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Hurricane Katrina: The Public Health and Medical Response

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Summary

Hurricane Katrina struck the Gulf Coast in late August 2005, causing catastrophic wind damage and flooding in several states, and a massive dislocation of victims across the country. The storm is one of the worst natural disasters in the nation's history. Early estimates are that hundreds of people were killed and about one million displaced.

In response to a series of disasters and terrorist attacks over the past decade, and especially since the terror attacks of 2001, Congress, the Administration, state and local governments and the private sector have made investments to improve disaster preparedness and response. New federal authorities and programs to strengthen the nation's public health system were introduced in comprehensive bioterrorism preparedness legislation in 2002. Congress also created a new Department of Homeland Security (DHS) in 2002 to provide national leadership for coordinated preparedness and response planning. A new National Response Plan (NRP), launched by DHS in December 2004, has met its first major test in the response to Hurricane Katrina.

According to the NRP, the Department of Health and Human Services (HHS) is tasked with coordinating the response of the public health and medical sectors following a disaster. HHS works with several other agencies to accomplish this mission, which includes assuring the safety of food, water and environments, treating the ranks of the ill and injured, and identifying the dead. HHS activities are coordinated with those of other lead agencies under the overall leadership of DHS.

Congress and others will review the response to Hurricane Katrina with an eye toward assessing how well the NRP worked as an instrument for coordinated national response, and how well various agencies at the federal, state and local levels carried out their missions under the plan. Hurricane Katrina dealt some familiar blows in emergency response: the failure of communication systems and resultant difficulties in coordination challenged response efforts in this disaster as with others before it. Hurricane Katrina also pushed some response elements, such as plans for surge capacity in the healthcare workforce, to their limits for the first time in recent memory. The public health and medical response to Hurricane Katrina has also called attention to the matter of disaster planning in healthcare facilities, and the potential role of health information technology in expediting the care of displaced persons. Policymakers will no doubt study these elements of the Katrina response and seek options for continued improvement in national disaster preparedness and response.

This report discusses the National Response Plan and its components for public health and medical response, provides information on key response activities carried out by agencies in HHS and DHS, and discusses certain issues in public health and medical preparedness that have been raised by the response to Hurricane Katrina. This report will be updated as circumstances warrant.

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Hurricane Katrina: The Public Health and Medical Response

Introduction

Hurricane Katrina struck the Gulf Coast in late August 2005, causing catastrophic wind damage and flooding, and leading to Presidential disaster declarations for Alabama, Florida, Louisiana and Mississippi. The storm is one of the worst natural disasters in the nation's history. Early estimates are that hundreds of people were killed and about one million dislocated.

Public health and medical response personnel have been faced with a myriad of challenges in assuring the health of Katrina's victims. First, there are the immediate medical needs of persons who were injured, or whose care for chronic conditions lapsed when they were cut off from services. Rendering ongoing care to thousands of displaced persons involves restoring lost medical records and reworking the mechanisms that finance their care. The short and long-term mental health needs of victims and responders also have to be addressed.

Assuring access to fresh water and restoring safe sewage handling is an immediate public health need. Additional public health challenges include keeping response workers safe, preventing diseases from spreading in shelters, assuring the safety of food supplies, and controlling mosquitoes. Public health surveillance and laboratory systems must be ramped up to take in and analyze important information about population health status in affected areas, host states, shelters and other sectors, in order that problems can be recognized and addressed promptly.

The logistical hurdles posed by Hurricane Katrina have been formidable. Communications were knocked out in hard-hit areas, which compromised the process of assessing and prioritizing needs. Physical access was blocked in some areas, and civil disorder was a problem in some others. Each kept responders from delivering aid. In some cases, victims were isolated without water and medicines, and hospitals that had not been evacuated were unable to sustain operations. Each circumstance required the emergency evacuation of critically ill patients to a triage center, which then itself became overwhelmed. Federal, state, and local governments, businesses and corporations, the faith community and other volunteers all pitched in to speed relief to Katrina's victims, but keeping all of it coordinated remains a challenge.

Over the past decade, in response to the Oklahoma City bombing, the terror attacks of 2001 and several serious natural disasters, Congress and the administration created new authorities, structures and plans to assure that government at all levels can respond well to disasters like Hurricane Katrina. Local and state governments are to be the first responders in a disaster. When their resources are overwhelmed,

federal assistance is provided under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act) and other authorities. A new National Response Plan (NRP) places the Secretary of Homeland Security in charge of coordinating the overall federal response. The Secretary of Health and Human Services (HHS) is in charge of coordinating the federal public health and medical response. In the wake of Hurricane Katrina, Congress is likely to review the Hurricane Katrina response in light of recent public health preparedness laws and the NRP. Even the best plan and response may still be temporarily overwhelmed in a disaster of the scope of Hurricane Katrina. Congress may nonetheless find opportunities to revisit management structures, programs and goals in order that national response capability can be steadily improved.

This report will discuss relevant authorities and response plans that guided the public health and medical response to Hurricane Katrina. The roles and response activities of selected agencies in HHS and the Department of Homeland Security (DHS) will be discussed. Finally, a number of issues that Congress may decide to consider will be presented. This report will be updated as circumstances warrant. For a broader discussion of all-hazards public health and medical preparedness, see CRS Report RL31719, *An Overview of the U.S. Public Health System in the Context of Emergency Preparedness*.

Federal Authorities and Responsibilities

The Stafford Act

The Stafford Act authorizes the President to issue major disaster declarations, whereupon federal agencies are authorized to provide assistance to states overwhelmed by disasters.¹ Through executive orders, the President has delegated to the Federal Emergency Management Agency (FEMA), within the (DHS), responsibility for administering the major provisions of the Stafford Act. Thus far in calendar year 2005, President Bush has issued 32 major disaster declarations, including those in Alabama, Florida, Louisiana, and Mississippi for Hurricane Katrina.²

Activities undertaken under authority of the Stafford Act are provided through funds appropriated to the Disaster Relief Fund (DRF). Federal assistance supported by DRF money is used by states, localities, and certain non-profit organizations to provide mass care, restore damaged or destroyed facilities, clear debris, and aid individuals and families with uninsured needs, among other activities. Federal agencies that receive mission assignments from DHS and provide assistance pursuant to the NRP are also reimbursed through funds appropriated to the DRF. In addition

¹ 42 U.S.C. §5121 et seq, available at [<http://www.fema.gov/library/stafact.shtml>]. Also see CRS Report RL33053, *Federal Stafford Act Disaster Assistance: Presidential Declarations, Eligible Activities, and Funding*, by Keith Bea.

² For a list of major disaster declarations, see FEMA, "Federally Declared Disasters by Calendar Year," at [<http://www.fema.gov/library/drcys.shtml>].

to the FEMA assistance authorized by the Stafford Act, a wide range of aid is provided by other federal agencies under general statutory authority.

The National Response Plan

The *National Response Plan* (NRP) is the framework under which federal and voluntary agencies are instructed to operate when a disaster occurs.³ The NRP was released by the DHS in December 2004, replacing the previous Federal Response Plan. The NRP is an administrative plan and does not establish new federal authorities. In general, federal responsibilities in the plan are intended to assist state and local authorities, not to replace them.

