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# Natural Disasters and Older Adults: The Social Construction of Disaster Planning

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Natural Disasters and Older Adults: The Social Construction of Disaster Planning

A dissertation submitted in partial fulfillment of the requirements for the degree of PhD  
in Health Related Sciences with a Concentration in Gerontology  
at Virginia Commonwealth University

by

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## ABSTRACT

### NATURAL DISASTERS AND OLDER ADULTS: THE SOCIAL CONSTRUCTION OF DISASTER PLANNING

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A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy at

Virginia Commonwealth University, 2011

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Examining older adults' experiences with and response toward hurricanes within the context of the community of residence is key to both understanding their experiences and planning for future hurricanes. Specific to this research, the objective was to understand the current social network of older adults, or who provides care for whom under what circumstances, using the social constructionist perspective. Grounded theory combined with action research was the theoretical orientation guiding the study. Sources of data included the collection of household disaster plans, semi-structured interviews with older adult residents of housing authority neighborhoods, semi-structured interviews with community planners, and observation of community planning meetings. Data were gathered from older adults living in housing authority communities in Southeastern North



Carolina using guidelines established by the North Carolina Department of Health and Human Services to develop individual disaster plans. The individual disaster plans were completed during face to face meetings with the older adults, as were semi-structured interviews. Semi-structured interviews were also completed with area planners. Agendas, minutes, and observational notes from disaster planning meetings were collected. The content of the individual disaster plans, semi-structured interviews, and observation notes were then analyzed to determine gaps that must be addressed in order to meet the overall needs of the community. Working with participants, the housing authority disaster response committee, and county planners, a neighborhood plan will be developed that reflects the social construction of all concerned for use in response to future hurricanes. The impact of the multiple levels of communities was apparent in this research. While common thematic processes emerged in data analysis, planners, housing authority personnel and residents of housing communities define community differently. There is discordance when they identify needed resources, and when they reflect on past experience. A power differential which resulted in stifling was also observed.

## CHAPTER ONE: INTRODUCTION

### Background

Natural events (such as storms, earthquakes, floods, and forest fires) impact society, thereby becoming natural disasters. Planning for such disasters is difficult as the public at large, members of the media and researchers define disasters differently. Certainly the intersections of age, social class, gender and race also impact definitions of disaster. One's position within the social structure will influence one's perception. When people have varying view points on any given topic, sociologists call the process of defining the topic *social construction*. This idea of social construction guided the exploration of natural disasters and older adults. Understanding the social construction of disasters, specifically how disasters are defined and planned for, is a necessary step in disaster planning.

### *Natural Disasters*

Hoffman and Oliver-Smith (1999) define disaster as “a process leading to an event that involves a combination of a potentially destructive agent from the natural or technological sphere and a population in a socially produced condition of vulnerability” (p. 4). Approximately 150 natural disasters occur worldwide each year, impacting 125 million people (Eisensee, 2006). Disasters have a profound impact on society. In 2009 alone, 10,655 people were killed and more than 119 million others were economically

impacted by natural disasters, resulting in over \$41.3 billion in damages (Vos, Rodriguez, Below & Guha-Sapir, 2010).

### *Older Adults and Natural Disasters*

Gerontological researchers have studied the impacts of natural disasters on older adults as well as the potential consequences of the impact of age on coping ability, gender on perceptions of loss, socio-economic status on accepting or receiving aid, and disability on levels of risk to name a few. Much work has been done in response to natural disasters. For example, a wealth of research has resulted from very recent, devastating disasters such as Hurricane Katrina. Knowledge about the impact of disasters on older adults is useful when planning for minimizing the disruption that will surely occur as a result of future natural disasters.

Researchers have often focused on the response of older adults after disasters in terms of their coping ability or resilience. Coping refers to the ability to make sense of a stressful event and respond accordingly (Lazarus & Folkman, 1984). Resilience, or the ability to adapt to adversity, is a concept related to coping. Much attention has been given to the impact of age on coping (Friedsam, 1961, 1962; Bell, 1978; Huerta & Horton, 1978; Covan & Rosenkoetter, 2000). Researchers have also focused on the impact of being poor (Farhar-Pilgram, 1986; Sanders, Bowie & Bowie, 2003), having a disability (Eldar, 1992), or being female (Enarson, 1999; Ollenburger & Tobin, 1999; Covan & Rosenkoetter, 2000)

Ex-post-facto research has also been conducted to examine the experiences of elders and how they responded to storms. The decisions that people say they will make

when a natural disaster occurs are often studied to determine whether people actually follow the plans they articulated beforehand. Examples include the examination of evacuation decisions (Covan & Rosenkoetter, 2000), the disruptive experience of a disaster on an individual and his or her community ties (Bell, 1978), and barriers to receiving post-disaster services (Langer, 2004). The experiences of elders have also been studied to develop recommendations for planners as well as future storm victims (Bell, Huerta & Horton, 1978; Little, et al., 2004).

When exploring disaster experiences, several types of limitations become apparent. The limitations can be physical and associated with the elders themselves or they can be structural and associated with the planning system, expressed from varied points of view of such as those of elders or staff involved in the planning system. Some limitations may be a function of chronic illness and/or physical impairments (Rosenkoetter, Covan, Bunting, Cobb, & Fugate-Whitlock, 2007) or those that are the result of inadequate planning by elderly individuals (Langer, 2004). Other limitations are the result of inadequate planning or insufficient resources provided by governmental agencies such as limited transportation to shelters or shelters that will not accept pets (Covan & Rosenkoetter, 2000), and those that are the result of planning only in terms of past experiences i.e., reactive, not proactive (Sanders, Bowie, & Bowie, 2003;). The focus of other research has been to determine if age is also a limitation in terms of coping (Friedsam, 1961, 1962; Bell, 1978; Huerta & Horton, 1978; Kilijanek & Drabek, 1979).

Limitations can be made greater by double jeopardy, or having low status on two aspects of stratification such as gender, race, or socioeconomic status. Gender has been

found to impact reports of loss and the ability to recover (Enarson, 1999; Tobin, 1999; Covan & Rosenkoetter, 2000). Older adults of low-socioeconomic status are impacted disproportionately and have the greatest barriers to recovery (Sanders, Bowie, & Bowie, 2003; Rodriguez & Barnshaw, 2006).

#### *Older Adults in Southeastern North Carolina*

According to 2009 census data, 12.7% of adults in North Carolina are over the age of sixty-five (US Census Bureau, 2009). The percentage is even higher in New Hanover, Pender, and Brunswick counties (all located in southeastern North Carolina) at 13.2%, 14.7% and 18.0% respectively (US Census Bureau, 2008). This region of North Carolina has become a retirement choice for many due to its relatively mild climate and location on the Atlantic Ocean and the Cape Fear River. It is important to note, however, that the population of lower income older adults in this area is most likely to have aged in place, having rarely traveled outside of the region (Covan, n.d.).

#### *Natural Disasters in Southeastern North Carolina*

This indigenous population of older adults is quite experienced in coping with tropical storms. The Southeastern Region of the United States is impacted by hurricanes almost every year during a “hurricane season” that begins in June and ends in November. Since 1996, North Carolina has experienced eight hurricanes and twenty-two tropical storms (History of Hurricanes, n.d.). In 1996 North Carolina saw the most active tropical season since 1955 with three major storms, Bertha, Fran, and Josephine making direct landfall on its coastline. Hurricane Fran, making landfall near Wilmington and traveling through the Triangle area (Raleigh-Durham-Chapel Hill), was considered to be the most

costly hurricane to ever hit the state causing an estimated 1.275 billion dollars in damage in the state (History of Hurricanes). Just three years after this record season Hurricane Floyd made landfall as one of the most devastating storms in the history of the Carolinas causing a 500-year flood, killing 51 people with an estimated cost of 6 billion dollars (Whiteman, 1999).

### *The Social Construction of 'Natural' Disasters*

Sociologists define environmental problems such as natural disasters as social problems because disasters often result from human social behavior, have impact on humans, and require societal group solutions (Bryant & Peck, 2006). This paradigm has given way to the sub-discipline of environmental sociology which includes both functionalist and constructivist components when defining environmental risk. Whyte and Burton (1980) provided a functionalist definition, explaining that environmental risks are those that are transmitted via water, air, soil, or the food chain. Hannigan (1995, p. 31) provided a constructionist view, explaining that environmental risks are also products of “a dynamic social process of definition, negotiation, and legitimation.” Basically, the functionalist view is based on scientific data and the constructionist view is based on society’s perceptions of and reactions to environmental risks.

One approach to the social construction of disasters is evidenced by researchers’ attempts at describing the stages of disasters (Powell, Rayner & Finesinger, 1953; Bell, 1978). The actions of victims and planners are the defining characteristic of each stage. Media attention during all storm stages (forecasting the storm, coverage during the storm, and clean up and recovery) also provides a part of the social construction, again

impacting policy makers and planners as well as those in the path of the storm (Hannigan, 1995; Eisensee, 2006; Rosenkoetter, Covan, Bunting, Cobb, & Fugate-Whitlock, 2007).

The social construction of disasters is created by political, social, and economic conditions and therefore must be examined when planning a response to disasters.

### Problem Statement

To best plan for future natural disasters it is key to learn what different viewpoints exist. Various viewpoints lead to different approaches to planning. Individual planning is done by a single household or unit of family. Community planning is completed by a group of people that live in a common geographic location. They interact with one another as representatives of social organizations including non-profit non-governmental agencies, faith communities, and neighborhood associations, among others. Communities can vary in several ways, such as amount of interaction among residents and outsiders, average income and educational attainment of residents, and geographic characteristics such as proximity to a body of water. Community may also be defined differently by those within organizations such as the government housing authority, and the local government. Planning for disasters is undertaken by governmental organizations such as those defined by geopolitical boundaries of a city, county, state or federal government. Specifically, in this area the county Department of Emergency Management plans for disasters.

Given the frequency of storms, planning for older adults requires coordinated effort by elderly individuals residing in particular locations, those working in community organizations, and those employed by governmental agencies. It is important to recognize

that individual, community, and governmental efforts may appear to be sufficient before the impact of a storm, but function inefficiently when they are not coordinated. For example, an individual may not know about the plans made by local government about evacuation and the local government may not know about barriers to evacuation for individuals.

Research began with the individual level and moved to consider the community level. It aimed to use a systematic approach to creating disaster preparation and management plans for elders in a particular housing authority neighborhood that took into account all levels of community.

#### *Study Purpose*

The research goal was to examine older adults' experiences with and response toward hurricanes within the context of the community of residence. Specifically, the objective was to understand the current social network of older adults, or who provides care for whom under what circumstances, using the social constructionist perspective. For example, do individuals consider how government officials define natural disasters when they make plans for their own households? Do they rely on the media and their definition of announced risks for flooding and wind? Do they perhaps rely to some degree on both kinds of definitions? Exactly what are the considerations of individuals when planning? How do older adults define their own community? Do planners have differing definitions and considerations? This researcher's intention was to contribute to systematic disaster planning for the general good of the individuals, their loved ones and for the community.



## Research Questions and Study Overview

The research questions for this study were:

1. What considerations do older adults with low incomes who happen to reside in public housing use in response to a hurricane?
2. What resources do older adults need in response to a hurricane?
3. Is it possible and practical to create a systematic plan for disasters that considers the viewpoints of local government officials, housing authority officials, and older low-income residents who reside in a housing authority community?
4. What would such a systematic plan for disasters look like?

Sources of data included the collection of household disaster plans, semi-structured interviews with older adult residents of housing authority neighborhoods, semi-structured interviews with community planners, and observation of community planning meetings. Data were gathered from older adults living in housing authority communities in Southeastern North Carolina using guidelines established by the North Carolina Department of Health and Human Services to develop individual disaster plans. The individual disaster plans were completed during face to face meetings with the older adults, as were semi-structured interviews. Semi-structured interviews were also completed with area planners. Agendas, minutes, and observational notes from disaster planning meetings were collected. The content of the individual disaster plans, semi-structured interviews, and observation notes were then analyzed to determine gaps that must be addressed in order to meet the overall needs of the community. Working with participants, the housing authority disaster response committee, and county planners, a

neighborhood plan will be developed that reflects the social construction of all concerned for use in response to future hurricanes.

## CHAPTER TWO: LITERATURE REVIEW

In this chapter, the literature on natural disasters, older adults, social support networks and theoretical approaches relating to disasters is presented.

### Natural Disasters and Older Adults

#### *Natural Disasters*

Hoffman and Oliver-Smith (1999) define disaster as “a process leading to an event that involves a combination of a potentially destructive agent from the natural or technological sphere and a population in a socially produced condition of vulnerability” (p. 4). Alexander (1993, p. 4) further explains that a natural disaster is “some rapid, instantaneous or profound impact of the natural environment upon the socio-economic system.” Simply put, “A disaster is a crisis that threatens the infrastructure of a culture” (Covan & Fugate-Whitlock, 2010, p. 1029). The Center for Research on Epidemiology of Disasters (CRED) lists five disaster categories: geophysical, e.g. earthquakes, meteorological, e.g. hurricanes, hydrological, e.g. floods, climatological, e.g. floods or biological, e.g. epidemics (Vos, Rodriguez, Below & Guha-Sapir, 2010). A simpler typology is to consider if a disaster is human-made, such as Chernobyl, or natural, such as Hurricane Katrina. Herzog (2007) notes that the difference between natural and human-made disasters relates to their predictability; further explaining that “we can discuss the 100 year flood, but we do not talk in terms of the 100 year chemical spill” (p.

86). Nevertheless, Herzog stipulates that the two are often related: Hurricane Katrina herself was a natural disaster but the levees failing was human-made.

According to the Center for Research on Epidemiology of Disasters, the number of natural disasters worldwide has more than doubled since the decade of the 1980's (Scheuren, de Waroux, Below, Guha-Sapir, Ponserre, 2008). The year 2005 was termed "The Year of the Disaster" as the Indian Ocean Tsunami, Hurricane Katrina, and the South Asia Earthquake all had severe impacts that year (Braine, 2006). Worldwide, 335 natural disasters occurred in 2009 (Vos, Rodriguez, Below & Guha-Sapir, 2010).

Since 1996, North Carolina has experienced eight hurricanes and twenty-one tropical storms (History of Hurricanes, n.d.). In 1996, North Carolina saw the most active tropical season since 1955 with three major storms, Arthur, Bertha, and Fran, making direct landfall on its coastline. Hurricane Fran, making landfall near Wilmington and traveling through the Triangle area (Raleigh-Durham-Chapel Hill), was considered to be the most costly hurricane to ever hit the state, causing an estimated 1.275 billion dollars in damage (History of Hurricanes). Just three years after this record season, Hurricane Floyd made landfall as one of the most devastating storms in the history of the Carolinas (Whiteman, 1999).

Rigg, Grundy-Warr, Law and Tan-Mullins (2008) stipulate that "natural hazards only become disasters when humans are involved" (p. 137). Natural disasters have a cultural impact both to the economy and in terms of loss of life. In 2009, 10,655 people were killed and more than 119 million others were adversely impacted by natural disasters (e.g., injury, displacement, lost income) (Vos, Rodriguez, Below & Guha-Sapir). Natural disasters were responsible for over \$41.3 in billion economic damages

that year (Vos, Rodriguez, Below & Guha-Sapir). Disasters have both an indirect and direct economic cost. Examples of indirect consequences are unemployment, market destabilization, and loss of revenue, while direct economic costs are damages to infrastructure, houses, and crops (Vos, Rodriguez, Below & Guha-Sapir). An estimated one-third of the total economic cost of disasters relates to the non-direct costs of prediction, prevention, and mitigation as a result of disasters (Alexander, 1993). Planning for future disasters is a non-direct cost.

### *Older Adults*

In the United States, the population of those over age 65 has increased in size more than ten times from 1900 to 2003 (Novak, 2009). Demographers predict that the older population will double in size again from 2000 to 2050 to an estimated 86.7 million people (Novak). In addition, a large segment of the population, the *baby boomers*, are rapidly reaching the age of sixty-five. According to the U.S. Census Bureau (2008, 2009), 12.6% of the current population is aged 65; or older. 24.2% of households have at least one member over the age of 65. Older women (57.8%) outnumber older men (42.2%) (US Census Bureau, 2008). In 2008, the majority of older adults were white (85.2%), married (53.3%), had a high school diploma or equivalent (34.4%), were not in the labor force (84.9%), and had a mean retirement income of \$20,485.

