

September 2006

HURRICANE KATRINA

Status of Hospital Inpatient and Emergency Departments in the Greater New Orleans Area





Highlights of [GAO-06-1003](#), a report to congressional committees

Why GAO Did This Study

In the aftermath of Hurricane Katrina, questions remain concerning the availability of hospital inpatient care and emergency department services in the greater New Orleans area—which consists of Jefferson, Orleans, Plaquemines, and St. Bernard parishes. Because of broad-based congressional interest, GAO, under the Comptroller General's statutory authority to conduct evaluations, assessed efforts to restore the area's hospitals by the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA); the Department of Health and Human Services (HHS); and the Louisiana State University (LSU) public hospital system, which operated Charity and University hospitals in New Orleans. GAO examined (1) the availability of hospital inpatient care and the demand for emergency department services, (2) steps taken to reopen Charity and University hospitals, and (3) the activities that HHS has undertaken to help hospitals recover. To fulfill these objectives, GAO reviewed documents and interviewed federal officials and hospital, state, and local officials in the greater New Orleans area. GAO also obtained information on the number of inpatient beds for April 2006, which was the most recent data available when GAO did its work. GAO's work did not include other issues related to hospitals such as outpatient services or financial condition.

www.gao.gov/cgi-bin/getrpt?GAO-06-1003.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Cynthia Bascetta at (202) 512-7101 or bascettac@gao.gov or Terrell G. Dorn at (202) 512-6923 or dornt@gao.gov.

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What GAO Found

While New Orleans continues to face a range of health care challenges, hospital officials in the greater New Orleans area reported in April 2006 that a sufficient number of staffed inpatient beds existed for all services except for psychiatric care—some psychiatric patients had to be transferred out of the area because of a lack of beds. Overall, GAO determined that the area had about 3.2 staffed beds per 1,000 population, compared with a national average of 2.8 staffed beds per 1,000 population. Hospital officials told GAO they planned to open an additional 674 staffed beds by the end of 2006, although they reported that recruiting, hiring, and retaining nurses and support staff was a great challenge. With these additional beds, the population would have to increase from 588,000 in April 2006 to 913,000 by December 2006 before staffed beds would drop to the national average. Hospitals also reported a high demand for emergency services, consistent with a June 2006 Institute of Medicine report, which found that emergency department crowding is a nationwide problem.

Steps have been taken to reopen University Hospital, but as of July 2006, LSU had no plans to reopen Charity Hospital. LSU plans to open portions of University Hospital in fall 2006 and would like to replace both hospitals with a new one. LSU and FEMA have prepared cost estimates to repair these hospitals. For Charity Hospital, FEMA's estimate of \$27 million is much lower than LSU's estimate of \$258 million, which covers, for example, repairing hurricane damage and correcting many prestorm deficiencies. In contrast, FEMA's estimate covers repairs for hurricane damage only—the only repair costs eligible for federal reimbursement.

HHS provided financial assistance and waived certain program requirements to help hospitals recover in the area. For example, HHS included \$221 million in hurricane relief funds designated for Louisiana through Social Services Block Grants, which may be used in part to reconstruct health care facilities. HHS also waived certain Medicare billing and other requirements and accelerated Medicare payments to providers, including hospitals, in the hurricane-affected states.

Rebuilding the health care infrastructure of the greater New Orleans area will depend on many factors, including the health care needs of the population that returns to the city and the state's vision for its future health care system. In light of the current sufficiency of hospital beds for most inpatient services, GAO believes a major challenge facing the greater New Orleans area is attracting and retaining enough nurses and support staff.

HHS and the Department of Veterans Affairs (VA) agreed with the draft report. DHS said it had no formal comments on the draft. HHS, VA, DHS, and Louisiana's Department of Health and Hospitals provided technical comments, which GAO incorporated where appropriate. LSU did not provide comments.

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Abbreviations

ADA	Americans with Disabilities Act
ADAMS	ADAMS Management Services Corporation
CMS	Centers for Medicare & Medicaid Services
COSG	Collaborative Opportunities Study Group
DHS	Department of Homeland Security
FEMA	Federal Emergency Management Agency
HHS	Department of Health and Human Services
LSU	Louisiana State University
MCLNO	Medical Center of Louisiana at New Orleans
OFPC	Office of Facility Planning and Control
SSBG	Social Services Block Grant
VA	Department of Veterans Affairs

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Congressional Committees

Hurricane Katrina, which made landfall near the Louisiana-Mississippi border on the morning of August 29, 2005, and the subsequent flooding caused by the failure of the New Orleans levee system resulted in one of the largest natural disasters ever to hit the United States. Among the challenges facing the greater New Orleans area¹ in the aftermath of Hurricane Katrina is addressing the significant damage to hospital facilities, the loss of hospital staff who relocated to other areas, and the associated disruption of hospital inpatient care and emergency department services. For example, Charity and University hospitals, which are part of the statewide Louisiana State University (LSU) public hospital system, suffered extensive damage as a result of the hurricane and remained closed as of June 30, 2006.² Private hospitals serving the area were also damaged and, like their public counterparts, have been short of nursing and support staff in the months following the hurricane.

In responding to a natural disaster such as Hurricane Katrina, the federal government coordinates operations with state and local governments and the private sector according to the framework provided in the National Response Plan.³ Under this plan, the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) has primary responsibility for emergency response and recovery planning and coordination, and the Department of Health and Human Services (HHS) has overall responsibility for coordinating public health and medical response to incidents. HHS is also designated as a support agency for long-term community recovery and mitigation.

¹For this report, we define the greater New Orleans area as Jefferson, Orleans, Plaquemines, and St. Bernard parishes.

²While part of the statewide LSU public hospital system, Charity and University hospitals are the two facilities that make up the Medical Center of Louisiana at New Orleans (MCLNO). MCLNO, through these hospitals and other facilities, is a primary provider of care to the uninsured population in New Orleans.

³The National Response Plan establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. It establishes a framework of how the federal government coordinates with state, local, and tribal governments and the private sector during incidents.

In March 2006, we reported on the status of the health care system in New Orleans as of that month.⁴ As we reported, the availability of health care services—which includes those provided within and outside of a hospital facility—is one of the factors that can affect whether and how quickly residents return to an area after a disaster.⁵ This report is a follow-up to our March 2006 report and focuses on hospital inpatient care; emergency department services; and efforts to restore hospital infrastructure, that is, facilities and staff. Specifically, this report discusses (1) the availability of hospital inpatient care and the demand for emergency department services in the greater New Orleans area, (2) steps taken by FEMA and LSU to reopen Charity and University hospitals, and (3) the activities that HHS has undertaken to help hospitals recover in the greater New Orleans area. Because of broad congressional interest, we performed this work under the Comptroller General’s statutory authority to conduct evaluations on his own initiative.⁶

To examine the availability of hospital inpatient care and the demand for emergency department services, we contacted nine operating public and private acute care hospitals⁷ in the greater New Orleans area to obtain information on the number of available, staffed, and occupied beds⁸ for one randomly selected day in April 2006, and later we asked the hospital officials to provide the same information for the entire month of April, which was the most recent data available when we did our work.⁹ Five

⁴See GAO, *Hurricane Katrina: Status of the Health Care System in New Orleans and Difficult Decisions Related to Efforts to Rebuild It Approximately 6 Months after Hurricane Katrina*, GAO-06-576R (Washington, D.C.: Mar. 28, 2006).

