

Disaster Planning after Katrina

Louisiana Hospitals Are Partnering to Build New Models of Community Response



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It is often said that failing to plan is planning to fail. Disaster preparedness and planning is a prime example of that adage played out in reality. Since the events of Sept. 11, 2001, hospitals have invested significantly in emergency preparedness planning. However, hospitals can no longer plan how to respond to community events in a “silo” manner. Through collaboration, Louisiana community hospitals are partnering with regulators to build sustainable models for community response so as to create a culture of preparedness.

In 2006, the Louisiana Recovery Authority (LRA), a state agency created in the wake of August 2005’s Hurricane Katrina, contracted with PricewaterhouseCoopers to evaluate Louisiana’s preparation for and response to emergencies. PricewaterhouseCoopers duly developed a white paper and presentation, entitled *Emergency Preparedness and Disaster Planning*, which the LRA then adopted in April 2006. To date, only one of the white paper’s recommendations has been funded—the Louisiana Emergency Response Network, a statewide system for trauma care.

Fundamental change will occur in hospitals when emergency planning and response are considered not isolated events but, rather, day-to-day planning that has been integrated in the fabric of hospital operations. The challenge for senior management teams in hospitals is balancing the need for a comprehensive plan with the realities involved in securing resources for emergency preparedness functionality.

The primary goal of disaster planning is increasing a hospital’s resilience by establishing a predetermined level of operational sustainability that will carry it through a disaster. To create this resilience, a hospital should integrate prepared-

ness in its daily operations, fund it in its budget, implement it with standard operating procedures, and measure it through drills and performance evaluations. Hospital leaders should ask themselves: Do I know my hospital’s role in regional emergency planning and response? Is my perception of the hospital’s role the same as that of our community’s disaster teams? Does our state hospital association have a presence at the state emergency operations center? Who represents health care for the health care delivery system’s role in community, regional, or state planning response?

If you are a hospital leader and have comfortably responded yes to each of these questions, then this article will be a review. However, if you were unable to answer the questions, or unsure of the answers, then the article—which outlines how Louisiana has organized its health care emergency planning and response strategy—may serve as a stimulus for you in preparing your own preparedness strategy.

DISASTERS

In the United States, every state and territory has communities that are at risk of one or more natural hazards. The most frequent of natural hazard-related disasters are those caused by flooding, which accounts for an estimated 40 percent of all disasters worldwide. Such disasters are generally considered “low probability/high impact” events. In fact, only a few U.S. disasters have resulted in more than 1,000 casualties. Disasters are defined not by the numbers of casualties involved but, rather, by their consequences for health and health services.

Disasters are highly complex events resulting in both immediate medical problems and long-term public health disruptions. Hospitals naturally play an important role in disaster response. The Trust for America’s Health, a Washington, DC-based organization that specializes in disease prevention, affirms that hospitals are an integral part of the nation’s disaster response efforts, charged with preventing and reducing disease and injury.

During catastrophes—which can range from a hurricane to a major disease outbreak to a bioterrorism attack—health care professionals act as “first responders,” investigators, strategists, and medical care providers.

Emergency preparedness is not simply the existence of plans or even the periodic testing of those plans. To be effective, plans must be practical, acceptable by all users, interorganizational, and based on valid resource information. The planning process, which addresses the key concepts of medical emergency preparedness, is crucial.

INCIDENT MANAGEMENT

On February 28, 2003, President Bush issued Homeland Security Presidential Directive 5, instructing the secretary of the Department of Homeland Security to develop and administer a National Incident Management System (NIMS). NIMS built upon the Incident Command System (ICS), which had been created in 1970 in response to a series of wildfires in Southern California. The fires had illustrated the difficulties involved in bringing firefighters from multiple jurisdictions to respond to the same event. The ICS’s goal was to simplify communications and establish clear lines of authority and command. NIMS provides a consistent nationwide template enabling government, private-sector, and non-governmental organizations to work together during domestic incidents.