In North Carolina, 12.7%, (1,189,285 people) of the state's population are over the age of 65 (NC Division of Aging and Adult Services, 2010). The projected growth of the older adult population for the state is 80% while it is 100-149% for Brunswick and Pender counties and 50-99% for New Hanover county (NC Division of Aging and Adult Services). The percentage of adults over age 65 is higher in New Hanover, Pender, and

Brunswick counties at 13.2%, 14.7% and 18.0% respectively (US Census Bureau, 2008). Women represent 58% of the older adult population in North Carolina (NC Aging Profile). The proportion of minority older adults is greater in North Carolina, as 19.1% are minorities (NC Aging Profile). Older North Carolinians are also more likely to live in rural areas (39.8%) as compared to the United States (21%) as a whole (NC Aging Profile). Finally, 39.8% of older adults in North Carolina meet the criteria for having a disability set forth by the US Census Bureau (NC Aging Profile).

#### *Older Adults in Natural Disasters*

Many researchers studying disasters and older adults have focused on coping skills. Friedsam (1961, 1962) hypothesized that elderly victims of a disaster would be considerably more likely to report greater loss of property and more help received than younger disaster victims. Others (Bell, 1978; Huerta & Horton, 1978; Kilijanek & Drabek, 1979) have since based their research on his theory, aiming to either support or reject his hypothesis. Huerta and Horton found that older adults coped well, exhibiting resilience and reporting less loss than that of younger adults. Bell's findings echoed those of Huerta and Horton. Older adult victims of a tornado exhibited better coping abilities than those of younger adults. Covan and Rosenkoetter's (2000) sample also exhibited resilience and the ability to cope, and credited their spirituality for such strength. Other researchers have reported higher vulnerability (Farhar-Pilgram 1986; Eldar, 1992) while still others report that vulnerability is not associated with age (Kohn, Levav, Garcia, Machuca, Tamashiro, 2005).

Friedsam (1962) notes that there may be a differential impact on the physical, social, and psychosocial welfare of the elderly compared to younger people for several

reasons. Older adults are less mobile, more prone to illness, and have lower and less flexible incomes. Farhar-Pilgram (1986) noted that elderly, ethnic minorities, persons with disabilities and or low socioeconomic status, and rural residents are most likely "to fall through the cracks of relief operations." Similarly, persons with disabilities are at heightened risk and are vulnerable to safety and health hazards following a natural disaster (Eldar,1992). Baldi (1974), Poulshock and Cohen (1975) and Bell (1976) concluded that the elderly are more likely to live in flood plains or substandard housing and this puts them at heightened risk (Kilijanek & Drabek). Zhaobao, Wenhua, Weizhi, Yang, Jin, and Zhisheng (2008) found that older adults were more likely to exhibit signs of post-traumatic stress disorder (PTSD) than were younger adults following an earthquake in China. Some researchers have also come to the opposite conclusion that age does not have an impact. For example, Kohn, Levav, Garcia, Machuca, and Tamashiro (2005) found that, after a hurricane, older adults were no more vulnerable to psychological issues such as PTSD than the younger adults in their study.

Income also impacts the disaster experience of older adults. Kilijanek & Drabek noted a systems issue related to disparities; a higher income person is more able to cope with material loss by replacing these losses. Victims with lower income were more likely to receive aid from religious organizations and the Red Cross (Kilijanek & Drabek). Huerta and Horton (1978) recommended that planners be aware that many elderly will not want or accept assistance from welfare or social service programs, and therefore service delivery may have to be provided in various ways.

Huerta and Horton (1978) investigated the needs of older adults after the Teton Dam in Idaho, US collapsed and caused widespread flooding. Their findings did not

support Friedsam's earlier as this sample of older adults reported fewer adverse effects and coped as well as younger adults impacted by the floods. Kilijanek and Drabek (1979) noted differences between younger and older adults when studying the impacts of a tornado using pre-event data and post-event data such as placing a higher importance on exterior and house related damage, received less aid from community services, used insurance less frequently, and were less likely to make economic changes such as using credit cards or increasing insurance. While these differences did exist, older adults also did not report that older adults experienced more adverse effects of the storm.

Researchers have also studied older adults in an effort to determine if they experience storms differently than younger adults. For example, Kilijanek and Drabek (1979) found that for older adults while they noted losses of sentimental mementos such as photographs similarly to young adults, symbolic losses were more significant than simple financial losses of personal belongings and interior articles. The loss of exterior items such as trees or plants and house related damages concerned older victims the most as these losses held sentimental value representing their time and effort. Actual responses from elderly victims focused on their losses of flower gardens they had tended, shrubs and bushes they had planted, and the loss of their trees.

Gender also seems to play a role in how one is impacted by disasters. Enarson (1999) found that women reported conflicts with men over differing concerns when preparing the home for a storm and that during evacuation, their household duties increased. After a flood in Des Moines, Iowa Ollenburger and Tobin (1999) found that women showed greater signs of stress than men.



A relationship between age and receiving help was found in Kilijanek and Drabek's (1979) research. Victims over 60 years old and their families received far less aid from help sources than did younger victims. Elderly victims did receive a little more help from religious organizations and governmental agencies, but these differences were not statistically significant. Almost one out of five elderly victims received no aid from any source. Kilijanek and Drabek labeled these findings as a "pattern of neglect." Those with higher incomes received somewhat more aid than those with lower incomes. Older victims were less likely to use savings, credit cards, and bank credit after the disaster as compared to younger victims. Overall, the elderly victims did not report perceptions that they had experienced any long-term deterioration in their physical or mental health due to the disaster, although there was undoubtedly some temporary stress involved.

#### *Older Adults in Hurricanes*

Research has been undertaken to determine the needs of older adults after hurricanes, focusing on needs assessments, decision making, and factors that influence decision making. For example the Florida Department of Health commissioned a needs assessment of older adults living in the area impacted after Hurricane Charley in 2004 (Little, et al., 2004). Little, et al. found that older adults "experienced disruptions in both quality-of-life status and medical care for preexisting conditions (e.g., cardiovascular disease, diabetes, and physical disabilities)" (p. 1813). So many such needs assessments are conducted after storms, that Malilay (2000) authored a literature review comparing the methods of eight such studies.

Other research has been conducted in response to hurricanes and related flooding in an attempt to learn under what conditions older adults will and will not evacuate

(Covan & Rosenkoetter, 2000; Rosenkoetter, Covan, Bunting, Cobb, & Fugate-Whitlock, 2007). Covan and Rosenkoetter noted the impact of being a pet owner and having information about pet shelters on the decision to evacuate for older adults, as did Heath (2000). Rosenkoetter, Covan, Bunting, Cobb, and Fugate-Whitlock (2007) found that both exposure to Hurricane Katrina media coverage and belief in the importance of following the advice of county officials impacted the decision to evacuate.

Just as gender impacts older adults experiencing disasters, it also plays a role in the hurricane related experiences of older adults. In Covan and Rosenkoetter's (2000) work, women were more likely to live alone and therefore have lower incomes, thus influencing their physical and financial abilities to make post-disaster repairs. Furthermore, women reported different losses than men. When asked about loss, women discussed sentimental losses, people, and relationships while men discussed property.

Income is also a determining factor in the responses hurricanes. Sanders, Bowie and Bowie (2003) researched the impact of the forced relocation of older adults residing in a public housing community in response to a hurricane. While the decision to move the residents was made out of concern for their safety and physical well-being, as the older adults had an average of two chronic health conditions that required ongoing medical attention and strict medication management, the move had for serious negative impacts. Many of those relocated had to locate new health care providers, which created anxiety, and only 28% of respondents had their health care needs met following the relocation. Mental health needs were also a concern, as some of the respondents went weeks without treatment and intervention for conditions such as depression, PTSD, and anxiety.

### *Social Response for Older Adults in Natural Disasters*

Huerta and Horton (1978) made several recommendations for future disaster planning for older adults. The first was to compile a roster of the names and addresses of the area elderly to be kept up to date by local agencies. In addition, information about whom to contact in cases of emergency needs to be available and updated regularly. The authors suggested that this information would be helpful to agencies responsible for coordinating activities before, during, and after disasters. Their second recommendation was to plan for clean-up and repair assistance. Legal, technical, and accounting expertise provided in lay language is also suggested.

Little et al., (2004) used their data to make recommendations for officials responding to Hurricane Charley, as well as, future storms and to train others to complete rapid needs assessments. Their recommendations included the acceleration of restoration of medical care services, including access to prescription medications; improvement of sanitation services; improvement of methods for making advisories about the use of water for drinking and cooking; and increased encouragement to reconnect to supportive social networks (Little, et al., 2004).

### Social Networks

#### *Definition*

Supportive services are often broadly labeled as either formal or informal. Formal support services are provided for a fee, typically, though not as a rule, by a large institution such as the government; informal services are often provided by family or friends on a volunteer basis.

One's personal social network "is stable but evolving relational fabric constituted by a) family members, b) friends and acquaintances, c) work and study connections, and d) relations that evolve out of our participation in formal and informal organizations- social, recreational, religious, political, vocational, health-related, etcetera" (Sluzki, 2000, p. 271). Researchers have linked social networks to improved physiological (Choi & Wodarski, 1996), cognitive (Crooks, Lubben, Petitti, Little, Chiu, 2006) and psychological (Husaini, Castor, Linn, Moore, Warren, Whitten-Stovalt, 1990; Chan & Lee, 2006) health outcomes. Wenger (1997) used the size of social networks to predict risk factors for older adults, noting specifically that informal social networks decreased the risk for social isolation, loneliness, and depression.

Novak (2009) described that there are four models of informal support: task specificity, hierarchical compensatory, functional specificity of relationships, and convoy. In the task specificity model, different groups within one's social network provide differing modes of support depending on their abilities or skills (Litwak as cited by Novak). Each member of the social network provides specific support. In the hierarchal compensatory model, support first comes from family members and then from other sources as needs become greater (Cantor as cited by Novak). In the functional specificity of relationships model, support depends on the relationship and the life course (Simons as cited by Novak). Finally in the convoy model, the closer the relationship, the greater level of support provided (Kahn & Antonicci as cited by Novak). The relationships are thought to be depicted by concentric circles with those closest to the older adult have the strongest relationships with the relationships weakening towards the

outer circles (Haines & Henderson as cited by Novak). The model is referred to a convoy as the relationships grow and change but are present throughout the life course.

Two models describing the influence of social networks on coping have also emerged from previous research: the stress buffer and the main effect models (Kaniasty & Norris, 1993). The stress buffer model predicts that social support benefits individuals in crisis by protecting them from negative consequences. High social support has an impact in times of high stress, but not necessarily in times of low stress. The main effect model posits that social support has positive psychological and physiological impacts that are independent of the stress process. That is to say, high social support has a positive impact regardless of the level of stress.

#### *Importance of Social Networks for Older Adults*

Golden, Conroy, and Lawlor (2009) found that social networks, specifically those that they termed elective, promote health for older adults. Specifically, higher levels of social engagement with friends were associated with lower levels of depression, anxiety, and cognitive and physical impairments, as well as higher reported quality of life scores. The same relationship was not seen with family contacts in their research.

According to Langer (2004), several factors may place the elderly at risk or hidden from formal support, including isolation, reclusiveness, and living alone. Furthermore, older adults who have mental illnesses or have substance abuse problems are also more likely to be hidden. African-Americans in this particular cohort are less likely to use formal support because of past experiences with discrimination and segregation. The lack of familiarity with services, language problems, pride, and illiteracy are among the cultural barriers minority group members may experience.

Langer (2004) discusses several barriers to service use, including those of the older adult, those of the services, and those of the providers. Older adults are often uncomfortable asking for assistance, unable to contact the service providers, or unaware of what services are available. Furthermore, services may be unavailable or inadequate and providers may avoid engaging with the elderly. As described by Langer, the relationship between barriers and service usage is cyclical. It is difficult to deliver services to elderly who cannot utilize or will not utilize the services, or are unaware of the services. On the other hand, there are service providers who are unwilling to, or do not know how to educate the elderly about the available services. This miscommunication means that at risk elderly will continue to fall between the cracks.

Langer suggests the development of several potential resources: neighborhood gatekeepers, peer services, group services, narrative-based (communicating by storytelling) social services, and community empowerment to enhance change. Although these resources could aid the vulnerable elderly, they will not in and of themselves reduce barriers to service use. For these resources to work, the elderly must be encouraged to use them.

Langer defines empowerment as the restoration and creation of hope in an individual or a community. It takes the hope, commitment, and actions of one or two community members to impact others in that community. Through education, organization, program development, and mobilization, a community can make a huge difference in the lives of the "hidden" elderly.

*Importance of Social Networks for Older Adults in Disasters*

Taylor, Priest, Sisco, Banning and Campbell (2009) highlighted the importance of social networks for older adults in natural disasters. In their work after Hurricane Katrina, they found that social networks served as an information source and influenced decision making in terms of storm preparation and evacuation. While social networks were not always listed first as sources of information, almost all participants reported that their social networks prompted them to turn to other sources, such as the media, for information about the storm. “Interpersonal sources typically seemed more influential in focusing people’s attention on the seriousness of this particular storm in a city long accustomed to hurricane warnings and evacuations” (Taylor, Priest, Sisco, Banning & Campbell, 2009, p. 371). Furthermore, a majority of participants reported that it was interpersonal contact, i.e., personal visit or phone call by a family member or friend, that prompted their decision to evacuate. It was most common that interpersonal contact, , provided the impetus to act rather than a political figure or other person of authority appearing via mass media. The authors theorized that urban, poor neighborhoods were likely to suffer from “information isolation... with the key limitation not necessarily involving access to mediated information but also connection to an activated social network” (p. 378). Thus, they are less likely to be able to make safe, informed decisions.

Kaniasty and Norris (1993) highlighted the importance of support from social networks in their work with older adults following a severe flood. They found that non-kin support rather than from family members reduced the impact of stress related to the flood. However, the destruction of their community caused by the flood led to reductions in social support and was associated with greater levels of stress. Chie Watanabe,

Okumura, Tai-Yuan, and Wakai (2004) also found that higher levels of social support from extended family and neighbors were associated with a reduction in depressive symptoms in older adults after an earthquake. Similarly, García, Banegas, Graciani Pérez-Regadera, Cabrera, and Rodríguez-Artalejo (2005) found an association between low contact with social networks and lower health-related quality of life. Saito, Sagawa, and Kanagawa (2005) had similar results when studying older adults in Japan but noted the relationship was particularly evident for women living alone.

### Theoretical Approaches

Disaster research can be explained using the sociological rubric of social problems. The definition of a ‘social problem’ varies tremendously among sociologists. For example, Bryant and Peck (2006) explain that the definitions of a social problem fall in one of three categories that range along a continuum of perception and specificity.

The first category is rather vague, relying on an explanation that a “social problem” reflects the general public’s perception that it is harmful to society. Bryant and Peck’s note that this is tenuous at best, as the concepts of harm and society and general public are not well defined. The second category of definitions reflects the work of early sociologists who believed that defining social problems occurs through a process of analyzing the considerable differences between the ideals of what should be happening in a society and the society’s actual achievements. Bryant and Peck note that this also lacks uniformity in terms of specific definitions. They explain though specific definitions are lacking, they believe these definitions can be provided by sociologists or other experts. The third category is the constructionist view whereby a particular condition becomes a social problem when a significant number of people believe it to be a problem. In this



category “the public,” including individuals in a variety of social groups, e.g. media, government officials, and private citizens, are providing the definitions rather than sociologists or experts as in the second category. The first and third categories may appear to be similar, however the difference stems from the role of the sociologist in each category. In the third category, the sociologist’s role is to analyze the consequences of disparate definitions or perspectives on what is a social problem and to recommend social policies that consider varying points of view and varying publics. The third category provides a more empowering and action oriented definition.

Regardless of which definitional category is used, environmental problems such as natural disasters are social problems because the consequences often result from human social behavior, have a negative impact on humans, and require group solutions and responses (Bryant & Peck). This concept has given way to environmental sociology as a field. Hannigan (2006) explains that within environmental sociology there are two view points: a realist or functionalist point of view and a constructionist point of view, with the former being more directly rooted in scientific claims.

#### *Functionalist Construction*

The realist, or functionalist, point of view depends on scientific research and the resulting objective data (Hannigan, 2006). For example, meteorologists agree to use the Saffir-Simpson scale to measure the strength of hurricanes. According to Hannigan, the functionalist perspective was best defined in the work of Merton and Nisbet (1971) as a “direct product of readily identifiable, distinctive, and visible objective conditions” (63). Using this perspective, the sociologist must identify, define, and analyze conditions based on scientific data and then bring awareness to others in society. Whyte and Burton (1980)

provide the most basic functionalist definition of environmental risks as those that are transmitted via water, air, soil, or the food chain. The functionalist perspective tends to view “risk” as a singular event. If sociological functionalists were to study Hurricane Katrina, they would label only what transpired during that storm as the risk, rather than examine social consequences. Sociological functionalists take scientific expertise for granted and the politics and resulting power associated with expertise and scientific bias are ignored.

