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THE WHITE HOUSE
PRESIDENT GEORGE W. BUSH

CHAPTER FOUR: A WEEK OF CRISIS (AUGUST 29 - SEPTEMBER 5)

Eastward from Lake Pontchartrain, across the Mississippi coast, to Alabama into Florida, millions of lives were changed in a day by a cruel and wasteful storm.
President George W. Bush, September 15, 2005¹

Landfall

Hurricane Katrina made landfall as a powerful Category 3 storm at 6:10 am CDT on Monday, August 29 in Plaquemines Parish, Louisiana. The massive storm continued to move north, rolling over portions of the Louisiana coast before its eye came ashore near the mouth of the Pearl River in Mississippi. At the time, Hurricane Katrina had sustained winds over 115 mph and reported gusts as high as 130 mph.² The storm rapidly lost strength as it pushed inland through southern and central Mississippi; by 1:00 pm cdt, it had weakened to a Category 1 hurricane.³ Six hours later, as it passed northwest of Meridian, Mississippi, Hurricane Katrina was further downgraded to a tropical storm.⁴

Hurricane Katrina generated violent waves and a massive storm surge before colliding with the Gulf Coast.⁵ According to the National Oceanic and Atmospheric Administration (NOAA), Hurricane Katrina produced a storm surge as high as twenty-seven feet in Louisiana and Mississippi. Surge waters flooded over six miles inland in many parts of coastal Mississippi and up to twelve miles inland along rivers and bays. Hurricane Katrina also produced "very significant" storm surges approximately ten feet high as far east as Mobile, Alabama, where it caused flooding several miles inland along Mobile Bay.⁶

Disaster in the Gulf Coast

Hurricane Katrina's powerful winds, storm surge, and subsequent flooding destroyed communities and infrastructure along the Gulf Coast. The storm inflicted a terrible toll of human suffering, killing at least 1,330 and injuring thousands.⁷ The Nation empathized with the harrowing stories of survival, loss, and family separation. President George W. Bush described this hurricane as "one of the worst natural disasters in our Nation's history."⁸

The nightmare scenario that some had predicted prior to Hurricane Katrina's landfall became a reality as those on the ground saw the devastation for the first time. According to NOAA, "entire coastal communities were obliterated, some left with little more than the foundations upon which homes, businesses, government facilities, and other historical buildings once stood."⁹ Destroyed homes, beached vessels, collapsed bridges, uprooted trees, and other debris littered the ground and blocked waterways. After surveying the region from the air on August 30, Mississippi Governor Haley Barbour likened the scene to that of a nuclear detonation, stating, "I can only imagine that this is what Hiroshima looked like sixty years ago."¹⁰

Mississippi suffered extensive damage in all counties south of Interstate 20 and east of Interstate 55.¹¹ The city of Biloxi was "decimated," according to municipal government spokesman Vincent Creel. "It looks like a bomb hit it."¹² Major east-west highways in southern Mississippi became impassable due to storm debris: US-90 closed across the entire state and I-10 east-bound closed to the public, with only one west-bound lane open for emergency responders.¹³ Hurricane Katrina left the downtown streets of Gulfport, Mississippi, under ten feet of water¹⁴ and structures flooded for miles inland.¹⁵ A Department of Homeland Security (DHS) report described the communications infrastructure in Biloxi and Gulfport as "non-existent."¹⁶ In the words of Transportation Secretary Norman Mineta: "The Port of Gulfport, Mississippi was left with virtually nothing and must rebuild almost from scratch."¹⁷ The storm devastated Waveland, Mississippi, wiping out all the local resources, including those that municipal officials had staged ten miles north of town.¹⁸ Ninety-five percent of Waveland's residential and commercial structures were severely damaged.¹⁹ Testifying before Congress a week after landfall, Governor Barbour lamented: "The 80 miles across the Mississippi Gulf Coast is largely destroyed. A town like Waveland Mississippi has no inhabitable structures—none."²⁰ Alabama suffered significant damage as well. For example, large amounts of debris necessitated the closure of Mobile's port.²¹

Hurricane Katrina inflicted devastating damage upon the region's energy and communications infrastructures. The Department of Energy (DOE) reported "unprecedented damage" to the U.S. energy sector²² and noted that 2.5 million customers in Alabama, Louisiana, and Mississippi reported power outages.²³ Hurricane Katrina devastated communications infrastructure across the Gulf Coast, incapacitating telephone service, police and fire dispatch centers, and emergency radio systems. Almost three million customer phone lines were knocked out, telephone

switching centers were seriously damaged, and 1,477 cell towers were incapacitated.²⁴ Most of the radio stations and many television stations in the New Orleans area were knocked off the air.²⁵ Paul McHale, the Assistant Secretary of Defense for Homeland Defense, summarized the damage by stating, “The magnitude of the storm was such that the local communications system wasn’t simply degraded; it was, at least for a period of time, destroyed.”²⁶

The Gulf Coast region’s health care infrastructure sustained extraordinary damage.²⁷ Such damage was particularly evident in New Orleans, where Hurricane Katrina destroyed several large hospitals, rendered many others inoperable, and forced the closure of nearly all other health care facilities. The region’s most vulnerable residents and those individuals with special needs suffered terribly from Hurricane Katrina’s impact and inadequate or nonexistent evacuation operations.²⁸ In addition, the storm stranded hundreds of hospital patients inside dark and flooded facilities that lacked basic supplies.²⁹ Some patients succumbed to the horrible conditions before they could be evacuated.³⁰ At St. Rita’s Nursing Home in St. Bernard Parish, Louisiana, thirty-four nursing home residents drowned in the floods resulting from Hurricane Katrina.³¹

New Orleans

New Orleans sustained extensive damage as Hurricane Katrina passed to its east on the morning of August 29. Many high-rise buildings suffered blown out windows, while roof sections of the Louisiana Superdome—where over ten thousand people were sheltered—were stripped away. Mayor Ray Nagin later reported that in New Orleans, “primary and secondary power sources, sewerage and draining systems and communication and power lines were incapacitated.”³²

The storm surge, extreme amounts of rain, and high winds stressed the city’s complex 350 mile levee system to its breaking point.³³ Several of the levees and floodwalls were overtopped, and some were breached throughout the day of landfall. It was these overtoppings and breaches of the levee system that led to the catastrophic flooding of New Orleans. In addition to the levee and floodwall breaches, many of the pumping stations—which would have otherwise removed water from the city and prevented some of the flooding—stopped working due to power outages and flooded pumping equipment.

On the day of landfall, authoritative reporting from the field was extremely difficult to obtain because of the widespread destruction of communications infrastructure, the incapacitation of many State and local responders, and the lack of Federal representatives in the city. As a result, local, State, and Federal officials were forced to depend on a variety of conflicting reports from a combination of media, government and private sources, many of which continued to provide inaccurate or incomplete information throughout the day, further clouding the understanding of what was occurring in New Orleans. In fact, some uncertainty about the specific causes and times of the breaches and overtoppings persists to this day.

The New Orleans Flood and Hurricane Protection System

Much of New Orleans is located below sea level; with the Mississippi River to the south, Lake Pontchartrain to the north, and Lake Borgne to the east, the area is prone to flooding from the river, the lakes, and the Gulf of Mexico. Development of a system to protect the city from flooding began when the city was founded in the early 1700s and has grown with the increase in population and expanded into additional flood prone areas. The New Orleans Flood and Hurricane Protection System is complex and massive, consisting of 350 miles of levees, which are embankments, usually earthen, that serve as flood barriers. The System also includes floodwalls, hundreds of bridges, closable gates, culverts and canals that facilitate transportation in and out of the system. It is comprised of a series of four main compartmented basins designed to limit the flooding impacts on the entire system resulting from individual failures of levees and floodwalls. In addition, large pump stations are used to pump out and redirect water from the city. These pumps are designed to mitigate flooding that results from significant rainfall and can, over time, remove water from moderate overtoppings.

Currently, the levees offer protection ranging from eleven up to approximately seventeen and a half feet above sea level. The current system was designed to withstand a Mississippi River flood the size of the Flood of 1927 and a hurricane with wind conditions similar to a very strong Category 2 hurricane.

Breaching and Overtopping

Overtopping is a term used to describe the situation where the water level rises above the height of the levee or floodwall and consequently overtops, or flows over the structure. A breach is a break in the levee or floodwall. A prolonged overtopping can actually cause a levee or floodwall breach. In general, a breach can lead to more significant flooding than an overtopping since breaches take time to repair and until repaired continue to allow water to flow until the water level has receded below the height of the breach. Overtopping, on the other hand, will stop as soon as the water level recedes below the top of the levee or floodwall. Although the consequences are significantly different, from outward appearances, it is often difficult to differentiate a breach from an overtopping.