⁵Other factors include, for example, availability of housing, food, schools, and transportation.

⁶See 31 U.S.C. § 717(b)(1).

⁷Acute care hospitals treat individuals whose illnesses or health problems are short-term or episodic in nature.

⁸Available beds are beds that are licensed, set up, and available for use. These are beds regularly maintained in the hospital for patient use with supporting services, such as food, laundry, and housekeeping. Available beds may or may not be staffed. Staffed beds are available beds for which staff are on hand to attend to patients who occupy the beds. Staffed beds may or may not be occupied. Occupied beds are staffed beds that are being used by patients.

⁹Ten hospitals were operating as of June 30, 2006, but we did not include one of them, Elmwood Medical Center, in our survey of available, staffed, and occupied beds because it is a temporary facility that was open for only 7 days in April and therefore data were not available for the entire month.

hospitals responded to our request for data for the month of April. We also obtained hospital estimates of the occupancy rates for the 12-month period prior to, and the 9-month period after, Hurricane Katrina for 8 of the 9 open hospitals. To determine the April 2006 population of the four parishes in the greater New Orleans area, we used estimates from the Louisiana Department of Health and Hospitals Bureau of Primary Care and Rural Health, which used two methodologies to estimate the population in each of the parishes. It used school enrollment data for Jefferson, St. Bernard, and Plaquemines parishes; and for Orleans Parish it used a survey of persons occupying residential structures. The survey had been conducted by the New Orleans Health Department in consultation with the Centers for Disease Control and Prevention. To examine the demand for emergency department services, we obtained information on emergency room wait times for 6 hospitals and the number of times that 8 hospitals diverted patients to other facilities for the 30-day period from March 28, 2006, through April 26, 2006. We limited our work to examining the status of hospital inpatient and emergency departments in the greater New Orleans area and did not examine other aspects of hospital services, such as outpatient services or the financial condition of the hospitals. We also did not address other issues related to the health care system, such as the status of primary care, medical research, or graduate medical education.

To determine the steps that have been taken to reopen Charity and University hospitals—two public facilities eligible for federal disaster assistance—we reviewed LSU’s and FEMA’s damage assessments and cost estimates for the hospitals and LSU correspondence to FEMA regarding potential federal funding. We also reviewed FEMA regulations and guidance pertaining to disaster assistance. We toured Charity and University hospitals to examine the damage to these facilities. We also toured two temporary facilities that provided hospital outpatient care and emergency department services. These two facilities, established by LSU, were the Elmwood Medical Center and the Medical Center of Louisiana at New Orleans (MCLNO) Emergency Services Unit.

To determine the activities undertaken by HHS to help hospitals recover, we reviewed documents outlining HHS programs and activities related to helping restore hospital inpatient care and emergency department services after a disaster. We also reviewed written summaries created by HHS officials to document department activities to help restore hospital inpatient care and emergency department services after Hurricane Katrina.

In addressing all three objectives, we interviewed officials from HHS, FEMA, LSU (including LSU's Health Care Services Division, which manages the public hospitals in the greater New Orleans area), and seven of the nine hospitals that we contacted in the greater New Orleans area. We also interviewed officials from the Department of Veterans Affairs (VA) because VA is considering building a joint hospital complex with LSU in New Orleans, the Louisiana Recovery Authority because it is the planning and coordinating body that was created in the aftermath of Hurricane Katrina by the Governor of Louisiana to plan for recovery and rebuilding efforts, and Louisiana's Office of Facility Planning and Control (OFPC) because it is administering the design and construction of all Louisiana state-owned facilities damaged by Hurricane Katrina. We did not independently verify information we received from hospitals in the greater New Orleans area. We conducted our work from April 2006 through September 2006 in accordance with generally accepted government auditing standards. See appendix I for more information about our scope and methodology.

Results in Brief

While New Orleans continues to face a range of health care challenges, hospital officials in the greater New Orleans area reported in April 2006 that a sufficient number of staffed inpatient beds existed for all services except for psychiatric care—some psychiatric patients had to be transferred out of the area because of a lack of beds. Overall, as of April 2006, the greater New Orleans area had about 3.2 staffed beds per 1,000 population, compared with the national average of 2.8 staffed beds per 1,000 population reported by the American Hospital Association. Hospital officials told us that they planned to open an additional 674 staffed beds by the end of 2006—390 of which would be at University Hospital—although they also reported that recruiting, hiring, and retaining nurses and support staff was a great challenge. With the addition of these beds, the population would have to increase from 588,000 in April 2006 to 913,000 by December 2006 before staffed beds would drop to the national average. For all types of care, eight of the nine hospitals we contacted provided us with an estimated overall occupancy rate for the 9-month period following the hurricane (through April 2006) and for the 12-month period before the hurricane. The hospitals' occupancy rates for the 9-month period after the hurricane ranged from 45 percent to 100 percent, or an average of 77 percent, compared with a range from 33 percent to 85 percent, or an average of 70 percent, for the 12-month period before the hurricane. The American Hospital Association reported that the average monthly hospital occupancy rate nationwide was 67 percent in 2004. Eight of the nine hospitals that remained open after Hurricane Katrina also reported a high

demand for services in their emergency departments, similar to the nationwide trend reported by the Institute of Medicine in June 2006 that emergency department crowding is a nationwide problem.

Steps have been taken to reopen University Hospital, but as of July 2006, LSU had no plans to reopen Charity Hospital. FEMA and LSU have prepared damage assessments and cost estimates for these hospitals, some repairs have begun at University Hospital, and temporary facilities have been established to provide some services previously offered at both hospitals. FEMA's cost estimates are considerably lower than LSU's estimates. For example, LSU estimates the cost of repairing Charity Hospital at about \$258 million, while FEMA estimates the cost at about \$27 million. The difference between these two estimates is primarily due to two factors. First, LSU's estimate covers whole building repair, meaning that it includes repairing damage from Hurricane Katrina as well as correcting many deficiencies that had been identified before the hurricane. In contrast, FEMA's estimate covers repair costs for hurricane damage from flooding and wind only, since these are the only repair costs eligible for federal reimbursement. Second, in anticipation of a shortage of materials and labor over the next 3 to 6 years as a result of the hurricane, LSU's estimate includes a 66 percent cost escalation over a commonly used index of labor and material for New Orleans, while FEMA's estimate does not include such a cost escalation. According to FEMA, a cost escalation for materials and labor was not warranted based on FEMA's recent contracting experience in the area. Repairs are currently under way to reopen portions of University Hospital (e.g., inpatient beds and a pharmacy) beginning in late September or early October. As of July 2006, LSU had no plans to reopen Charity Hospital. Rather, LSU is pursuing the possibility of a new facility to replace both Charity and University hospitals in the future. If LSU decides to replace these hospitals, a portion of the funds FEMA authorized for repair may be used to build this new hospital. The amount of federal funding available for a new hospital will depend, in part, on FEMA's initial estimated cost to repair Charity and University hospitals. In the meantime, LSU has established temporary facilities to provide some of the hospital functions previously provided by Charity and University hospitals in the short term, including an emergency services unit and a trauma center.