According to the NRP, which is under the overall coordination of the Secretary of Homeland Security, the Secretary of HHS is tasked with *Emergency Support Function* (ESF) #8, the coordination of public health and medical services, as laid out in the plan's ESF#8 annex.⁴ HHS is responsible for coordinating the following activities under ESF#8, and may request assistance from 14 designated support agencies and the American Red Cross as needed:

- Assessment of public health and medical needs;
- Health surveillance;
- Medical care personnel;
- Health and medical equipment and supplies;
- Patient evacuation;
- Patient care;
- Safety and security of human drugs, biologics, and medical devices, veterinary drugs, and other HHS-regulated products;
- Blood and blood products;
- Food safety and security;
- Agriculture safety and security (principally with regard to food-producing animals and animal feeds and drugs);
- Worker health and safety;
- All-hazard public health and medical consultation, technical assistance and support;
- Behavioral health care;
- Public health and medical information;
- Vector control (e.g., control of disease-carrying insects and rodents);
- Potable water, wastewater and solid waste disposal;
- Victim identification and mortuary services; and
- Protection of animal health (principally with regard to HHS-regulated animal feeds and drugs).

³ See CRS Report RL32803, *The National Preparedness System: Issues in the 109th Congress*, by Keith Bea.

⁴ Department of Homeland Security, National Response Plan, Dec. 2004, (hereafter called the NRP), Annex ESF#8, at [http://www.dhs.gov/interweb/assetlibrary/NRP_FullText.pdf]. See also HHS, "HHS Maintains Lead Federal Role for Emergency Public Health and Medical Response," press release, Jan. 6, 2005.

The HHS *Concept of Operations Plan (CONOPS) for Public Health and Medical Emergencies* outlines how HHS plans to implement its emergency preparedness and response authorities and establishes the department's policies for emergency preparedness and response.⁵

HHS does not bear primary responsibility for *mass care*, which is the coordination of non-medical services such as shelter, feeding, emergency first aid, and efforts to reunite displaced family members. Mass care is the responsibility of DHS and is carried out by FEMA and the American Red Cross according to ESF#6. HHS is also not responsible for *urban search and rescue*, which is also the responsibility of DHS and FEMA pursuant to ESF#9. Furthermore, HHS may depend on numerous other agencies to carry out certain of their ESF activities (e.g., public safety, road clearing and power restoration) before some ESF#8 activities can commence.

Most of HHS's primary responsibilities under ESF#8 are within the department's primary control. An important exception is the National Disaster Medical System (NDMS), which comprises teams of medical professionals who are pretrained to deploy and provide medical services in the immediate aftermath of a disaster before other federal assets arrive. NDMS, which previously operated under the Public Health Service in HHS, was transferred to DHS in the Homeland Security Act of 2002 (P.L. 107-296), and now operates under FEMA. NDMS will be discussed in greater depth in subsequent sections of this report.

Declarations of Public Health Emergencies

Absent an emergency, most public health authority, such as mandatory disease reporting, licensing of healthcare providers and facilities, and quarantine authority, rests with states as an exercise of their police powers. Most states have considerable powers in responding to public health events, and most can also declare public health emergencies to expand their powers further when needed.⁶ The federal role is largely assistive through the provision of funding, additional personnel, and specialized services such as laboratory testing and surveillance. This model does not change substantially in emergencies, though there are statutory provisions for some specific expansions of federal public health authority in emergencies.

Section 319 of the Public Health Service Act provides broad authority for the Secretary of HHS to declare a public health emergency at the federal level.⁷ Following the 2001 terror attacks, Congress updated this authority in the Public

⁵ HHS, "Concept of Operations Plan (CONOPS) for Public Health and Medical Emergencies," Mar. 2004, at [http://www.hhs.gov/nvpo/pandemicplan/hhs_conops.pdf].

⁶ A listing of legal authorities invoked by Hurricane Katrina-affected states is provided by the American Health Lawyers Association at [http://www.healthlawyers.org/Content/NavigationMenu/News_Center/Hurricane_Katrina_Resources.htm]. For a discussion of the exercise of federal and state authorities in response to the recent shortage of influenza vaccine, see CRS Report RL32655, *Influenza Vaccine Shortages and Implications*, by Sarah A. Lister.

⁷ 42 U.S.C. §247d.

Health Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188).

One provision in the bioterrorism act allows the Secretary, during a public health emergency, to waive certain requirements for provider participation in serving individuals enrolled in Medicare, Medicaid and the State Children's Health Insurance Program (SCHIP).⁸ Otherwise, the statutory authority for a federal declaration of a public health emergency rests in broad language, as follows:

If the Secretary determines, after consultation with such public health officials as may be necessary, that —

- (1) a disease or disorder presents a public health emergency; or
- (2) a public health emergency, including significant outbreaks of infectious diseases or bioterrorist attacks, otherwise exists,

the Secretary may take such action as may be appropriate to respond to the public health emergency, including making grants, providing awards for expenses, and entering into contracts and conducting and supporting investigations into the cause, treatment, or prevention of a disease or disorder as described in paragraphs (1) and (2).⁹

The declaration expires upon the Secretary's determination that an emergency no longer exists, or in 90 days, whichever comes first, but is renewable upon the Secretary's finding that an emergency persists.

In response to Hurricane Katrina, the HHS Secretary Michael Leavitt declared public health emergencies in Alabama, Florida, Louisiana and Mississippi on August 31, 2005, two days after the storm made landfall along the Gulf Coast. On September 4, as thousands of evacuees from the devastated city of New Orleans began arriving in Texas, the Secretary declared a public health emergency in that host state. The additional host states of Arkansas, Colorado, Georgia, North Carolina, Oklahoma, Tennessee, West Virginia, and Utah were declared by the Secretary on September 7.¹⁰ Before Hurricane Katrina, the only prior recent incident for which a federal public health emergency had been declared was the terror attack of September 11, 2001. That declaration applied to all states.

There is no additional statute or regulation that clarifies this authority with regard to stipulating thresholds or conditions of the determination. The decision to declare emergencies in certain host states in response to Hurricane Katrina, but not in all states, appears to be an exercise of the Secretary's discretion. There is also no precedent for this authority to be used to supercede and assume public health authorities that are generally reserved to states, though the Secretary does have

⁸ 42 U.S.C. §1320b-5. This waiver authority also requires a concurrent Presidential declaration of a major disaster or emergency pursuant to the Stafford Act.

⁹ 42 U.S.C. §247d.

¹⁰ HHS public health emergency declarations in response to Hurricane Katrina are found at [<http://www.hhs.gov/emergency/emergency.html>].

specific emergency authority elsewhere in statute to impose domestic quarantine restrictions when warranted.¹¹

The Public Health Response

Overview

Federal leadership for public health emergency response rests with the Secretary of HHS, with important responsibilities in the Office of Public Health Emergency Preparedness (OPHEP)¹² and the Centers for Disease Control and Prevention (CDC).

Much of the support provided by HHS to affected states and communities could normally be provided in the absence of federal or state declarations of public health emergencies or disasters, through assistance mechanisms that are used regularly in response to public health threats such as outbreaks of foodborne disease. Because there has been a presidentially-declared disaster and HHS has received mission assignments from DHS in the wake of Hurricane Katrina, the costs of HHS response activities will generally be reimbursed through the DRF administered by FEMA.¹³

Given the scope of the public health disaster caused by Hurricane Katrina, virtually all agencies and offices in HHS are engaged in the response.¹⁴ Key public health challenges and response efforts are described below. A number of HHS agencies have medical response roles as well, which are discussed in a subsequent section.