### *The Constructionist Point of View*

Hannigan (1995, p. 31) provides the constructionist view, explaining that environmental risks are also products of “a dynamic social process of definition, negotiation, and legitimation.” Citing Best, Hannigan explains that social construction is both a theoretical perspective and an analytical tool. Basically, while anyone can propose a definition, the particular position of the poser greatly impacts that definition.

When examining problems using the constructionist perspective, there are three areas of focus: “the claims themselves, the claims-makers, and the claims-making process” (Hannigan, 1995, p. 64). Just as in the functionalist perspective, science has a role in social construction in defining the claims themselves. A claim is made using scientific methods and technology, tropical activity is monitored, detected, and labeled accordingly (e.g., tropical depression, tropical storm, hurricane). The claims-makers consist of members of particular interest groups, organizations or movements representing either their own interests or those of third-party groups (Hannigan). These entities help to define disaster. Claims-makers specific to hurricanes include government officials, scientists, the media, and those directly impacted by storms. The claims and

claims-makers are both involved in the claims-making process. Hannigan (p. 66) describes this process as leading to a “public arena being built around a social problem.” He explains that the overlap occurs among the three processes Wiener labeled: animating, legitimating, and demonstrating. Animating occurs when constituencies are developed, and skills and knowledge are imparted. Legitimating occurs when respectability and identity are built and the scope of the social problem is defined (or redefined). Demonstrating occurs when claims-makers unite, combining strength, and public attention is gained. When examining the claims-making process it is important to consider the intended audience, both in terms of presentation to and response of the audience (Hannigan). In terms of a disaster, when considering the claims-making process the information that it presented, such as storm damage predictions, the presenter of said information, such as the media or government, and the trust the general public has in the presenter of the information.

### *Social Construction*

Rodriguez, Quarantelli and Dynes (2007) posit that disasters themselves are social constructions and they offer multiple definitions. Although they do not use the same labels as Hannigan, their examples fall within his areas of focus. They cite Kroll-Smith and Gunter’s concept of the interpretive voice as a call to define disasters by studying those who experience them. This method of defining a disaster fits with Hannigan’s claims-makers. Rodriguez, Quarantelli and Dynes note that Presidential Disaster Declarations, use both scientific concepts (the claims themselves) and mandated definitions (provided by claims-makers) to set both disaster policy and response. They also provide an example of the overlapping claims-making process by citing Britton who

notes that emergency officials are often required “to simultaneously deal with definitions that differ between levels of government and between specific policy audiences”

(Rodriguez, Quarantelli & Dynes, p. 2). Rodriguez, Quarantelli and Dynes are quick to note that all generated definitions are important, legitimate, and purposeful; moreover, they aid in constructing the study as well as theory of disasters.

The theoretical social construction of disasters has been used by researchers to describe the events or stages of disasters using the actions of the impacted persons and planners, as the defining characteristics of each stage. One such example is the work of John W. Powell et al. on disaster stages as described by Maxwell (1983). The Time-Space model of disaster, developed by John W. Powell et al (1953), divides natural disasters and human adaptation to them into seven stages: pre-disaster, warning, threat, impact, isolation, rescue, rehabilitation, and irreversible change. In Powell’s first stage a social structure is in place that governs everyday activities. This governing social structure can be one created by a social group, community, or a political body, for example. In his last stage, a new social system has replaced what existed before. Bell’s (1978) work is a second example. He describes disasters as having three phases, the first being a time of intense social disorganization when the scope of the event is defined and appropriate mechanisms are brought in, i.e., plans are put into action. The second phase brings about a sense of kinship as a “therapeutic community” rallies for recovery. The third phase occurs when individual and group efforts are directed toward the re-establishment of life and the way things were. It is during the first stage that research often takes place. Media attention during all storm stages also provides a part of the social construction, again impacting policy makers and planners as well as those in the

path of the storm (Hannigan, 1995; Eisensee, 2006; Rosenkoetter, Covan, Bunting, Cobb, & Fugate-Whitlock, 2007).

### Summary of Literature Review

Natural disasters occur often and have a great impact on society, particularly those who are vulnerable. While researchers to date have not reached a consensus on what makes a person vulnerable, it is clear that natural disasters have deleterious effects on older adults. Much of the research about older adults and disasters has been ex-post facto. Researchers have focused on coping abilities, experiences, decision making, and needs assessments resulting in recommendations for future disasters. Using a social construction perspective, researchers can examine planning for future disasters from a more complete vantage point.

### *Problem Statement*

While understanding how older adults fared during disasters and what their needs after the storm are important, understanding the perceptions, beliefs, and resources of low-income older adults to inform future planning is needed. As Herzog (2007) explained, “During a natural disaster, there is a need to reduce uncertainty by anticipating problems and solutions” (p. 588).

### *Purpose*

Community planning is often based on what one group of people, most often planners, assumes another group needs or wants without having asked the group if such a plan would suit them. This research will take the form of grounded theory influenced by participatory action research, allowing the community to have a voice in the planning, rather than just to be planned for. Bell’s (1978) findings support the idea that informal

support structures serve and are consistently valued more by older adults more effectively in disaster circumstances more so than younger victims. Ultimately, it is the goal of this researcher to bridge the gap between the plans planners make and the plans that older adults residing in housing authority properties make. Ideally this work will offer guidelines for integrating idealism (what planners want) and realism (what older adults do).

## CHAPTER THREE: METHOD

### Research Questions Guiding the Study

The researcher's purpose was to examine older adults' experiences with and response toward hurricanes in relation to various levels of community, e.g. community as considered by the local government, the housing authority, and the older adult residents themselves. Also of interest were the considerations that older adults use in response to a disaster. For example, who do they depend on for information used in decision making or who do they rely upon for gathering supplies or other needs related to sheltering in place or evacuating? Specifically, the objective was to understand the current social responsibility network, or who provides care for whom under what circumstances, regarding older adults. The social constructionist perspective was used to examine the varying levels of community. Gerontologists do not know how older, low income residents of housing authority communities socially construct disasters. As they do not own their own homes and are dependent on government housing, they are at a disadvantage such that they can be forcibly relocated, even at times other than during a disaster. Nevertheless their views are unique and they must be considered by planners. Planners know that they do not follow their guidelines but do not know why they do not follow the guidelines. Knowing this is a necessary antecedent to getting residents to plan and react as planners would like. The research questions for this study were:

1. What considerations do older adults with low incomes who happen to reside in public housing use in response to a hurricane?
2. According to various levels of community what resources do older adults need in response to a hurricane?
3. Is it possible and practical to create a systematic plan for disasters that considers the viewpoints of local government officials, housing authority officials, and older low-income residents who reside in a housing authority community?
4. What would such a systematic plan for disasters look like?

### *Theoretical Orientation*

#### *Grounded Theory*

Grounded theory, an emergent technique, is used to study social process and social structures. When using grounded theory the researcher seeks to discover the theory implicit in the data. Grounded theory methods provide for systematic but flexible guidelines for collecting and analyzing data (Glaser & Strauss, 1967). Grounded theory is considered an inductive method (Bryant & Charmaz, 2007). Charmaz (2006, p. 188) explains that inductive reasoning “begins with study of a range of individual cases and extrapolates from them to form a conceptual category.” Stern further explains that inferences are built on data such as interviews, observations, and documents gathered from the social situation being studied. In short it is a “systematic process for generating theory that was grounded in everyday real-life data (Stern, 2011, p. 19).”

In grounded theory, sampling takes place theoretically, meaning that participants are selected according to the descriptive needs of the emerging concepts (Glaser, 1978).



Sampling is purposive, which increases the diversity of the sample, as it requires searching for different properties (Stern, 2007). Morse (2007) further explains that participants are sought based on particular experiences and asked to tell their story; targeted questions may be included. This data can be used to verify theory (Morse). On the other hand, if participants do not respond in the anticipated way they are considered (defined as) negative cases and are too integrated into the emerging theory (Morse). If themes and codes become saturated, or when “the learner hears nothing new” additional similar participants are no longer needed (Stern, 2007, p. 117). Stern further explains that in keeping with the grounded theory method, the sample may be expanded depending on findings. In order to verify saturation, grounded theorists then examine the literature to determine validity of the results.

Data collection and analysis occur simultaneously (Morse, 2007). Data collection begins with note taking from observations and interviews. The notes from one interview are compared with notes from another, resulting in constant comparison. Stern (2011, p. 19) explains “the constant comparative method of analysis that enables the researcher to create concepts while remaining faithful to the data.” As such, data collection is informed by data analysis (Stern, 2011). Specifically, the notes from one interview are compared with notes from another, resulting in memos and coding. The memos and codes then drive continued data collection. Stern (2011, p. 65) explains the importance of constant comparison: “It’s what keeps the research product true to the phenomenon and social scene under study.”

This constant comparison results in memos and coding. Writing memos is a process that the researcher uses to keep track of ideas related to the data (Stern, 2007). Memo writing in grounded theory provides an opportunity to analyze data and codes early in the research process (Charmaz, 2006). Memos can vary in length but contain contemplation that will assist your “way through the labyrinth of possible meanings and conceptual configurations” (Stern, 1991, p. 156). Codes are labels for potential commonalities or relationships (Charmaz, 2006). Specifically, it “involves breaking up your data into segments, then attaching labels to the segments, and then collapsing the labeled segments or labeled codes into one or more conceptual categories. (Stern, 2011, p. 64)” Codes that seem to be indicative of the same things are then collapsed into categories (Stern, 2011).

Codes and memos can be “verified” by other researchers or by discussing the findings with the participants in a process that is also referred to as member checking. Rigor is established by this constant comparison of data and member checking (Charmaz). Another method of establishing rigor is triangulation. Kushner and Morrow (2003) suggest that theoretical triangulation can be achieved by constant comparison of the data gathering and analysis with that from feminist and critical theories. Gibson (2007) suggests that theoretical triangulation can be problematic for grounded theorists as he believes the strategy has potential but is underdeveloped.

### *Action Research*

The purpose of action research is to combine action and research to achieve change (Dick, 2007). “Action research was a way of engaging directly with real social problems while developing theoretical understanding (Dick, 2007, p. 399).” A researcher engaged in action research aims to both meet a practical need as well as contribute to overall scientific understanding (O’Brien, 1998). Action researchers often work with populations that are vulnerable in terms of power or control and can be collaborative in nature (Polit & Beck, 2004). The action researcher can perform several different roles during the research process, including: planner, listener, teacher, observer, and reporter (O’Brien). The methodology of action research is less specific than that of grounded theory. Lewin (1946) describes the process as a cyclical one of planning, acting, and investigation of the result of the action. Huang (2010, p.93) posits that the purpose is “to effect desired change as a path to generating knowledge and empowering stakeholders.”

### *Grounded Theory and Action Research*

While purist grounded theorists and purist action researchers might argue that each of the two approaches are separate from the other, there are actually similarities in the methods. Both are emergent techniques “capable of being used flexibly and responsibly” (Dick, 2007, p. 398). Dick further contends that two techniques are complimentary and aspects of one can strengthen the other. Specifically, grounded theory aids in being more explicit regarding theory developed, while the strengths of action researchers include more directly involving informants, collecting and interpreting data more efficiently, and involvement with the action directly (Dick). Lewin’s action

research method has been used to develop and test grounded theory (Schachter, Teram, & Stalker, 2004; White, 2004).

The theoretical orientation of this research project is twofold, relying on both the grounded theory method as well as the action research method. The emergent theory developed is directed by grounded theory methods while the involvement with informants and the action of disaster planning is influenced by the action method.

#### *Researcher Bias*

The researcher's personal and professional bias can be seen in the selection of the research orientation. An action researcher makes a decision from the outset of research that the system needs to be changed in order to become more efficient. Her background as a social worker orients her towards action research:

The primary mission of the social work profession is to enhance human wellbeing and help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are vulnerable, oppressed, and living in poverty. (Code of Ethics of the National Association of Social Workers, 2008).

In qualitative research bias is acknowledged by the researcher through reflection. This researcher engaged in memo writing about researcher bias before data collection began and revisited the subject when recording field notes and audio notes. In fact researcher bias, or perspective, becomes data for analysis along with all other biases such as those of residents of housing authority communities that go along with their residential status, and county bureaucrats have their biases as well.

## Research Design

### *Procedure*

Two theoretical orientations were used for this research: grounded theory and action research. Specifically, data collection and analysis were undertaken using the tenets of grounded theory. The suggestions and recommendations made to planners were done so in the spirit of action research. As suggested by O'Brien (1998), the researcher acted as listener, observer, and planner for the participants. The researcher served as an intermediary presenting the views, resources, and needs of stakeholders (older adults who resided in public housing projects), to area planners.

This research was guided by inductive reasoning. Interviews were held with older adult housing authority residents and local emergency planners. In addition, observations of what transpired at meetings what happened during interviews were recorded. The researcher also examined meeting agendas, minutes, and emergency planning materials that are routinely distributed. All of these, to some extent were used to form the inferences made by the researcher. Thus, all of the following types of data were used: written interview notes, written field notes, oral notes, and written disaster plans. To facilitate data analysis, all written interviews and oral notes were transcribed and saved as electronic documents. As each interview was transcribed, responses to each avenue of inquiry were recorded and combined in one electronic document. The researcher then read, and compared them, one avenue of inquiry at a time. Next comparisons were made across all avenues of inquiries looking for commonalities and patterns in the ideas expressed by housing authority residents and staff members. As a part of this comparison,

more notes were produced in the form of memos. These memo notes were labeled as observational, theoretical, or methodological. Observational notes were exactly, that, notes in which the researcher commented on what she had observed. Theoretical memos were written to note how what the researcher observed reminded her of theoretical material that exists in the literature of gerontology and and/or social work.

Methodological memos are notes written by the researcher to the researcher about whom she might interview next or about how the study should proceed. These too, might include references to what previous researchers had done who studied similar problems.

The commonalities discovered in the constant comparison process resulted in the creation of codes. These codes were then collapsed into categories. The memoing process was continued throughout the analysis as more codes and categories were considered. As per the requirements of theoretical sampling, the researcher attended meetings and conducted more interviews based on information participants shared. The same process of constant comparison was undertaken for the data gathered as household disaster plans, observational notes, meeting agendas, and minutes.

Morse (1997, p. 447) states, "Researchers must learn to trust themselves and their judgments and be prepared to defend their interpretation and analysis. But it is death to one's study to simplify one's insights, coding, and analysis so other researchers may place the same piece of data in the same category." Therefore rigor is established by providing explanations of what the researcher did during the research process. Several steps were taken to ensure scientific rigor. Firstly, triangulation was used. To this end, the researcher compared all sources of data, meaning for example, interview transcriptions

were compared with observation notes and meeting minutes, to determine if the findings were similar. To further triangulate findings, the researcher compared her own results with existing literature in an effort to determine if new theory was discovered or existing theory was being expanded upon. To further establish rigor, the process of member checking was employed. Specifically, during interviews as well as after data collection was concluded, the researcher provided key informants with summaries of information gathered and results and asked to comment on accuracy. This was accomplished two ways during interviews. The first was through the style of interviewing. After a response was given, the researcher checked to determine if her understanding was correct by asking restating the participant's response. A second aspect of establishing rigor was accomplished simply by conducting many of the interviews in groups. By conducting the interviews in groups there was more than one participant to verify interview data.

#### *Sampling, Participants, and Setting*

Grounded theory takes a different approach straight away from other qualitative methods in that priority is given “to the studied phenomenon or process rather than a description of a setting” (Charmaz, 2006, p. 22). Charmaz further explains that a researcher using grounded theory likely goes across settings to collect data, interviewing persons when a review of emerging theory suggests that this is advisable. Action research dictates that research take place in a natural setting appropriate for the problem studied and the potential change desired (Lewin, 1946).

A discussion of the initial setting chosen for this study is germane to this research. There was a purposeful theoretical reason for selecting the Knoll View neighborhood.

Knoll View is one of four housing authority locations with designated units for the elderly. There are approximately fifty elderly/handicapped designated units in this location. Knoll View has a community center that is used by residents and housing authority staff members for community planning.

As data collection and analysis are simultaneous when using the grounded theory method, analysis began as soon as data collection was initiated. In analyzing the six household plans from Knoll View it became evident that saturation had been reached as there was little or no variation in what was being learned. In an effort to determine if this was in fact the case, seven plans were collected from Hearth Place. Hearth Place was chosen as it is a similar housing authority neighborhood in terms of elderly/handicapped designated units and community center usage also in Wilmington, North Carolina.