In addition to the dearth of reliable reporting regarding the situation in New Orleans, there was widespread confusion and misuse of the terms ‘breach’ and ‘overtopping’ by observers and reporters who did not fully understand the distinction between the two terms, or whose observations were not sufficient to enable differentiation of one from the

other. Some overtopping of the levees was expected due to the intensity of the storm, which would result in localized flooding.³⁴ However, such overtopping would not have led to the catastrophic effects that occurred due to the levee and floodwall breaches. Further, the New Orleans Flood and Hurricane Protection System is designed so that individual breaches will not lead to catastrophic flooding. The compartmented design, with four main basins, is intended to minimize the threat of flood to the entire system.³⁵ Thus, had only one basin experienced serious overtopping or a breach, it would have been possible to avoid the catastrophic flooding New Orleans experienced.

Since some flooding was expected and severe flooding feared, the most important priority of local, State, and Federal officials was search and rescue. In anticipation of the storm on Sunday night and Monday morning, emergency responders were standing by to begin search and rescue as soon as it was safe to proceed.³⁶ This emphasis on search and rescue continued throughout Monday evening, with officials encouraging those who had evacuated prior to landfall to stay away so they did not impede emergency responders' efforts.³⁷ By Tuesday morning when the breaches of the levees had been confirmed, Federal, State, and local officials were already fully engaged in search and rescue efforts.³⁸ Regardless of the cause of the flooding, search and rescue had been and continued to be the first response priority.

As early as 9:12 am edt on August 29, the National Weather Service (NWS) received a report of a levee breach and shortly thereafter issued a flash flood warning, stating, "A levee breach [sic] occurred along the Industrial Canal at Tennessee Street. Three to eight feet of water is expected due to the breach."³⁹ However, as late as 6:00 pm edt that day, the DHS Homeland Security Operations Center (HSOC) reported to senior DHS and White House officials that, "Preliminary reports indicate the levees in New Orleans have not been breached, however an assessment is still pending."⁴⁰

A sampling of additional reporting follows.

The first DHS HSOC report that referenced potential levee issues was distributed at 10:50 am edt on August 29, and stated, "Some levees in the greater New Orleans area could be overtopped."⁴¹ At 11:32 am edt, a DHS HSOC report stated that, after a call with State and Parish officials, "Major General Landreneau [Adjutant General for Louisiana] said that emergency personnel stationed at Jackson Barracks have confirmed that the waters are rising, although he could not say whether the cause was a levee breach or overtopping."⁴² At a Noon FEMA teleconference, local officials gave spotty reporting to participating State and Federal officials. As DHS summarized the reports, "Some of the LA Parishes have 8 to 10 feet of water. . . . Some levee leakage, but no reported failures to date . . . levee in New Orleans is overflowing."⁴³

Mid-afternoon on August 29, the U.S. Army Corps of Engineers (USACE) notified DHS of a reported levee overtopping in St. Bernard's Parish, a reported levee breach in the West Bank, and a small breach in Orleans Parish reported by local firefighters.⁴⁴

At 6 pm edt aboard a U.S. Coast Guard helicopter, Marty Bahamonde, a FEMA Public Affairs Official, observed the extent of the flooding and was "struck by how accurate" the earlier local reporting was of the levee breaches.⁴⁵ He then called FEMA Director Michael Brown and other FEMA officials with his eyewitness account at approximately 8 pm edt that day.⁴⁶ Director Brown has testified that he subsequently called the White House to report the flooding information he received from Bahamonde.⁴⁷ Following the calls, Mr. Bahamonde arranged a conference call with State, regional, and FEMA officials to recount what he had seen.⁴⁸ An HSOC report marked 10:30 pm edt, but not received at the White House until 12:02 am edt the next day, summarized the conference call and reported Mr. Bahamonde's observations on the extent of flooding throughout New Orleans.⁴⁹

By morning light and with the passage of the storm, the extent of the flooding was apparent. At 6 am edt on August 30, the HSOC issued a report describing levee breaches at the Industrial Canal, 17th Street, and at Lake Ponchartrain.⁵⁰

Throughout the morning and early afternoon on August 30, the USACE continued to determine the extent of the damage and assess whether the levees could be repaired.⁵¹ At Governor Blanco's 3 pm edt press conference on August 30, FEMA Director Michael Brown stated that no resources in fixing the levees would be spared, and that the USACE was diligently working on a repair plan.⁵² The USACE worked throughout the remainder of Tuesday but despite best efforts, by Wednesday morning, it was becoming clear that the repairs could take weeks or months.

LESSON LEARNED RECOMMENDATION

Establish a National Operations Center to coordinate the National response and provide situational awareness and a common operating picture for the entire Federal government.

New Orleans flooded as the levees and floodwalls gave way and the pumping stations stopped operating; at its height, approximately 80 percent of New Orleans was filled with water up to twenty feet deep.⁵³ This unprecedented flooding transformed Hurricane Katrina into a "catastrophe within a catastrophe"⁵⁴ as the storm shattered the lives of countless residents and presented State and local officials with challenges far exceeding their capabilities.

Hurricane Katrina's Impact on State and Local Response

Many State and local public safety agencies suffered extensive damage to their facilities and equipment. The Grand Isle (Louisiana) Fire Department suffered “total destruction.”⁵⁵ Fire departments in the Mississippi cities of Biloxi and Gulfport experienced similar fates, while Slidell, Louisiana, had to close over half its stations.⁵⁶ The Pascagoula (Mississippi) Police Department lost one-third of its vehicles. Some emergency personnel did not report to work. Warren J. Riley, Superintendent of the New Orleans Police Department, testified before Congress that, “Much has been said about officers abandoning their position during the storm, and it is true that about 147 officers abandoned their positions. However, they are no longer a part of the New Orleans Police Department.”⁵⁷ Flooding in New Orleans on August 30 forced the closure of the Orleans Parish Emergency Operations Center (EOC).⁵⁸ In fact, the New Orleans Mayor’s Office operated out of a Hyatt Hotel for several days after Hurricane Katrina’s landfall, unable to establish reliable communications with anyone outside the hotel for nearly forty-eight hours.⁵⁹ This meant that the Mayor was neither able to effectively command the local efforts, nor was he able to guide the State and Federal support for two days following the storm.

The complete devastation of the communications infrastructure left responders without a reliable network to use for coordinating emergency response operations. Flooding blocked access to the police and fire dispatch centers in New Orleans; neither 911 service nor public safety radio communications functioned sufficiently.⁶⁰ In addition, the State of Louisiana’s 800 MHz radio system, designed to be the backbone of mutual aid communications, ceased functioning, and repairs were delayed for several days.⁶¹ Louisiana State Senator Robert Barham, chairman of the State Senate’s homeland security committee, summed up the situation in Louisiana by stating, “People could not communicate. It got to the point that people were literally writing messages on paper, putting them in bottles and dropping them from helicopters to other people on the ground.”⁶²

Local emergency response officials found it difficult or impossible to establish functioning incident command structures in these conditions. Such structures would have better enabled local response officials to direct operations, manage assets, obtain situational awareness, and generate requests for assistance to State authorities. Without an incident command structure, it was difficult for local leaders to guide the local response efforts, much less command them. Members of the Hammond (Louisiana) Fire Department reported receiving “a lot of ‘I don’t knows’ from [local] government officials”; another Louisiana firefighter stated, “the command structure broke down—we were literally left to our own devices.”⁶³

Lessons Learned

The Department of Homeland Security, in coordination with the Environmental Protection Agency, should oversee efforts to improve the Federal government’s capability to quickly gather environmental data and to provide the public and emergency responders the most accurate information available, to determine whether it is safe to operate in a disaster environment or to return after evacuation. In addition, the Department of Homeland Security should work with its State and local homeland security partners to plan and to coordinate an integrated approach to debris removal during and after a disaster.

State and local emergency responders throughout the affected region struggled to perform urgent response missions, including emergency medical services, firefighting, law enforcement, search and rescue, and support to shelters. Emergency responders operated in an environment involving extreme heat, chemicals, contaminated mud, downed power lines, and standing water.⁶⁴ The storm’s surge flooded three Superfund⁶⁵ toxic waste sites in the New Orleans area, and destroyed or compromised at least 170 drinking water facilities and forty-seven wastewater treatment works along the Gulf Coast.⁶⁶ Emergency responders repeatedly exposed themselves to floodwater, chemicals, bacteria, and debris to perform life-saving missions.⁶⁷ Their willingness to work in these hazardous conditions is a powerful testament to their bravery and professionalism.