HHS has been able to provide financial and technical assistance and has waived certain program requirements in order to help hospitals recover in the greater New Orleans area. HHS financial assistance included \$221 million in hurricane relief funds designated for Louisiana through Social Services Block Grants (SSBG); some of these funds may be used to

reconstruct health care facilities. As of June 13, 2006, HHS was considering four applications from the greater New Orleans area for a Medicare extraordinary circumstances exception, which allows hospitals serving Medicare patients to apply for long-term reimbursement for capital expenditures of greater than \$5 million to repair hurricane-damaged facilities. Technical assistance to Louisiana is both ongoing and planned. Ongoing technical assistance has included providing consultation at Orleans Parish health planning committee meetings that addressed shortages of staff, hospital beds, and funding, and collaborating with survey agencies and hospitals to coordinate the application of accreditation standards for temporary hospital facilities or hurricane-damaged facilities. Planned technical assistance is part of a broader effort to help redesign Louisiana's health care delivery system, including the restoration of inpatient care and emergency department services in the greater New Orleans area. HHS officials said that this could include assisting Louisiana in development of future requests for Medicare demonstrations and Medicaid waivers designed to make Louisiana's health care system more effective and efficient. HHS has also waived certain Medicare billing and other requirements and accelerated Medicare payments to providers, including hospitals, in the hurricane-affected states such as Louisiana.

Based on information provided by hospital officials, we believe a major challenge facing the greater New Orleans area is to attract sufficient nurses and support staff to operate the beds that are currently available. Since the number of staffed and available inpatient beds in the greater New Orleans area is above the national average, local and state officials are afforded time to deliberate the appropriate location and numbers of hospital facilities. Although LSU officials would prefer to construct a new hospital facility to replace Charity and University hospitals, decisions on the future of these hospitals and the overall provision of health care in New Orleans ultimately will be made at the highest levels of the state government. A number of federal, state, and local stakeholders will also have input into these final decisions. The decisions made will depend on a variety of factors. In addition to the major challenge of attracting and retaining hospital staff, other challenges will include the availability of funding, the health care needs of the population that returns to the city, and the state's vision for the future of its health care system. Finally, as restoration of hospital inpatient care, emergency services, and hospital infrastructure proceeds, HHS's efforts to conduct demonstrations and to waive certain program requirements will continue to be an important factor in addressing health care needs in the greater New Orleans area.

In commenting on a draft of this report, HHS and VA agreed with the draft report. DHS said it had no formal comments on the draft report. HHS, VA, DHS, and Louisiana's Department of Health and Hospitals provided technical comments, which we incorporated where appropriate. LSU did not provide comments.

Background

Before Hurricane Katrina, 16 acute care hospitals operated in the greater New Orleans area. These hospitals included public as well as private for-profit and not-for-profit facilities. Because of the hurricane and resulting flooding, 7 hospitals remained closed as of June 2006. (See table 1.)

Table 1: Status of Acute Care Facilities in the Greater New Orleans Area, April 25, 2006

	Available beds	Staffed beds	Occupied beds	Type of facility
Facilities in New Orleans (Orleans Parish)^a				
Charity Hospital	Closed	Closed	Closed	Public
Children's Hospital	201	143	101	Not-for-profit
Lindy Boggs Medical Center	Closed	Closed	Closed	For-profit
Memorial Medical Center	Closed	Closed	Closed	For-profit
Methodist Hospital	Closed	Closed	Closed	Not-for-profit
New Orleans VA Medical Center	Closed	Closed	Closed	Federal
Touro Infirmary	297	255	240	Not-for-profit
Tulane University Hospital and Clinic	73	73	64	Not-for-profit
University Hospital	Closed	Closed	Closed	Public
Total	571	471	405	
Facilities outside of New Orleans (Jefferson and St. Bernard parishes)^b				
Chalmette Medical Center	Closed	Closed	Closed	For-profit
East Jefferson General Hospital	444	430	430	Public community ^c
Kenner Regional Medical Center	205	74	64	For-profit
Meadowcrest Hospital	172	116	102	For-profit
Ochsner Medical Center	498	432	394	Not-for-profit
Tulane-Lakeside Hospital	82	62	28	For-profit
West Jefferson Medical Center	356	293	265	Public community ^c
Total	1,757	1,407	1,283	
Total for the greater New Orleans area	2,328	1,878	1,688	

Source: GAO analysis of documentation and interviews with hospital officials.

Notes: The greater New Orleans area consists of Jefferson, Orleans, Plaquemines, and St. Bernard parishes. We did not include Elmwood Medical Center, a trauma center in Jefferson Parish, because it is a temporary facility that opened on April 24, 2006, after our survey began.

^aNew Orleans and Orleans Parish have the same geographical boundaries.

^bPlaquemines Parish did not have an acute care hospital before Hurricane Katrina.

^cEast Jefferson General Hospital and West Jefferson Medical Center are publicly owned, not-for-profit community service district hospitals organized by the parish and governed by boards of directors. These hospitals are not part of the statewide system of 10 public hospitals.

Charity and University hospitals are part of the statewide system of 10 public hospitals. Charity Hospital, which served as a Level I trauma center,¹⁰ was built in 1937. University Hospital was built in 1972. These hospitals served as the primary health care safety net for many local residents. About half of the patients served by these hospitals were uninsured, and about one-third were covered by Medicaid, the federal-state program for financing health care for certain low-income individuals. Charity and University hospitals served as a major state resource through training programs for professionals in medicine, nursing, dentistry, and public health.

Charity and University hospitals are eligible for federal aid under the Public Assistance program managed by FEMA to help repair the damage caused by Hurricane Katrina. This program, authorized by the Stafford Act, provides grants to pay up to 90 percent of the costs of restoring a facility to predisaster condition.¹¹ A facility is considered repairable when the cost of repairing disaster damages does not exceed 50 percent of the cost of replacing the facility and it is feasible to repair the facility so that it can perform the function for which it was being used as well as it did immediately prior to the disaster.¹² Although initial grant obligations are based on FEMA's estimate of the costs of repairs to restore the facility to its predisaster condition, reimbursements are based on actual, documented repair costs, which could be higher than the original estimate. Alternatively, if FEMA's estimated repair costs exceed 50 percent of its estimated replacement costs, FEMA is authorized to grant up to 90 percent of its estimated replacement costs to replace a facility. There is a possibility for additional federal reimbursements under the Public Assistance program for required code upgrades that are triggered by the repairs. Code upgrades, although eligible for reimbursements, are not included in determining whether repair costs exceed 50 percent of replacement costs. In the event that FEMA's estimated repair costs do not

¹⁰Trauma centers are designated based on resources and expertise to treat injuries of differing types and levels of severity. Level I trauma centers are able to treat any type of injury, no matter how severe. According to the American College of Surgeons, a Level I trauma center has a full range of specialists and equipment available 24 hours a day and admits a minimum required annual volume of severely injured patients.