It is critical that all local responders, as well as people coming into the affected area from other jurisdictions, know and utilize commonly established operational structures, terminology, policies and procedures. NIMS provides the framework for communicating in a disaster and ICS provides the operational framework for response, thus ICS and NIMS are all about coordinating operations across agencies, jurisdictions, and disciplines. The ability of responders from different jurisdictions and different disciplines to work together depends greatly on their ability to communicate with each other. Since October 2006, federal preparedness grant funding for hospitals has been contingent on documentation that the hospital’s managers have successfully completed ICS trainings. In October 2005, Louisiana’s governor signed an executive order that established NIMS as state standard for incident management. Between October 2006 and March 2007, 36,639 Louisiana residents have been trained in NIMS and also preparedness concerning weapons of mass destruction.

The National Response Plan establishes a comprehensive all-hazards approach to managing

domestic incidents in the United States. The plan integrates incident-management disciplines called “emergency support functions” (ESFs) into a unified structure and establishes protocols to help protect the nation from terrorist attacks and other man-made hazards, as well as natural disasters. ESF-8—which concerns public health and medical services—provides disaster victims with public health and sanitation, emergency medical care, dental and hospital services, crisis counseling, and mental health services. It does so by supplementing disrupted or overburdened local medical personnel and facilities, thereby relieving personal suffering and trauma.

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It is vital, of course, that the command structure for a disaster response use an incident-action-planning process that is systematic and comprehensive, integrating multiple agencies and emergency response disciplines into a common organization. The command concept used must provide the most effective means of coordinating and directing multiple disciplines during a major public health emergency.

In 2002, the U.S. Department of Health and Human Services funded Hospital Bioterrorism Preparedness grants through the Health Resources and Services Administration. In Louisiana, this money was used to develop regional planning efforts for hospitals statewide. For these purposes, Louisiana is divided into nine regions, in each of which an ESF-8 health and medical structure was adopted. The statewide ESF-8 network in place prior to Hurricane Katrina consisted of the medical director/administrator of the state Department of Health and Hospitals/Office of Public Health and a designated regional coordinator (DRC). In June 2005, an emergency medical system (EMS) DRC was added to the ESF-8 network. Since Katrina, this network has grown to include a nursing home regional coordinator and a primary care regional coordinator. This network ensures that coordination of care (needs and movement of patients), assets (types of beds available), and resources (e.g., security needs, pharmaceutical needs, sheltering care, and case management

activities) are integrated at a regional level. This infrastructure was critical to response efforts in the hours, days, and weeks after Hurricanes Katrina and Rita struck the Gulf Coast.

I have presented this planning concept at many national meetings. Few states have approached regional response with the depth and breadth of Louisiana's approach, which has embraced a leadership role for the hospital network. In Louisiana, regional coordination is provided through local hospital volunteers known as hospital-designated regional coordinators (H-DRCs). An H-DRC's primary responsibilities are:

- To serve as hospital liaisons with other health-related entities (e.g., Office of Public Health, Bureau of Emergency Medical Services) and on behalf of hospitals with non-health related entities (e.g., Office of Emergency Preparedness)
- To support the patient transfer process during a declared state of emergency
- To facilitate the identification of a medical evacuation queue during a declared state of emergency
- To facilitate the development and implementation of regional and inter-hospital emergency preparedness plans for designated regions in the state
- To lead the region's process for development, testing, continuous improvement, and management of regional hospital response to emergency situation

- To be the region's leader during a statewide emergency in which hospitals need to respond
- I am convinced that, were it not for H-DRCs, there would have been many more casualties as a result of Katrina.

THE PLAN

The PricewaterhouseCoopers white paper of 2006 said that the state had allocated too little funding and too few resources to disaster planning. Louisiana probably isn't alone in this respect. I suspect that if one reviewed ESF-8 plans for other states, one would find much of the typical boilerplate language necessary to receive federal funds but few details concerning the actual implementation of emergency plans.

E. L. Quarantelli, an expert on the delivery of medical care during disasters, has defined as the "paper plan syndrome" a tendency to believe that disaster preparedness can be accomplished merely by the completion of a written plan.¹ The "paper plan syndrome" creates an illusion of preparedness, Quarantelli argues, because:

- The assumptions underlying such a plan may not be valid
- The plan was probably not created from an interorganizational perspective
- Insufficient resources may have been allocated to carry the plan out
- End users were probably not involved in the planning process

Planning for a disaster is valuable because as it gives the planners an opportunity to anticipate the problems likely to be faced. But disaster planning is only as good as the assumptions on which it is based. Some argue that disasters are like everyday emergencies, only larger and requiring more resources for an appropriate response. In Louisiana, much planning emphasis was placed on the mobilization of large numbers of resources. Unfortunately, the establishment of procedures and mechanisms to coordinate these resources was neglected. On the other hand, some people have argued that a disaster as huge as Hurricane Katrina could not have been planned.