The demographic profile of residents (older, disproportionately poor, and of color) who live in this neighborhood is strikingly similar to the profile of residents who did not evacuate New Orleans in the face of Hurricane Katrina (Gibson, 2006). All participants were African American women originally from Southeastern North Carolina that met income standards set by the Housing Authority. All were independent community dwelling older adults. In this region of North Carolina, the definition of “special needs” used by departments of emergency management officials is narrow, based mostly on medical needs such as requiring twenty-four hour care or oxygen, and usually refers to people that are unable to stay in shelters independently. Aid for those deemed “special needs” is reserved for those at highest risk and only after their individual disaster plan has failed. Other residents are assumed by an emergency management



special needs task force to be self-reliant, including those who lack automobiles for transportation or funds to pay others to drive them. Those that are not able to be self-reliant, yet do not qualify for “special medical needs” status must depend on their social networks (i.e., friends, family, neighbors, and other community members) to provide care related needs. Because many such people live in Knoll View and Hearth Place, this setting and population were selected for this research project. It was also chosen because of an existing memorandum of understanding between the University of North Carolina at Wilmington and the Wilmington Housing Authority (Appendix A).

### *Gaining Entry*

Gaining entry, or access, to a particular level of community and its members is a necessary first step in any research project that involves engaging members of those communities. Approval by gatekeepers assists in ensuring participants’ trust and greatly impacts the success of the research project. As various levels of community were involved in this research project entry had to be gained at various levels. The University of North Carolina Wilmington (UNCW) and the Wilmington Housing Authority (WHA) have partnered together to provide programming for the community that ranges from reading programs for children, computer classes for all ages, and fitness or wellness programs. The goal of this campus wide initiative is to combine efforts and centralize activities and research that departments are engaged in to provide programming for seniors, youth, families and individuals in our low income, public housing communities. The Knoll View Community Center is a location that allows UNCW to participate in the community and to provide activities such as school programs, computer classes, events,

seminars, and activities as well as to have a central place to house materials that can be accessed by community members. This particular dissertation project was supported by UNCW and the WHA (Appendix B). The project employed a Community Campus Coordinator who aided in gaining entry by facilitating meetings with key community members. The coordinator arranged a meeting between the researcher and the Knoll View Housing Association president to discuss project specifics. Similarly, UNCW had an arrangement in place with a second WHA neighborhood Hearth Place. A staff member working for the Division of Public Service that provided programming and served as the Campus Coordinator for that neighborhood aided in gaining entry to the neighborhood. She acted as liaison providing introduction to key community members such as the neighborhood association president. Likewise entry was necessary with community planners. The Gerontology Program at UNCW has more than a 10 year relationship working with the Department of Emergency Management and the Special Needs Task Force. As a member of the UNCW Gerontology faculty the researcher gained access to meetings as well as the planners.

### *Sampling Strategy*

Sampling in grounded theory is theoretical and sample size is revisited as data are analyzed. Sampling size is not a number of participants rather one samples interaction or theoretical units. Units of analysis for this research project were disaster plans and any interaction on the part of community members in their roles as members of communities that led to the creation of disaster plans. These interactions were observed as interviews were completed, as community meetings were attended, and as written documents that

appeared on “community” websites were reviewed. Disaster plans including those of individuals, those prepared by county personnel, and those who work for housing authority projects and beliefs about disasters and planning were sampled. In keeping with grounded theory , the sample size can vary and depends on saturation. Saturation of housing authority resident plans occurred very quickly because residents in Knoll View all told the researcher about the same thing. This is why the researcher then went to Hearth Place, to learn if there was something idiosyncratic about this one particular housing authority project that led residents to talk the same way concerning disaster planning. For planning purposes, the sample of residents who expected to complete disaster plans was ten participants. Ultimately thirteen household plans were collected. The sample type was then expanded to include some of those who attend New Hanover County Emergency Management meetings and others who are involved in community disaster planning.

#### *Initial Recruitment of Older Adults Residing in Public Housing*

Recruitment of older adults for this research was both by word of mouth and specific advertisement. The Knoll View Housing Association president aided in participant recruitment by participating in scheduling informational meetings with residents and posting and distributing a flyer (Appendix C). The researcher also recruited by engaging in a community open house where information about various community projects was available. The researcher occupied a table at the community open house, provide informational flyers, and answer questions about this research project. The Campus Community Coordinator also aided in identifying potential participants. Similar

recruitment techniques were used at Hearth Place as the same flyer was distributed and the Campus Community Coordinator identified potential participants.

#### *Inclusion Criteria for Older Residents*

Inclusion criteria were older adults who resided at Knoll View or Hearth Place, were willing to participate in the study, and had the ability to complete the household disaster plan either individually or with the help of a family member. Exclusion criteria were: no member of the household over the age of 60; or the participant was unable to complete the disaster plan.

#### *Protection of Participants*

This project was submitted to and approved by the University Institutional Review Boards at Virginia Commonwealth University and the University of North Carolina Wilmington. All members of the research team were certified through CITI for research with human subjects. Interview participants developing household disaster plans were given a cover letter that explains their rights as participants and were asked to sign a consent form. A second consent form was used for participants willing to share personal disaster planning information with the principal investigator and community leaders in effort to assess the overall needs of the community and develop a community plan.

#### *Data Collection*

Sources of data included the collection of household disaster plans, semi-structured interviews with older adult residents of housing authority neighborhoods, semi-structured interviews with community planners, and observation of community planning meetings. A strength of grounded theory is the richness of data gathered as a

result of using multiple sources of data. Data was collected was initially conceived as having two phases: the household planning phase and the community planning phase. Ultimately it became clear that the data collection for the two phases was best completed simultaneously in order to gather the necessary data from all levels of community. The data for household planning was gathered using semi-structured interviews to complete a family disaster plan template. The collection of the disaster plan templates was a starting point; a means to other data (e.g. semi-structured interviews). The researcher attended resident association meetings and other resident meetings such as educational programming or socials. Data collection also involved attending, both participating in and observing, community disaster planning meetings. To learn about the point of view of planners, the researcher also attended three meetings of the Special Needs Task Force (SNTF), which is affiliated with the New Hanover County Department of Emergency Management as well as two community planning meetings. Data from these meetings consist of notes taken by the researcher, meeting agendas, and meeting minutes both provided by the New Hanover County Department of Emergency Management. Two meetings of the Housing Authority Residents Association were also attended. Individual interviews were conducted with area planners connected with the county government and the housing authority. The interviewees connected to the housing authority included both paid staff members and residents with leadership roles in the neighborhood associations. For purposes of analysis the County and Housing Authority officials are considered as planners. Finally, the researcher examined literature written by other gerontologists about similar populations to verify the validity of her emergent results.

### *Family Disaster Plans*

A template created by the North Carolina Department of Health and Human Services (NCDHHS) was used to create family disaster plans: the NCDHHS Family Disaster Plan (Appendix D). This template for household disaster planning was selected for several reasons. For one, as it was in use by the NCDHHS it had credibility from one of the levels of community involved. A second more subjective reason was that it provided a thorough starting point for not only planning but the semi-structured interviews that were conducted after it was completed. The NCDHHS Family Disaster Plan requires nine categories of information as well as a section to remind the user to update the plan. The first category of information requires a listing of household members by name as well as their birthdates, relation, and social security numbers and information concerning pets that includes rabies vaccination numbers and veterinary contact information. The next category is for household information such as contact details (address, telephone, email), specifics about vehicles, and local emergency numbers. The third category lists utility and service contacts including insurance providers. The next two categories of information require contact information for family, friends, neighbors, and employers. The sixth category is for reunion procedures. The seventh and eighth categories require health information, medication and physician details respectively. The next category provides space for a participant drawing on the layout of a home that includes utility shutoffs and safety equipment. Within in the plan information about utility control, disaster supply kits, and a list of resources are also provided. While the purpose of this research was not to create kits for all participants,

existing kits were reviewed and important items for the kit were discussed as well as alternate solutions for items that were potentially costly. Using this template as a guide, semi-structured interviews were completed and a household disaster plan was created.

More than just the plans themselves constituted data in phase one of this research. In addition, conversations with the older adults occurred as semi-structured interviews as the plans were completed in an effort to discover how older adults define disasters and whether planning for them, however they perceive disasters, is salient. Although the questions asked in these interviews were expected to shift as data were analyzed, initial avenues of inquiry are listed in Appendix E. Scenes of interaction were recorded as field notes. Field notes were taken using the method of Schatzman and Strauss (1973) identifying notes as observational, theoretical, or methodological. Observational notes are not interpreted statements; they are the “Who, What, When, Where and How or human activity” (Schatzman & Strauss, p. 100). Theoretical notes reflect the meaning derived from observational notes and they provide an opportunity for interpretation, inference, hypothesis, and conjecture (Schatzman & Strauss). Methodological notes are about the researcher’s methods and “might be thought of as observational notes on the researcher himself and upon the methodological process itself” (Schatzman & Strauss, p. 101). In addition to semi-structured interviews, the researcher attended various community meetings such as the residents’ association meetings, educational programming, and socials. Meeting agendas and minutes or topics spontaneously discussed were also recorded as field notes and compared. Audio notes were also recorded after each interview or meeting to immediately record personal insights and observations.

Community leaders and planners including members of the New Hanover County Emergency Management, the Knoll View Association President, the Hearth Place Association President and housing authority staff were interviewed about current disaster planning processes as well as this particular research. Although the questions asked in these interviews were expected to shift as data are analyzed, initial avenues of inquiry are listed in Appendix F. The initial avenues of inquiry reflect the preoccupation of emergency management officials with natural disasters that are associated with storms. Additional avenues of inquiry were developed as the older adults revealed their definitions of disaster, to the extent they differed from the definitions of county officials. Meeting agendas and minutes as well as documents created by the WHA and the NHCEM also provided data regarding the social construction of disasters and planning. Codes were developed that seem to explain how older adults perceive disastrous situations and what is happening at community meetings in an effort to discover dimensions of social process. Codes were then compared to one another in relation to a reread of the data in attempt to learn how older adults socially construct planning, or not planning, for a disaster. As plans were completed, older adults were interviewed, and meetings were attended, field notes were immediately compared and codes were developed.

### *Neighborhood Disaster Plans*

To meet the participants' own needs and those of their neighbors, it was desirable to create a neighborhood disaster plan. The intent of a neighborhood plan was to address these gaps in disaster preparedness and developed a response strategy that encouraged the



formation of social networks within the community. The household plans were analyzed using the grounded theory method of constant comparison to determine what needs were currently being met as well as those that were unmet.

## CHAPTER 4: RESULTS

Four research questions guided this examination of the planning process regarding natural disasters by residents of housing authority communities: 1) What considerations do older adults with low socio-economic status who reside in public housing use in response to a hurricane?; 2) According to various levels of community what resources do older adults need to respond to a hurricane?; 3) Is it possible and practical to create a systematic plan for disasters that considers the viewpoints of local government officials, housing authority officials, and older low-income residents?; and 4) What would such a systematic plan for disasters look like?

Upon reading the data line by line, text that seemed to suggest a particular idea was underlined. The underlined text resulted in codes (Appendix G for an example). The codes were then collapsed in to four categories: definition of community, resources, considering experience, and definition of disaster (Appendix H). In comparing and contrasting data and emerging codes and categories related to the above research questions as well as memo writing and sharing research notes with colleagues, the overall theme that emerged was discordance.

### Research Question One

**What considerations do older adults with low socio-economic status who reside in public housing use in response to a hurricane?**

Codes for considerations used by low socio-economic status older adults include perceptions, beliefs, and resources. These considerations are based on beliefs about what they can and cannot control and predictions of what will happen in the future based on previous experiences. Their perceptions of disasters were largely based on reflections of previous experience, that of past hurricanes and storms and the resulting personal impact. One participant thus said, "I feel safe in my apartment because there is not much open space here and I am protected by buildings. Nothing happened in the past." It is important to note in the analysis of this category, that the codes reflected the respondents' perceptions resulting in the category label of perceptions. All women discussed previous storm experiences. Considerations also include resources of what and whom they know. A retired CNA explained that her former co-workers as well as her medical training were her resources in time of need. Religious beliefs were also cited as integral to preparing and responding to a disaster as they shared a belief that only Jesus or God can control the outcome. In response to a hurricane the researcher was told, "one should accept Jesus." "You can't help it if something happens. You have to "go with the flow, whatever God says, survive or die." The idea was also expressed that while God was in control that as individuals they could still play a role. "You can plan even though you are not in control." Common knowledge when combined with this faith was also considered a resource. Saturation was reached quickly, so to ensure it was valid these results were compared to the results of other researchers studying African American women and findings were consistent with literature. Specifically, Ladika (2010) noted the importance of religiosity in literature review of seventeen studies.

## Research Question Two

### **According to various levels of community what resources do older adults need in response to a hurricane?**

In examining resources needed by older adults in response to hurricanes, it became necessary to consider the various levels of community. As data were collected and analyzed it became evident that participants used multiple terms relating to community and therefore varying levels of community existed, leading the researcher to create codes for each level mentioned by participants. Multiple, overlapping communities are involved in disaster planning and response: housing authority communities, neighborhood associations, the Housing Authority, the City of Wilmington, New Hanover County, the Special Needs Task Force, and the older adults' social networks. (See Figure 1) Firstly, the older adults reside in a housing authority community, like a neighborhood, geographically defined by the housing authority, specifically for this research either Knoll View or Hearth Place. Within each neighborhood community is a neighborhood association that is comprised of residents and staff members that sets rules and regulations. The housing authority community is also subject to rules and regulations set by the Housing Authority itself. The hierarchy of community continues as the older adults are also residents of the City of Wilmington as well as New Hanover County. The Special Needs Task Force (SNTF) ultimately operates under the auspices of the county. For example, the county makes decisions in conjunction with the city of Wilmington and area beaches (that are towns within New Hanover County) but ultimately county officials make autonomous decisions. The older adults have also created their own community or

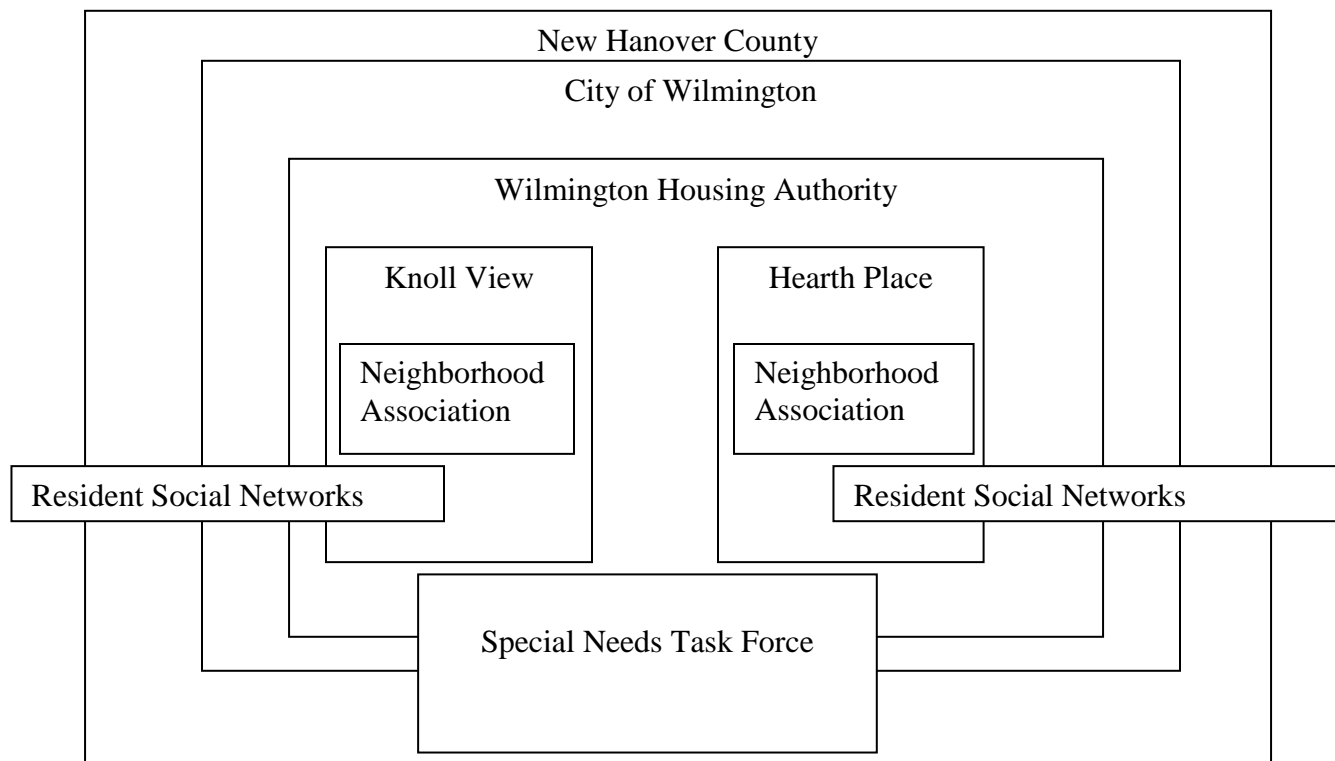


Figure 1: Levels of Community

social network that expands beyond the boundaries of the neighborhood, the Housing Authority, the city, and the county. As a result of these various levels of community, conflicts exist as planners and bureaucrats may not consider the same resources and they definitely do not see things as do the older adults who participated in this study.

