Rationale:

The following assignment was selected from the Health Policy and Management class. It shows some of the skills and competencies I have learned in critically reviewing, analyzing, and applying medical and public health literature and research findings necessary for participation in the public health field. For this assignment, we had to write a paper on a natural disaster and how prepared the area affected was in dealing with the emergency. I chose to write about the natural disaster, Hurricane Andrew. It had a credible impact to Florida. I researched the disaster thoroughly through many articles from the disaster. I also researched other disasters and recommendations for emergency planning and preparedness. There were many communication failures during the emergency response efforts of the local, state, and federal government. In the wake of this disaster, many new policies were created to prevent the same failures from occurring again. I wrote about the emergency efforts, the successes and the criticisms. I wrote about their plans for prevention. I provided several recommendations that also could help with emergency planning and preparedness. Working in a hospital setting, I am familiar with many of our emergency planning efforts; so I was able to pull from them in developing my recommendations. This fits with this competency because I was able to show the ability to thoroughly review the research on emergency planning and natural disasters and identify recommendations that could be applied in future natural disasters that could benefit communities.

Paper:

Hurricane Andrew:

Public Health, Emergency Planning, and the Deficiencies

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Chapter 1

Introduction

On August 24th 1992 Hurricane Andrew made land fall in southern Florida as a category five hurricane. Winds were estimated at between 145-200 mph; exact wind measurements were not able to be made since the instruments to measure wind speeds were destroyed at weather stations (Hughes, 2012; University of Rhode Island, 2011). Hurricane Andrew was described as a relatively small storm with a diameter of about 40 miles (Stevenson, 2013), but it was extremely powerful and moved very quickly, taking just four hours to wreak devastation upon southern Florida (University of Rhode Island, 2011).

The damage caused by Andrew was extraordinary. It caused 43 deaths, destroyed 126,000 homes, destroyed or damaged 82,000 businesses, and cost around 30 billion dollars in damages (Himberger, Sulek, & Krill, 2007/2008; Hughes, 2012; Shuman, 2009). The city of Homestead, just south of Miami, was nearly completely destroyed, including an Air Force base that was designed to withstand winds of 200 mph (University of Rhode Island, 2011). After crossing the Gulf of Mexico, the storm made landfall again in Louisiana causing another 1 billion dollars of damage. Dade County Florida, the area most directly impacted by the storm was in extreme crisis during and after the hurricane hit.

Early response to the disaster by the state and federal government was poor. There was not much pre-disaster planning and communication by both governments was ineffective. After several days, the public health response did improve with help from federal and state government agencies and volunteer services. This disaster served as a “wake-up” that many emergency planning mechanisms needed improved. State and federal governments needed to be better prepared and many actions came out of this catastrophe.
Chapter 2
Emergency Response

Initial Local Response

Hurricane Andrew kind of surprised everyone. It was a quiet year when it hit in terms of tropical storms and hurricanes. Florida had not been hit by a hurricane in 25 years, and it developed slowly in the Atlantic Ocean (University of Rhode Island, 2011). It was not identified as a hurricane until August 22, 1992 and it hit Florida in the early morning hours of August 24 (University of Rhode Island, 2011). Evacuation orders were issued for much of southern Florida on Sunday morning, August 23; more than 1.2 million people did evacuate (Post, Buckley, Schuh & Jernigan, Inc, 1993; Rappaport, 1993). Given the seriousness of the destruction, these evacuation efforts prevented far more fatalities than otherwise would have occurred. The local chapter of the Red Cross set up shelters before the storm; however, they were quickly filled and overwhelmed by the more than 180,000 people who were displaced when the storm hit (General Accounting Office [GAO], 1993b).

Many hundreds of people were injured and/or trapped by the storm’s debris. Local law enforcement, fire personnel, National Guard, and other emergency responders attempted to tend to these survivors while also trying to quell the widespread looting (GAO, 1993b; GAO, 1993a; Florida Memory, 2013). Most structures, including hospitals and clinics in the area, were damaged (Florida Memory, 2013). Though most were, not all patients were able to be evacuated. The Red Cross established shelters for special needs and frail patients; however, the local public health nurses who were contracted by Dade County Public Health Department did not show up to staff them. Thus, there were nearly 10,000 patients being tended to by paramedics and emergency medical technicians (Eyerdam, 1994). One report indicated that local response efforts
were limited because many local law enforcement, fire personnel, and other emergency responders were victims of the storm themselves and seeking water, food, and medical care for themselves and their families (Franklin, 1995).

The force of Andrew destroyed much of the local infrastructure. Power was lost to the entire area, water was not available, roads were blocked by debris, and phone communication was eliminated (Barron, 1992; Franklin, 1995). The utter destruction caused by the storm combined with local and state agencies unprepared for a disaster of this magnitude and without a clear chain of command, greatly hindered the initial response (GAO, 1993b; Mittler, 1997). By all accounts, it became clear very early on that county and state resources were completely overwhelmed.