¹¹Robert T. Stafford Disaster Relief and Emergency Assistance Act (as renamed by The Disaster Relief and Emergency Assistance Amendments of 1988, Pub. L. No. 100-707, § 102(a), 102 Stat. 4689), Pub. L. No. 93-288, § 406(c)(1)(B), 88 Stat. 143 (1974) (codified as added and amended at 42 U.S.C. § 5172(c)(1)(B) (2000).

¹²44 C.F.R. § 206.226(f) (2005).

exceed 50 percent of its estimated replacement costs and a decision is made to replace rather than repair, funds authorized for repair may be used to build a new hospital, but reimbursements will be limited to 90 percent of FEMA's estimated cost to repair and restore the original facility to its predisaster condition. In addition, projects for hazard mitigation to prevent damage in future flooding events are eligible for Public Assistance funding.

HHS is the federal government's principal agency for protecting the health of all Americans and providing essential human services. HHS's Centers for Medicare & Medicaid Services (CMS) administers Medicare, which finances health care for elderly and certain disabled individuals, and Medicaid. In its support role for long-term community recovery and mitigation under the National Response Plan, HHS coordinates federal government health care support to state, regional, local, and tribal governments; nongovernmental organizations; and the private sector to enable community recovery, such as recovery from the long-term consequences of Hurricane Katrina and the subsequent flooding.

Sufficient Staffed Beds Existed for All Types of Inpatient Care Except Psychiatric Care; High Demand Existed for Emergency Department Services

In the greater New Orleans area, a sufficient number of staffed hospital inpatient beds existed for all types of care except psychiatric care; there was also a high demand for emergency department services. According to information we obtained from hospital officials, we determined that as of April 2006 the greater New Orleans area had more staffed beds per 1,000 population than the national average, and over two-thirds of these beds were within 5 miles of Charity and University hospitals.¹³ While hospitals were able to maintain a sufficient number of staffed beds, hospital officials also reported that recruiting, hiring, and retaining nurses and support staff, such as nursing aids, housekeepers, and food service workers, to staff the available beds constituted a great challenge. Eight of the nine hospitals that remained open after Hurricane Katrina reported a high demand for services in their emergency departments, not unlike emergency departments in other parts of the country, which are also experiencing high demand.

¹³By way of comparison, Medicare requires that commonly used services provided by managed care organizations must be available within 30 minutes of driving time.

Staffed Beds per 1,000 Population Exceeded National Average

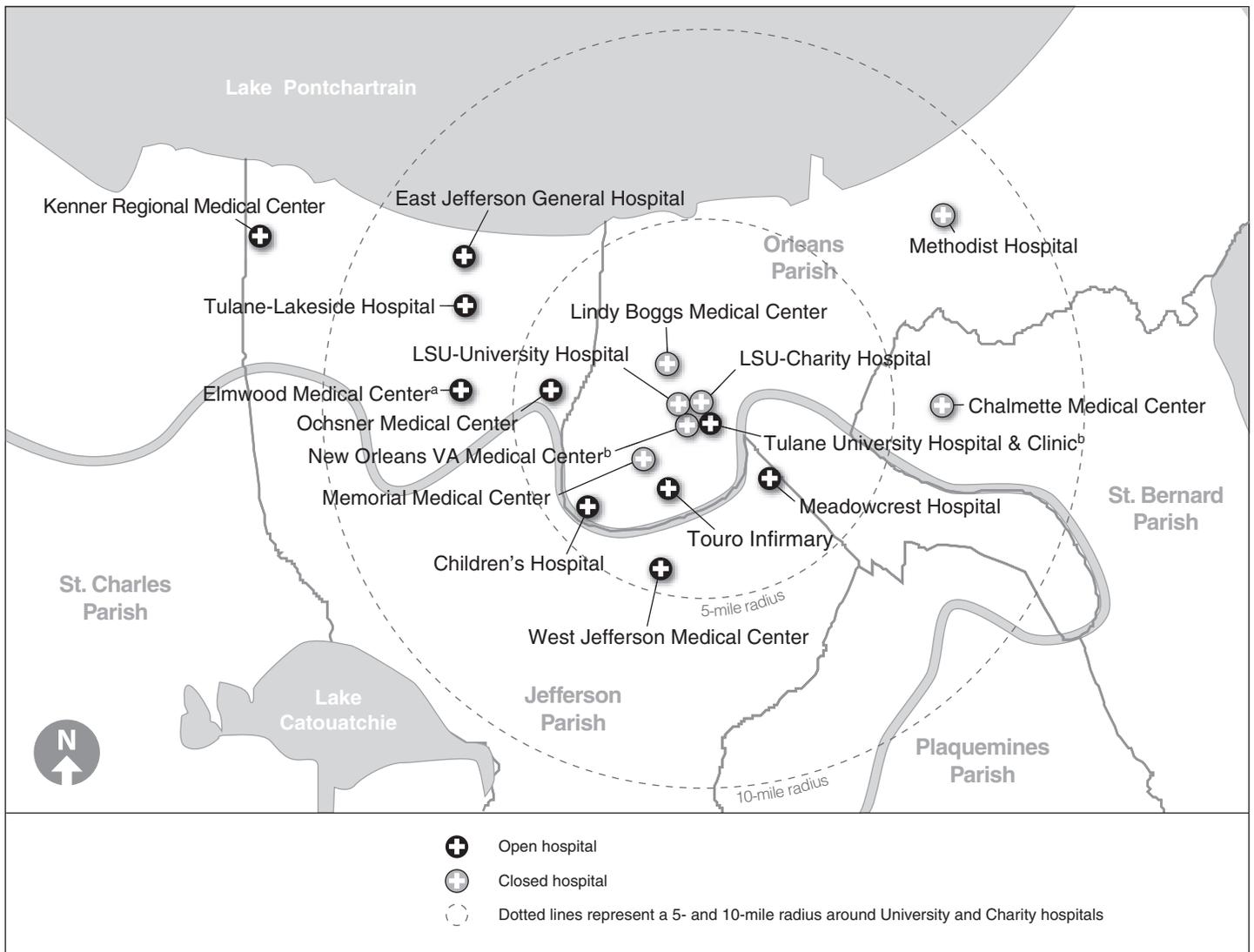
According to information we obtained from hospital officials, we determined that as of April 2006, the greater New Orleans area had more staffed beds per 1,000 population than the national average. Before Hurricane Katrina, the population of the greater New Orleans area was about 1,002,000, with about 455,000 living within the city boundaries of New Orleans (Orleans Parish). The number of staffed hospital inpatient beds on hand to serve the people of the greater New Orleans area was 3,958, or about 4.0 staffed beds per 1,000 population, as compared with the national average of 2.8 staffed beds per 1,000 population reported in 2006.¹⁴ The population of the greater New Orleans area remains in flux and is difficult to estimate, in part due to former residents living outside the city and returning during the day and workers involved in reconstruction activities. PricewaterhouseCoopers¹⁵ estimated the February 2006 population of the four parishes (Orleans, Jefferson, Plaquemines, and St. Bernard) to be 578,000, and the Louisiana Department of Health and Hospitals¹⁶ reported estimates of about 569,000 for January 2006 and 588,000 for April 2006. In April 2006, the hospitals in the greater New Orleans area reported to us that they were able to staff 1,878 of the 2,328 available beds. Based on their reports and the April 2006 population estimate, we calculated the four parishes had 3.2 staffed beds per 1,000 population and 4.0 available beds per 1,000 population. About 69 percent of the available beds are within 5 miles of Charity and University hospitals, and about 91 percent are within 10 miles. Consequently, patients who live and work within Orleans Parish are close to hospital services. Figure 1 shows the location of all the hospitals in the greater New Orleans area, including the nine open hospitals we surveyed.