Public Health Challenges

Many of the public health challenges posed by Hurricane Katrina are familiar and anticipated based on experience with other hurricanes and floods. Flooding compromises the safety of water supplies and the integrity of sewage disposal, leading to threats of food and waterborne illness. Power line damage and power outages increase the risk of foodborne illness and electrocution. Hurricane wind damage may cause primary traumatic injury, while also setting the stage for subsequent chain saw injuries, punctures, and other wounds. Bites from dogs, venomous snakes, and insects are also seen in the aftermath of hurricanes and floods. Hurricanes and floods also carry in their wake some predictable causes of death,

¹¹ See CRS Report RL31333, *Federal and State Isolation and Quarantine Authority*, by Angie Welborn.

¹² For more information, see the OPHEP Home Page at [<http://www.hhs.gov/ophep/index.html>]. The role of the OPHEP is further explained in HHS, "Office of Public Health Emergency Preparedness Statement of Organization, Functions, and Delegations of Authority," 70 *Federal Register* 5183, Feb. 1, 2005.

¹³ For more information, see CRS Report RL33053, *Federal Stafford Act Disaster Assistance: Presidential Declarations, Eligible Activities, and Funding*, by Keith Bea.

¹⁴ For more information on specific agency activities see HHS, "What HHS Agencies Are Doing," at [<http://www.hhs.gov/katrina/hhsagencies.html>].

including automobile crashes, drowning, carbon monoxide poisoning, and chronic conditions exacerbated by the loss of access to the healthcare system.¹⁵

The catastrophic scope of Hurricane Katrina has led to some unusual public health threats. News reports suggest that deaths may have resulted from dehydration and heat stress, especially in situations in which fresh water was scarce and where victims were crowded into poorly ventilated areas, or where they had pre-existing medical conditions. There were also reports of homicides and suicides.

CDC has made several specific recommendations for infectious disease control in the aftermath of Hurricane Katrina, including the immunization of emergency responders, relief workers and evacuees. The agency has expressed particular concern about the risks of tetanus from wounds, and of influenza, measles, chickenpox and hepatitis A in crowded conditions where some children may not have current immunizations.¹⁶ CDC also alerted health officials and others to cases of *Vibrio* infection in hurricane victims.¹⁷ CDC has made an effort to alert health workers to this unusual hazard because *Vibrio* infections are especially severe, leading to loss of an affected limb or death within a matter of days, sometimes despite aggressive treatment. As of September 11, CDC reported 22 cases and five deaths from *Vibrio* infection.

As the waters in southern Louisiana recede, New Orleans and surrounding parishes will ideally be evaluated for potential environmental health hazards before dwellings are reoccupied. CDC and the Agency for Toxic Substances and Disease Registry (ATSDR) may assist the Environmental Protection Agency (EPA) in this activity.

The short-and long-term mental health needs of victims and responders must be assessed. Immediate problems such as Post-Traumatic Stress Disorder receive considerable popular attention, but some evidence shows that victims of catastrophic disasters may continue to suffer from major depression and other disorders for several years. Mental health services following disasters must also account for pre-existing mental health and substance abuse problems in some victims.

HHS Agency Actions

HHS Office of the Secretary. The HHS Office of the Secretary is the point of coordination for all ESF#8 public health and medical support functions under the NRP. HHS has set up a website cataloging departmental and agency actions and

¹⁵ CDC has prepared a list of public health reports on several recent floods, hurricanes, and the 2004 Asian tsunami at [<http://www.bt.cdc.gov/disasters/hurricanes/mmwr.asp>].

¹⁶ See CDC, "Immunization Information for Hurricane Katrina," at [<http://www.bt.cdc.gov/disasters/hurricanes/immunizations.asp>].

¹⁷ CDC, "Vibrio Illnesses After Hurricane Katrina — Multiple States, August-September 2005," *MMWR*, vol. 54/Dispatch, Sept. 14, 2005. *Vibrio* is a bacterial pathogen found in salty and brackish waters, that can cause foodborne illness or severe wound infection.

other information regarding Hurricane Katrina.¹⁸ As noted above, the HHS Secretary has declared federal public health emergencies in several states. The Office of the Surgeon General and the OPHEP are in the process of mobilizing and identifying healthcare professionals and relief personnel to assist in relief efforts.

One immediate element of HHS response was the activation of Emergency Operations Centers (EOCs) at HHS headquarters in Washington, DC and at numerous HHS agencies. The EOCs are staffed round-the-clock, are electronically connected with each other, and are also connected with the Homeland Security Operations Center (HSOC) at DHS which in turn receives inputs from all other Cabinet departments. This system of continuous communication and coordination is an example of the changes that have been made in national public health response capability in the aftermath of the September 11th and anthrax attacks of 2001, though there is still work to be done in assuring that all relevant state agencies have continuous EOC communication with those at the federal level.¹⁹

Agency for Toxic Substances and Disease Registry. The Agency for Toxic Substances and Disease Registry (ATSDR), which is administratively under the Centers for Disease Control and Prevention (CDC), is directed by congressional mandate to perform specific functions concerning the effect on public health of exposure to hazardous substances in the environment.²⁰ These functions include public health assessments of hazardous waste sites, health consultations concerning specific hazardous substances, health surveillance and registries, response to emergency releases of hazardous substances, applied research in support of public health assessments, information development and dissemination, and education and training concerning hazardous substances. While ATSDR has not reported any Katrina-related activity in the early weeks of the response, the agency may be asked by various parties, including affected states and localities, to carry out these activities.

Centers for Disease Control and Prevention. The CDC has launched a website to provide public health information in the aftermath of Hurricane Katrina.²¹ The site includes a variety of fact sheets and other information for health professionals, response and cleanup workers, evacuation center staff, school officials, state grantees and the general public. In addition, the site provides daily updates

¹⁸ See [<http://www.hhs.gov/katrina/index.html>].

¹⁹ A listing of federal coordinating mechanisms in emergencies is found in Table 3 in CRS Report RL33064, *Organization and Mission of the Emergency Preparedness and Response Directorate: Issues and Options for the 109th Congress*, by Keith Bea.

²⁰ ATSDR is required to conduct various activities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or “Superfund”) and subsequent amendments, and the Resource Conservation and Recovery Act of 1976. See [<http://www.atsdr.cdc.gov/congress.html>] and CRS Report RL31154, *Superfund: A Summary of the Law*, by Mark Reisch.

²¹ See [<http://www.bt.cdc.gov/disasters/hurricanes/index.asp>].

from the CDC Director's EOC.²² Once activated, the EOC is the point of contact for state health departments, other CDC grantees, and other interested parties to request assistance or to provide the agency with new or updated information about public health concerns on the ground.

As of September 16, 2005, CDC had more than 150 staff in affected states, including individuals in the following specialties: medicine, epidemiology, sanitation, environmental health, assessment, disease surveillance, public information and health risk communication. In addition, the agency has deployed more than 350 staff to its EOC response. The agency has also deployed the Strategic National Stockpile of drugs and medical supplies to affected states. Among the specific supplies delivered for this disaster are: 1) many thousands of doses of vaccines for tetanus/diphtheria, and hepatitis A and B; 2) vials of insulin; 3) prescription pain medications; and 4) ventilator kits. The agency has also made numerous public health recommendations to address the anticipated and atypical threats posed by Hurricane Katrina and its aftermath.

