Shelter From the Storm: The Interface Between Local Public Health and the Red Cross in Emergency Shelter Operations in the Aftermath of Hurricane Katrina

By the Great Whites

Introduction

On Monday August 29, 2005 Hurricane Katrina devastated 90,000 square miles of the Gulf Coast. The Federal Emergency Management Agency (FEMA) estimated more than 293,000 homes were destroyed. One of the hardest hit areas was the City of New Orleans. The Mayor ordered a forced evacuation of the city and those displaced and left homeless were evacuated into shelters across the United States.

In emergency situations public health agencies may provide shelter until the American Red Cross (ARC) arrives. The role of public health agencies shifts to supporting the ARC once they are on the scene. In early September, one such shelter was opened in a Wisconsin city. City Health Department (CHD) staff immediately began planning and coordinating services with the local chapter of ARC.

After days of uncertainty the shelter received its first evacuees on September 6, 2005. On that day 30-40 people had self reported to the shelter as Hurricane Katrina evacuees. Two days later planes arrived in the city with 179 evacuees. The evacuees were told of their destination only after the plane was in the air. By the end of the day on September 8th there were approximately 250 people living in the shelter. In mid October there were still more than 200 people living in the shelter. The last of the evacuees left the shelter in early November.

This case study will examine the role of local public health agencies at an ARC shelter. In addition we will assess agency-defined roles versus actual roles at the shelter. As we continue with public health preparedness it is essential to examine the successes and lessons learned from this shelter in an effort to improve care.

Background

Hurricane Katrina was the sixth-strongest storm ever recorded in the Atlantic basin. It first made landfall as a Category 1 hurricane just north of Miami, Florida on August 25, 2005, resulting in a dozen deaths. In the Gulf of Mexico it strengthened into a formidable Category 5 hurricane with maximum winds of 175 mph.. It weakened considerably, making its second landfall on the morning of August 29th along the Central Gulf Coast near Buras-Triumph, Louisiana. At that point it was a strong category three storm with 125 mph winds.

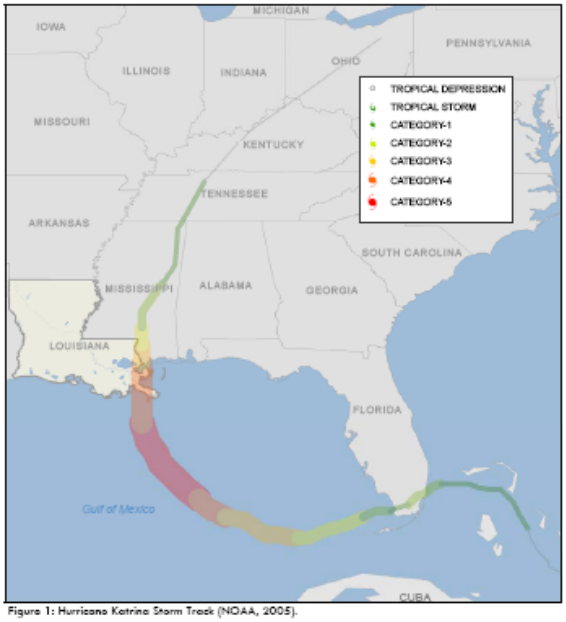

Figure 1: Hurricane Katrina Storm Track (NOAA, 2005).

Hurricane Katrina: August 28, 2005 MODIS True-color Satellite Image (LSU Earth Scan Lab, 2005).

The sheer physical size of Katrina caused devastation far from the eye of the hurricane; On August 29th, its storm surge breached the levee system that protected New Orleans from Lake Pontchartrain and the Mississippi River. Most of the city was subsequently flooded.

Heavy damage was also inflicted onto the coasts of Mississippi and Alabama, making Katrina the most destructive and costliest natural disaster in the history of the United States.

In Louisiana, the hurricane's eye made landfall at 6:10am CDT on Monday, August 29th. By early September, people were being forcibly evacuated, mostly by bus to neighboring states. More than 1.5 million people were displaced, a humanitarian crisis on a scale unseen in the U.S. since the Great Depression.