¹⁴American Hospital Association, *Hospital Statistics 2006 Edition*, 2006 Health Forum LLC. Used with permission. While the national average was reported in 2006 by the American Hospital Association, it is based on 2004 data, which is the most recent year for which nationwide data are available.

¹⁵PricewaterhouseCoopers, *Report on Louisiana Healthcare Delivery and Financing System* (2006). This report was prepared for the Louisiana Recovery Authority Support Foundation. Used with permission.

¹⁶Louisiana Department of Health and Hospitals population estimates for the four parishes reported by the Greater New Orleans Community Data Center, *Post Katrina Population & Housing Estimates* (June 8, 2006).

Figure 1: Open and Closed Hospitals in the New Orleans Area as of June 2006



Source: GAO analysis of data provided by the hospitals in the greater New Orleans area.

^aElmwood Medical Center is included on the map because it was operating in June 2006. However, we did not include Elmwood in our survey because it opened on April 24, 2006, and so data on available, staffed, and occupied beds were not available for the month of April.

^bSymbol placement for New Orleans VA Medical Center and Tulane University Hospital & Clinic has been altered slightly for legibility purposes.

Furthermore, hospital officials we surveyed told us that they planned to reopen additional staffed beds by the end of the year. For example, LSU plans to reopen 166 beds at University Hospital in late September or early October 2006 and an additional 224 beds by the end of the year for a total of 390 additional staffed beds. Tulane University Hospital and Clinic plans to reopen an additional 117 staffed beds by the end of 2006. In all, hospitals plan to reopen at least 674 staffed beds by the end of 2006. Given these plans, even if the population of the greater New Orleans area rises 30 percent by the end of 2006 over the estimated population as of April 2006, there would be about 3.3 staffed beds per 1,000 population. This estimate assumes that the estimated population of 588,000 in April 2006 would increase to 764,000 by December 2006. Furthermore, the population of the greater New Orleans area would have to increase by 325,000 or about 55 percent, to 913,000, by December 2006 before staffed beds per 1,000 population dropped to the national average of 2.8.

Occupancy Rates Were Higher Than They Were before Hurricane Katrina, but Staffed Beds Were Sufficient for All Types of Inpatient Care Except Psychiatric Care

Consistent with nationwide data on occupancy rates (occupied beds as a percentage of staffed beds), information we received on estimated occupancy rates from hospitals in the greater New Orleans area demonstrated wide month-to-month fluctuations. Nevertheless, these hospitals were able to meet the demand for inpatient care, with the exception, in many cases, of psychiatric care.

Post-Hurricane Katrina hospital occupancy rates in the greater New Orleans area are higher than they were before the hurricane. For all types of care, eight of the nine hospitals we contacted provided us with an estimated overall occupancy rate for the 9-month period following the hurricane (through April 2006) and for the 12-month period before the hurricane. The hospitals' occupancy rates for the 9-month period after the hurricane ranged from 45 percent to 100 percent, or an average of 77 percent, compared with a range from 33 percent to 85 percent, or an average of 70 percent, for the 12-month period before the hurricane.¹⁷ The American Hospital Association reported that the average monthly hospital occupancy rate nationwide was 67 percent in 2004, the most recent year for which nationwide data are available.

¹⁷While officials at the ninth hospital reported information on the number of available, staffed, and occupied beds, they did not provide information on occupancy rates.

We also obtained actual occupancy rate information from the nine greater New Orleans area hospitals for one day—April 25, 2006—and five of them¹⁸ provided actual daily occupancy rate information for the entire month of April 2006. The five hospitals reported actual occupancy rates that ranged from 70 percent to 89 percent (70, 75, 85, 86, and 89 percent).

According to hospital officials, the greatest need was for medical/surgical care, adult critical care, and psychiatric care beds. For example, on April 25, 2006, the occupancy rate was 95 percent for medical/surgical care, 96 percent for adult critical care, and 100 percent for psychiatric care, compared with rates of 68 percent and 71 percent for obstetrics care and pediatrics care, respectively. (See table 2.) Hospital officials also told us that inpatient psychiatric care beds were frequently not available in the greater New Orleans area and that psychiatric patients were the only type of patients that had to be transferred out of the greater New Orleans area because of a lack of beds. For example, an official at one hospital reported that since Hurricane Katrina the demand for psychiatric services has overwhelmed that hospital's 15-bed psychiatric unit, and the hospital has had to house up to eight psychiatric patients in the emergency department at one time until psychiatric beds could be found in other facilities. An official at another hospital reported that sometimes psychiatric patients have stayed in the emergency department for several days until an inpatient psychiatric bed could be found for them somewhere else in Louisiana. An official at a third facility stated that the facility's case workers frequently spent all day calling other facilities in the state looking for an inpatient psychiatric bed. In one case, workers made 39 telephone calls before locating a facility that would accept the patient.

¹⁸The five are Children's Hospital, Ochsner Medical Center, Meadowcrest Hospital, Touro Infirmary, and West Jefferson Medical Center.

Table 2: Number of Available, Staffed, and Occupied Beds by Type of Care at Hospitals in the Greater New Orleans Area on April 25, 2006

Type of care	Available beds	Staffed beds	Occupied beds	Percentage of occupied to staffed beds (occupancy rate)	Percentage of occupied to available beds
Adult critical care	320	306	295	96	92
Medical/surgical care	1,100	895	851	95	77
Obstetrics	165	138	94	68	57
Pediatrics	350	262	185	71	53
Psychiatric care	95	57	57	100	60
Other (rehabilitation, skilled nursing care, etc.)	298	220	206	94	69
Total	2,328	1,878	1,688		

Source: GAO analysis of data provided by the hospitals in the greater New Orleans area.