#### *Defining the Community*

Housing authority residents and planners have differing ideas of what constitutes a community. Planners define the community based on geopolitical boundaries simply as being a part of the City of Wilmington, County of New Hanover or the Housing

Authority. While residents acknowledge that they are a part of these communities, it is their created community or social network with which they primarily identify.

Planners associated with the Special Needs Task Force define community boundaries using established geographic and political aspects. When discussing community, planners specifically used the city and or county names. When discussing the Housing Authority the specific neighborhood names were used as defining characteristics. Specifically, they serve residents of New Hanover County which includes the city of Wilmington, Carolina Beach, Kure Beach, and Wrightsville Beach. The Housing Authority also has its own defined community. Their slogan used on printed materials in fact is “Serving Families, Creating Communities.” Although they say that they have multiple levels of community: “public body, and a body corporate and politic,” they speak as if each housing authority property is a community. Their organizational structure includes a Board of Commissioners appointed by the Mayor of Wilmington with at least one member being appointed by the Authority. They also have paid staff members to provide day to day operations. The Housing Authority staff encourages each neighborhood to create a residents association.

Many of the housing authority residents interviewed had a different view of community. They spoke of creating their own informal community network for support. Codes that defined this category include friends, family, religious inferences and neighbors. This informal community network consisted of both neighbors living in the housing authority as well as people outside of the immediate neighborhood. Personal contacts were considered resources in informal community networks. Members of such

communities were considered resources because they provide one another with social support, information, and/or material aid. One explained, “I always keep canned goods on hand because I can trade with people I know.” Another resident discussed relying on her former Certified Nursing Assistant colleagues for information and medical help if needed. In several instances the participants elected to complete their plans in groups sharing information with each other while the plans were completed. One section of the template requires contact information for service providers such as the hospital, doctor’s office, or pharmacy. In one such instance while the names of the service providers were common knowledge, only a single participant knew the specific contact details. The created sense of community while completing the plans allowed for the sharing of this information.

This created community was especially apparent among the women of Hearth Place. This particular group elected to complete their plans at the same time. Each individual completed her own plan and the items on the template were collectively discussed. This created sense of community was something observed by the researcher as well as noted by the participants. For example, in previous power outages residents shared cell phones to make contact with agencies and family members. “We know who has cell phones and we know we can share in case of an emergency.” There socially defined community also had somewhat of a hierarchy. While they all discussed relying on each other as a way to “check-in,” and acknowledged that this contact was also a welcomed social outlet for them all, one participant referred to another as “the overseer” of the group, as she often checked in on her neighbors. In fact, while conducting the

semi-structured interviews, the group members provided affirmations and support for each other: “I am thankful to have a group of people I feel comfortable sharing with.”

Overall this group of participants was very willing to share their information. The older adult residents trust those in their informal community as their informal communities are based on boundaries of trust rather than on geographical boundaries such as those that county and housing authority planners use to define communities. These informal communities were particularly important as eight of the thirteen women lived alone. Housing authority residents included other residents they trusted as well as the researcher as someone with whom they could share information. All participants agreed to complete the plans, to be interviewed, and to have their information shared with planners. In two instances at Knoll View the women signed up to complete their plans along with a friend. Two women wanted to complete their own template but were willing to share the information with the researcher. Another specifically asked the researcher to record her name as she said it was important that she share the information. Another provided a list of all her medications and some notes, which detailed her physicians and purpose of treatment, including psychological diagnosis. When the collection of household disaster plans was pilot tested, a majority of the participants expressed concern over who would have access to their information and reported concern with recording sensitive materials in any manner. Only one participant from the housing authority neighborhood expressed concern over the sharing of her information; specifically she was concerned that a certain person she referred to as a “busybody” would not be privy to her information. She was willing to share for community planning but not for gossip.



The participants' willingness to share capacity to trust was also impacted by their basic social process of considering experiences. Through memoing about commonalities it became apparent to this researcher that a shared experience, even when unrelated to the research topic at hand, was key in gaining trust. The researcher was noticeably pregnant through much of data collection. The pregnancy served as an ice breaker of sorts, as all participants inquired about the baby and pregnancy during the interview and shared their own experiences of pregnancy and motherhood. Being pregnant and being a mother was a shared experience among the researcher and participants such that, while it did not directly relate to the research, it certainly aided in gaining entry and trust with these women.

Organized religion and spiritual beliefs were very apparent in the response of the older adult participants and were clearly part of their defined community. Older adults referred to religion, a total of forty-seven times and religion was present in every interview. Initial codes included God, the Lord, Jesus, church, and praying, God was seen as the controlling factor in all that occurs. "He allowed it to happen so I have to follow his plan." "You have to accept Jesus. You can't help it if something happens. You go with the flow, whatever God says, survive or die." "You can plan even though you are not in control." Faith and religious activities were also seen as a resource when deciding what to do concerning disasters. "I just pray." The residents considered houses of God to be safe "havens" in their community. When asked where they would be willing to evacuate to if required, a local church was a common response. This finding is consistent with the work of Kilijanek & Drabek (1979) as they found that older adults were more

likely to use aid or shelter offered from churches as well as Langer's (2004) finding that informal supports were more likely to be used. Discordance again exists because as planners may individually believe in God or attend a church, they do not rely on spiritual beliefs when developing guidelines for planning for disasters nor do they rely on houses of God (churches) as evacuation sites as churches do not fall under their jurisdiction which defines community for planners. This is in fact the norm in the United States as there is a separation of church and state. While coding data in terms of the importance of religious institutions with regard to community, no references to religion were made by planners. The Housing Authority also does not include churches in their definition of the community or in planning for survival in the event of a natural disaster. That religious involvement is so important to low-income women who reside in public-housing projects and not at all salient to professionals was identified as "discordant" by the researcher. Other examples of discordance were also discovered and coded in line-by-line analysis of data.

The discordance resulting from different considerations in terms of community negatively impacts communication, and therefore planning. This is evidenced by the lack of direct participation of the Housing Authority or any of its residents on the SNTF. The stated basis of the Special Needs Task Force is mutual need as defined by partnering agencies such as the police and fire departments, the Red Cross, the United Way, area schools, and energy companies. Members present at meetings attended by the researcher included representatives from the Department of Social Services, the Area Agency on Aging, the county health department, Hospice, Services for the Deaf and Blind,

Emergency Management Services, area long-term care facilities, and community volunteers. While there was no direct representation on the SNTF for the Housing Authority or its resident associations at meetings the researcher attended or in minutes reviewed by the researcher, the Housing Authority does have members listed on the SNTF roster currently. At the time of data collection the SNTF claimed the Housing Authority was represented in name by the Department of Social Services (DSS). “I assume other agencies, like the Housing Authority, work more with DSS.” When interviewed, no planners had either extended an invitation or received an invitation for the Housing Authority to participate on the SNTF. According to current SNTF members, this lack of direct representation and participation was said to be related to perception of responsibility. “I think they don’t feel as responsible for residents as nursing homes do.” When planners speak of community, they are referring to the area and residents of their jurisdiction, that is, all residents of the county for which they are responsible.

#### *View of Resources*

Older adult participants and planners also have discordant views of needed resources. While both groups discuss material resources that are needed to prepare for disasters such supplies or vehicles, they differ in focus. County planners assume that resources are available and need only to be gathered, while low-income older adults sometimes note that material resources are inaccessible to them because they lack the money to obtain them. Furthermore, older adults also discuss non-material resources.

According to a county planner, older adults must be prepared to evacuate and to accept the consequences of refusing an evacuation order adding that “once it floods it is

too late.” This sentiment is echoed by the county’s website and printed materials: “Make the commitment now to evacuate when told to do so by local officials.” Printed materials and the county website provide guidelines for sheltering in place, including a suggested list of supplies that should be on hand. These supplies include water, food, a first aid kit, tools and supplies, clothing and bedding, and items for residents with special needs (such as babies, pets, and those with medical needs), as well as family documents and items for entertainment purposes. These materials provided by the county also indicate that a smaller version of this emergency kit should be stored in the trunk of all residents’ vehicles. The Housing Authority too tells residents that if told to evacuate they must follow orders. Their instructions given to residents when sheltering in place include tying down trash cans and bringing any outdoor furniture or objects inside. Residents are told that doing these preparations are their responsibility and they will be fined if they do not make these preparations.

The SNTF considers the physical and mental well-being of residents to be resources. They prioritize needs and interventions with physical and mental resources in consideration. The SNTF does not help housing authority residents because they are mostly considered to be able bodied and able minded. Wealth is not considered a resource as the criteria for being considered as having “Special Needs” are physiological. When analyzing meeting minutes, only physical issues such as being vision or hearing impaired, on oxygen, or in long-term care were discussed. Specific reference to these physical impairments, rather than psychosocial challenges, were found in every data source from planners (See Appendix I).

Older adults agree that they need material resources, but they are unlikely to own cars; only five of the thirteen women owned a car, and thus they cannot store resources in the vehicles or trunks. Seven women did have cell phones and three used the computers in the community center to use email for communication. It is important to note that the computers in the community center, and therefore email as a means of communication, would not be accessible in the event of a storm. They are more likely to talk about non-material resources when describing what they need. They have created their own social networks and rely on religious beliefs and previous experiences to overcome lack of some resources but not all. They fear that the disruption of their created community will result in diminished access to the very people that they depend upon to provide some of their necessary resources such as information, support, and access to material goods. “The impact on people- I’m talking about more than being [physically] hurt- that is most important.” The older adults suggested that transportation was the resource that was needed the most. About two-thirds of those interviewed did not own an automobile. “A van that belongs to the housing authority is needed. Most of us do not have cars.” Other participants discussed financial resources: “I’ve got everything but money.” “I know the economy is bad but we need more services.”

Discordance exists between what the various levels of communities believe are necessary resources for older adults responding to a disaster. Personnel representing the community as defined by the county believe residents should be prepared to evacuate and their plan to achieve evacuation includes use of a personal vehicle. The planners believe their purpose to be educating residents is to prepare them to evacuate. To an extent, the

residents are autonomous in making evacuation decisions as they can leave before they are made to, but they can also be forced to leave. When they are forced to leave, the planning focus is different. While most residents possess created social networks and can take inventory of resources such as knowledge, contacts, and gather a disaster kit of first aid supplies, water, food and similar material goods, this is not enough if evacuation is required. Older adults can voluntarily self-identify problems to the SNTF based on not having transportation. Unfortunately, in the event of an emergency, transportation is only arranged if it is deemed safe and is available. These conditions are rarely met and if transportation is provided, the persons labeled as having special needs are required to have a chaperone. The community of older adults interviewed for this study does not have the transportation resource that is required for evacuation. This is of particular importance since the Housing Authority can require evacuation of its residents, but has no plan to assist them in leaving. While public transportation is available on a daily basis, it is not reliable in the event of a disaster, and this concern was expressed by the residents. “How would I go anywhere? The buses do not run when it floods.”

#### *Considering Experience*

Both older adult residents and planners frame their responses by considering experience with previous storms. In fact, storm experience was coded eighty-three times in data associated with this research. Six older adult participants reminisced about childhood experiences during Hurricane Hazel, (a category four hurricane which struck the area in 1954) and all discussed storms from the past few years. All planners also discussed previous storm experience. During an interview, when describing the building

that housed the “state of the art” Emergency Operations Center, a planner explained that it had been built to stronger standards to withstand strong storms (although when exiting, this researcher noted a skylight in the lobby which would not seem to fit the label of ‘storm proof’). The planner began this explanation by describing the flooding experienced in the previous building during a particularly strong storm with much rain. Previous storm experience was referred to in meeting agendas, meeting minutes, and interviews.

Planners believe that they should be the source of expertise for residents. Planners view their purpose as educating all area residents about having a plan in the case of disaster, and that overall their role as well as that of the Special Needs Task Force is to be “backup for everybody.” While their stated purpose is to educate individuals, much of their time during meetings is spent on maintaining the bureaucracy. For example, at a meeting of the Special Needs Task Force, much of the meeting focused on why a neighboring county could submit paperwork online and their county could not.

For the older adult residents, consideration of their previous experiences is a factor in making decisions about future actions. None of the older adult residents had ever evacuated during a storm, and this past behavior shaped how they planned to behave in the future. When asked if she would evacuate in the future one older adult said: “I have lived through many storms and nothing has ever happened to my family.” Another added, “I was here during (Hurricane) Hazel. Why would I leave?” They also had specific concerns, such as flooding, but felt that while flooding would make it difficult to travel, it would likely not impact their homes. “I feel safe in the neighborhood because it had (has)

never flooded while I have been here.” Personal experience is acknowledged by both planners and older adults but with differing outcomes. While everyone performs this basic social process of considering past experiences, the experiences of low-income women differ from those of planners and bureaucrats, perhaps because of their differing sense of community. Concordance abounds within communities but discordance exists between communities. This is because planners and older adults view experience from their own viewpoints.

Despite concern with the aftermath of storms, during both the semi-structured interviews and the completion of the household disaster plans, the considerations and responses often seemed based on what was proximate in media reports. For example, there were reports of a tornado that touched down destroying homes and killing several people in the weeks before four of the appointments. All four of these women defined disaster as including either a tornado or wind. Three participants referred to Hurricane Katrina and one referred to the April 2009 earthquake in Italy in their responses. The planners also framed their responses with recent events. At meetings of the Special Needs Task Force, members prefaced their answers with information about previous storms. “We had two in shelters and two in long-term care facilities during (Hurricane) Hanna...” explained a member when discussing residents on the special needs list.

### Research Question Three

**Is it possible and practical to create a systematic plan for disasters that considers the viewpoints of local government officials, housing authority officials, and older low-income residents?**



The most fundamental difference in view points between these low-income older adults and planners exists in defining a disaster. All planning is based on the conceptualization of disaster and as the views are discordant and disagreement on what constitutes disaster is what most makes creating a single plan impossible.

*What is a Disaster?*

Housing authority residents were more concerned with the aftermath of a disaster than were bureaucrats. Indeed, their viewpoints suggest that *surviving can be the disaster*. "... I would only worry if the winds were over 200 miles per hour and I was still living the next day," seemed to capture their views. Clearly, a resident explained that if she were forcibly evacuated to another state she would have difficulties with her Medicaid coverage because that coverage varies in other states. For her, the disaster would destroy more than a physical place; it would destroy her social order. For this reason she indicated that she would not evacuate. The prospect of dealing with the consequences of evacuation was more frightening than staying and dealing with the consequences of the storm.

In contrast, for planners, not listening to advice of experts, themselves, about the need to evacuate is disastrous, as evacuation is necessary for survival in their opinion and their primary goal is to save lives. Planners' comments indicate that they are preoccupied with safety in the hope of preventing disaster. "It is a disaster when someone needs help and we can't get to them because they waited too late to leave." They do not want to be dealing with the aftermath of not heeding their advice and they consider that to be the disaster. The discordance in defining what is a disaster is centered on whether there is a

need to plan for evacuation. Planners report that evacuation is necessary while the older adults report that leaving might be worse than staying. There also seems to be discordance in terms of the time focus. Planners are most concerned with saving lives; if they do this they will have avoided a disaster. They practice dealing with what they imagine could produce a disaster in the short run. For older adults the time focus is more long-term as they are concerned with how they will function during a storm as well as the consequences of the aftermath. Evacuation is perceived as generating consequences they do not wish to endure.

### *Stifling*

Several instances of stifling on the part of planners were noted. Stifling is a strategy employed by planners to establish they are worthy of authority by nature of their expertise. An open community meeting was held billed with three goals: to promote the special needs list, to educate older adults about disaster planning, and to elicit feedback about what is needed in terms of planning. When the floor was opened for questions and comments one audience member began providing feedback about what types of services were needed and which communities within the service area were in particular need. When it became evident to the two members of the Special Needs Task Force running the meeting that information being offered did not conform to their interpretation of history, they interrupted the audience member and kept her from continuing. While the planner perhaps did not intend to stifle, the consequence is that at public meetings, public comments were discouraged as a result of the fact that planners controlled the situation, by deciding to cut short comments that they felt were not relevant to their viewpoints.

Another instance of stifling outside input was observed. At a monthly meeting of the Special Needs Task Force, a recent research study conducted by researchers studying perceptions and trust in officials at another university was discussed. The two members in charge of running the meeting explained that some members had participated in focus groups and expressed displeasure at the amount of time they spent with researchers. One explained the research process by saying, “We are just going to tell you what we know and you are going to tell us it back.” When a task force member suggested that he had learned a lot from the experience, the group leader responded by saying that the only positive impact was the potential to get money from the research.