Responder groups may be at increased risk from certain hazards in the aftermath of disasters. CDC's National Institute for Occupational Safety and Health (NIOSH) has developed assessment tools for occupational safety and health in hospitals, health departments, and shelters involved in the response to Hurricane Katrina.²³

Food and Drug Administration. In the aftermath of Hurricane Katrina, the Food and Drug Administration (FDA) issued numerous recommendations regarding the handling of drugs, biologics and medical devices that may have been harmed by exposure to floodwaters or loss of refrigeration, as well as guidance in ensuring the safety of food.²⁴

National Institutes of Health. The National Institutes of Health (NIH) has set up a phone-based medical consultation service for providers treating victims or evacuees from the Hurricane Katrina disaster, and has mobilized bed capacity within its medical system, among other activities.²⁵

Substance Abuse and Mental Health Services Administration.²⁶ The Substance Abuse and Mental Health Services Administration (SAMHSA) has as its mission to build resilience and facilitate recovery for people with or at risk for substance abuse and mental illness. SAMHSA's Center for Mental Health Services (CMHS) is focused on providing resources to aid in the recovery process following

²² See [<http://www.cdc.gov/od/katrina/>].

²³ See CDC NIOSH, [<http://www.cdc.gov/niosh/topics/flood/#new>].

²⁴ See [<http://www.fda.gov/oc/opacom/hottopics/hurricane.html>].

²⁵ See [<http://www.nih.gov/about/director/hurricanekatrina/index.htm>].

²⁶ This section contributed by Erin D. Williams, Specialist in Bioethical Policy.

Hurricane Katrina, and has established a toll-free hotline for people in crisis in the aftermath of this disaster.²⁷

SAMHSA has three main mechanisms to provide funding to address Katrina victims' mental health needs: 1) the Crisis Counseling Assistance and Training program (CCP), 2) SAMHSA Emergency Response Grants (SERG), and 3) supplemental appropriations. The CCP is administered by SAMHSA through an interagency agreement with FEMA. Eligible entities (state mental health agencies and tribal authorities) work with SAMHSA to apply for and receive grants for counseling outreach and training local crisis counselors to provide assistance after federal relief workers leave the area. SERG are available when local resources are overwhelmed and other resources are unavailable. SAMHSA may provide SERG for crisis mental health and substance abuse services in accordance with SAMHSA's Mental Health and Substance Abuse Emergency Response Criteria.²⁸ Supplemental appropriations may be used by SAMHSA for emergency mental health and substance abuse counseling and related services not addressed by the CCP, the SERG, or other existing funding. These may include, for example, substance abuse and mental health treatment services, psychotropic medication expenses, methadone treatment, suicide prevention programs, and major administrative expenses for mental health and substance abuse resulting from the disaster.

The Medical Response

Overview

As discussed earlier, federal leadership for medical emergency response is based in HHS per its coordinating responsibility under NRP ESF#8. Numerous medical response programs and activities reside in HHS agencies within the Public Health Service (PHS). In addition, the Commissioned Corps of the PHS, headed by the Surgeon General, is composed of many healthcare professionals who are expected to maintain current skills and deploy to support emergency responses when needed.²⁹ Another critical medical response asset, the National Disaster Medical System (NDMS) was transferred from HHS to DHS in the Homeland Security Act (P.L. 107-296) effective in March 2003.

Though national disaster planning has long anticipated the need to be able to respond to a mass casualty incident, such a situation, with overwhelming numbers of non-fatal illness and injury victims, has not happened recently in the United States.

²⁷ See SAMHSA, "Hurricane Katrina and Disaster Relief Information," at [<http://www.mentalhealth.samhsa.gov/cmhs/katrina/>], and HHS, "HHS Awards \$600,000 in Emergency Mental Health Grants to Four States Devastated by Hurricane Katrina," news release, Sept. 13, 2005.

²⁸ See [<http://www.fema.gov/library/stafact.shtm#sec416>], and 66 FR 51873, Oct. 11, 2001.

²⁹ See the HHS Office of the Surgeon General at [<http://www.surgeongeneral.gov/>] and the U.S. Public Health Service Office of Force Readiness and Deployment at [<http://oep.osophs.dhhs.gov/ccrf/>].

Hurricane Katrina is such an incident and will no doubt prompt a careful evaluation of the response and the structures and authorities supporting it. Hurricane Katrina is also a mass fatality event.³⁰ There have been such events in the United States recently, including the terrorist attacks of September 11, 2001, and several jetliner crashes.

Medical and Healthcare Challenges

Hurricane Katrina posed a number of challenges to the healthcare system, many without recent precedent. Physical access to healthcare facilities was hampered across the Gulf Coast following the storm, and many facilities sustained primary damage. Several facilities that did not evacuate prior to the storm found themselves and their patients in dire circumstances when rising floodwaters made it progressively more difficult to maintain standards of care. Individuals with pre-existing health conditions worsened as they were cut off from access to essential medications and treatments such as oxygen, insulin, or kidney dialysis. In some flooded areas, access to fresh water was so scarce that victims and their caregivers suffered from dehydration. In the wake of large-scale evacuations of New Orleans beginning on September 1, victims from shelters and from failing healthcare facilities were evacuated to a temporary field hospital at the New Orleans airport, where medical response teams, initially overwhelmed, conducted triage and prioritized victims for airlift to available healthcare facilities outside the flood zone. Meanwhile, medical workers continued their efforts to reach numerous isolated communities along the Mississippi and Louisiana coast.

In the wake of the catastrophe, victims were sent for treatment to numerous permanent and temporary healthcare facilities across a wide area of the south central United States, often becoming separated from their loved ones and important medical records along the way. Public health emergencies were declared in nine states that did not suffer primary impacts from the storm but that became hosts to large numbers of evacuees needing healthcare. HHS granted a series of emergency waivers to assist individuals and providers in host states, so that those who were eligible for Medicaid or SCHIP would continue to be covered when displaced.³¹ Healthcare facilities sought assistance in covering the costs of care for those who were previously uninsured or newly uninsured.

While the dead have yet to be fully counted, Hurricane Katrina was a mass fatality event. Urban Search and Rescue Teams and everyday citizens attended first to rescue missions for the living, then transitioned to recovery missions for those who did not survive. Morgues have been set up in Louisiana and Mississippi to house and identify the dead.

³⁰ A mass fatality event is defined as any situation in which there are more human bodies to be recovered and examined than can be handled by the usual local resources.

³¹ HHS, "HHS Declares Public Health Emergency for Hurricane Katrina: Waiver Under Section 1135 of the Social Security Act," Sept. 4, 2005, at [<http://www.hhs.gov/katrina/ssawaiver.html>].

HHS Agency Actions

Centers for Medicare and Medicaid Services. The Centers for Medicare and Medicaid Services (CMS), which administers the Medicare, Medicaid and SCHIP programs, has taken several actions to streamline access to healthcare for those displaced by Hurricane Katrina and their providers. Many evacuees have crossed state lines and may not have proper documentation of program eligibility. HHS Secretary Leavitt has exercised certain authorities under Sections 1115 and 1135 of the Social Security Act and waived several program requirements, in order to assist displaced victims and their providers. Implementation plans for these waivers are in development.³²

Health Resources and Services Administration. The Health Resources and Services Administration (HRSA) provides grants to Federally Qualified Health Centers, Ryan White HIV/AIDS outpatient providers and some other providers and clinics that offer health services to underserved populations. On September 9, HHS Secretary Leavitt announced that HRSA would advance approximately \$2.3 million in FY2005 funds to establish 26 new health center sites in areas impacted by Hurricane Katrina.³³ The agency has issued a Program Information Notice clarifying that providers who normally provide services under the liability protections of federal employment in certain HRSA-supported health centers will continue to receive protection in providing services at temporary locations established in response to the hurricane.³⁴ HRSA also administers two relevant programs in bioterrorism preparedness. One is a grant program for state and local hospital preparedness for public health emergencies, which is meant to help states identify and coordinate hospital bed capacity, personnel and medical supplies in an emergency.³⁵ The other is a program for the advance registration of volunteer health professionals.³⁶ The latter program is discussed in a subsequent section on *Issues for Congress*.