The hurricane left an estimated three million people without electricity, taking some places several weeks for power to be restored. On September 3rd, Homeland Security Secretary Michael Chertoff described the aftermath of Hurricane Katrina as "probably the worst catastrophe, or set of catastrophes" in the country's history

Case Body

Due to the forced evacuation of New Orleans FEMA instructed each state to identify available housing. Wisconsin responded and offered several sites. The following is a timeline of events beginning with the first call from FEMA and ending when the shelter was closed.

September 3rd, Saturday
CHD was notified by County Emergency Management of the possible arrival of evacuees within the next several days. Limited information was available about the number of evacuees to be expected or when they would arrive in the city. CHD's after hours emergency staff contact list was used to notify key CHD staff to begin planning.

September 4th, Sunday
10:00 A.M. – A multi-agency task force led by the local chapter of ARC convened its first meeting to plan for evacuees.

September 5th, Monday (Labor Day)
1:30 P.M. – A press conference was held. The Governor, Mayor, and County Executive were among the participants. At that time the facility was officially offered to house 1200 evacuees along with their pets. Following the press conference, CHD staff met with ARC and facilities staff to begin planning/coordinating response activities. County Emergency Management had received no information regarding when and how many evacuees would be coming. Responding agencies were told to be available 24 hours per day. CHD activated the Incident Command System (ICS) to manage the event. The CHD defined its goals as:

1. Provide initial medical / public health screening & triage within 8 hours to 100% of up to 1200 evacuees
2. Assure adequate resources to meet both acute and ongoing medical and mental health needs
3. Conduct surveillance to prevent and/or control any disease outbreaks during at least a 90 day period

4. Seamlessly integrate services with ARC, County Emergency Government, and other key agencies.

The role of ARC was to be the lead agency in the shelter's day to day operations. In The Red Cross Response to Disaster (1998) there is a section that specifies Disaster Health Services as:

1. "The primary responsibility for the general health of a community rests with the local health authorities, and Disaster Health Services supplements the communities existing care delivery systems."
2. "The health services provided in any Red Cross facility are supervised by a Red Cross nurse in consultation with a physician."

At that time, response agencies (CHD, ARC, County Emergency Management and Law Enforcement) operated on the assumption that evacuees could start arriving at any time via commercial airline or by bus, making the lead-time between notification and arrival anywhere from 2 to12 hours. The plan was for evacuees to receive an initial health screening upon arrival at the airport. One county paramedic plus one CHD public health nurse (PHN) would be on site for triage of emergent health issues, while law enforcement officials would be onsite to conduct criminal background checks. Once health screenings and background checks were completed, evacuees would be transported on dedicated busses to the shelter.

Upon arrival at the shelter, the evacuees would register with ARC, receive an identification card and undergo an additional screening to assess for evidence of communicable disease and availability of current medications. The CHD planned to provide 1 PHN per 40-50 evacuees. If more than 30 nurses were required, the CHD would invoke mutual aid agreements with other local public health agencies. The role of the CHD nurse at the shelter was restricted to health screening for acute healthcare needs or emergency/immediate medical issues.

September 6th, Tuesday

The Mayor of New Orleans ordered a forced evacuation of the City. The local chapter of ARC initiated daily meetings with response agencies. CHD also initiated twice daily internal ICS briefings.

During this period of uncertainty, CHD activities consisted of conducting an onsite review of the airport, finalizing acute disease screening questionnaires, developing PHN on call schedule, and identifying volunteer physicians. At this time 30-40 people had independently arrived at the shelter. There was still no specific information provided by FEMA.

September 7th, Wednesday

The CHD continued to attend daily meetings conducted by ARC. Based upon information discussed at these meetings potential issues regarding the delivery of healthcare arose that the CHD brought to the attention of the local healthcare system. The main issue needing resolution was who would provide healthcare for these evacuees and how would payment be received.

1:00 P.M. – The first CHD nurses were assigned to see clients at the shelter.
4:00 P.M. – The CHD Medical Advisor was on site to coordinate volunteer physicians.
6:00 P.M. – Information came from county emergency management that no planes with evacuees would likely be arriving in Milwaukee.
10:00 P.M. – The CHD was contacted again by county emergency management, this time, CHD was informed that two planes with approximately 100 evacuees aboard each would likely arrive the next day with the first plane arriving at 1:30 pm and the second at 8:00pm.