While the older adult residents were willing to share their information with the researcher, the impact of planner stifling was observed. When attending a community residents association meeting, the researcher was given the floor to talk about the project. The meeting attendees were then invited to make comments or ask questions by the community association president. All in attendance declined to do so, however, once the meeting was over, all but one in attendance stayed to discuss the project. While the residents were not stifled by the behavior of a specific individual, their reticence in the formal meeting suggested they were stifled, or witnessed stifling, during previous attempts to speak up. After being stifled by planners, they may not have confidence in the notion that anyone really cares about what they think. In other words, stifling by planners leads to silence at planner held/planner controlled community meetings which include resident association meetings as that particular community is not one of the residents making.

There was no interest expressed on anybody's part to listen to one another. As noted no one interviewed had extended or received an invitation for members of the housing authority to participate on the SNTF. Although this is the case, nothing is stopping the Housing Authority from sending a representative to the SNTF meetings, but they are not doing so. Members of residents associations could also attend but they do not. Some members of the associations note that they do not attend because they lack the transportation to get there. Resoluteness that attendance was futile was expressed. "What's the point? I don't think it would matter." Members of the SNTF could also attend the resident association meetings but do not.

In analyzing the data associated with this project, the researcher developed a summary of findings that was shared with key participants in an effort to establish validity. This summary was also shared with planners in an effort to present the views, needs, and resources of the older adult participants. The first person contacted was an appointed member and officer of the Housing Authority Board of Commissioners who had previous knowledge of university research involvement with the housing authority. As his commission was extended during the time of this research and he was in a position of power to represent the housing authority, he was the first selected to be contacted by the researcher (Appendix J). Email and phone contact was attempted explaining the researcher's purpose and asking for consideration of the summary of results. Two phone messages were unreturned as were two email messages. Next a county employee with involvement with the SNTF was contacted. She agreed to review the summary of results saying she was "happy to read the part about community planning and the sharing of

ideas and information among residents” (Appendix K). She further added two points of clarification to material including the fact that the SNTF now listed employees of the Housing Authority as members.

It is neither currently possible nor economically practical to create a systematic plan for disasters that considers the multiple viewpoints of local government officials, Housing Authority officials, and older low-income residents who live in Housing Authority neighborhoods. While this is the case, the SNTF has taken a first step and responded to this research by giving the Housing Authority representation through adding three employees of the Housing Authority to the roster. This said, none of these representatives are listed as recent attendees of SNTF meetings. Under current conditions, there is nothing pushing the individuals in various community levels to listen to one another. The life experiences of the individuals involved are so diverse, that concordance appears to be only an ideal. Although there is commonality in thematic processes considered by those at each level of community, reflections about these processes bring about different results. There is much discordance between these various viewpoints in terms of defining a disaster, the source of expertise, the responsibility for involvement, resources needed and communication. This resulting discordance will continue to have a severe impact on planning for disasters. This could change with active involvement of invested Housing Authority representatives on the SNTF. The researcher made the suggestion of having direct participation of a housing authority resident on the SNFT to the county official involved with the committee.

#### Research Question Four

##### **What would such a systematic plan for disasters look like?**

While it is neither currently possible nor practical to create a systematic disaster plan under the conditions in existence when this research was completed, the author will speculate as to what such a plan would look like and what conditions must be present for one to be possible in the discussion section. Obviously, such a plan would have to overcome much of what is referred to here as discordance.

Thus to summarize the results of this study in consideration of the research questions, the impact of the multiple levels of communities is apparent. Common thematic processes emerged in data analysis: All community levels define community, identify needed resources, and reflect on past experience. However while common thematic processes emerge, discordance exists among the levels of community in how they define community, resources, what experience to consider in the event of a disaster, and what constitutes a disaster as they consider each process (see Table 1).

Table 1: Sources of Discordance Among Levels of Community

	Older Adults	Housing Authority	City / County
Definition of Community	Social Network; for many this network includes Jesus	A neighborhood owned by the housing authority where people reside	Territory with Geopolitical Boundaries
Resources	Material; People and Money Non-Material; Religion	Material	Material ; Physical and Mental Abilities of residents
Considering Experience	Personal History Previous Storms	Previous Storms	Expertise Previous Storms
Definition of Disaster	Surviving can be the disaster	Housing authority Ignored by City/County	Not heeding advice Death

## CHAPTER 5: DISCUSSION

### Findings in the Context of the Literature

Four main areas of discordance were observed in this research: definition of community, what constitutes resources, what is considered experience, and definition of disaster. While other researchers have not focused on the role these areas of discordance have as they relate to planning for a disaster, there are comparisons to be made. Prior researchers have focused on the integral role of the religious institution, concern with non-material losses, and the power imbalance. What follows is a discussion of research findings from the current study with regard to the work of other researchers.

In this research, spirituality impacted both the definition of community and what constitutes resources. Religious ties and beliefs were a part of how the older adults' defined communities. This population also viewed these ties and connections as resources. This finding supports the work of other researchers concerning the role of religion in older women's lives. Laditka, Murray, and Laditka (2010) consider religion to be a "buffer," or coping mechanism for African American women that were impacted by Hurricane Katrina. They further noted that African American women were more likely to report reliance on faith when compared to Caucasians or men. Above all, Laditka, Murray and Laditka found that African American women were more likely to place emphasis on religion or faith. Covan and Rosenkoetter (2000) also noted the importance



of religion as in their work God was credited with giving the participants strength and the ability to cope.

The importance of social networks has also been documented by other researchers (Kilijanek & Drabek, 1979, Krause, 1987; Covan, 1998; Langer, 2004; Laditka, Murray, & Laditka, 2010). Kilijanek and Drabek found that older adults were more likely to accept aid from sources such as churches, and informants in the current study said they would be willing to evacuate to a church if required. Krause highlighted the important role that social networks played in adjusting to disaster. Covan's work detailed caresharing, strategies employed by a community to cope with changing demographic variables. Laditka, Murray, and Laditka highlighted that African Americans were most likely to turn to their families for support. While the current research about disaster planning was not conducted following a disaster, certainly the participants would seem to be in line with Krause's work as they were concerned about the impact of the disruption on their social networks. Just as in Kilijanek and Drabek's work, the participants in this research indicated if forced to evacuate they would likely go to a local church rather than a shelter set up by Emergency Management Officials. Similarly, the creation of a social order and their own social network seen in this research is consistent with Covan's findings although her study was not exclusively on low-income residents of public housing projects. Finally, Laditka, Murray, and Laditka noted the importance of dependence on family, but unlike the participants in the current study, their definition of family did not include fictive kin in their created community.

Non-material resources such as people and relationships, were important to participants in this study who were concerned with losing them, more so than physical resources such as automobiles or homes. Perhaps this was the case because the women were not home owners as they resided in public housing and most did not own automobiles. Covan and Rosenkoetter (2000) found that women were more likely to discuss non-material losses after storms such as photographs, family, friends, and relationships. Shenk, Mahon, Kalaw, Ramos, and Tufan (2010) found that for women, identity was directly related to concepts of home and family and therefore the loss of home had a greater potential for damage. This holds true for current participants as their definition of home was their created sense of community based on relationships and their boundaries of trust.

#### Implications for a Systematic Multi-Viewpoint Disaster Plan

At the onset, this researcher was hopeful that there would be a possibility that the older adults and planners would sit down and develop a realistic disaster plan together. The hope was that by creating household plans, resources and unmet needs would be identified that would then be used to create a disaster plan for the entire neighborhood that was informed by needs of actual participants. Unfortunately this did not happen. With a background in social work it was obvious to this researcher from the beginning that power and the power differential between the older adult residents of housing authority properties and planners would be a factor. Power impacted both the knowledge and therefore use of services as well as the potential for community organizing.

Langer (2004) stated that African Americans were less likely to use formal support due to past experiences with discrimination and that lack of familiarity with the services, language problems, pride, and illiteracy are all barriers to service use, but in this study language problems and illiteracy did not seem to be issues. Most, however, were unfamiliar with the services of the county's Special Needs Task Force. Farhar-Pilgram (1986) noted that being elderly, a member of a minority group, disabled, living in rural areas or poor resulted often in not being reached by formal relief efforts. The current participants were certainly elderly, minorities, and poor and a few had disabilities. This group, not knowing about the Special Needs Task Force, is supportive of Farhar-Pilgram's finding.

Uncommunicative behaviors relating to power, or stifling, was also seen in this study and the work of previous researchers. Alinsky (1946; 1971) is perhaps the pioneer on the impact of power in community organizing. Alinsky identified that power was not only what one had but what one was thought to have by the opposition and learning how to develop and use this power was key to community organizing (1946). Jane Addams, often considered the mother of social work, talked about the importance of "with, not for" in terms of community organizing. Addams focused on cooperating and modeling cooperation. That stifling and the overall negative impact of power on planning was witnessed in this study is not surprising based on the work of Addams and Alinsky. The older adult housing authority residents were willing to share with me on an informal basis but not during formal meetings. The planners did not, as Alinsky discussed, recognize that the older adult residents had a perception of their power and the imbalance it created.

Certainly these findings support Estes (1979) political economy of aging. Estes orders the influences on a socially constructed problem as power and class and then facts.

Stifling, as observed in this research, would be the natural fourth component of Wiener's (Hannigan, 2006) process of animating, legitimating, and demonstrating (See Figure 2). As experts, planners in this research, begin this process of developing constituencies, imparting skills and knowledge, building respect and identify for the problem, and gaining public attention they often naturally progress to stifling. Input is allowed by experts to a point and then stifle input from 'non-experts' as it becomes unwelcome and not beneficial to the experts' own process of, as Hannigan describes, building a public area around a social problem. The addition of stifling to Weiner's process certainly supports the work of Estes (1979) as it further adds the influence of power and class. Planners have higher status and therefore power than the low income older adults for which they are making plans.

Animating → Legitimating → Demonstrating → Stifling
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Figure 2: Stifling Process

Although the power differential between the planners and low-income older adult housing authority residents certainly did impact the ability to create a systematic plan for disasters, the combination of grounded theory method with action research did have positive results for the future. Firstly, a representative of the Wilmington Housing Authority was added to the Special Needs Task Force. Secondly, the older adult

participants were listed to and given a voice as a result of this research. Thirdly, the social network connections were strengthened as exemplified by the sharing of information, specifically contact phone numbers, among the older adult participants. The gerontological social work perspective of this researcher allowed the gap to be bridged, at least as a start, between the planners and older adult housing authority residents. Beginning to bridge this gap allowed both sides to begin to recognize they had a common goal- safety for all impacted by hurricanes. It also is a step in the direction of realizing both groups have legitimate experience although they are not always paying attention to each other.

The most important implication for future research and practice is the creation of a systematic plan for disasters that considers the viewpoints of local government officials, housing authority officials, and older low-income residents. In order for this to happen, the condition that is missing is concordance. Work must be undertaken to create a situation that allows for multi-directional conversations to create a systematic plan for disasters reflecting multiple viewpoints. To do this, the areas of discordance must be addressed and low-income residents must be empowered to express their views.

Firstly concordance must be reached concerning the definition of community. While it must be acknowledged that ultimately the geopolitical boundaries of the county must be used as the county provides services for its own residents/taxpayers, a more fluid definition must be allowed that considers the created communities, e.g. people and social institutions that the older adults trust and rely upon. In the context of government agencies, planners do not currently recognize that current areas of discordance offer the

potential to improve the planning process. This researcher notes the strength of the informal community in terms of “checking in” on residents who need help before the storm and use the informal community to encourage people with special needs to evacuate. The planners do not rely on the informal community, and nor do they check in with such informal community leaders during a storm to make sure that those who have not evacuated are okay when the storm has passed. This researcher recommends that planners learn about who is who in the informal community and include those on whom residents rely in their planning process.

The second area of concordance that must be met concerns the view of resources. While the resources viewed as necessary for survival by the county are not being debated, the ease or ability of low-income older adults who reside in public housing to gather supplies and have them ready (in their homes and in the trunks of their cars) must be considered along with the probability that the residents will not have all that the experts think they need. It is not this researcher’s position that the county or housing authority should provide all the recommended items, but it is insufficient to simply say they are items everyone should have.

The third area requiring the development of concordance relates to the basic social process of considering experience. That each level of community has its own viewpoint that is not necessarily inclusive of the other is problematic. Creating the opportunity, with as little judgment and as equal power as possible, for the sides to share experiences (e.g. for each to be heard), is obviously advantageous. The addition of direct representation of the Housing Authority on the SNTF as a result of this research was a

first step. For this to have an impact, the representative will have to be familiar enough with the actual needs of the residents and be trusted by the residents so they would be willing to share. It is this researcher's recommendation that it would be an ideal next step for a resident that serves on the housing authority advisory committee to participate in attempt to somewhat address the power differential between resident and planner. As stifling was observed in this research, it may not be enough to simply invite the participation of a housing authority resident on the Special Needs Task Force. The location of the meeting certainly would impact the power differential. Meetings are currently held in a government complex across town from the housing authority. Firstly, most residents would require transportation and may not necessarily feel comfortable providing input at a meeting consisting of governmental and agency representatives. Perhaps the participation of a housing authority resident could begin working in a small group and at a housing authority location.

The final area requiring concordance based on this research study relates to the definition of disaster. Again, the discordance results from not only differing definitions but also relates to considering experience. Each community's definition of disaster differs in relation to considering only their own experience. This discordance reflects the sociopolitical nature of what constitutes disaster. Regardless of how one defines disaster and/or community, community relations are based on being able to communicate "one's definition of the situation." W.I Thomas's symbolic interactionist notion of definition of the situation supports this finding. "If men define situations as real, they are real in their consequences" (Thomas & Thomas 1928: 571-2). How a situation is defined impacts the

situation and any related actions. This researcher suggests that to begin to address the discordance relating to defining disaster, planners and policy makers should follow the social work tenet of ‘starting where the client is.’ This would mean focusing on the experiences of older adult housing authority residents, what they want changed, and what help they are seeking. In fact, starting where the client is would aid in beginning to address the discordance in the community structure relied upon and the definition of resources. In this research, the older adults were heard and given a voice by the researcher using this tenet. Understanding the informal community created by the older adult residents and including rather than excluding it as well as the met and unmet needs in terms of resources would be explored when considering what help is needed from the standpoint of the older adult housing authority resident. This gerontological social work perspective certainly would aid in providing a foundation for creating a systematic community disaster response plan.

#### Limitations

The findings are based on a study population of African American older women residing in two housing authority properties within Southeastern North Carolina. These older African American women and these particular properties do not necessarily compose a representative sample of all residents of housing authority properties. Participants, both the older adults and the planners, are all also coastal dwelling individuals with hurricane and or tropical storm history and therefore results can’t necessarily be generalized to those with other disaster histories.



## Conclusions

The older adult residents of housing authority communities do not think in the same way that the emergency management officials do. Individuals have different criteria than the planners and report different issues. Based solely on these results, this researcher is not optimistic that the levels of community will ultimately consider that each other's criteria are equally valid. Nevertheless, knowing the criteria of the housing authority residents will help predict what they are likely to do in the event of future storms, and at least this should be helpful to planners. That said, it is imperative for survival of all to work towards creating a system that allows all to listen to the differing criteria. Knowing what the older adults plan to do is important; planners knowing how to reach them is equally important. It is unfortunate that it takes a true catastrophe for true collaborative planning to emerge.

Barusch (2011) posits that the social work response to disasters and the impact on older adults is threefold: to maintain a public safety net for older adults of low socioeconomic status, to represent the interests of elders, and aid with disaster preparedness. Ultimately, this research was an attempt at meeting Barusch's social work response with a gerontological perspective. Like Farhar-Pilgram (1986) and Langer (2004) this work highlights the disconnect between the formal supportive services being offered and the informal services more likely to be accepted. Exploring the considerations and resources of the low-income older adult housing authority residents aids in maintaining the safety net discussed by Barusch. Furthermore, the opportunity to serve as a representative and participate in disaster planning was provided. What

enhances the social work response is including planners in this research, as doing so provides additional perspectives. Exploring all of the community perspectives and discovering areas of discordance provides the opportunity for more involvement in the creation of more practical planning. As stated previously, the addition of Housing Authority representatives on the SNTF begins to address the discordance by involving a layer of the community that was previously not included in planning. It is this researcher's hope that the created communities of the older adults will be included and viewed as the great resource that they are for older adults by those in charge of planning for disasters.

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APPENDIX A:

MEMORANDUM OF UNDERSTANDING

## APPENDIX A: MEMORANDUM OF UNDERSTANDING

University of North Carolina Wilmington and the Wilmington Housing Authority

**Preamble:**

All activities and obligations shall be provided and conducted on a good faith basis by each party in support of the project objectives.