LOUISIANA'S "HURRICANE PAM"

In 2004, Louisiana conducted a hurricane planning conference titled "Hurricane Pam." In many ways, the all-too-real Hurricane Katrina turned out to be very similar to the fictional Hurricane Pam (see **Box**). The fact that they were so similar is an indication that disaster planning *can* be useful.

However, participants in the Hurricane Pam exercise could not imagine the extent of the damage caused by Hurricane Katrina, especially the

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Hurricanes Katrina and "Pam"	
"Hurricane Pam"	Hurricane Katrina
Planned for 20 inches of rainfall	Katrina dumped 18 inches of rain
Planned for the evacuation of one million people	Approximately one million people evacuated
Developed plans for how to care for 175,000 injured people	As many as 200,000 people were treated medically. Federal caregivers treated 60,000 and an estimated 120,000 were treated by local and volunteer medical services
Called for evacuation of approximately 35% of population	Approximately 80–90% of New Orleans area was evacuated
Planned to take 30 days for removal of water from New Orleans	Took over 43 days for water to be removed from New Orleans

2007 Hurricane CEO Checklist

- Review Hurricane Preparedness policies & procedures.
- Review Hurricane Security and Safety Plan for your hospital and make adjustments as required.
 - Ensure plans address safety issue with hospital designs, especially those with a lot of glass.
 - Ensure an adequate inventory of supplies, including medications, blood and blood products, food, water, fuel, linens, and oxygen to sustain operations, for up to seven days is available. (Keep in mind that dialysis centers, rape crisis centers, and retail pharmacies will be closed, so those patients will seek treatment at hospitals.)
- Review transferring and evacuating procedures and protocols.
 - Review policies to back-up patient and employee records.
- Reconfirm evacuation assets.
- Review "Plan Evacuation B"—Federal/State Medical Institution Evacuation Plan for your region.
 - Confirm "H-Hour timeline." H-Hour 0 = 24 hours before tropical force winds hit the coast line. Hospitals requiring federal assistance to evacuate must make request by H-Hour 60.
 - Identify Point of Contact for "Evacuation Plan B"—Federal/State Medical Institution Evacuation Plan
 - Notify medical staff of potential threat.
- Ensure that process for admitting and discharging patients is identified.
 - Review pre-admission checklist for patients admitted from other facilities or from home to ensure that all necessary information on the patient will be collected.
 - Review protocols for patient flow, including coordination with physician and transportation services and offering of support services such as pharmaceuticals to patients that will be discharged.
 - Ensure that chief of medical staff is involved in patient discharge process.
- Ensure that backup emergency generators work.
 - Ensure hospital water chillers and heating, ventilation, and air conditioning systems are on emergency generator system.
 - Ensure emergency backup power system support key ancillary areas, such as morgue and other buildings.
 - Ensure that emergency power plans are extended beyond 24 hours. Know how long the generator is expected to last.
 - Ensure staff is trained to repair any problems that might arise with the generators.
 - Ensure availability of backup fuel for generators.
 - Verify your hospital has portable generators in case the main generators fail.
- Determine alternate communication methods for key staff in the event traditional communication systems are compromised.
- Check the status of your hospital's emergency two-way radio, such as your HEAR or 800 MHz radio; ensure your understanding of how to operate the equipment and identify your role with that communication system.
- Ensure hospital has an alternative form of communication that links other hospitals, local hospital association, Parish (County) Emergency Operations Center (EOC), Emergency Medical Services (EMS), and Fire/Rescue.
- Update key contact information for your preparedness, other hospitals, your Designated Regional Coordinator, local hospital association, EOC, and EMS and Fire/Rescue.
- Review mutual-aid agreements to reinforce commitment of support with other hospitals and State Office of Emergency Preparedness.
- Review or develop alternative plan for elevator access to ensure patient can be transported throughout the hospital in the event of power lost or damages to elevators.
- Educate employees regarding current events and review plans regularly.
- Ensure that all staffing and sheltering issues are addressed in your emergency plan.
 - Ensure relief teams for staffing are in place to ensure staff is well-rested to prevent burnout.
 - Ensure behavioral health care services are provided. Ensure stress levels and posttraumatic issues of staff members and their family members are addressed before, during, and after the event.
 - Ensure child care centers are open in the hospital for the staff and their children. Work with local child care agencies to identify those that might be able to help during a disaster.
 - Evaluate need for "cash on hand" to advance employees so that they can support their families and come to work.
- Review and ensure that Hospital Emergency Incident Command System (HEICS) and/or National Incident Management System (NIMS) procedures are in place for your hospital. Identify your role and the roles of your key staff members within that process.
- Identify re-entry procedures for the state and for your parish. Ensure that employees understand re-entry requirements and can safely return.