Governors Barbour and Blanco requested additional National Guard assets from other states through the Emergency Management Assistance Compact (EMAC) to assist State and local emergency responders.⁶⁸ National Guard forces continued to deploy to the region as States responded in the days following landfall.⁶⁹

Search and Rescue

Hurricane Katrina’s storm surge and subsequent flooding necessitated one of the largest search and rescue operations in the Nation’s history. Thousands of firefighters, police officers, and medical personnel across all levels of government, together with citizen volunteers, braved life-threatening conditions to rescue people and animals from flooded buildings. Search and rescue missions were most urgent in New Orleans, where thousands needed to be plucked from rooftops and attics after the levee system failed. As Mayor Ray Nagin stated: “Thousands of people were stranded on their rooftops, or in attics, needing to be rescued. . . . Our first responders were jumping into the water to rescue people as 911 operators were consumed with traumatic calls for rescue. They received thousand upon thousands of frantic and desperate calls.”⁷⁰

Federal search and rescue assets from the Coast Guard, FEMA Urban Search and Rescue (US&R) Task Forces,⁷¹ the Department of Defense (DOD),⁷² and other Federal agencies worked in concert with State and local responders to rescue tens of thousands of people. Coast Guard teams alone ultimately rescued and evacuated over 33,000 people—over six times the number in an average year—⁷³earning themselves the name the “New Orleans Saints.”⁷⁴ Immediately following Hurricane Katrina’s second landfall, Coast Guard assets began conducting rescue

operations throughout the Gulf Region. Governor Barbour later testified that, “The night Katrina struck, Coast Guard helicopter crews from Mobile conducted search and rescue operations on the Coast. These fearless young men, who hung from helicopters on ropes, dangling through the air in the dark that first night, pulled people off of roofs and out of trees.”⁷⁵ FEMA US&R teams also performed exceptionally well, ultimately rescuing over 6,500 people.⁷⁶ Within four hours of landfall, Army National Guard helicopters were airborne and actively performing rescue missions, with other National Guard personnel joining the effort on the ground.⁷⁷

Despite these successes, search and rescue efforts revealed the need for greater coordination between the two constituent components of search and rescue: Urban Search and Rescue (US&R) and civil search and rescue (SAR). US&R refers to the specialized mission of rescuing victims trapped in collapsed structures.⁷⁸ In contrast, SAR constitutes all other missions, such as maritime, aeronautical, and land rescues.⁷⁹ However, there is no overarching plan that incorporates both aspects of search and rescue. The absence of such a plan led to coordination problems between US&R teams and SAR teams. Some teams displayed their own initiative to fill the gap in unified command, determining their own rescue priorities, areas to be searched, and locations to drop off the people they rescued.⁸⁰ Unfortunately, in some cases, rescuers were forced to leave people on highways where they were exposed to the elements and in continuing need of transportation, food, and water.⁸²

Lessons Learned

The Department of Homeland Security should lead an interagency review of current policies and procedures to ensure effective integration of all Federal search and rescue

Under the NRP, FEMA is authorized as the primary agency to coordinate US&R through Emergency Support Function-9 (ESF-9).⁸² However, because the NRP focuses only on urban search and rescue, combined with the fact that US&R teams are neither adequately nor consistently trained or equipped to perform rescues in a water environment, the NRP failed to anticipate, plan for, and ultimately integrate all of the Federal government’s search and rescue assets during Katrina. For example, the Department of Interior (DOI) has valuable expertise in operating watercraft and conducting civil search and rescue operations. Unfortunately, because DOI is not formally considered a part of ESF-9, DOI’s offers to deploy shallow-water rescue boats during the response apparently never reached the operational level. Had DOI been considered a supporting agency under ESF-9, its water assets would likely have been effectively integrated into response operations.

Post-Landfall Evacuations in New Orleans

As conditions in New Orleans worsened on August 30, due to the massive flooding, State and local officials began organizing a mass evacuation of the city. Since neither the Louisiana nor the New Orleans evacuation plans addressed evacuation protocols for post-landfall,⁸³ State and local officials worked with FEMA, DOD, and the Department of Transportation (DOT) to conduct the post-landfall evacuation.⁸⁴

The Superdome presented the most immediate concern to officials. The population at the stadium continued to grow as thousands of people migrated there from their flooded homes.⁸⁵ The high floodwaters cut off access to the Superdome, which made re-supply, evacuations, and other operations extremely difficult.⁸⁶ The facility had lost power during the storm, leaving only dim lighting from emergency generators. Louisiana National Guard personnel worked to protect the stadium’s emergency generators from rising floodwaters.⁸⁷ The Louisiana National Guard later reported that, “The vast majority of the sheltered evacuees were good people who were trapped in a bad situation.”⁸⁸ Conditions at the stadium became increasingly difficult due to the large numbers and the lack of air conditioning or running water.⁸⁹ On the morning of August 30, the U.S. Department of Health and Human Services (HHS) assessed the Superdome as “uninhabitable.”⁹⁰

Governor Blanco visited the Superdome on August 30 and concluded the stadium needed to be evacuated “as soon as possible.”⁹¹ Louisiana State and local officials could not manage a post-landfall evacuation operation of this magnitude without additional support. Shortly thereafter, FEMA personnel at the Superdome requested that FEMA headquarters provide buses to transport evacuees from the stadium. Within an hour of receiving the call, FEMA tasked the Department of Transportation—as coordinator of ESF-1, Transportation—to support the evacuation operations. DOT began assembling a bus fleet of over 1,100 vehicles, equal in size to some of the largest transit agencies in the Nation to evacuate thousands of persons from the Superdome and other parts of New Orleans.

Louisiana and Federal officials began contacting other States to relocate evacuees to their cities.⁹² They worked together to develop plans to transport the people in the Superdome to out-of-state shelters. By the morning of August 31, Governor Blanco reached an agreement with Texas Governor Rick Perry to evacuate the thousands at the Superdome to the Houston Astrodome.⁹³ Significant numbers of federally-contracted buses began to arrive at the Superdome the evening of August 31.⁹⁴ Initially, evacuees were loaded onto buses and driven all the way to Houston. As the Houston Astrodome began to fill, however, Federal and State officials identified alternative destinations in multiple States and the District of Columbia.⁹⁵

Both DOD and DOT worked with State and local officials to deliver food and water as well as develop plans to evacuate people from three other locations in the city: Algiers Point, the Convention Center, and the Interstate-10 (I-10) cloverleaf.⁹⁶ The Governor’s office received reports of the crowds at the Ernest N. Morial Memorial Convention

Center and the I-10 cloverleaf on August 31.⁹⁷ Reports began to arrive that large crowds had gathered at the Convention Center even though city officials had never intended it to be a shelter.⁹⁸ Without strong public messaging to inform them otherwise, many of these people had simply assumed that the Convention Center—as a large public building on high ground—would be a safe gathering place.⁹⁹ No food or water was pre-staged there because the facility was neither a shelter nor a designated evacuation point.¹⁰⁰

In addition, large numbers of people gathered or were deposited by search and rescue teams—who were conducting boat and helicopter rescue operations with neither a coordinated plan nor a unified command structure—atop raised surfaces, such as the I-10 cloverleaf downtown. People brought to the raised surfaces as they transitioned to safety had little shelter from the sun and were in ninety-eight degree heat.¹⁰¹ Faced with this increasingly dire situation, Governor Blanco used her executive authority to commandeer private school buses as evacuation assets, since many of the city’s buses had been parked in lots that had flooded.¹⁰² The Governor directed school buses to ferry the people atop the I-10 cloverleaf to safety outside of the city.¹⁰³

By the morning of September 2, approximately fifteen thousand people had been evacuated from the Superdome, leaving approximately 5,500 remaining. Reports on exact numbers vary because the Superdome and Convention Center populations swelled after landfall, as additional evacuees continued to arrive while the evacuation was underway. “The last 300 [people] in the Superdome climbed aboard buses Saturday... Evacuations of the last remaining [people] at the arena were halted before dawn Saturday as authorities diverted buses to help some 25,000 refugees at the New Orleans Convention Center... The Texas Air National Guard estimated that between 2,000 and 5,000 people remained at the Superdome early on Saturday...” On Saturday, September 3, a representative of the State “Office of Emergency Preparedness put the figure at 2,000, and said [people] had recently begun flocking there not for shelter, but to escape New Orleans after they heard buses were arriving.¹⁰⁴