DHS Agency Actions

National Disaster Medical System. The National Disaster Medical System (NDMS) was established in HHS in 1984 to provide medical and ancillary services when a disaster overwhelms local emergency services.³⁷ NDMS was most recently

³² See CRS Report RL33083, *Hurricane Katrina: Medicaid Issues*, by Evelyne Baumrucker, April Grady, Jean Hearne, Elicia Herz, Richard Rimkunas, Julie Stone, and Karen Tritz.

³³ HHS, "Secretary Leavitt Announces Advance of Health Center Funds to Hurry Services to Hurricane-Affected Areas," press release, Sept. 9, 2005.

³⁴ See HRSA, "Federal Tort Claims Act Coverage for Deemed Consolidated Health Center Program Grantees Responding to Hurricane Katrina," Program Information Notice 2005-19, Sept. 6, 2005, at [<http://www.hrsa.gov/katrina/>].

³⁵ For more information, see CRS Report RL31719, *An Overview of the U.S. Public Health System in the Context of Emergency Preparedness*, by Sarah A. Lister, p. 42.

³⁶ See [<http://www.hrsa.gov/bioterrorism/index.htm>].

³⁷ See the NDMS home page at [<http://www.ndms.dhhs.gov/>], and Jerry L. Mothershead et al. (continued...)

reauthorized through 2006 in the Public Health Security and Bioterrorism Preparedness and Response Act (P.L. 107-188),³⁸ and was transferred to DHS in the Homeland Security Act effective in March 2003.³⁹ NDMS is administered by FEMA in the DHS Emergency Preparedness and Response Directorate, and is a partnership of HHS, DHS, the Departments of Defense and Veterans Affairs, state and local governments, and the private sector.

NDMS consists of a number of response teams that can deploy to a scene rapidly and set up field operations that are self-sustaining for up to 72 hours, until additional federal support arrives. NDMS also provides for transportation of large numbers of casualties from an impacted site to distant locations for care. There are several types of NDMS teams, which are typically comprised of 20-35 individuals. Team members train as a group between deployments, under a defined team commander, and are versed in incident command and other emergency management protocols in addition to their disaster medicine skills. NDMS teams can be requested by the Secretary of HHS pursuant to NRP ESF#8. Medical professionals on the teams must be licensed to practice in at least one U.S. jurisdiction and are not generally federal employees unless deployed, at which time they are considered federalized for liability and compensation purposes. As of September 9, 2005, FEMA reported that it had deployed more than 87 NDMS teams in response to the hurricane.⁴⁰ Information about specific deployment activities follows.

Disaster Medical Assistance Teams (DMATs) are teams of physicians, nurses and other medical professionals who provide medical care. FEMA reports that it deployed all of the nation's more than 50 DMATs in the initial response to Hurricane Katrina. At least one team was predeployed to the New Orleans Superdome shelter.⁴¹ Louis Armstrong International Airport outside New Orleans served as a temporary field hospital for hurricane victims as they were evacuated from the city. DMAT members from a dozen teams deployed at the airport reported overwhelming numbers of patients, some of whom could not be saved under the austere conditions they faced. Teams fanned out across the affected Gulf Coast, doing what they could to accommodate victims of the hurricane which, by some reports, also robbed the region of 6,000 hospital beds.⁴²

³⁷ (...continued)

al., "Bioterrorism Preparedness III: State and Federal Programs and Response," *Emergency Medicine Clinics of North America*, vol. 20, 2002, pp. 477-500.

³⁸ 42 U.S.C. §300hh.

³⁹ 6 U.S.C §312 et. seq.

⁴⁰ See DHS, "Hurricane Katrina: What Government Is Doing," Sept. 9, 2005, at [<http://www.dhs.gov/interweb/assetlibrary/katrina.htm>].

⁴¹ Jeff Jones, "N.M. Team Has Praise for Superdome: Medical Staff Says Stadium Saved Katrina Victims' Lives," *Albuquerque Journal*, Sept. 8, 2005.

⁴² Anne Jungen, "DMAT Member: New Orleans Airport Was Like 'Third World,'" *Erie Times-News, Pa. Knight Ridder/Tribune Business News*, Sept. 9, 2005; and Ceci Connolly, "Improvising to Replace Services for Many Thousands," *Washington Post*, Sept. 6, 2005.

Disaster Mortuary Operational Response Teams (DMORTs) are composed of medical examiners, coroners, pathologists, forensic dentists, radiologists, mental health counselors, funeral directors and support personnel. Teams typically consist of 26 members. They assist in handling the dead and conducting two types of investigations in mass fatality incidents: disaster victim identification (DVI) and death investigation. DVI involves the identification of victims, in order that their loved ones can have documentation of their deaths, claim the remains, and carry out funeral rites. It is considered an essential responsibility of governments in assisting survivors in their recovery. Death investigation involves establishing the cause, time and other circumstances of death. These investigations are conducted under the authority of local medical examiners, with assistance from DMORT personnel and federal funding through the NDMS appropriation. DMORT sites have been set up in Gabriel, Louisiana, and Gulfport, Mississippi, each site with four DMORT teams and one portable morgue.⁴³

Veterinary Medical Assistance Teams (VMATs) are composed of veterinarians, technicians and support personnel who provide animal rescues, health assessments and other services during a disaster. All four VMAT teams were deployed to the Gulf Coast and are providing care for displaced companion animals and support for damaged or destroyed veterinary practices.⁴⁴

NDMS also supports *National Pharmacy Response Teams* of pharmacists, pharmacy technicians, and students of pharmacy who assist in mass-dispensing of medications during disasters, and *National Nurse Response Teams* to assist if a disaster such as a bioterrorism event were to require a mass prophylaxis or mass vaccination campaign, or if the healthcare workforce is otherwise overwhelmed.

Federal Coordinating Centers (FCCs) are based in the Departments of Defense (DOD) and Veterans Affairs (VA), where they identify available nationwide hospital bed capacity in civilian and military hospitals, and coordinate planning and distribution of patients evacuated from a disaster area.⁴⁵

Since NDMS deploys in situations other than disasters (e.g., National Special Security Events such as political conventions) and much of its work is, therefore, not eligible for reimbursement from the Disaster Relief Fund, it has a regular annual appropriation. NDMS is funded through the Public Health Programs account under

⁴³ FEMA, "Medical Assistance and Supplies Flow into Hurricane-Hit Areas," press release number HQ-05-205, Sept. 5, 2005; Alan Levin, "Morgue Units Preparing as Katrina's Dead Uncovered," *USA Today*, Sept. 8, 2005; and Darryl E. Owens, "Katrina's Aftermath, Helping the Dead Reclaim Identity," *Orlando Sentinel*, Sept. 9, 2005.

⁴⁴ See VMAT Team home page at [<http://www.avma.org/disaster/vmat/default.asp>]; and Susan C. Kahler and R. Scott Nolen, "AVMA Mounts Preparedness, Response to Katrina," *Journal of the American Veterinary Medical Association*, Sept. 13, 2005, at [<http://www.avma.org/onlnews/javma/oct05/x051001b.asp>].