**Objectives:**

To establish and maintain an on-going UNCW faculty, staff and student presence in WHA communities leading to collaborative relationships with WHA residents and staff.

To implement and sustain programs designed to help meet the diverse community, family and personal needs identified by residents and staff.

To enhance the learning experience of students and to improve their skills as researchers and community resource providers by working with WHA staff and residents in a variety of academically-directed and course-related experiential activities.

To share findings generated through community-based research projects that support and enhance the work of the Wilmington Housing Authority.

**Description of Current and Proposed Activities:**

A community needs assessment was conducted in the spring 2008 semester in the Creekwood community.

A UNCW office will be established at the Knoll View Community Center. The Center will be available for the use of students, faculty, and staff to offer programming for residents of Wilmington Housing Authority communities and surrounding area.

**Expectations of the WHA/UNCW Partnership for 2008-2009:****UNCW will:**

Periodically conduct individual, family and/or community needs assessments to determine the issues and resources that are WHA resident concerns.

Utilizing a strength-based approach, engage in tasks and activities identified by needs assessments that will help WHA residents and communities become stronger, through increased education, economic opportunities and healthy living resources.

Designate appropriate faculty and staff the responsibility for adequately training, preparing and supervising students for activities within WHA communities.

Provide interns from participating UNCW departments as designated by the appropriate supervising faculty.

Attempt to complete all projects and/or activities that are started (barring extenuating circumstances), including sharing findings and results with WHA staff and residents.

Inform faculty, staff and students to treat WHA residents with respect, consideration and dignity.

Commit to making the WHA/UNCW partnership a lasting collaboration provided that the objectives of the relationship are being met and adequate funding and faculty, staff, and student involvement is sustained.

Commit to continuous evaluation and assessment of activities and interactions and make continuous improvements.

Commit to close communications with WHA staff to address any issues that arise.

**WHA will:**

Communicate with residents regarding the WHA/UNCW partnership, including mutual expectations.

Commit to making the WHA/UNCW relationship a lasting collaboration provided that the objectives of the relationship are being met and adequate funding is available.

Facilitate and communicate opportunities for UNCW involvement in WHA communities.

Inform staff and residents to treat UNCW faculty, staff, and students with respect, consideration and dignity.

Commit to close communications with UNCW faculty, staff, and students to address any issues that arise.

The components of this agreement will be evaluated at least annually by all parties and will be amended in writing and signed by the parties authorized representatives as needed to meet the needs of those involved. As resources permit, the project will be introduced throughout all WHA communities, with sustainability anchored by the anticipated space for UNCW in the new Taylor Homes community.

---

**Chancellor, UNC Wilmington**  
**Commissioners**  
**May 20, 2008**

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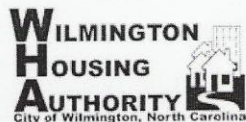
**Chair, WHA Board of**  
**May 20, 2008**



APPENDIX B

HOUSING AUTHORITY LETTER OF SUPPORT

## APPENDIX B: HOUSING AUTHORITY LETTER OF SUPPORT



Wilmington Housing Authority  
 WHA-UNCW Community Campus  
 Hillcrest Development  
 1402 Meares Street  
 Wilmington, NC 28401

## COMMISSIONERS

Lenwood S. "Bo" Dean, Jr. Chair  
 Debra H. Quaranta, Vice Chair  
 Lethia S. Hankins  
 R. T. Horton, Jr.  
 Livian L. Jones  
 Alfredia McDonald  
 Macy McRae, Jr.  
 Cheryl Sutton  
 Jon Vincent

October 1, 2008

Elizabeth Fugate-Whitlock, PhD (c)  
 Lecturer, Gerontology Program  
 Department of Health & Applied Human Sciences  
 Managing Editor, Health Care for Women International  
 University of North Carolina Wilmington  
 601 S.College Road  
 Wilmington, NC 28403-5625  
 (910) 962-7816 fax: (910) 962-7906

To Whom It May Concern:

The Wilmington Housing Authority of New Hanover County is fully supportive of the Disaster Preparedness Program being implemented in the . The Wilmington Housing Authority and the University of North Carolina Wilmington are in partnership for UNCW to provide programs and resources to the Housing Authority Residents through service learning, research and scholarship and opportunities for UNCW Faculty and Students to meet social and educational needs of the residents.

This program is in terms with the current MOU in place between the Wilmington Housing Authority and the University of North Carolina Wilmington for the 2008-2009 academic year and will positively impact the aging population within the and eventually the local community in New Hanover County.

It is with great pleasure that we support this program.

Sincerely,

Danielle T. Aldrich  
 Community Campus Coordinator

[d.aldrich@wha.net](mailto:d.aldrich@wha.net)  
 910-228-8196

APPENDIX C

RECRUITMENT FLYER

## APPENDIX C



## IF A DISASTER STRIKES ARE YOU PREPARED?

If you'd like to help informing the Housing Authority and others in the County of your needs to plan for natural disasters, we can help make sure your voice is heard!

Would you like help creating a Disaster Plan? Is there at least one older adult in your household?

If so, we can help!

FOR MORE INFORMATION CONTACT:



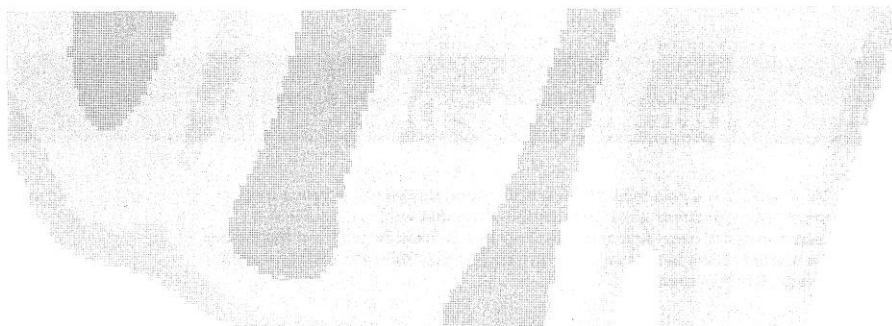
ELIZABETH FUGATE-WHITLOCK  
GERONTOLOGY PROGRAM  
910-962-7816  
WHITLOCKE@UNCW.EDU



APPENDIX D

DHHS FAMILY DISASTER PLAN

APPENDIX D



# DHHS FAMILY DISASTER PLAN



This document was developed by the North Carolina Department of Health and Human Services.

**Note:** It is important to store this document in a secure location to reduce the risk of losing personal information that could lead to possible ID theft and fraud.

In addition, this document should be stored in a water tight container and on a computer disk.

Cover photographs appear courtesy of FEMA.



Officially endorsed by ReadyNC



# Table of Contents

Household Members and Pets Inventory	4
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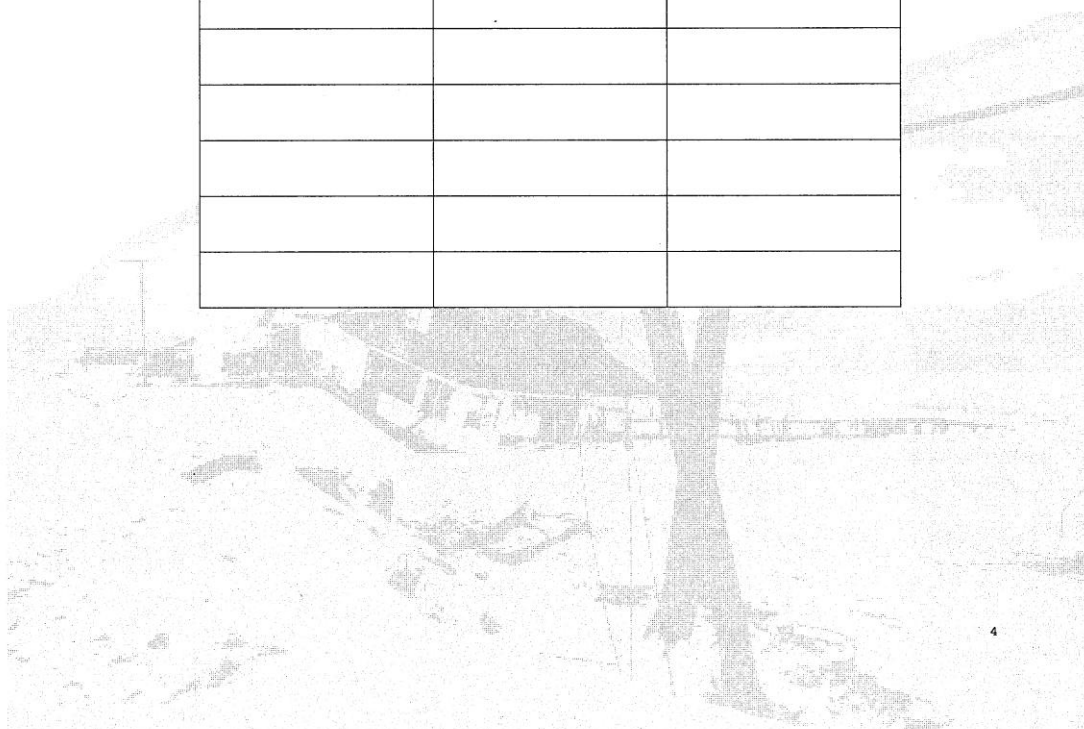
*This plan was prepared by Jo Paul, NC DHHS Office of Citizen Services State Emergency Response Coordinator Team and Phil Benson, NC Division of Public Health Disaster Preparedness Planner/Evaluator. The materials used to develop this plan were gathered from the Missouri Outreach and Extension Family Plan by Eric Evans, FEMA, Red Cross, and Salvation Army disaster preparation plans.*



# Household Members

Household Members	Relation/Birthdate	Social Security

Pets	Pet Rabies Vaccination #	Vet name & number



## Household Information

Home Address: \_\_\_\_\_

Phone1: \_\_\_\_\_ Phone2: \_\_\_\_\_

E-mail:1 \_\_\_\_\_

E-mail:2 \_\_\_\_\_

### Car Information:

Car 1: Make \_\_\_\_\_ / Model \_\_\_\_\_ / Year \_\_\_\_\_ / License # \_\_\_\_\_

Car 2: Make \_\_\_\_\_ / Model \_\_\_\_\_ / Year \_\_\_\_\_ / License # \_\_\_\_\_

Car 3: Make \_\_\_\_\_ / Model \_\_\_\_\_ / Year \_\_\_\_\_ / License # \_\_\_\_\_

### Emergency Numbers

**CALL 911 FOR EMERGENCY** *Note: After a disaster, 911 may not be working. Use the numbers you listed below.*

Doctor # 1 \_\_\_\_\_

Doctor # 2 \_\_\_\_\_

Doctor # 3 \_\_\_\_\_

Fire Number \_\_\_\_\_

Police Number \_\_\_\_\_

Ambulance Number \_\_\_\_\_

Poison Control Number \_\_\_\_\_

Hospital Emergency Room Number \_\_\_\_\_

Name/Number #1 \_\_\_\_\_

Name/Number #2 \_\_\_\_\_

Name/Number #3 \_\_\_\_\_

Name/Number #4 \_\_\_\_\_

Name/Number #5 \_\_\_\_\_

Name/Number #6 \_\_\_\_\_

# Contacts

<b>Utility and Service Contacts</b>		
<b>Organization Name</b> Water/Sewer	<b>Address</b>	<b>Contact</b>
	<b>Note</b>	<b>Phone</b>
<b>Organization Name</b> Electric	<b>Address</b>	<b>Contact</b>
	<b>Note</b>	<b>Phone</b>
<b>Organization Name</b> Gas	<b>Address</b>	<b>Contact</b>
	<b>Note</b>	<b>Phone</b>
<b>Organization Name</b> Phone/cable	<b>Address</b>	<b>Contact</b>
	<b>Note</b>	<b>Phone</b>
<b>Organization Name</b> Home Medical	<b>Address</b>	<b>Contact</b>
	<b>Note</b>	<b>Phone</b>

<b>Insurance/Other Information (health, auto, home, and life)</b>		
<b>Name</b>	<b>Policy#/Other Information</b>	<b>Phone</b>

# Contacts

Family/Friends/Neighbors				
Name	Address/Physical Location to Home	Phone	E-mail Address	Cell phone Number
		Hm./Wk. Phone		
		Hm./Wk. Phone		
		Hm./Wk. Phone		
		Hm./Wk. Phone		

Note: Identify two neighbors. Agree to check on each other.

Out-of-Area Contact # 1			
Name	Home Address	Home Phone	E-mail Address
	Work Address	Work Phone	Cell Phone Number

Important: During disasters, use phone for emergencies only. Local phone lines may be tied up. Make one call out-of-area to report in. Let this person contact others.

Out-of-Area Contact # 2			
Name	Home Address	Home Phone	E-mail Address
	Work Address	Work Phone	Cell Phone Number

# Contacts

<b>Work, School, and Other Contacts</b>		
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	
<b>Household Member Name</b>	<b>Work/School/Other</b>	<b>Disaster Procedures*</b>
	<b>Address</b>	
	<b>Phone</b>	

*Note: \*Disaster Procedures: Household members should know each other's disaster procedures for work, school, or other places where they spend time during the week.*

# Procedures

<b>Reunion Procedures</b>	
<b>In or Around House/Apartment</b>	<b>Inside House/Apartment</b>
	<b>Outside House/Apartment</b>
<b>When Family is Not Home</b>	<b>Priority Location</b>
	<b>(Leave note in a designated place where you will be: i.e., neighbor, relative, park, school, shelter, etc.)</b>

*Note: Identify and discuss with household members the reunion places if a disaster prevents anyone from entering the home. Also, reunion and evacuation procedures need to include children at school and house members with disabilities. Talk to school officials. Write down procedures.*

<b>Important Notes and Procedures</b>

*Note: People with disabilities are advised to identify two or three people at work, school, neighborhood, etc. who will assist them in the event of a disaster. In addition, please contact your local department of social services, local office on aging, and local office of disabilities to discuss registering your specific needs.*

# Medication List

<b>User's Name</b>	<b>Medication Name</b>	<b>Dosage/Frequency</b>	<b>Reason for Taking</b>
<b>Doctor</b>	<b>Prescription #</b>	<b>Date Started/Ending</b>	<b>Location of Medicine</b>
<b>User's Name</b>	<b>Medication Name</b>	<b>Dosage/Frequency</b>	<b>Reason for Taking</b>
<b>Doctor</b>	<b>Prescription #</b>	<b>Date Started/Ending</b>	<b>Location of Medicine</b>
<b>User's Name</b>	<b>Medication Name</b>	<b>Dosage/Frequency</b>	<b>Reason for Taking</b>
<b>Doctor</b>	<b>Prescription #</b>	<b>Date Started/Ending</b>	<b>Location of Medicine</b>
<b>User's Name</b>	<b>Medication Name</b>	<b>Dosage/Frequency</b>	<b>Reason for Taking</b>
<b>Doctor</b>	<b>Prescription #</b>	<b>Date Started/Ending</b>	<b>Location of Medicine</b>

*Note: Keep on hand at least seven days of vital medications and supplies. Talk to doctor before storing medication or if you use two or more medications. Take them with you if you have to evacuate to a shelter, friends house, or other family members.*

Last Update for this page: \_\_\_\_\_

# Pharmacy/Doctors/Specialists

<b>Pharmacist Name(s)</b>	<b>Pharmacy Name</b>	<b>Phone/Address</b>
	<b>Pharmacy Name</b>	<b>Phone/Address</b>
<b>Specialist Name</b>	<b>Area of Concern</b>	<b>Phone</b>
	<b>Organization</b>	<b>Address</b>
<b>Specialist Name</b>	<b>Area of Concern</b>	<b>Phone</b>
	<b>Organization</b>	<b>Address</b>

<b>Allergies to Medications</b>	<b>Person's Name</b>	<b>Person's Name</b>
	<b>Medication</b>	<b>Medication</b>
<b>Health/Disability Information</b>		
<b>Special Needs, Equipment, and Supplies</b>		

*Note: Fill this and all sections out in pencil. Update regularly.*

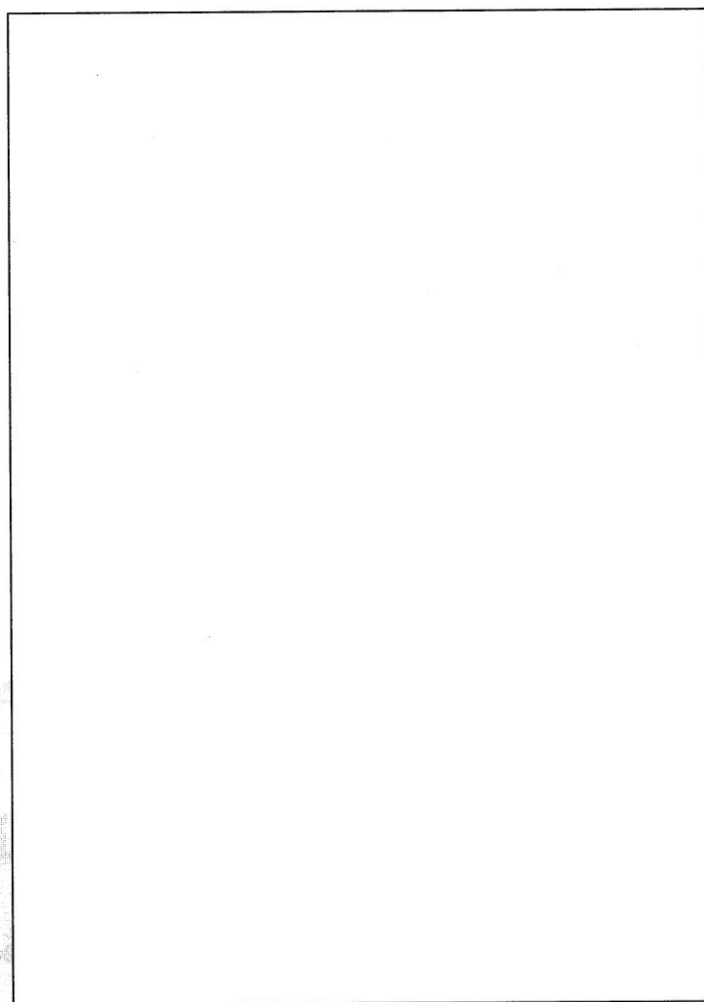
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# Pharmacy/Doctors/Specialists cont.