Except for the ill or injured, no one was evacuated from the overcrowded Convention Center until Saturday, September 3.¹⁰⁵ By that point, however, over 35,000 people had been evacuated from New Orleans, including all the ill or injured at the Superdome.¹⁰⁶ As the evacuation progressed, the situation at the Convention Center and the Superdome stabilized, with food, water, and medical supplies available at both locations.¹⁰⁷ By September 4, DHS reported that the “Superdome and Convention Center have been evacuated; however, displaced persons continue to migrate to these sites and [will be] evacuated as required.¹⁰⁸

In addition to ground operations, a joint DHS, DOT, and DOD airlift successfully evacuated over 24,000 people, constituting the largest domestic civilian airlift on U.S. soil in history.¹⁰⁹ Federal departments and agencies worked with State, local, and private sector officials to coordinate the operation. After the Federal Aviation Administration restored traffic control and runway operations at New Orleans’s Louis Armstrong International Airport, DOT coordinated with private air carriers and the Department of Defense’s Transportation Command (USTRANSCOM) to begin the massive airlift. DOT invited the Air Transport Association, the trade organization of principal U.S. airlines, to come to the NRCC to help coordinate with air carriers volunteering their services. In addition to these civilian flights, the Department of Defense simultaneously conducted a major medical airlift from the airport.¹¹⁰ The DHS Transportation Security Administration (TSA) provided screeners and Federal Air Marshals to maintain security. Search and rescue helicopters brought people directly to the airport, while Federal Protective Service personnel escorted busloads of evacuees from the Superdome.¹¹¹ The TSA and other security personnel confiscated hundreds of weapons from evacuees at the airport, including ninety in the first three days of the airlift.¹¹²

Lessons Learned

The Department of Transportation, in coordination with other appropriate departments of the Executive Branch, must also be prepared to conduct mass evacuation operations when disasters overwhelm or incapacitate State and local governments.

Federal transportation coordinators had little situational awareness regarding the movement of evacuees due to the complete breakdown of the region’s communications infrastructure. Specifically, Federal and State officials often had difficulty coordinating the departures and destinations of the large number of buses, trains, and aircraft involved in the evacuations. In one case, a fully provisioned train with room for six hundred evacuees left the city with fewer than one hundred passengers.¹¹³ Buses and flights of evacuees were sometimes diverted, while en route, to new destinations without the knowledge of officials at either the original or new destinations. Without prior notice of the evacuees’ arrival times, States sometimes had difficulty accommodating the enormous influx of people. In addition, some passengers reported that they had not been informed of their destinations when they boarded the evacuating flights and had no idea where they were when their flights landed. Speaking about the evacuees, Arkansas Governor Mike Huckabee relayed, “They have been treated like boxes, in many cases, warehoused.¹¹⁴

Public Safety and Security

Law enforcement agencies across the Gulf Coast region faced countless challenges in the aftermath of Hurricane Katrina. People began looting in some areas as soon as the storm relented.¹¹⁵ Violent crimes were committed against law enforcement officers and other emergency response personnel.¹¹⁶ The storm’s damage to equipment, facilities, communications, and jails limited the ability of authorities to respond to calls for help and to combat

lawlessness.¹¹⁷ It is clear that violent crime was less prevalent than initially reported, although reliable crime statistics are unavailable. Exaggerated, unconfirmed claims of violent crimes and lawlessness took on a life of their own in the absence of effective public information to counter them.¹¹⁸

Security problems in the Gulf Coast, both actual and perceived, obstructed the speed and efficiency of the Federal response and in some cases temporarily halted relief efforts.¹¹⁹ Security concerns suspended search and rescue missions,¹²⁰ delayed the restoration of communications infrastructure,¹²¹ and impeded medical support missions.¹²² On August 31, most of the New Orleans police force was redirected from search and rescue missions to respond to the looting, detracting from the priority mission of saving lives. The lawlessness also delayed restoration of essential private sector services such as power, water, and telecommunications.¹²³ Federal officials attempted to have law enforcement officers protect emergency responders against security threats.¹²⁴ However, due to a lack of planning, arranging this support took several days, during which the situation grew worse.

A limited number of Federal law enforcement personnel were already assigned to local offices in New Orleans following the storm and immediately began organizing efforts to restore law and order, but additional Federal assistance was clearly needed. The Secretary of Homeland Security and the U.S. Attorney General directed their respective departments to send Federal law enforcement officers to assist the beleaguered city.¹²⁵ By September 3, over 1,600 Federal law enforcement officers were in New Orleans.¹²⁶ The Louisiana Governor submitted a request to the Attorney General on September 4, formally seeking assistance from the Department of Justice (DOJ) pursuant to the Emergency Federal Law Enforcement Assistance Act. After coordinating with the Secretary of Homeland Security, the Attorney General granted the request the same day. Two days later, Governor Blanco sent a similar request to the Secretary, requesting DHS law enforcement support. The Secretary granted the request and sent additional DHS law enforcement officers to Louisiana.¹²⁷

By September 5, the Department of Homeland Security had provided 1,444 officers and the Department of Justice had deployed 566 officers.¹²⁸ The numbers of Federal law enforcement officers continued to grow as the Department of Agriculture (USDA), Department of Interior, the Department of Treasury, the Department of Veterans' Affairs, the Environmental Protection Agency (EPA), and the U.S. Postal Inspection Service deployed personnel to the Gulf Coast.¹²⁹ Federal law enforcement officers performed such missions as protecting Federal property, conducting search and rescue missions, and assisting local law enforcement, particularly in New Orleans.

However, several departments and agencies noted that they were impeded in their ability to provide immediate assistance due to the need for deputization to enforce State or Federal laws.¹³⁰ Federal planning should have anticipated the need for such deputization procedures.

Hurricane Katrina also crippled the region's criminal justice system. The exodus of the Gulf Coast population resulted in a significant loss of accountability of many persons under law enforcement supervision (e.g., registered sex offenders, probationers).¹³¹

Lessons Learned

The Department of Justice, in coordination with the Department of Homeland Security, should examine Federal responsibilities for support to State and local law enforcement and criminal justice systems during emergencies and then build operational plans, procedures, and policies to ensure an effective Federal law enforcement response.

The court systems in the disaster area ceased to function, causing a backlog of criminal prosecutions.¹³² Prisoners were often hastily evacuated which created significant challenges for recordkeeping associated with prisoner movement. There was some initial confusion in the process of identifying and relocating prisoners; however, each eventually was accounted for.¹³³ The strain on the criminal justice system is largely attributable to the absence of contingency plans for these problems at all levels of government. While these issues remain foreseeable consequences of any major disaster, disaster plans did not adequately address the response necessary to prevent the problems encountered during the aftermath of Katrina.

Federal Incident Management

The magnitude of the storm's destruction presented three immediate challenges for the Federal government. First, the sheer amount of destruction over such a large area created an enormous demand for emergency assistance such as fuel, medical supplies, food, shelter, and water. This demand, coupled with the austere conditions throughout the Gulf Coast following Katrina's landfall, exceeded FEMA's standard disaster delivery capabilities and processes. Mr. Scott Wells, who served as Deputy Federal Coordinating Officer (FCO) in Louisiana, later testified to Congress that "the response was not robust; it was not enough for the catastrophe at hand."¹³⁴ Second, localities needed assistance to perform emergency response operations and re-establish incident command. However, Hurricane Katrina's impact across the Gulf Coast region limited the use of normal mutual aid agreements, which rely on neighboring cities and counties for assistance. In this case, the neighboring jurisdictions were overwhelmed themselves and unable to provide assistance elsewhere. Assistance had to come from States outside the region and from the Federal government. This requirement for an active Federal role in emergency response operations was most pronounced in New Orleans. Finally, the communications problems had a debilitating effect on response efforts

in the region and the overall national effort. Officials from national leaders to emergency responders on the ground lacked the level of situational awareness necessary for a prompt and effective response to the catastrophe. This was a recipe for an inefficient and ineffective Federal response.