Occupancy rates increased following Hurricane Katrina not only because of the loss of staffed beds but also because patients on average have been staying in the hospital longer. According to hospital officials, the average length of stay has increased by about one-half day because there is a shortage of facilities to which patients can be discharged, such as skilled nursing facilities and long-term care facilities. In addition, because of the extensive destruction of housing, many patients may not have appropriate housing to which they can return. According to a recent report prepared for the Louisiana Recovery Authority Support Foundation, a single-day increase in the average length of stay drives occupancy rates up about 15 percent.¹⁹

Recruiting, Hiring, and Retaining Hospital Staff Posed Significant Challenges

Hospital officials reported that recruiting, hiring, and retaining nurses and support staff, such as nursing aids, housekeepers, and food service workers, to staff the available beds constituted a great challenge. The officials told us that the demand for nurses was greater than the supply because (1) many nurses left the greater New Orleans area during and after the storm, (2) there was an insufficient supply of suitable housing for

¹⁹PricewaterhouseCoopers, *Report on Louisiana Healthcare Delivery and Financing System*.

nurses, and (3) local nurses were being recruited by facilities outside the greater New Orleans area. According to officials, the hospitals have been able to reopen beds and keep them open by having employees work overtime and by paying higher salaries for permanent and temporary contract staff. However, a shortage of skilled workers remains. For example, an official at one hospital reported that the hospital had to temporarily suspend its open heart surgery program because of its inability to hire operating room nurses and technicians with experience in open heart surgery, even after offering a salary increase of over 30 percent. Officials also stated that competition from nonhospital employers for unskilled workers made it difficult for the hospitals to hire and retain them. For example, whereas the average hourly rate for food service workers was about \$7 per hour before Hurricane Katrina, fast food restaurants are currently offering about \$12 per hour, with one restaurant chain, for example, offering a signing bonus of about \$6,000.

Hospitals Reported High Demand for Emergency Department Services

The hospitals that remained open after Hurricane Katrina have reported a high demand for services in their emergency departments. Data reported by some of the hospitals²⁰ showed that wait times for emergency medical service vehicles to move stable patients from the vehicle into the emergency department varied from no wait time at one hospital to almost 40 minutes at another hospital for the 30 days between March 28 and April 26, 2006. During the same 30-day period, four of these hospitals reported that their emergency departments were occasionally at capacity and therefore temporarily diverted patients to other facilities. The four emergency departments temporarily diverted patients 8 to 26 times; three of the departments reported being in diversionary status from 5 to 48 hours. Over this same period, officials from six of the nine hospitals also reported that an average of 7 patients per day had to be housed in the emergency department until a hospital bed was available after a decision had been made to admit them to the hospital.²¹ This ranged from 1 patient per day at one hospital to 18 patients per day at another hospital.

²⁰We obtained information on emergency room wait times for 6 hospitals and the number of times that 8 hospitals diverted patients to other facilities for the 30-day period from March 28, 2006, through April 26, 2006.

²¹Two hospitals did not house any patients in their emergency departments. The remaining hospital did not answer the question on this topic.

By comparison, demand for emergency medical services in other parts of the country is also high. For example, the Institute of Medicine reported in June 2006 that emergency department crowding was a nationwide problem, with numbers of visits having grown by 26 percent from 1993 to 2003. The Institute of Medicine also reported that patients are often boarded in the emergency department for 48 hours or more until an inpatient bed became available.²² Furthermore, an April 2002 report conducted for the American Hospital Association found that officials at many hospitals in urban areas described their emergency departments as operating at or above capacity.²³ In addition, we reported in March 2003 that because of a lack of inpatient beds about 2 in 10 of the 1,489 hospitals we surveyed temporarily diverted patients from their emergency department more than 10 percent of the time—or about 2.4 hours or more per day—and nearly 1 in 10 hospitals temporarily diverted patients from their emergency department more than 20 percent of the time—or about 5 hours per day.²⁴ In our March 2003 report, hospital officials cited economic reasons for the lack of inpatient beds, including financial pressures and the inability to staff the available beds because of difficulty in recruiting nurses or the increased cost of hiring contract nurses. We also reported that for about 1 in 5 hospitals the average time that patients remained in the emergency department after a decision was made to admit them as inpatients or transfer them to other facilities was 8 hours or more.

Steps Have Been Taken to Reopen University Hospital, but LSU Has No Plans to Reopen Charity Hospital

FEMA and LSU have prepared damage assessments and cost estimates for University and Charity hospitals. FEMA's cost estimates for repairs at Charity and University hospitals are considerably lower than LSU's estimates. While repairs are under way to reopen portions of University Hospital beginning this fall, as of July 2006, LSU had no plans to reopen Charity Hospital. Rather, LSU intends to pursue the possibility of building a new facility, in collaboration with VA. Meanwhile, LSU has established temporary facilities to provide some of the hospital functions previously provided by the two hospitals. For example, LSU established the MCLNO

²²Institute of Medicine of the National Academies, *Future of Emergency Care: Hospital-Based Emergency Care at the Breaking Point* (Washington, D.C.: June 2006).

²³The Lewin Group, *Emergency Department Overload: A Growing Crisis; The Results of the AHA Survey of Emergency Department (ED) and Hospital Capacity* (Falls Church, Va.: April 2002).

²⁴See GAO, *Hospital Emergency Departments: Crowded Conditions Vary among Hospitals and Communities*, [GAO-03-460](#) (Washington, D.C.: Mar. 14, 2003).

Emergency Services Unit, which is located in a former department store, and opened a trauma center at the Elmwood Medical Center.

LSU's Cost Estimates for Repairing Charity and University Hospitals Are Considerably Higher Than FEMA's Estimates

LSU's cost estimates for repairing Charity and University hospitals are considerably higher than FEMA's estimates. Shortly after Hurricane Katrina struck the greater New Orleans area, LSU hired ADAMS Management Services Corporation (ADAMS) to assess the condition of the two hospitals. In addition to identifying safety and health issues with respect to physical construction and deficiencies, ADAMS was tasked with recommending specific corrective measures, including cost estimates, to make it feasible to restore the hospitals to a usable condition. ADAMS completed its assessment in November 2005.²⁵ According to the ADAMS assessment, Charity and University hospitals' structural systems, such as columns, beams, and flooring, were in functional condition, although further testing would be required to verify this condition. However, the mechanical, electrical, and plumbing systems were beyond repair, and there were significant environmental safety problems. ADAMS estimated the repair costs at \$257.7 million for Charity Hospital and \$117.4 million for University Hospital. ADAMS also estimated replacement costs at \$395.4 million for Charity Hospital and \$171.7 million for University Hospital. On the basis of these estimates, ADAMS determined that repair costs exceeded 50 percent of the replacement costs for the two hospitals. As a result, LSU officials told us they believed that the hospitals met the Public Assistance program criteria for replacement funding and that LSU could obtain 90 percent of the estimated cost to replace Charity and University hospitals through the Public Assistance program.

FEMA's cost estimates for repairing the two hospitals, however, are considerably lower than LSU's estimates. FEMA completed its initial damage assessment in December 2005. However, FEMA's initial assessment did not include elevator repairs because the elevators were not accessible at that time. FEMA completed its assessment of the elevators in April 2006.²⁶ Like the assessment ADAMS did for LSU, FEMA's initial

²⁵According to LSU officials in May 2006, this assessment, including the cost estimates, has not changed.