**The Federal Response**

Given the dire circumstances, it was evident that a federal response was needed. However, that response was delayed by several days because of the inability for local and state officials to make the necessary damage assessment and a formal request for assistance as required by the Stafford Act (Edwards-Winslow, 2013; GAO, 1993b). As the first days elapsed, survivors were in desperate need of basic supplies, including food and water, as well as medical care. Large stockpiles of emergency provisions were not put in place prior to the storm as this would ordinarily be done by the Department of Defense (DOD) who had not yet received direction to do so from Federal Emergency Management Agency (FEMA), again secondary to the lack of a request for assistance from the state. After three days and considerable media coverage, President Bush appointed Andrew Card, the Director of Transportation, to head up a joint task force and lead federal intervention (Franklin, 1995). He delegated considerable
responsibility to DOD and by day 4 active military personnel were pouring into south Florida (GAO, 1993b).

Public Health Response

With support and funds from FEMA and the DOD coming on day four and beyond, the Dade County Health Department established tent cities to tend to the many displaced, injured, and sick people (Florida Memory, 2013). These tent cities were staffed by nurses from Dade County Public Health who were able to provide the wide range of services needed. Public health nurses from other parts of Florida and other states as well as volunteers helped (Florida Memory, 2013). Services included meeting basic needs, shelter, and medical treatment of injuries. Dade County reported serving more than 3,500 people in the Tent Cities during the two months following Hurricane Andrew (Florida Memory, 2013).

Other public health activities in the days and weeks following Hurricane Andrew included assessments conducted by the Dade County Health Departments, the Florida State Department of Public Health, and the Center for Disease Control and Prevention (Center for Disease Control and Prevention, 1992; Florida Memory, 2013). These efforts provided guidance for local and federal agencies to respond to the health and medical needs of citizens. Additionally, the U.S. Army Medical Department, under the guidance of the U.S. Department of Health and Human Services, sent hundreds of medical personnel to treat the injured and sick (Carroll, 1996). More than 20,000 people were treated by these medical teams. In addition to direct medical services, the Army health personnel performed many other services including inspecting health facilities, searching for injured and sick people, distributing medical supplies and conducting various other public health services (Carroll, 1996). It appears that while the initial response of public health was somewhat limited and disjointed by the sheer destruction of
the storm and lack of coordination, within a few days public health interventions were coordinated and effective in responding to the needs of the citizens of southern Florida.
Chapter 3

Criticisms in the Wake of Hurricane Andrew

Perhaps the most serious criticism about the Hurricane Andrew crisis is best summarized by what became the famous quote by the Dade County Emergency Management Director, Kate Hale during a televised news conference: “Where in the hell is the cavalry on this one? “They keep saying we’re going to get supplies. For God’s sake, where are they?” (Himberger, et al., 2007/2008, p. 52). This statement was made three days after Andrew hit. The people of Dade County had been left largely fending for themselves up to this point (Adamski, Kline, & Tyrrell, 2006). FEMA was waiting for direction from the President. Apparently, the President was waiting for a written request for assistance from the Governor of Florida as this was required to trigger FEMA’s involvement under the laws at that time (GAO, 1993b). The Governor of Florida was unaware that such a request was required (Hughes, 2012). The result of this bureaucratic confusion was that in the first few days after this devastating storm basic needs were not met for the survivors of Andrew, many of whom were displaced or homeless. Eventually, the DOD stepped in and provided mass support and care to these people. Additionally, FEMA initiated a response and triggered the deployment of resources including the American Red Cross (Hughes, 2012).

FEMA came under tremendous scrutiny and criticism after Hurricane Andrew. The media as well as state and federal politicians were very critical and in some cases called for a complete elimination of the agency (Adamski, et al., 2006). Furthermore, the U.S. General Accounting Office (GAO) issued a report reviewing FEMA’s response that was very critical and called for extensive changes, reorganization of the agency, increased attention to assisting states with disaster preparedness, and revised policies to streamline responsiveness (GAO, 1993b).
Many of these changes were brought about under the direction of the new FEMA Director, James Witt, who was appointed by newly elected President Clinton in 1993.

In addition to criticisms at the federal level, there were criticisms of local and state government responses to Hurricane Andrew. The state lacked the mechanisms and ability to coordinate efforts to address the evacuation, housing, and immediate basic needs to respond to a disaster of such magnitude (Hughes, 2012; Mittler, 1997). Although the GAO report focused primarily on FEMA, it alludes to problems that existed in the local and state government’s response to Andrew: “the response in South Florida suffered from miscommunication and confusion of roles and responsibilities at all levels of government—which slowed the delivery of services vital to disaster victims” (GAO, 1993b, p. 5). Additionally, the state was unable to conduct an adequate assessment of damages in the immediate wake of the storm to trigger a federal response (Mittler, 1997).