On August 30, Secretary Chertoff declared Hurricane Katrina to be an Incident of National Significance (INS), the first ever formal declaration of this designation.¹³⁵ On the same day, he also appointed FEMA Director Michael Brown as the Principal Federal Official (PFO) for the Hurricane Katrina response.¹³⁶ A PFO is designated to facilitate Federal support to the unified command structure and coordinate overall Federal incident management. The PFO also provides a primary point of contact and situational awareness locally for the Secretary of Homeland Security. However, according to the NRP, “The PFO does not direct or replace the incident command structure established at the incident, nor does the PFO have directive authority over the [Senior Federal Law Enforcement Official], FCO, or other Federal and State officials.”¹³⁷ The FCO retains his authorities to coordinate Federal response activities under the Stafford Act.¹³⁸ As PFO, Brown had no authority over the FCOs. However, as the Director of FEMA, Brown was vested with the authority to directly oversee the FCOs,¹³⁹ thereby mitigating the PFO limitations. His subsequent PFO replacement had no such authority to work around this impediment, and as a result, was eventually made FCO as well. The multiple Federal coordinators with varying authorities frustrated State and local officials in the region.¹⁴⁰

Also on August 30, DHS initiated a virtual National Joint Information Center (JIC)¹⁴¹ and conducted the first of what would become daily National Incident Communications Conference Line (NICCL) calls with other Federal departments and agencies.

An important limiting factor of the Federal response, as discussed in the Primer chapter, is that the Federal response is predicated on an incident being handled at the lowest jurisdictional level possible. A base assumption to this approach is that, even in cases where State and local governments are overwhelmed, they would maintain the necessary incident command structure to direct Federal assets to where they are most needed. In the case of Katrina, the local government had been destroyed and the State government was incapacitated, and thus the Federal government had to take on the additional roles of performing incident command and other functions it would normally rely upon the State and local governments to provide.

Lessons Learned

The Federal government should work with its homeland security partners in revising existing plans, ensuring a functional operational structure—including within regions—and establishing a clear, accountable process for all National preparedness efforts.

The Joint Field Office (JFO), which builds upon the State and local incident command structure, provides a single location for all Federal departments and agencies to acquire situational awareness, direction, mission assignments, and a forum to interface with other agencies.¹⁴² It is essential for ensuring that all Federal response elements possess a common operating picture and synchronize their response operations and resources. However, in the case of Hurricane Katrina, the JFO was not established at the outset, and did not function as envisioned when it was established. Key PFO staff positions had not been identified prior to landfall, which forced Director Brown to assemble his staff in the midst of the disaster.¹⁴³ Brown was still working on a PFO organizational chart on the evening of August 31, almost sixty hours after landfall. Key components of the Baton Rouge JFO were still being assembled in the two weeks that followed.¹⁴⁴

The JFO was located in Baton Rouge, Louisiana, near the State of Louisiana Emergency Operations Center (EOC). A Federal coordination center was not immediately established in New Orleans. The NRP does not contemplate subordinate structures to the JFO to coordinate Federal response actions in the event of multiple or geographically widespread catastrophes (i.e., multiple “ground zeros”).¹⁴⁵ In the absence of a command center near the major incident sites and a fully functioning JFO, agencies independently deployed resources, operated autonomously, and generated disparate reporting streams back to Federal authorities locally and in Washington.¹⁴⁶ This resulted in an often inconsistent and inaccurate operating picture of the disaster area for senior decision makers, duplication of efforts, gaps in addressing requests for assistance, and the inefficient allocation of resources.

Military Assistance

Active duty military and National Guard personnel provided critical emergency response and security support to the Gulf Coast during the height of the crisis. State active duty and Title 32 National Guard forces that deployed to Louisiana and Mississippi operated under the command of their respective Governors.¹⁴⁷ Title 10 active duty forces, on the other hand, fell under the command of the President and had more limited civil response authority.¹⁴⁸ On August 30, Deputy Secretary of Defense Gordon England authorized U.S. Northern Command (USNORTHCOM) and the Joint Chiefs of Staff to take all appropriate measures to plan and conduct disaster relief operations in support of FEMA.¹⁴⁹ USNORTHCOM established Joint Task Force Katrina (JTF-Katrina) at Camp Shelby to coordinate the growing military response to the disaster.¹⁵⁰

By September 1, JTF-Katrina, commanded by LTG Honoré, included approximately 3,000 active duty personnel in the disaster area; within four days, that number climbed to 14,232 active duty personnel. LTG Honoré’s leadership, combined with the Department of Defense’s resources, manpower, and advanced planning, contributed to the

military's success in the Federal response, especially in areas such as search and rescue, security, and logistical support. Two C-130 firefighting aircraft and seven helicopters supported firefighting operations in New Orleans.¹⁵¹ By September 5, military helicopters had performed 963 search and rescue, evacuation, and supply delivery missions.¹⁵² Military personnel also assisted Federal, State and local agencies with other needs as well. For example, DOD aircraft flew mosquito abatement aerial spraying missions over 2 million acres to prevent the spread of mosquito- and water-borne diseases.¹⁵³ Military personnel also performed such missions as salvage, sewage restoration, relief worker billeting, air traffic control, and fuel distribution.

Lessons Learned

The Departments of Homeland Security and Defense should jointly plan for the Department of Defense's support of Federal response activities as well as those extraordinary circumstances when it is appropriate for the Department of Defense to lead the Federal response. In addition, the Department of Defense should ensure the transformation of the National Guard is focused on increased integration with active duty forces for homeland security plans and activities.

The standard National Guard deployment coordination between State Adjutants General (TAGs) was effective during the initial response but was insufficient for such a large-scale and sustained operation.¹⁵⁴ To address this shortfall, LTG Blum, Chief of the National Guard Bureau, held a conference call on August 31 with all fifty-four TAGs to distribute requests for forces and equipment to all TAGs.¹⁵⁵

Guardsmen performed a range of missions, including search and rescue, security, evacuations, and distribution of food and water. In Mississippi, National Guard forces prepared Camp Shelby as a staging point for incoming forces and also engaged in law enforcement support, debris removal, shelter support and other vital operations.¹⁵⁶ Guardsmen from Texas and Pennsylvania supplied satellite phone communications to the response.¹⁵⁷ When a group of Pennsylvania Guardsmen arrived to fix a Louisiana woman's roof, she told the group: "That's a long way to come to help us. We're really grateful ... you boys are going to heaven, I tell you."¹⁵⁸ By August 29, sixty-five National Guard helicopters were positioned throughout the Gulf Coast.¹⁵⁹ By September 2, nearly 22,000 National Guard soldiers and airmen had deployed to the region—including 6,500 in New Orleans alone¹⁶⁰—breaking the National Guard's previous record for the largest response to a domestic emergency.¹⁶¹ Eventually, over 50,000 National Guard members from fifty-four States, Territories, and the District of Columbia deployed to the Gulf Coast, providing critical response assistance during this week of crisis.¹⁶² The robust active duty and National Guard response played a crucial role in the effort to bring stability to the areas ravaged by Hurricane Katrina.

A fragmented deployment system and lack of an integrated command structure for both active duty and National Guard forces exacerbated communications and coordination issues during the initial response. Deployments for Title 32 (National Guard) forces were coordinated State-to-State through EMAC agreements and also by the National Guard Bureau. Title 10 (active duty) force deployments were coordinated through USNORTHCOM. Once forces arrived in the Joint Operations Area, they fell under separate command structures, rather than one single command. The separate commands divided the area of operations geographically and supported response efforts separately, with the exception of the evacuations of the Superdome and the Convention Center in New Orleans.¹⁶³ Equipment interoperability problems further hindered an integrated response. Similar issues of bifurcated operations and interoperability challenges were also present between the military and civilian leadership.¹⁶⁴ This lack of interoperable communications was apparent at the tactical level, resulting from the fact that emergency responders, National Guard, and active duty military use different equipment.¹⁶⁵

Federal Communications Assistance

Although the Federal government pushed assets into the Gulf Coast region to fill communication gaps created by Hurricane Katrina we could have and should have done more. FEMA had pre-positioned two of their five Mobile Emergency Response Support (MERS) detachments in the Gulf and quickly moved them to the affected areas in Louisiana and Mississippi soon after landfall.¹⁶⁶ MERS detachments consist of an array of vehicles and trained personnel and provide mobile communications, operational support, and logistical power generation assets—including satellite communications, dozens of phone and data lines, heating and air conditioning, power generation, fuel, potable water, and office functionality—to support the operations of Federal, State, and local authorities.¹⁶⁷ Because MERS is a system of divisible assets and not a rigid unit, a single MERS detachment can provide limited support to multiple field operating sites within the disaster area simultaneously.¹⁶⁸

Lessons Learned

The Department of Homeland Security should review our current laws, policies, plans, and strategies relevant to communications. Upon the conclusion of this review, the Homeland Security Council, with support from the Office of Science and Technology Policy, should develop a National Emergency Communications Strategy that supports communications operability and interoperability.