²⁶FEMA also completed damage assessments for all buildings on the Charity and University campuses, such as Charity's laundry building and University's pediatrics emergency center. FEMA's rationale for assessing these buildings is that they are needed to completely restore Charity and University services. LSU's assessments did not include all these buildings. Therefore, for comparison purposes, we report only FEMA's and LSU's cost estimates for the main hospitals on the University and Charity campuses.

assessment found mechanical, electrical, and plumbing damage, among other things. FEMA estimated the repair costs, including the elevator repair costs, at \$27 million for Charity Hospital and \$13.4 million for University Hospital. FEMA also estimated replacement costs at \$147.7 million to \$267.3 million for Charity Hospital and \$57.4 million to \$103.9 million for University Hospital. From these estimates, FEMA determined that the repair costs did not exceed 50 percent of the replacement costs for the two hospitals. (See table 3 for a comparison of LSU's and FEMA's repair and replacement estimates.)

Table 3: LSU's and FEMA's Cost Estimates for Charity and University Hospitals

	LSU's estimates	FEMA's estimates
Charity Hospital		
Repair estimate (in millions)	\$257.7	\$27
Replacement estimate (in millions)	\$395.4	\$147.7 - \$267.3
Repair cost as a percentage of replacement estimate	65%	10% - 18%
University Hospital		
Repair estimate (in millions)	\$117.4	\$13.4
Replacement estimate (in millions)	\$171.7	\$57.4 - \$103.9
Repair cost as a percentage of replacement estimate	68%	13% - 23%

Sources: ADAMS 2005 Emergency Facilities Assessment and FEMA Project Worksheets.

Notes: FEMA also completed damage assessments for all buildings on the Charity and University campuses, such as Charity's laundry building and University's pediatrics emergency center. LSU's assessments did not include all these buildings. Therefore, for comparison purposes, we report only FEMA's and LSU's cost estimates for the main hospitals on the University and Charity campuses. Significant factors contributing to the differences between FEMA's and LSU's cost estimates are (1) the scope of work included in the estimates and (2) whether a cost escalator was used in developing the estimates.

Two significant factors contribute to the differences between LSU's and FEMA's cost estimates. First, LSU's cost estimates cover whole building repair, meaning that they include costs for damage from Hurricane Katrina and many deficiencies that had been identified before the hurricane. For example, LSU's estimates include costs for installing fire-rated doors and frames in all exit corridors throughout University Hospital, the lack of which was identified in 2003 as a problem that needed to be addressed. In contrast, FEMA's estimates for Charity and University hospitals cover the repair costs for damage from flooding and wind only, since these are the only repair costs eligible for federal reimbursement under the Public Assistance program. Prior deficiencies are generally not eligible for

reimbursement. Second, LSU's estimates also included a 66 percent cost escalation over a commonly used index of labor and material for New Orleans. The cost escalation was meant to anticipate material and labor shortages over the next 3 to 6 years as a result of the hurricane. FEMA's estimates, in contrast, did not include a cost escalation for labor and material. According to FEMA, three of the five bids for a recently awarded contract for the New Orleans Arena were below the federal government estimate. Based on those bids, FEMA concluded that a cost escalation for labor and material inflation was not justified.

State officials disputed FEMA's cost estimates of the hurricane damage to Charity and University hospitals. LSU maintained that these hospitals are not repairable, as defined by federal regulation. Specifically, LSU maintained that the cost of repairing the hospitals to their predisaster condition exceeded 50 percent of the cost of replacing the hospitals and that it was not feasible to repair the hospitals so that they could perform the functions for which they were being used immediately prior to the disaster. In a November 2005 letter to Vice Admiral Thad Allen,²⁷ LSU noted that "It is not feasible to repair these facilities to restore the design, function, and capacity, as well as all required code and standard upgrades, at a reasonable cost." LSU further suggested in the letter that FEMA's estimated costs were too low, noting that FEMA's estimates did not include all eligible expenses that might be incurred in completing the repairs, such as those associated with compliance with the Americans with Disabilities Act (ADA). For example, the ADAMS assessment includes accessibility upgrades to bring Charity and University hospitals into compliance with current ADA requirements, including upgrades to the restrooms, telephones, and drinking fountains. Officials from OFPC, which administers the design and construction of all Louisiana state-owned facilities damaged in Hurricane Katrina, also told us that FEMA's estimates for the two hospitals were too low and did not reflect the current market conditions (i.e., the shortage of labor and material). Officials from both LSU and OFPC provided several examples of FEMA's underestimating the costs of repairs for facilities in the greater New Orleans area. For example, FEMA estimated the costs for repair to the engineering building on the University of New Orleans campus at about \$286,000. The contract was awarded for about \$689,000. However, FEMA officials cautioned against

²⁷Vice Admiral Allen was the Federal Coordinating Officer for FEMA at the Joint Field Office in Baton Rouge. As of May 25, 2006, he assumed the duties of Commandant of the U.S. Coast Guard.

using differences in estimated and actual repair costs for other facilities as benchmarks for comparing or adjusting the estimates for Charity and University hospitals, noting that each facility and its associated estimate are unique.

To help reconcile FEMA's and LSU's cost estimates, FEMA officials suggested that LSU select a few projects at Charity Hospital and put them out for bid. According to FEMA officials, this process would provide actual repair costs and could serve as a baseline for adjusting LSU's or FEMA's estimates as needed. FEMA officials noted that some repair projects at Charity Hospital would be necessary even if LSU opted to replace, not repair, the facility. Officials from LSU and OFPC told us that they questioned whether this would be the best use of time and resources, however, especially since they said they did not believe that restoring Charity Hospital to its predisaster condition would adequately meet the health care needs of the community. However, a senior OFPC official told us that OFPC would evaluate whether some repairs were necessary to prevent further deterioration of the facility.²⁸

FEMA has begun the process of obligating funds based on its assessments. As of June 16, 2006, FEMA had obligated about \$21.5 million for repairs to Charity Hospital and \$14.3 million for repairs to University Hospital. The funds are allocated to Louisiana's Office of Homeland Security and Emergency Preparedness (i.e., the grantee), which then distributes the funds to LSU (i.e., the applicant) for reimbursement for the costs of repairing Charity and University hospitals.

²⁸Although state officials dispute FEMA's cost estimates, LSU did not file an appeal. According to FEMA guidance, applicants, such as LSU, may appeal FEMA's decisions regarding the provision of assistance, such as FEMA's cost estimates, to FEMA. The applicant (i.e., LSU) must file its appeal with the state within 60 days of receipt of a notice of the action that is being appealed. In turn, the state has a limited amount of time to review the appeal and submit a recommendation on the merits of the appeal to FEMA. 42 U.S.C. § 5189a(a)(2000). According to a FEMA official, FEMA considers the notice of action the date federal obligations begin. Federal obligations for University and Charity hospitals started this spring, and therefore the 60-day window for appeal has expired.