⁴⁵ See NDMS FCC page at [<http://ndms.dhhs.gov/fcc.html>].

the DHS Preparedness and Response title, and received \$34 million in FY2005.⁴⁶ On September 8, the President signed the second emergency supplemental appropriation for Hurricane Katrina relief (P.L. 109-62), which authorized the transfer of up to \$100 million from the Disaster Relief Fund to maintain Katrina-related NDMS response operations.

Department of Defense

During a presidentially-declared disaster and pursuant to the NRP, the Department of Defense assists the Secretary of HHS with numerous ESF#8 responsibilities. These include evacuating patients, locating or providing hospital beds, and additional personnel and supplies, and providing specialized laboratory testing and other technical assistance.⁴⁷

On September 13, DHS reported that DOD had: 1) 789 beds available in field hospitals at Louis Armstrong New Orleans International Airport in New Orleans, the 14th Combat Support Hospital, and aboard USS Bataan, USS Iwo Jima, USS Tortuga and USS Shreveport; and 2) 20 Navy ships on station in the region to provide medical support, humanitarian relief, and transportation.⁴⁸

Department of Veterans Affairs

During a presidentially-declared disaster and pursuant to the NRP, the Department of Veterans Affairs (VA) assists the Secretary of HHS with numerous ESF#8 responsibilities. These include coordinating available hospital beds, additional personnel and supplies, and providing technical assistance.⁴⁹

The VA evacuated veterans from two of its own medical centers impacted by Hurricane Katrina, one in Biloxi, Mississippi, which was evacuated prior to landfall and demolished by the storm, and the other in New Orleans, which was evacuated after the city was flooded. The VA also activated 17 of its NDMS Federal Coordinating Centers to coordinate the relocation of evacuated veterans, as well as of civilian patients who were evacuated from permanent and temporary hospitals in storm-ravaged areas⁵⁰

⁴⁶ See Table 6 in CRS Report RL32302, *Appropriations for FY2005: Department of Homeland Security*, by Jennifer E. Lake and Blas Nuñez-Neto.

⁴⁷ See NRP ESF Annex #8, Public Health and Medical Services, p. 9.

⁴⁸ DHS, "What Government Is Doing," press release, Sept. 13, 2005.

⁴⁹ See NRP ESF Annex #8, Public Health and Medical Services, p. 12.

⁵⁰ VA Under Secretary for Health Jonathan B. Perlin, briefing to congressional staff on Hurricane Katrina response, Sept. 8, 2005.

Issues for Congress

All-Hazards Preparedness

In the aftermath of Hurricane Katrina there were concerns that federal readiness for the disaster had been hampered by an overemphasis on planning for terrorism at the expense of planning for natural disasters. A comparable debate exists for public health preparedness, namely how the balance should be struck between *all-hazards* preparedness versus readiness for specific threats such as a cyanide attack or pandemic influenza. In comprehensive bioterrorism preparedness legislation after the 2001 terror attacks, Congress authorized grants to states to “address the following hazards in the following priority: (i) Bioterrorism or acute outbreaks of infectious diseases (and) (ii) Other public health threats and emergencies.”⁵¹ Discussions have followed about whether a focus on terrorism (e.g., the civilian smallpox vaccination program) has hampered preparedness for other threats, or, on the other hand, whether flexible all-hazards grant guidance has failed to assure state preparedness for some specific threats (e.g., a cyanide or plague attack).⁵²

Early reports suggest that the public health response to Hurricane Katrina was streamlined by some all-hazards improvements made since 2001. For example, when the Louisiana state public health laboratory in New Orleans was shut down, operations were quickly diverted to branch public health laboratories in Shreveport, Lake Charles and Amite.⁵³ State authorities worked with the national association, neighboring states, and the U.S. Postal Service to re-route test specimens (including ramped-up surveillance for infectious diseases) through appropriate neighboring facilities. This swift response was facilitated by inter-state electronic communications systems and relationships that had been established since 2001.

Upon completing their missions, disaster response personnel are typically required to report to supervisors on their activities. These *after-action reports* are expected to be prepared and submitted to a variety of agencies involved in the response to Hurricane Katrina. As after-action reports become available, Congress may review the public health and medical response to Hurricane Katrina to determine how well it met the goals Congress laid out for achieving a flexible, efficient national system for response to health emergencies. Part of this review may be the consideration of the process of developing standards for federal, state and local public health preparedness, a process which has proven difficult in the past.

⁵¹ 42 U.S.C. §247d-3a.

⁵² For further discussion, see CRS Report RL31719, *An Overview of the U.S. Public Health System in the Context of Emergency Preparedness*, by Sarah A. Lister, section on “Issues for Congress: Overview.”

⁵³ Association of Public Health Laboratories, Hurricane Katrina information, at [<http://www.aphl.org/>].

Coordinated Needs Assessments

Following a disaster, the NRP calls for the early deployment of *Emergency Response Teams for Assessment* (ERT-A), which are FEMA-led teams that work with state Emergency Operations Centers (EOCs) and others to conduct initial and ongoing impact assessments. Representatives from selected ESF support agencies are to be included in ERT-A deployments. The ERT-A teams are to report back to an Interagency Incident Management Group (IIMG), which is tasked to report to the Secretary of DHS with recommendations for those areas in most critical need of response assets and activities.⁵⁴

The CDC manages a program in Disaster Epidemiology and Assessment, which includes development of a *disaster rapid needs assessment* tool designed to quickly provide emergency managers with reliable information about potential public health threats.⁵⁵ The tool is not designed to assess critical medical or mental health needs. The CDC has conducted these assessments for several foreign disasters, and most recently following Tropical Storm Allison in Texas in 2001.⁵⁶

Needs assessments are considered critical in the response to catastrophic disasters. When it is likely that response assets will be overwhelmed, lives may be saved by prioritizing them as effectively as possible. However, the response to public health and medical needs may be delayed until response has been made to other problems such as civil disorder or the lack of physical access. Therefore, coordinating the assessments across all sectors is essential.

Policy issues may include how well the FEMA ERT-A process supported the more specific goal of assessing public health needs following Hurricane Katrina, and how effective medical and mental health needs assessments conducted following a disaster are. In particular, are the federal mechanisms to support rapid public health, medical and mental health needs assessments in place and adequate to support a capable national response? Also, are these processes integrated well within the larger FEMA-led process of overall assessment, in order that appropriate public health, medical and mental health responses can reach their targets quickly and efficiently?

National Disaster Medical System

As previously discussed, the NDMS was created in the 1980s under the U.S. Public Health Service in HHS, and was transferred to DHS under FEMA in the Homeland Security Act of 2002 (P.L. 107-296). The cited intent of this transfer, which was proposed by the Administration, was to assure a coordinated federal response to terrorism and other disasters. The Government Accountability Office

⁵⁴ NRP, p. 40.

⁵⁵ See CDC Disaster Epidemiology and Assessment home page at [<http://www.cdc.gov/nceh/hsb/disaster/surveillance.htm>].

⁵⁶ CDC, "Tropical Storm Allison Rapid Needs Assessment — Houston, Texas, June 2001," *MMWR*, 51(17), 365-9, May 3, 2002.

(GAO) supported the transfer.⁵⁷ But since then, some NDMS team members have complained that the program has not received adequate administrative support under FEMA.⁵⁸ There are two organizational issues that may be relevant to this concern. In addition, there are concerns that teams may not be adequately prepared for events they do not regularly encounter, such as biological or chemical attacks.