Another criticism of the state’s response was its inability to adequately coordinate volunteers and donations (Himberger, et al., 2007/2008; Hughes, 2012). The Red Cross and other volunteer agencies stepped in quickly after Andrew hit. However, the lack of clear local and/or state leadership and coordination coupled with the complete absence of FEMA for the first three days, rendered their efforts less effective than they could have been. Volunteers worked with the military to try to accommodate the massive evacuation efforts in South Florida, and while their efforts were extremely helpful, they were overwhelmed by donations and lacked an approach to manage and store donations. This resulted in tremendous waste (FEMA, n.d.). One thing that grew out of this was the Volunteer Florida Foundation, which serves to help coordinate volunteers and donations during disasters in Florida now (Himberger, et al., 2007/2008).
Chapter 4

Summary

At the time Hurricane Andrew struck, it was considered one of the most destructive storms in U.S. history. It appears that local officials did a good job evacuating more than 1.2 million people in advance of the storm. This saved hundreds of deaths. However, once the storm hit, chaos ensued in the initial days. There were delays in the federal response generated by confusion at all levels and bureaucratic red tape. These delays caused tremendous hardship and endangered the lives of thousands of residents, many of whom were homeless and without food, water, and medical services. Once FEMA and the DOD intervened, their efforts were coordinated with local public health, law enforcement, National Guard, Red Cross, and many volunteers to better tend to the basic needs and health of the people of southern Florida.

Many changes to disaster preparation and response came about as a result of Hurricane Andrew. One writer stated, “Hurricane Andrew marked a watershed in the history of Florida emergency management, and in the history of the Federal Emergency Management Agency” (Edwards-Winslow, 2013, p. 1). FEMA was reorganized under a new director beginning in 1993. Rules were changed so that in cases where local responders are overwhelmed, the federal agencies can make their own assessment and move in quickly (Franklin, 1995). Mechanisms were included so that provisions can be put in place prior to a disaster. Additionally, changes were made in Florida to improve preparedness and to enhance communication and coordination in responding to disasters (Mittler, 1997). These changes and others at the local, state, and federal level resulted in much better preparation and responses to hurricanes that hit Florida in 2004 and 2005 (Himberger, et al., 2007/2008).
Chapter 5

Recommendations

With so many changes to emergency disaster planning and response occurring after Andrew, my recommendations inevitably have been influenced by the many improvements that have been implemented since 1992. Nonetheless, following are my recommendations:

1. When planning for a large hurricane or other natural disasters, establish command centers in a variety of geographic locations. Then, if one or more of these facilities are crippled by the event another one can take control of the situation and coordinate the response.

2. Develop and empower command structures at each location that have total authority over the response. This means all local, state, and, if involved, federal agencies are coordinated from this command structure. In instances where the federal government is involved, FEMA should perform this function and should be present prior to the disaster, if possible. Otherwise, a clear chain of command should be established in both local and state emergency management plans. These command centers should utilize methodology from the National Incident Management System (NIMS) (FEMA, 2013), as this system provides a comprehensive framework and standardized language and approach.

3. Put in place basic provisions such as food, water, medical supplies, etc. in several locations nearby to the expected location of the disaster along with vehicles that can transport these supplies to people who need them during the initial response.

4. Each city’s command centers should include a triage area that may or may not have to treat injuries. These should be developed as pre-established and equipped place, so
that if that city lost its hospital or some people couldn’t get to the hospital, these facilities could be used to treat the injured. Emergency personnel could direct or take people to these centers. The center should have enough medical supplies to deal with stabilization and be equipped with people that know how to triage. If not needed as an emergency treatment site, volunteers could still be helpful for handling phone calls and coordinating the needed medical services with emergency personnel and the hospital being used.

5. A volunteer list of those who can provide medical services should be kept updated at least yearly and available with the ability for all 3 command centers to access. In an emergency, those on the list can be contacted and directed to the place where need is highest. The incident commander would delegate someone in the team to work with these volunteers and get them to where they will be most helpful. If a list is kept electronically and updated during the emergency, it could be used to track other volunteers and direct their services, preventing duplicative efforts.

6. Hurricanes and other natural disasters bring in debris and flooding which can contain bacteria and other hazards and create infectious disease concerns. Sanitation systems may not function well if at all. Poor sanitation could lead to illnesses. Attempts should be made to avoid this by storing a non-drinking water supply and other cleaning products at the centers to prevent infections from occurring. The extra water supply would be used for cleaning instruments, washing hands, and other hygiene practices.

7. Put funding toward developing technology that would increase the ability to provide warning to individuals of a pending hurricane’s path. In south Florida, it takes 24
hours to get out of the area after being informed. Technology would not fix the traffic, but it could buy people the time they need to get further inland away from the storm.

8. While some disasters like hurricanes provide some warning and federal government agencies and support can be on hand very quickly because of that, the states still need to prepare to be the lead in the initial response. In the beginning of a disaster during the assessment phase, the state institutions will know their needs and abilities more than someone from the outside. They will be able to respond quicker to needs if emergency drills are performed. The state governments need to enforce training of emergency personnel, hospitals, and volunteer organizations. The drills should be performed with the other state agencies that could be involved in a disaster and with internal personnel in case a disaster was more localized. One drill could practice inventory needs depending on different scenarios; another would coordinate different emergency routes based on where the disaster hit; another could be setting up off-site command centers and triaging injuries. Performing full walk-throughs of different possible outcomes coordinated by the different hospitals and state agencies could help these organizations communicate as a team which would lead to better communication during a disaster.
REFERENCES