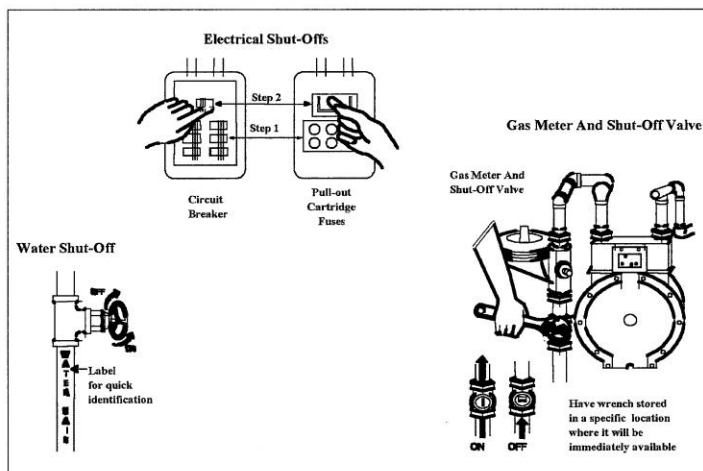
<b>Allergies to Medications</b>	<b>Person's Name</b>	<b>Person's Name</b>
	<b>Medication</b>	<b>Medication</b>
<b>Health/Disability Information</b>		
<b>Special Needs, Equipment, and Supplies</b>		
<b>Allergies to Medications</b>	<b>Person's Name</b>	<b>Person's Name</b>
	<b>Medication</b>	<b>Medication</b>
<b>Health/Disability Information</b>		
<b>Special Needs, Equipment, and Supplies</b>		

## Home Layout/Diagram



Draw a layout of your home. Make sure you include locations of utility shutoffs and safety equipment like fire extinguishers, disaster supplies, evacuation plans, etc.

# Utility Control



## Electricity:

In the event that you need to turn off the electricity in your house, go to the breaker box and do the following:

1. Turn off smaller breakers one by one
2. Flip the "main" breaker last

To reenergize your home, reverse the steps above.

## Water:

In the event you need to shut water off inside your home, find the main water valve and turn it to your right. To open the flow of water back into the house, turn it to your left.

## Gas:

**IMPORTANT – Only turn off your gas at the meter if you smell gas!**

To turn off natural gas in your house, take a wrench and tighten it on to the quarter turn valve that is on the pipe that feeds into the gas meter. Turn it one quarter turn to make the indicator parallel to the ground. In most locations, once you do this you cannot turn the gas back on to the house without the utility company.

**Propane:** If you live in an area that uses outdoor propane or LPG you will find this outside the home. Open the top of the tank and you will see either a regular turn knob or a quarter turn valve. Turn the knob to your right to shut off the flow of propane into your house. For quarter turn valve see above.

## Disaster Supply Kit



Water - at least 1 gallon daily per person for 3 to 7 days

Food - at least enough for 3 to 7 days

- non-perishable packaged or canned food / juices
- foods for infants or the elderly
- snack foods
- non-electric can opener
- cooking tools / fuel
- paper plates / plastic utensils



Blankets / Pillows, etc.

Clothing - seasonal / rain gear/ sturdy shoes

First Aid Kit / Medicines / Prescription Drugs

Special Items - for babies and the elderly

Toiletries / Hygiene items / Moisture wipes

Flashlight / Batteries

Radio - Battery operated and NOAA weather radio

Cash (with some small bills)

- Banks and ATMs may not be open or available for extended periods.



Keys

Toys, Books and Games

Important documents - in a waterproof container  
or watertight resealable plastic bag

- insurance, medical records, bank account numbers,  
Social Security card, etc.

Tools - keep a set with you during the storm

Vehicle fuel tanks filled

Pet care items

- proper identification / immunization records / medications
- ample supply of food and water
- a carrier or cage
- muzzle and leash



## Other Sources of Information:

### CARE-LINE

1-800-662-7030 or 919-855-4400  
 TTY 1-877-452-2514 or 919-733-4851 (for deaf and hard of hearing)

### ReadyNC

<http://www.readync.org/>

### FEMA

<http://www.fema.gov/>

### Red Cross

[http://www.redcross.org/services/prepare/0,1082,0\\_239\\_00.html](http://www.redcross.org/services/prepare/0,1082,0_239_00.html)

### Florida Disaster

<http://www.floridadisaster.org/bpr/family%20preparedness/index.htm>

### NC Commission on Volunteerism & Community Service

<http://www.volunteernc.org/code/about.htm>

### Important Numbers to contact after a disaster:

**Local Department of Social Services:**  
 (Emergency food stamps, emergency Medicaid, emergency financial asst)

**FEMA:**  
 (Apply for disaster funds)



State of North Carolina • Department of Health and Human Services  
[www.ncdhhs.gov](http://www.ncdhhs.gov)  
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APPENDIX E

FAMILY DISASTER PLAN AVENUES OF INQUIRY

## Appendix E: Family Disaster Plan Avenues of Inquiry

1. What is the meaning of disaster to you?
2. According to your definition, what would happen in a disaster?
3. Can you do anything to prepare for such a disaster?
4. What do you currently do in the event of a disaster?
5. Do you have an emergency supply kit that you would use in a disaster?
  - a) If the answer is yes, ask what is in it? Ask also whether anything is missing from their kit.
  - b) If the answer is no, ask respondent if they had such a kit, what would they put in it?

APPENDIX F

COMMUNITY PLANNERS AVENUES OF INQUIRY



## Appendix F: Community Planners Avenues of Inquiry

Quality of Current Disaster Planning: Who and what is involved in planning for a natural disaster? If there is a system for planning in place, ask, does it currently work well? If so, why? If not, why not?

Conception of Disaster Planning: Who should be involved?

Has the Housing Authority ever had to respond to a natural disaster such as a storm, or a fire, that affected residents in this community? If yes, describe the events surrounding the disaster. Note what most residents of Knoll View did at the time.

What do most residents of Knoll View currently do in the event of a storm?

What role does the housing authority play now in the event of a storm?

What would it really take for the community to be prepared?

What is help do you think is needed to plan?

In examining the DHHS template, what sections do you think are most important and which are less important?

APPENDIX G

OLDER ADULT INTERVIEW TRANSCRIPT EXAMPLE

Appendix G: Older Adult Interview Transcript Example  
Older Adult Participant #1 Avenues of Inquiry Transcript

Researcher	Participant	Observations	Codes
Began with overview of the research and IRB forms.		Participant interrupted to ask about my expected baby.	
Q: What does disaster mean to you?	A: Something you <u>can't control</u> . Like a <u>fire</u> , or <u>flood</u> or the <u>tornados</u> we just had over in <u>Pender</u> .		No Control Meteorological Definition Recent event covered in media
Q: What would happen in a disaster? What would a disaster look like?	A: It would <u>destroy where I live</u> or other <u>people's homes</u> .		Destruction of physical property
Q: Do you think you can prepare for a disaster?	A: <u>You can plan but you aren't in control</u> . You can gather supplies like <u>food</u> and <u>water</u> . A <u>radio</u> and <u>batteries</u> are good too. Also <u>pray</u> .		No Control Sustenance Way to get information Pray
Q: What have you done in the past during a disaster?	A: I was born here so I have been in several storms. The last storm we had I stayed. I <u>felt prepared</u> and it <u>didn't seem like it was going to be bad</u> .		Personal previous storm experience Knowledge that she had supplies Knowledge
Q: Why did you think it wasn't going to be bad?	A: Well, <u>it has to be a category 4 for it to be bad</u> .		Meteorological categorization/definition determines risk
Q: So the label of the storm matters to you? It helps you	A: Oh, yes. It has to be a 4 to worry me. We've had		Meteorological categorization/definition determines risk

decide what to do?	plenty of 1's, 2's and 3's that didn't do much. Hazel was a 4.		
Q: What would you do in the future? Would you evacuate?	A: If <u>they made us evacuate I would go ahead and go.</u>		Would follow direction
Q: Who do you mean by they?	A: The mayor or the governor.		From someone in charge (not necessarily an expert on disasters, but has higher status)
Q: So you would evacuate then?	A: <u>I can drive but I don't have a car so how could I leave.</u> I think if you stay you better <u>be prepared</u> for the consequences. <u>I'd pray.</u>		Needs transportation Be prepared Pray
Q: What are the consequences?	A: Could be <u>death.</u> Or <u>no food</u> and <u>no way to get any.</u>		Death No sustenance No transportation
Q: Do you have an emergency supply kit?	A: I have one. It is <u>old but it is there.</u> I have a <u>can opener, bandages,</u> and <u>batteries.</u>	Has thought about disasters in the past, evidenced that she prepared	First Aid Supplies Utensils/Implements for eating Power supply for information

APPENDIX H

LISTING OF CATEGORIES AND CODES

## Appendix H: Listing of Categories and Codes

- Definition of Community
  - Personally Defined
    - Neighborhood
    - Neighbors
    - Friends
    - Church
    - The Lord
  - Geographic/Political
    - Wilmington
    - New Hanover County
    - Knoll View
    - Hearth Place
    - State of North Carolina
- Resources
  - Material
    - Money
    - Water
    - Food
    - First aid supplies
    - Transportation
    - Church; as in shelter or aid station
  - Non-Material
    - Church; Pastor or church members
    - Faith; Praying
    - Friends
    - Knowledge
- Considering Experience
  - Previous Hurricanes
  - Previous Flooding
  - Media coverage of recent disasters; proximate in time not necessarily location
  - Knowledge
  - Work Experience
  - Professional Status
- Definition of Disaster
  - Not Surviving
    - Death
    - Injury to people
  - Surviving
    - No access to medical services
    - No access to benefits such as Medicaid
    - Disruption of social structure

- Not Listening to Experts
  - Failure to evacuate
  - Failure to listen to advice of officials
- Meteorological
  - Wind
  - Hurricane
  - Flood
  - No Control
- Stifling
  - Planners interrupting
  - Controlling direction of meetings with advertised purpose of gathering community response
  - Older adults not sharing during formal meeting
  - Negative view of research

#### Special Needs

- Blind
- Deaf
- Uses Oxygen
- Bed bound
- No transportation

APPENDIX I

EXAMPLE OF SNTF MINUTES CODED



## Appendix I: Example of SNTF Minutes Coded

July 9, 2009

Special Needs Task Force Minutes (Numbered items directly from agenda)

## 1. Welcome and Introduction

In attendance: 5 representatives from

County Emergency Management staff (leader of group)

Department of Social Services

Senior Living (LTC facility)

Area Agency on Aging

Health Department

Department on Aging

Services for the Deaf & BlindLTC facilityLTC facility

Emergency Management Volunteers x 2

Emergency Management Services

Lower Cape Fear Hospice

## 2. Approval of May 21, 2009 Minutes

## 3. Special Needs Registry Drill Stats

Held drill in April to call those on the Special Needs List

The purpose was to update information

Explained overall purpose of SNTF: we are "back up for everybody"We educate residents regarding having disaster plans in placeIn Floyd, 8 registrants were sheltered. In Hanna, 2 went to LTC and 2 went to shelters.

## 4. 2009 Hurricane Preparedness Progress Report

## a. LTC Facility Emergency Planning Workshop

The group leader asked about involving the facilities themselves in this workshop. She asked specifically if calling with a scenario (for a practice drill) every year was too much?

A LTC rep said that once a year may be too much, but she thinks it is a good exercise but no more than every other year

## b. Case Manager Training for IC-3 staff

It will be 6.4.09

The group leader asked if there was interest in coming to the IC-3 during a drill so LTC staff could network and learn.

Comment [BBE1]: 5 represent those with physical impairments  
Other 9 are county employees/volunteers

Comment [BBE2]: Nursing homes are mandated by the state to plan for disasters

Comment [BBE3]: Explained their importance by referring to previous storm experience

APPENDIX J

EXAMPLE OF ESTABLISHING VALIDITY

## Appendix J

**From:** Fugate-Whitlock, Elizabeth  
**Sent:** Monday, March 07, 2011 6:12 PM  
**To:** [REDACTED]  
**Subject:** research involving housing authority older adults  
**Attachments:** results summary.docx

Hi, [REDACTED], I hope all is well with you. You may remember from correspondence with Ellie Covan that I worked with older adult residents of two housing authority neighborhoods as a part of my dissertation exploring planning for natural disasters. I have completed my interviews and would very much appreciate it if I could share my findings with you and get feedback. I have attached a summary of my results regarding the older adults I worked with for this purpose. You may be aware of the Special Needs Task Force that is a part of New Hanover County Emergency Management and that there is no direct representation of the housing authority on their task force. This is something that I believe should be changed. I hope to present my findings to the Task Force as well and would very much appreciate your support in doing this.

Thank you for your consideration,

Elizabeth

Elizabeth Fugate-Whitlock, PhD(c)  
Lecturer, Gerontology Program  
School of Health & Applied Human Sciences  
Managing Editor, Health Care for Women International  
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Go Hawks!



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APPENDIX K

EXAMPLE OF MEMBER CHECKING

## Appendix K

**From:** Fugate-Whitlock, Elizabeth  
**Sent:** Monday, April 25, 2011 9:42 AM  
**To:** [REDACTED]  
**Subject:** RE: Wilmington Housing Authority disaster research  
**Attachments:** WHA older adults and disasters.pdf

Thank you, [REDACTED], for agreeing to take a look at this! I have attached the entire chapter but would like you to pay particular attention to the material about the older adults. I would appreciate if you could give me an idea of when you could provide feedback as well.

Hope you had a good holiday!

Elizabeth

---

**From:** [REDACTED]  
**Sent:** Wednesday, April 20, 2011 11:56 AM  
**To:** Fugate-Whitlock, Elizabeth  
**Subject:** RE: Wilmington Housing Authority disaster research

Hi Elizabeth,

I'll be happy to help.

Thanks,

[REDACTED]

---

**From:** Fugate-Whitlock, Elizabeth [<mailto:whitlocke@uncw.edu>]  
**Sent:** Tuesday, April 19, 2011 11:48 AM  
**To:** [REDACTED]  
**Subject:** Wilmington Housing Authority disaster research

Hi, [REDACTED], I hope that you are well. You may remember that we spoke back in 2009 about research I was doing for my PhD at the Medical College of Virginia concerning disaster planning and older adult residents of housing authority communities here in Wilmington. I have since completed my research (and had a baby which should explain the time delay) and would be most grateful if you'd be willing to take a look at my results and provide feedback. Please let me know if this is something you are willing to do and I'll send them to you.

Thank you for your time,

## Elizabeth

Elizabeth Fugate-Whitlock, PhD(c)  
Lecturer, Gerontology Program  
School of Health & Applied Human Sciences  
Managing Editor, Health Care for Women International  
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Go Hawks!



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## VITA

Elizabeth Irene Fugate-Whitlock was born April 24, 1978 in Jacksonville, North Carolina and is an American citizen. She received a Bachelor's of Social Work in 2000 and a Master's of Arts in Liberal Studies with a Concentration in Gerontology in 2003 from the University of North Carolina Wilmington. She has been a member of the University of North Carolina Wilmington faculty teaching Gerontology since 2004.