The Federal government must keep some MERS detachments at locations outside the incident area in case there is another catastrophe or event, but additional MERS support should have been deployed to the Gulf when it became apparent that those pre-positioned were insufficient for an incident of Katrina's magnitude. At the time, some key Federal officials both on the ground and back in Washington did not know that there were additional MERS available.

To augment FEMA's efforts, DOD deployed available communications assets to the affected areas, such as its Deployable Joint Command and Control System.¹⁶⁹ On August 31, National Guard Bureau Chief LTG Blum reported that DOD was "pushing every communications asset that we have."¹⁷⁰ Further, the National Interagency Fire Center provided 3,200 radios, thirty-eight satellite systems, and several other communication modules in order to supplement the Gulf region's damaged communication networks.

The DHS National Communications System (NCS) also contributed to communications recovery efforts following Hurricane Katrina. NCS linked the telecommunications industry with the relevant government agencies through the National Coordinating Center (NCC).¹⁷¹ The NCC coordinated with MCI and AT&T, as well as USNORTHCOM to identify and deploy mobile communication assets to the Gulf region both prior to, and following, landfall.¹⁷² Further, due to the destruction of the communications infrastructure, the NCS was required to perform new functions, such as providing interim Land Mobile Radio systems, used to connect two-way radio users to a central dispatcher, to first responders in devastated Louisiana parishes.¹⁷³ By September 1, mobile communications systems were beginning to provide much needed telephone and two-way radio communications in Louisiana and Mississippi with additional systems en route to support the entire affected area.¹⁷⁴

Federal Resource Challenges

The aftermath of Hurricane Katrina left the Gulf Coast in desperate need of resources and assistance. Nearly a quarter of a million people in shelters relied on shipments of ice, food, and water to meet their basic needs.¹⁷⁵ Hospitals, shelters, and other critical facilities required diesel fuel to run their back-up generators. Many evacuees lacked access to medical providers and supplies. Emergency responders conducting life-saving operations demanded additional supplies and fuel. FEMA's pre-positioned supplies proved inadequate to meet these demands throughout the region after landfall.¹⁷⁶ To fill this gap, the Federal government sent more resources to Louisiana in the first two weeks after Hurricane Katrina than it had sent to Florida for all of the previous year's hurricanes combined.¹⁷⁷

Lessons Learned

The Department of Homeland Security, in coordination with State and local governments and the private sector, should develop a modern, flexible, and transparent logistics system. This system should be based on established contracts for stockpiling commodities at the local level for emergencies and the provision of goods and services during emergencies. The Federal government must develop the capacity to conduct large-scale logistical operations that supplement and, if necessary, replace State and local logistical systems by leveraging resources within both the public sector and the private sector.

As Hurricane Katrina made landfall, Director Brown provided public assurances that FEMA was prepared to act to meet the logistical challenge.¹⁷⁸ FEMA personnel soon discovered, however, that the quantity of material requested post-landfall outstripped their logistical capabilities. FEMA simply could not procure enough resources to match the rate at which commodities were being consumed. The agency's contracts with private companies, though sufficient for smaller disasters, were incapable of supplying the enormous quantities of resources needed.¹⁷⁹ As a result, shortages plagued the affected area. In Mississippi, FEMA personnel were unable to meet requirements submitted by staging areas.¹⁸⁰ William Carwile, the FCO for Mississippi, recalled that there was a huge gap "between what we required on the ground and what they were sending us."¹⁸¹ In some areas, local officials who requested high-demand resources, such as generators, received no shipments of those supplies from FEMA until weeks after landfall.¹⁸²

Ineffective communications between FEMA and other Federal departments and agencies prevented available Federal resources from being effectively used for response operations. The USDA observed that its personnel "had difficulty in getting FEMA to take advantage of the resources available to them because of the unfamiliarity of some FEMA employees with USDA programs. Likewise, many USDA employees were unfamiliar with FEMA programs and procedures." The Department of Interior also offered valuable assistance. In the aftermath of the hurricane, DOI delivered a comprehensive list of its deployable assets that were immediately available for humanitarian and emergency assistance, including such items as 300 dump trucks and other vehicles, 119 pieces of heavy equipment, 300 boats, eleven aircraft, fifty to seventy-five maintenance crews. Although DOI repeatedly attempted to provide these assets through the process established by the NRP, there was no effective mechanism for efficiently integrating and deploying these resources. DOI offered 500 rooms and other sites for shelters or housing. The Departments of Veterans Affairs (VA), Housing and Urban Development (HUD), and Agriculture (USDA) also offered thousands of housing units nationwide to FEMA for temporary assignment to evacuees. FEMA officials said that the need to negotiate conditional requirements in some cases prevented them from accepting some Federal agencies' offers of housing resources. Most of the thousands of housing units made available by other Federal agencies were not offered to evacuees and were never used.

The private sector too met roadblocks in its efforts to coordinate with the Federal government during the response. For example, the American Bus Association spent an entire day trying to find a point of contact at FEMA to coordinate bus deployment without success.¹⁸³ Federal procurement officers also neglected to draw upon retailers' supply lines to get the resources that victims needed. To this end, despite an acute shortage of blue tarps to cover damaged roofs, Federal officials were slow to draw upon the corporate supply chains that deliver tarps to the stores that sell them. For example, one private sector company had 600,000 tarps available.

Lessons Learned

The Department of Homeland Security, working collaboratively with the private sector, should revise the National Response Plan and finalize the Interim National Infrastructure Protection Plan to be able to rapidly assess the impact of a disaster on critical infrastructure. We must use this knowledge to inform Federal response and prioritization decisions and to support infrastructure restoration in order to save lives and mitigate the impact of the disaster on the Nation.

Throughout the weeks following Hurricane Katrina, the Department of Commerce worked to close the gap between the private and the public sector. The Department set up an informational website and hotline to provide businesses with a one-stop source of information on contracting opportunities.¹⁸⁴ The Department also granted certain companies prioritized access to the raw materials needed to restore the region's crippled infrastructure, even when the resources had previously been contracted to other parties.¹⁸⁵

As logistics problems were now obvious to all, FEMA turned to DOD for major support in this area.¹⁸⁶ On September 3, Secretary Rumsfeld directed USNORTHCOM to execute greater logistical support operations in both Louisiana and Mississippi.¹⁸⁷

Offers of Charitable Assistance

FEMA could neither efficiently accept nor manage the deluge of charitable donations.¹⁸⁸ Private sector companies also encountered problems when attempting to donate their goods and services to FEMA for Hurricane Katrina response efforts.

Other countries made generous offers of assistance that the Federal government had difficulty integrating into the ongoing response operations. Absent an implementation plan for the management of foreign material assistance, valuable resources often went unused, which frustrated many donor countries. Inadequate planning delayed the overall process of accepting and receiving disaster aid from abroad. For example, after Switzerland had loaded relief supplies onto an aircraft, FEMA requested that the country send only the portion FEMA required to meet response needs. As the generous contribution of supplies could not be unloaded quickly and repackaged into the smaller quantities in a timely manner, the U.S. Embassy in Bern and the Government of Switzerland cancelled the entire flight.¹⁸⁹ A German company offered the use of a \$3 million integrated satellite and cellular telephone system capable of handling 5,000 calls at once, only to wait five days for a written deployment order from USNORTHCOM.

Lessons Learned

The Department of State, in coordination with the Department of Homeland Security, should review and revise policies, plans, and procedures for the management of foreign disaster assistance. In addition, this review should clarify responsibilities and procedures for handling inquiries

The same was true of foreign financial assistance. There was no means of accepting, allocating and disbursing funds that would also ensure transparency and acknowledgement of donors. The Federal government eventually developed a process to accept financial gifts from foreign countries,¹⁹⁰ but because there was no pre-established plan, implementation was a slow and often frustrating process. The U.S. Agency for International Development (USAID) sent liaisons to FEMA field locations on September 2 to coordinate the delivery of foreign disaster relief.¹⁹¹ However, it took several days for the international aid staging area at Little Rock Air Force Base, Arkansas, to become operational.¹⁹² Before this staging area was established, foreign aid could not be efficiently unloaded and distributed. The Federal government's inability to utilize its own resources, or those offered to it, caused great concern for the American public.

