of the participant's involvement and an explanation of the procedures to be followed;

Whether the information collected will be used for purposes other than the proposed research, and a description of those other purposes;

A description of the procedures in place to protect the privacy of participants and the confidentiality of the research information and data;

A description of any reasonably foreseeable risks;

A description of any anticipated benefits;

A statement that participation is voluntary and participants can refuse to participate or withdraw at any time;

A statement that the researcher is available to answer any questions that the participant may have. This statement must include the name and telephone number of the investigator(s), both during and after hours.

A statement that the Chairman of UMC's IRB is available to discuss the rights of a research participant. This statement should include the IRB's telephone number, 601 984-2815.

Please include the **IRB file number** (2009-0235) on any documents or correspondence sent to the IRB about this study.

We wish you the best as you conduct your research. If you have questions or need additional information, please contact the Human Research Office at (601) 984-2815.

Sincerely,

Gailen D. Marshall, Jr., M.D., Ph.D.
Chairman, Institutional Review Board 2

GDM/kc

cc: Sharon B. Wyatt, Ph.D., CANP, FAAN, School of Nursing
Vice Chancellor for Health Affairs



THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
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HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **29120201**

PROJECT TITLE: **Assessing Mississippians' Preparedness for Disasters Using the Citizen Corps National Survey 2009**

PROPOSED PROJECT DATES: **12/02/09 to 08/01/10**

PROJECT TYPE: **Dissertation**

PRINCIPAL INVESTIGATORS: **Carl H. Mangum II**

COLLEGE/DIVISION: **College of Health**

DEPARTMENT: **School of Nursing**

FUNDING AGENCY: **Mississippi Office of Homeland Security, University of Mississippi Medical Center**

HSPRC COMMITTEE ACTION: **Exempt Approval**

PERIOD OF APPROVAL: **12/03/09 to 12/02/10**

Lawrence A. Hosman
Lawrence A. Hosman, Ph.D.
HSPRC Chair

12-4-09
Date

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