September 8th, Thursday

Two plane loads of evacuees from New Orleans totaling 179 persons landed at the local airport. Evacuees were informed of their destination once the plane was in the air. Many were unaware of where they were when the plane landed. The CHD conducted screenings at the airport and at the shelter as planned. Screening at the airport identified 4 persons requiring immediate medical attention who were transported to local hospitals. The CHD staff estimated that about 60% of the arrivals at the shelter had immediate health needs predominantly involving lack of crucial prescription medications or skin wounds and infections.

By the end of the day, approximately 250 evacuees were residing at the shelter.

September 9th, Friday
Once the shelter was opened, CHD nurses were on site 12 hours per day, 7 days per week staffing an immediate care clinic. A CHD physician, members of the Red Cross, and community physicians who volunteered their time also provided healthcare services onsite over the next several weeks. Volunteer physician scheduling was managed by CHD. At the clinic, CHD nurses provided tetanus boosters, stool specimen collection kits, wound culture kits, and use of their city laboratory. Special clinics were later set up to offer childhood immunizations and tuberculosis screening on site. Additionally, the CHD worked behind the scenes to ensure evacuees would be covered by Medicaid, worked with pharmacies to get prescriptions filled, and assisted evacuees with access to medical specialists.

The role of ARC and its volunteer nurses at the shelter consisted of providing resources and referrals for evacuees. As the shelter's intensity and longevity became apparent, the roster of approximately 60 ARC volunteer nurses was not sufficient. Consequently, through informal channels the call for nurses to volunteer as ARC nurses went out to 12 local health departments. Only three departments sent nurses. The majority of the public health nurses volunteered only once for a four hour shift. Through a short questionnaire it was discovered that the PHN's did not volunteer more of their time because of busy work schedules and the lack of a clearly defined role at the shelter.

None of the volunteer PHN's had received any prior training in the roles and responsibilities of an ARC volunteer nurse. They received onsite training at the shelter which proved to be inconsistent day to day. This inadequate training led to confusion relating to medication protocols, resource and referral guidelines, and charting procedures.

September 26th, Monday
Approximately 240 evacuees still resided at the shelter with evacuees filtering in and out daily. At that time, ARC anticipated relocating all evacuees to permanent locations and the shelter would be closed by mid-October. The CHD nurse staffing was reduced to Mondays, Wednesdays, and Fridays for 3 hours per day.

October 17th, Monday
Approximately 200 evacuees were still residing at the shelter. Securing permanent housing was significantly slower than expected.

November 1st, Tuesday
12:00 P.M. – The shelter was officially closed. Evacuees that were still at the shelter awaiting permanent housing were moved to other ARC shelters.

Conclusion – Successes and Lessons Learned

This case study is based upon a recent post-Katrina evacuee experience, with health issues for individual evacuees that continue to surface even today. There were, however, (during the time of sheltering) no communicable disease issues which surfaced. The Health Department and its partners assured a safe and healthy environment and identified, recruited, and referred evacuees to partners who would provide immediate and on-going mental health and medical care**.** Advocates for evacuees mobilized resources, including insurance coverage, and did so because of the unique challenges that displacement, trauma, and loss bring. Still, even this "special coverage" was limited to just three months and the lack of longer term case management (post shelter) and the eventual loss of health coverage has led to challenges for a population that does not understand how to navigate systems unique to this community.

Creating a clear plan based on lessons learned from this experience would ensure improved assessment measures, including long term needs of displaced individuals. It would also help

to clarify what the roles and responsibilities of community partners are and enable each partner to better plan for potential needs in the future. This would include training for individuals, such as PH nurses to prepare them for the unique role of disaster related health care. Another realization is that using official protocols of Emergency Management would better enable human resources to be mobilized**.** Policy development around such emergency preparedness and community response would improve both short and long term assurance of the health of the victims of natural or man-made disasters.