—Louisiana Hospital Association

resulting breakdown of social order. In Katrina's aftermath, evacuation plans were negatively impacted by social unrest. If disaster planners in other states consider Hurricane Katrina to be a worst-case scenario, then they should, at a minimum, develop plans to respond to disasters of the same magnitude. At the state level, planners should take into account scenarios that include:

- Millions of customers reporting power outages
- A devastated communications infrastructure, including incapacitated telephone service; incapacitated police, fire dispatch centers, and emergency radio systems; damaged cell towers with little or no service; and radio and television stations off the air
- A 800 MHz radio system, (probably designed to be the backbone of mutual aid communications) that does not function, with repairs to it delayed for several days
- A health care infrastructure that sustains extraordinary damage—large hospitals destroyed, many others rendered inoperable, and nearly all other health care facilities closed
- Hundreds of hospital patients stranded inside dark and flooded facilities that lack basic supplies
- An inability to evacuate the area's most vulnerable residents, including those with special needs

EVACUATION ISSUES

Although state and local governments can order evacuations of the population during emergencies, health care facilities may be exempt from these orders. Hospital and nursing home administrators have to consider several complex issues when deciding whether to evacuate their institutions. There is a very limited body of knowledge on decision making for hospital evacuations. In the months after Hurricane Katrina, many disaster "experts" visited Louisiana to conduct studies. We asked each of them to develop a critical decision-making matrix that would help hospital administrators weigh the risks and benefits of a full-scale hospital evacuation. To date, I am unaware that any such matrix has been made available to hospital and health system administrators.

I might note here that, after Katrina, Louisiana's legal system brought felony charges against some health care facility owners who had decided not to evacuate patients during the disaster. A decision-making matrix would have helped owners and administrators determine the appropriate course of action.

For administrators, the question whether or not to evacuate is complicated by:

- The risks involved in physically moving patients
- Whether timely transportation can be secured
- Whether a facility can be located that will accept the evacuated patients
- Whether the evacuation can be timed accurately

During the Katrina crisis, many health care facilities competed for the same local resources because no central mechanism existed to allocate vehicles necessary for evacuation. Also lacking were funds to pay for the costs associated with evacuation, including transportation of patient records and access to medication.

A RESOURCE FOR PLANNING

The Louisiana Hospital Association has developed a planning checklist to assist hospital administrators in the hurricane preparedness planning process (see **checklist**, p. 17). Although the checklist was created specifically for hurricane preparedness, it would be valuable when preparing for any type of catastrophic event.

PLANNING IS ABSOLUTELY VITAL

In the best health care organizations, emergency preparedness is embedded in daily operations. A part of the organization's culture, preparedness is entwined with performance measures, incentives, and vision. Emergency preparedness is viewed not as an activity that requires "checking the box," but, rather, as a crucial element of survival for that system.

Disasters begin and end at home. Louisiana has been presented with a unique opportunity to set benchmarks in health system disaster planning and emergency preparedness. It is not the sole responsibility of state and local officials to ensure a resilient health care delivery system. Hospital and health care administrators have a duty to lead internal hospital efforts, as well as regional and statewide initiatives, to ultimately provide a safe haven during times of disaster. Hospital leadership must be good stewards of the public's trust in them and lead emergency preparedness and response efforts in their local communities. During a disaster, a health care facility's ability to fulfill its mission might very well come down to its *planning*. ■

NOTE

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JOURNAL OF THE CATHOLIC HEALTH ASSOCIATION OF THE UNITED STATES

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