Federal Health and Medical Support

The public health and medical situation throughout the Gulf Coast required substantial Federal resources to prevent even further loss of life. On August 31, HHS Secretary Leavitt declared a Federal Public Health Emergency for the Gulf Coast region. This emergency declaration allowed HHS to waive certain requirements for such programs as Medicare, Medicaid, and the State Children's Health Insurance Program. It also allowed HHS to make grants and enter into contracts more expeditiously.¹⁹³ Immediate public health and medical support challenges included the identification, triage, and treatment of acutely sick and injured patients; the management of chronic medical conditions in large numbers of evacuees with special health care needs; the assessment, communication, and

mitigation of public health risks; mortuary support; and the provision of assistance to State and local health officials to quickly reestablish health care delivery systems and public health infrastructures.¹⁹⁴

Federal departments and agencies worked together to attempt to meet these challenges, beginning before Hurricane Katrina's landfall and continuing long after. HHS and DOD health officials collaborated with State and local health officials, maintained situational awareness for their respective agencies, and hastened the direction of medical and public health assets. National Disaster Medical System (NDMS) teams also formed an integral component of the medical response to Hurricane Katrina, collectively treating over 100,000 patients.¹⁹⁵ Several agencies assigned responsibilities in the NRP under ESF-8, Public Health and Medical Services, sent liaisons to the HHS Operations Center in Washington, D.C., and the HHS Secretary's Emergency Response Teams (SERTs) in the affected States. The Department of Veterans Affairs (VA) used its extensive resources to deliver care to evacuees and veterans from the affected region.

HHS deployed medical supplies and personnel to bolster State and local public health capacity in the region. It provided pharmaceuticals and other medical supplies from the Strategic National Stockpile (SNS) beginning with pre-landfall deliveries to the Superdome. By September 3, HHS had delivered 100 tons of medical supplies from the SNS to Louisiana. HHS also deployed twenty-four public health teams that included epidemiology, food safety, sanitation, and toxicology experts.

Medical and public health assets provided excellent care to thousands of displaced patients with both acute injuries and with chronic medical conditions, many of whom had multiple complex medical requirements. According to the Governors from the Gulf Region, medical and public health professionals were true heroes of the Hurricane Katrina response. They often had to improvise and use their own initiative because the system was slow to deploy them from staging areas or failed to adequately supply them. A member of an American Red Cross inspection team, Dr. Hilarie H. Cranmer, wrote, "[i]n a little over four days, our multidisciplinary and interagency teams assessed more than 200 shelters housing nearly 30,000 people. Amazingly, in a majority of cases, the basic public health needs were being met."¹⁹⁶ Federal, State, local, private sector, and volunteer health care providers across the Gulf Coast took the initiative to overcome the inefficiencies of the medical support system and meet their patients' needs.¹⁹⁷ Louisiana State University worked with the State Office of Emergency Preparedness, Federal personnel, and responders from outside the region to turn its Pete Maravich Assembly Center into an acute care medical facility. Within a week, the facility processed approximately 6,000 patients and more than a thousand prescriptions.¹⁹⁸

Lessons Learned

In coordination with the Department of Homeland Security and other homeland security partners, the Department of Health and Human Services should strengthen the Federal government's capability to provide public health and medical support during a crisis. This will require the improvement of command and control of public health resources, the development of deliberate plans, an additional investment in deployable operational resources, and an acceleration of the initiative to foster the widespread use of interoperable electronic health records systems.

HHS struggled in its NRP role as coordinating agency for ESF-8. HHS lacked control over vital medical assets, over-relied on departmental routines, and did not have adequate disaster plans. FEMA compounded HHS coordination difficulties. FEMA deployed NDMS teams without HHS's oversight or knowledge. FEMA administrative delays in issuing mission assignments exacerbated the lack of coordination within ESF-8 and created additional inefficiencies. In order to respond swiftly, HHS felt compelled to take emergency response actions without mission assignments, bypassing FEMA. While this may have pushed additional assets to the region, it also had a deleterious effect on the Federal government's situational awareness of its deployed assets.

From response to Recovery

Federal Coordination

After a week of crisis, Federal, State, and local officials began transitioning to a more organized and sustained response. As requirements eased and material flowed into the region, Federal departments addressed those problems that had afflicted their response during its first week. The establishment of JFOs in several States across the Gulf Coast in the following weeks enhanced the Federal response by providing the coordination and management that had been largely absent.¹⁹⁹ On September 5, Secretary Chertoff appointed Vice Admiral (VADM) Thad Allen to the position of Deputy PFO. At that time, the Louisiana JFO was still a temporary office near the Louisiana Emergency Operations Center in Baton Rouge, almost eighty miles from New Orleans. However, to gain greater visibility of the disaster area, VADM Allen stood up a "PFO-Forward Headquarters" in New Orleans on the USS Iwo Jima on September 7.²⁰⁰ The PFO-Forward rapidly increased the effectiveness of the Federal response by providing a Federal unified command close to the disaster scene. On September 9, Secretary Chertoff appointed VADM Allen to replace Michael Brown as PFO for Hurricane Katrina.²⁰¹ Director Brown returned to Washington to assume his duties as FEMA Director, rather than managing the field operations for Katrina.²⁰² On September 21, VADM Allen was given additional authorities when he was appointed FCO, in addition to PFO.²⁰³ VADM Allen's appointments ultimately proved critical for energizing the JFO and the entire Federal response to Hurricane Katrina.²⁰⁴

The formation of Federal coordination entities also improved law enforcement operations. On September 6, the two Senior Federal Law Enforcement Officials (SFLEOs) ²⁰⁵ each representing the DOJ and DHS, respectively, established a Law Enforcement Coordination Center (LECC)²⁰⁶ in New Orleans to help coordinate law enforcement personnel operating in the city and surrounding parishes. For the first time during the hurricane response, New Orleans now had a unified command for law enforcement comprised of the New Orleans Police Department, the Louisiana State Police, the National Guard, and all Federal law enforcement personnel.²⁰⁷ Improved coordination, combined with increased Federal law enforcement assistance, strengthened public safety and security in New Orleans. On September 12, the DOD stated that there was “[v]ery little criminal activity” in New Orleans, and that the “military presence deters criminals before damage can be done.”²⁰⁸ By September 13, the City of New Orleans reported law enforcement and military personnel had successfully reestablished security in the City.²⁰⁹

Improved security and the deployment of additional Federal personnel also facilitated search and rescue operations, particularly in New Orleans. By this point, most of the people stranded on rooftops had been rescued, so operations focused more on door-to-door searches. Rescue teams completed primary ground searches in New Orleans on September 12, and spent the next two weeks entering buildings to locate trapped survivors and deceased victims. ²¹⁰ FEMA Urban Search and Rescue teams completed all Mississippi assignments on September 10 and ended all operations in Louisiana twenty days later.²¹¹

Lessons Learned

The Department of Homeland Security should develop an integrated public communications plan to better inform, guide, and reassure the American public before, during, and after a catastrophe. The Department of Homeland Security should enable this plan with operational capabilities to deploy coordinated public affairs teams during a crisis.

The DHS Public Affairs Office established a Joint Information Center (JIC) in Baton Rouge on Wednesday, September 6, to provide accurate and timely information on the Federal response and relief efforts as well as to counter misinformation.²¹² The formation of a second facility in New Orleans three days later improved the flow of accurate information back to the Baton Rouge JIC. These JICs helped to stem the spread of rumors and unsubstantiated reports that had plagued public information efforts during the first week after landfall.

Federal and State officials struggled to locate, recover, and identify the hundreds of deceased victims. While mortuary affairs is generally a State and local responsibility, the NRP is unclear about the appropriate Federal role, leading to substantial confusion.²¹³ FEMA established body collection points at Gulfport, Mississippi, and St. Gabriel, Louisiana, in the days following Hurricane Katrina’s landfall.²¹⁴ From August 31 to September 4, FEMA also deployed ten Disaster Mortuary Operational Response Teams (DMORTs) and both of its Disaster Portable Morgue Units (DPMU) to help State and local personnel identify and process bodies at those collection points.²¹⁵ On September 1, FEMA reached a verbal agreement with Kenyon International Emergency Services, a disaster management contractor, to retrieve and transport bodies.²¹⁶ However, difficulties finalizing the agreement with Kenyon hindered body recovery efforts on the ground.²¹⁷ Frustrated Kenyon executives withdrew from their agreement with FEMA; this led FEMA to request that DOD take over the body recovery effort until another contractor could be found.²¹⁸

Disagreement between Federal and State officials over body recovery responsibilities continued for weeks after landfall. Federal officials maintained that body recovery was ultimately a State responsibility with the Federal government providing support only.²¹⁹ In a September 13 press conference, Governor Blanco expressed her dismay and blamed FEMA for failing to “break through the bureaucracy” to finalize a contact with Kenyon International. On September 13, Governor Blanco directed the Louisiana Department of Health and Hospitals to sign its own written contract with Kenyon, even though the Governor believed that “recovery of bodies is a FEMA responsibility.”²²⁰ The deployed DMORTs performed well in extraordinarily difficult circumstances. Though they found themselves in the midst of a catastrophic disaster and caught in a public political dispute, they carried out their mission with great professionalism and compassion.