Regarding organizational issues, the mission of NDMS teams is to provide direct medical services. Some team members have stated that the specific needs and challenges of the medical mission are not understood by FEMA management.⁵⁹ In July 2005, DHS Secretary Michael Chertoff announced his proposal to reorganize DHS following a comprehensive review, which became known as the “Second Stage Review” or 2SR.⁶⁰ Chertoff announced that he proposed to split the existing Emergency Preparedness and Response Directorate (which houses FEMA and NDMS) into two separate directorates, for distinct activities in preparedness and response, respectively. He announced the appointment of a chief medical officer, a position that had not previously existed in DHS, within the proposed preparedness directorate, as follows:

...as part of our consolidated preparedness team, I will appoint a chief medical officer within the preparedness directorate. This position will be filled by an outstanding physician who will be my principal advisor on medical preparedness and a high-level DHS representative to coordinate with our partners at the Department of Health and Human Services, the Department of Agriculture and state governments.

The chief medical officer and his team will have primary responsibility for working with HHS, Agriculture and other departments in completing comprehensive plans for executing our responsibilities to prevent and mitigate biologically-based attacks on human health or on our food supply.⁶¹

While not stated in Chertoff’s remarks or in other publicly available documents, FEMA has confirmed that according to the 2SR proposal, NDMS is to remain under

⁵⁷ Government Accountability Office, *Homeland Security: New Department Could Improve Coordination but Transferring Control of Certain Public Health Programs Raises Concerns*, GAO-02-954T, July 16, 2002. At the time of publication, the agency was called the General Accounting Office.

⁵⁸ See, for example, Star Lawrence, “Culture Shock,” *Homeland Protection Professional*, Apr. 2005.

⁵⁹ *Ibid.* This concern had been repeated in the aftermath of Hurricane Katrina. See, for example, Richard Knox, “New Orleans Airport as Field Hospital,” Morning Edition, *National Public Radio*, Sept. 14, 2005.

⁶⁰ See CRS Report RL33064, *Organization and Mission of the Emergency Preparedness and Response Directorate: Issues and Options for the 109th Congress*, by Keith Bea; and CRS Report RL33042, *Department of Homeland Security Reorganization: The 2SR Initiative*, by Harold C. Relyea and Henry B. Hogue.

⁶¹ DHS, “Secretary Michael Chertoff, U.S. Department of Homeland Security Second Stage Review Remarks,” Ronald Reagan Building, Washington, DC, July 13, 2005, at [<http://www.dhs.gov/dhspublic/display?theme=44&content=4597&print=true>].

FEMA in the proposed response division.⁶² While NDMS is logically a response asset, some critics say the proposed structure may blunt the benefit that NDMS might have received from leadership provided by the new chief medical officer position, since that individual would be in a different directorate. The 2SR proposal was to be implemented on October 1, 2005, and there are no reports that this timeline has been altered in the aftermath of Hurricane Katrina.

A second organizational concern with the transfer of NDMS to DHS is that NDMS and FEMA take different temporal approaches to deployment in response to a disaster. Historically, DMAT teams trained to be able to deploy rapidly and set up self-supporting, field hospitals in austere conditions, without external water or power sources, within the first 72 hours after a disaster, *before* other federal assets arrive.⁶³ FEMA has historically operated under the planning assumption that while it would mount a response as soon as possible, state and local officials were responsible for emergency response in the first 72 hours following a disaster.⁶⁴ After Hurricane Katrina, a DMAT team member stated that FEMA was unable to support the historical rapid-deployment capability of NDMS.⁶⁵

An additional concern about NDMS, which may be independent of a discussion about its administrative home, is that team members may not be prepared to address medical challenges which they do not regularly encounter. Most DMAT team members come from a background in emergency medicine. They generally have the versatility and breadth of expertise needed to handle the polyglot of maladies seen in emergency departments, and this is likely to have served them well in their response to Hurricane Katrina. The concern is whether they are ready to handle something none of them may have seen before, such as an attack with a biological or chemical weapon.

NDMS teams are required to submit after-action reports following deployment, in order that response planners can benefit from lessons learned in disaster response. As after-action reports on the Katrina response become available, policymakers likely will review the mission of NDMS and its alignment with national goals for terrorism and disaster response. For example, Congress may decide to review the functions of NDMS and the role of DHS and FEMA in supporting them, in general, and specifically in response to Hurricane Katrina.

⁶² Communication with Raymond Miller, Senior Congressional Liaison, DHS/FEMA, July 26, 2005.

⁶³ See comments of Kevin Yeskey, then chief executive officer of NDMS, on p. 30 in Paula Hartman Cohen, "The Three Faces of NDMS," *Homeland Protection Professional*, Aug. 2003.

⁶⁴ See, for example, FEMA, "Can You Go It Alone For Three Days?" press release number: 1354-41, Jan. 31, 2001, at [<http://www.fema.gov/news/newsrelease.fema?id=7591>].

⁶⁵ Knox, "*National Public Radio*," Sept. 14, 2005.

Continuity of Operations and Evacuation of Healthcare Facilities

There were numerous reports of problems in healthcare facilities in southeastern Louisiana (including the city of New Orleans and surrounding parishes) that did not evacuate and were flooded by Hurricane Katrina's storm surge, or that had to be evacuated on an emergency basis when they were unable to care for their patients after power, water and food were cut off for several days. Charges of negligent homicide were filed against the owners of a nursing home whose residents were not evacuated before the hurricane, and later died in the facility.⁶⁶ There were also reports of successful evacuations. For example, VA evacuated two of its stricken facilities — one in Biloxi, Mississippi, before the storm, the other in New Orleans after the storm had passed and the city flooded — without loss of life.

The mandatory evacuation order issued by the city of New Orleans on August 28 excluded hospitals and their patients.⁶⁷ Given the nature of their business, hospitals are generally able to continue operations in the face of power outages because they employ generators to maintain critical life-support functions in an emergency. For this and other reasons, hospitals are generally better equipped to “ride out” an incident than are many other types of facilities. It is difficult to evacuate hospital or nursing home patients, as their special needs may require special transport and host facilities. This may motivate better preparedness for continuity of operation as a more feasible option than evacuation. Health care facilities should be able to do both, though, as different types of disasters would require one or the other response. Hospitals in New Orleans that chose to continue operations ultimately had to evacuate.

While healthcare facilities are licensed and regulated by state and local authorities, there is a role for federal oversight of their disaster preparedness and response capabilities through standards developed by the Occupational Safety and Health Administration (OSHA) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO),⁶⁸ as well as through conditions of participation (CoPs) for Medicare and Medicaid. Numerous references are made in regulation governing CoPs referring to the need for evacuation plans and drills, usually with respect to fire emergencies.⁶⁹ In addition, facilities are required to have comprehensive disaster plans, which are to include evacuation components.⁷⁰

⁶⁶ Doug Simpson, “La. Nursing Home Owners Charged in Deaths,” *Associated Press*, Sept. 13, 2005.

⁶⁷ Civil District Court for the Parish of New Orleans, State of Louisiana, City of New Orleans, “Promulgation of Emergency Orders,” undated document, at [<http://www2a.cdc.gov/phlp/docs/NewOrleansEmergencyOrders.pdf>].

⁶⁸ See “Evacuation Strategies for Disaster Planning,” *Healthcare Hazard Management Monitor*, vol. 15, no. 8, Apr. 2002.

⁶⁹ See, for example, 42 C.F.R. §482.41, 42 C.F.R. §483.470, and 42 C.F.R. §485.62.

⁷⁰ See, for example, 42 C.F.R. 485.64 and 42 C.F.R. 485.727.