Meeting Victims’ Needs

The national effort to meet the needs of Hurricane Katrina victims expanded in the weeks after landfall. Government, private sector, faith-based, non-profit, and other volunteer personnel collaborated in innovative ways to provide medical, financial, and housing assistance. For example, former Presidents George H.W. Bush and Bill Clinton are distributing over \$90 million they raised following Hurricane Katrina to Gulf Coast higher education institutions, local and regional faith-based organizations, and the States of Louisiana, Mississippi and Alabama.²²¹ At the National Book Festival in September attendees collected donated books to help Gulf Coast schools and libraries replace the books that were destroyed by the hurricane.²²²

Federal responders overcame many of the initial public health challenges as increasing numbers of medical personnel and supplies flowed into the region. The continuing efforts of medical personnel to vaccinate Hurricane Katrina evacuees prevented most communicable diseases from spreading in the densely populated shelters. ²²³ By mid-September, the HHS’s public health response transitioned focus from acute public health issues to include less

imminent concerns, such as child care support, mental health services, and treatment services for substance abuse.²²⁴

On September 7, FEMA announced that it had instituted the Expedited Assistance Program to speed the delivery of assistance to Hurricane Katrina victims.²²⁵ This enabled registrations to grow from 261,946 on September 5 to over one million ten days later.²²⁶ FEMA delivered over \$1 billion in assistance to evacuees in all fifty States and the District of Columbia by September 17—less than three weeks after landfall.²²⁷ However, this extraordinary and unprecedented effort was frequently overshadowed by problems encountered by evacuees in their attempts to register for or receive assistance. For example, FEMA established Disaster Recovery Centers (DRCs) in the Gulf Coast region that were not structured to process disaster assistance registrations.²²⁸ The DRCs also were not set up to assist victims in obtaining the other Federal assistance that they were already receiving before Katrina, such as Social Security and Veteran's Benefits. Staff at the DRCs directed victims to register by telephone or via the Internet.²²⁹ Since many households in Hurricane Katrina-affected areas were without power or telephone service, such instructions left many without the means to file their registrations.²³⁰ In addition, FEMA had not determined the capacity of existing Federal agency call centers and telephone banks to handle increased call volumes. Consequently, victims registering for assistance via telephone repeatedly encountered long delays and disconnected calls.²³¹

Lessons Learned

The Department of Health and Human Services should coordinate with other departments of the Executive Branch, as well as State governments and non-governmental organizations, to develop a robust, comprehensive, and integrated system to deliver human services during disasters so that victims are able to receive Federal and State assistance in a simple and seamless manner. In particular, this system should be designed to provide victims a consumer oriented, simple, effective and single encounter from which they can receive assistance.

At times, FEMA public statements regarding the provision of assistance were confusing or incomplete. For example, FEMA announced that it was making \$2,000 cash payments to qualified/registered disaster victims and that these funds would be provided through various means, including by debit card.²³² However, it made this announcement before the debit cards were widely available and did not provide detailed guidance on distribution procedures.²³³ This led to widespread confusion and frustration. Security personnel had to lock down the Houston Astrodome during the distribution of debit cards due to unrest among evacuees.²³⁴

Faith-based, non-profit, and other non-government and volunteer organizations continued to provide essential support to Hurricane Katrina victims. For example, in Harris County, Texas, the Citizen Corps Council—a volunteer organization under the auspices of DHS—coordinated private sector contributions and the mobilization of 60,000 volunteers.²³⁵ The Citizen Corps volunteers created an evacuee “city,” which at its peak sheltered more than 27,000 people at the Reliant Center, Reliant Arena, and the Astrodome.²³⁶ The Southern Baptist Convention of the North American Mission Board and other faith-based organizations provided food and shelter to many evacuees and helped them find temporary and permanent housing.²³⁷

Lessons Learned

The Federal response should better integrate the contributions of volunteers and non-governmental organizations into the broader national effort. This integration would be best achieved at the State and local levels, prior to future incidents. In particular, State and local governments must engage NGOs in the planning process, credential their personnel, and provide them the necessary resource support for their involvement in a joint response.

However, faith-based and non-governmental groups were not adequately integrated into the response effort.²³⁸ These groups often encountered difficulties coordinating their efforts with Federal, State and local governments, due to a failure to adequately address their role in the NRP.²³⁹ Major Todd Hawks of the Salvation Army testified to Congress that the Salvation Army, “wasn't permitted to have a liaison officer in the State's Emergency Operations Center (EOC). As a result, we had to obtain critical information second-hand through Voluntary Organizations Active in a Disaster (VOAD)—if we received the information at all.” Hawks stated this situation further complicated the Salvation Army's relief effort.²⁴⁰ Reverend Larry Snyder, President of Catholic Charities USA, remarked, “In spite of Catholic Charities having available FEMA trained and certified disaster response staff, we were not always allowed admittance to FEMA operations and the local EOCs. This significantly impaired a more coordinated response by all of us.” These groups succeeded in their missions, mitigated suffering and helped victims survive mostly in spite of, not because of, the government. These groups deserve better next time. Jim Towey, Director of the White House Office of Faith-Based and Community Initiatives, said these folks were the foot soldiers and armies of compassion that victims of Katrina so desperately needed.

Lessons Learned

Using established Federal core competencies and all available resources, the Department of Housing and Urban Development, in coordination with other departments of the Executive Branch with housing stock, should develop integrated plans and bolstered capabilities for the temporary and long-term housing of evacuees. The American Red Cross and the Department of Homeland Security should retain responsibility and improve the process of mass care and sheltering during disasters.

Locating temporary or long-term housing for Hurricane Katrina evacuees presented significant challenges for Federal officials. The supply of temporary housing in the disaster area, such as hotels and apartments, was quickly depleted, while FEMA's effort to provide trailers to evacuees foundered due to inadequate planning and poor coordination.²⁴¹ Moving evacuees into trailers was delayed because of FEMA's failure to plan for the provision of delivery transportation and infrastructure support such as water and electrical hook-up.²⁴² The shelter population plummeted from nearly 273,000 on September 5 to about 135,000 on September 10 as evacuees found temporary or other housing opportunities.²⁴³ Although FEMA had planned to place all evacuees into temporary housing by October 1,²⁴⁴ nearly 16,000 victims of Hurricane Katrina and Hurricane Rita, which made landfall near the Texas-Louisiana border on September 24, still remained in shelters in mid-October.²⁴⁵ FEMA also did not provide expedited direct rental assistance to individuals until late September.²⁴⁶ Those out of shelters were mostly placed in hotels, which only delayed the permanent housing problem. Further, the uncertainty of relocation fostered constant anxiety in the already traumatized victims of Katrina.

Housing and other assistance issues persisted even as response operations gave way to recovery and rebuilding efforts. They are critical for determining whether the region will retain its people and their unique culture. These remain central issues for Donald Powell, appointed by President Bush on November 1, 2005, to serve as the Coordinator of Federal Support for the Gulf Coast's Recovery and Rebuilding.²⁴⁷

Conclusion

Hurricane Katrina necessitated a national response that Federal, State, and local officials were unprepared to provide. The methods that had been employed successfully for the 243 previous major disaster declarations since January 2001 proved inadequate for Hurricane Katrina's magnitude.²⁴⁸ The Federal response suffered from significant organization and coordination problems during this week of crisis. The lack of communications and situational awareness had a debilitating effect on the Federal response. Even after coordinating elements were in place, Federal departments and agencies continued to have difficulty adapting their standard procedures to this catastrophic incident. The Federal government's problems responding to Hurricane Katrina illustrate greater systemic weaknesses inherent in our current national preparedness system: the lack of expertise in the areas of response, recovery, and reconstruction. Insufficient planning, training, and interagency coordination are not problems that began and ended with Hurricane Katrina. The storm demonstrated the need for greater integration and synchronization of preparedness efforts, not only throughout the Federal government, but also with the State and local governments and the private and non-profit sectors as well.

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