Congress could decide to look specifically at whether the federal requirements for facility disaster and evacuation plans are adequate, and adequately enforced. If it did so, it might consider options to improve general emergency preparedness in healthcare facilities, including the elements of planning, staffing, training, stockpiling of supplies, evacuation procedures, and coordination with emergency management authorities.

Volunteer Health Professionals

Despite the deployment of all FEMA DMATs in the wake of Hurricane Katrina, there were reports of overwhelmed field hospitals and triage centers, and urgent calls from hospitals for more medical personnel. On September 3, HHS issued a call for more volunteer health professionals (VHPs) to deploy, as federalized employees, to the affected areas. All officers of the U.S. Public Health Service were also put on alert for possible deployment.⁷¹ The NDMS, which was transferred from HHS to the DHS in 2002,⁷² remains authorized within the Public Health Service Act, where it is stated that the Secretary of HHS can augment emergency response personnel by deploying volunteers as intermittent disaster response personnel under NDMS.⁷³ Volunteers could also potentially be deployed as temporary volunteers in the Public Health Service, or as temporary federal employees.⁷⁴ By September 19, the call for additional personnel had been lifted. It is not known whether health professionals who signed up in response to the earlier HHS announcement were deployed, or if so, what legal mechanism was used for their deployment.

The licensing of medical professionals is the responsibility of state authorities. Federalized VHPs must hold a current license in at least one U.S. jurisdiction, and the federal agency responsible for deployment bears the burden of verifying credentials. Federalized VHPs are considered to be federal employees for purposes of liability and compensation. VHPs can also deploy at the request of affected states, as long as their state's licensure and certification are recognized by the requesting state. A number of legal mechanisms governs reciprocity in order to assure that VHPs are protected from liability in the requesting state.⁷⁵ One of the more challenging aspects of accepting mutual aid in this case is the ability to verify an individual's credentials. The Health Resources and Services Administration (HRSA) notes:

⁷¹ HHS, "HHS Releases Website and Toll Free Number for Deployment by Health Care Professionals," press release, Sept. 3, 2005, and website at [<https://volunteer.ccrf.hhs.gov/>].

⁷² 6 U.S.C §312.

⁷³ 42 U.S.C. §300hh-11.

⁷⁴ For a discussion of the three legal mechanisms, see James G. Hodge, Jr., et al., "Hurricane Katrina Response, Legal Protections for Federalized Volunteer Health Personnel under a Federal Declaration of Public Health Emergency," The Center for Law and the Public's Health at Georgetown and Johns Hopkins Universities, memorandum, Sept. 15, 2005, at [<http://www.publichealthlaw.net/Research/Katrina.htm>].

⁷⁵ See CRS Report RS22255, *Emergency Response: Civil Liability of Volunteer Health Professionals*, by Kathleen Swendiman and Nathan Brooks.

According to reports, hospital administrators involved in responding to the World Trade Center tragedy reported that they were unable to use medical volunteers when they were unable to verify the volunteer's basic identity, licensing, credentials (training, skills, and competencies), and employment. In effect, this precious, needed health workforce surge capacity could not be used.⁷⁶

Following the terrorist attacks of 2001, Congress established a program to develop a national database for verifying the licensure and credentials of VHPs during emergencies.⁷⁷ The Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP), which is administered by HRSA, is designed to assist state and local authorities in verifying the status of volunteer healthcare workers by developing standards for a nationwide database and providing funding and technical assistance to states in linking to the database. The program is in its early stages, with pilots beginning in several states, and was not ready for use in response to Hurricane Katrina. The program was funded at \$8 million in FY2005, and \$8 million was requested for FY2006.⁷⁸ FY2006 appropriations are pending.

Whether the mechanisms available to HHS and DHS to deploy VHPs in emergencies are adequate, and how well those mechanisms would coordinate with each other, may be an issue. Congress may decide to review whether there is an adequate oversight and command structure to support deployments of federalized volunteers, as an alternative or complement to assisting states in identifying and deploying them. Relatedly, the federal role in assisting states with license verification and other matters involved in using VHPs during an emergency may be assessed. Relevant legislation introduced following the hurricane includes S. 1638, which would establish a National Emergency Health Professionals Volunteer Corps under the Secretary of HHS, among other provisions.

Health Information Technology

On September 8, HHS Secretary Mike Leavitt said that about 1 million people had been displaced because of Hurricane Katrina, and that most of them did not have access to their medical records.⁷⁹ The department has launched a nationwide electronic records system for Katrina evacuees, incorporating records from pharmacy chains and, eventually, laboratories, VA health facilities, and the Mississippi and Louisiana Medicaid programs.⁸⁰

⁷⁶ See HRSA, Emergency System for Advance Registration of Volunteer Health Professionals Background, at [<http://www.hrsa.gov/bioterrorism/esarvhp/>].

⁷⁷ Section 107, Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188), 42 U.S.C. § 247d-7b.

⁷⁸ In their reports on appropriations for FY2006, both the House (H.Rept. 109-143) and Senate (S.Rept. 109-103) comment on an administration proposal to consolidate credentialing activities within the Office of the Secretary.

⁷⁹ American Health Line, "Leavitt Promotes Health Care IT Uses in National Emergencies," Sept. 9, 2005.

⁸⁰ Jonathan Krim, "Health Records of Evacuees Go Online," *Washington Post*, Sept. 14, (continued...)

Leavitt commented that the disaster had made the case for a national system of electronic health records (EHR), noting that such a system would be useful in general as well as for other emergencies such as pandemic influenza. The VA, which uses a system of electronic health records for its beneficiaries, was able to provide uninterrupted care to several hundred veterans who were evacuated from its medical centers in Biloxi, Mississippi, and New Orleans, Louisiana, due to the hurricane.

Congress has taken several steps in recent years to implement a nationwide health information technology (health IT) infrastructure.⁸¹ Several bills have been introduced in the 109th Congress to boost federal investment and leadership in health IT and provide incentives both for EHR adoption and for the creation of regional health information networks, which are seen as an important step towards the goal of interconnecting the health care system nationwide. (Examples include: H.R. 2334, S. 1262, S. 1355.) On July 27, the Senate Committee on Health, Education, Labor, and Pensions reported a bipartisan health IT bill, S. 1418. Similar legislation is being developed in the House.

Additional CRS Reports

CRS Report RL33083, *Hurricane Katrina: Medicaid Issues*, by Evelyne Baumrucker, April Grady, Jean Hearne, Elicia Herz, Richard Rimkunas, Julie Stone, and Karen Tritz.

CRS Report RS22254, *The Americans with Disabilities Act and Emergency Preparedness and Response*, by Nancy Lee Jones.

CRS Report RS22255, *Emergency Response: Civil Liability of Volunteer Health Professionals*, by Kathleen Swendiman and Nathan Brooks.

CRS Report RS22252, *Older Americans Act: Disaster Assistance for Older Persons After Hurricane Katrina*, by Carol O'Shaughnessy.

CRS Report RS22235, *Disaster Evacuation and Displacement Policy: Issues for Congress*, by Keith Bea.

CRS Report RL32803, *The National Preparedness System: Issues in the 109th Congress*, by Keith Bea.

CRS Report RL32858, *Health Information Technology: Promoting Electronic Connectivity in Healthcare*, by C. Stephen Redhead.

⁸⁰ (...continued)
2005.

⁸¹ See CRS Report RL32858, *Health Information Technology: Promoting Electronic Connectivity in Healthcare*, by C. Stephen Redhead.

CRS Report RL31719, *An Overview of the U.S. Public Health System in the Context of Emergency Preparedness*, by Sarah A. Lister.