Repairs to University Hospital Are Under Way, and LSU Is Pursuing the Possibility of a New Facility to Replace Both Charity and University Hospitals in the Future

At the time of our visit in May 2006, repairs to University Hospital were under way, and portions of the facility were expected to reopen by late September or early October 2006, with the remainder of the facility expected to open by the end of the year. Initially, LSU officials had hoped to reopen a portion of the facility by the end of June 2006. However, according to LSU officials, estimates for reopening a portion of the facility in June—which assumed a 75-day construction schedule—were optimistic given the amount of repair work needed. An official from OFPC told us that several contractors estimated it would take 180 days to complete the work, which was more than 3 months longer than LSU requested. LSU and the winning contractor ultimately negotiated a 120-day construction schedule. According to this new schedule, LSU plans to reopen portions of University Hospital, including inpatient beds, a pharmacy, and a blood bank, in fall 2006. In addition, LSU plans to convert space on the first floor of the hospital for a Level I trauma center. This work is scheduled to be completed by the end of 2006. However, officials from LSU and OFPC stated that the schedule is subject to change, depending on the availability of resources and the ability of the contractor to complete the repair work on time.²⁹ In addition, although LSU plans for University Hospital to be fully operational by the end of the year, a senior LSU official told us that LSU is pursuing the possibility of a new hospital that would allow it to close University Hospital in the future. According to this official, the building is near the end of its useful life.

While repairs to University Hospital are under way, LSU currently has no plans to reopen Charity Hospital. Charity Hospital sustained significant damage as a result of Hurricane Katrina, in large part because of the flooding that occurred in the basement. In addition, according to officials from LSU and OFPC, the facility was antiquated prior to Hurricane Katrina and was not well suited for a modern acute care medical facility. As a result, LSU does not want to invest significant resources in repairing the facility and would prefer to invest available funding in constructing a replacement facility. If LSU decides to replace Charity Hospital, LSU is authorized under the Public Assistance program to use funds approved for repair, including the \$21.5 million already obligated, on a replacement facility. However, the amount eligible for reimbursement cannot be greater than 90 percent of FEMA's initial cost estimates for repairs.

²⁹To encourage the timely completion of work, LSU's contract includes a provision for \$1,800-per-day payment by the contractor for each calendar day past the scheduled completion date.

Prior to Hurricane Katrina, LSU had decided to support the construction of a new facility to replace both University and Charity hospitals, and it was seeking funding for the project when the storm occurred. LSU continues to support this option and has taken some initial steps, in collaboration with VA, to plan for a new facility. Like LSU's Charity and University hospitals, VA's New Orleans Medical Center sustained extensive damage as a result of Hurricane Katrina, and VA has determined that the existing facility is no longer suited for providing patient care. As a result, VA is also proposing to construct a new facility.³⁰ LSU and VA formed the Collaborative Opportunities Study Group (COSG) to study options for constructing a new joint hospital facility. In its June 2006 report, COSG recommended a "collaborative complex"—that is, separate VA and LSU bed towers connected by a corridor that houses facilities and services used by both entities. According to the June report, a collaborative complex would be more cost-effective than LSU and VA operating stand-alone facilities.³¹

LSU Has Established Temporary Facilities to Provide Public Hospital Functions

Following Hurricane Katrina, LSU established several temporary facilities in order to continue to meet the health care needs of the population currently in the greater New Orleans area and to continue to fulfill LSU's mission of providing care to the uninsured. Two key temporary facilities are the MCLNO Emergency Services Unit and the trauma center at the Elmwood Medical Center. The MCLNO Emergency Services Unit is located in a former department store in downtown New Orleans. It was originally established in the parking lot of University Hospital in October 2005. The facility was moved to the Ernest N. Morial Convention Center in November 2005 and eventually to its current location in March 2006.

³⁰The Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 provided VA with an additional \$585.9 million for the construction of major projects for necessary expenses related to the consequences of Hurricane Katrina and other hurricanes of the 2005 season. Pub. L. No. 109-234, 120 Stat. 418, 468. Portions of this funding could be used for a new VA medical center in New Orleans.

³¹The COSG report also recognized key issues and challenges that must be addressed for the joint venture between LSU and VA to move forward, such as VA's obtaining authorizing legislation. In our April 2006 report that examined the proposed joint ventures between VA and its medical affiliates in Charleston and Denver, we also identified potential challenges with such partnerships, including institutional differences between VA and its medical affiliates and balancing funding priorities. See GAO, *VA Health Care: Experiences in Denver and Charleston Offer Lessons for Future Partnerships with Medical Affiliates*, [GAO-06-472](#) (Washington, D.C.: Apr. 28, 2006).

According to LSU officials, the MCLNO Emergency Services Unit provides a variety of outpatient services, including minor emergency services, dental care, radiology services, and services for victims of sexual assault, among others. According to LSU officials, the facility is not equipped to provide major emergency services. In order to accommodate the services being provided, LSU set up cubicles and tents to serve as treatment rooms, storage, conference rooms, and offices. LSU plans to close the MCLNO Emergency Services Unit in October 2006, when University Hospital is reopened.

LSU is also leasing space for a trauma center from the Ochsner Clinic Foundation at its Elmwood Medical Center. LSU opened the facility on April 24, 2006, to provide the trauma services previously provided at Charity Hospital. Charity Hospital served as the only Level I trauma center in the region.³² According to LSU officials, the trauma center at Elmwood Medical Center houses a blood bank, laboratory, pharmacy, and treatment rooms, among other things. In addition, computed tomography and magnetic resonance imaging services are provided in mobile trailers on the grounds of the facility. LSU's lease for this space expires at the end of 2006.

HHS Has Provided Financial and Technical Assistance and Program Waivers to Help Address Restoration

HHS officials said that the agency's efforts to restore hospitals' health care infrastructure following Hurricane Katrina included financial assistance, technical assistance, and waivers that allow exceptions to some program requirements. HHS financial assistance included two opportunities for hospitals to receive additional funds for infrastructure repair—SSBG³³ that may be used to repair or rebuild health care facilities, and a Medicare extraordinary circumstances exception that allows damaged hospitals to receive payment for capital costs. SSBG funds generally cannot be used for construction; however, the Department of Defense, Emergency

³²According to a senior LSU official, LSU's trauma center at the Elmwood Medical Center does not have Level I status because it is considered a temporary facility.

³³SSBG funds are allocated to the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, and the territories of Guam, American Samoa, the Virgin Islands, and the Northern Mariana Islands to furnish social services best suited to meet the needs of the individuals residing within the jurisdiction. Jurisdictions receive block grants and determine what services are provided, the eligible categories and populations of adults and children, the geographic areas of the jurisdiction in which each service will be provided, and whether the services will be provided by jurisdiction, state, or local agency staff or through grants or contracts with private organizations. 42 U.S.C. §§ 1397 *et seq.* (2000).

Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico, and Pandemic Influenza Act, 2006, enacted December 30, 2005, specifically authorized the use of SSBG funds appropriated by that act for the repair, renovation, and construction of health facilities.³⁴ The act appropriated an additional \$550 million to the SSBG program, from which HHS designated about \$221 million for Louisiana in February 2006.

In addition, four applications were submitted to CMS for assistance to hospitals in the greater New Orleans area under the Medicare extraordinary circumstances exception, which provides additional payments for unanticipated capital expenditures that exceed \$5 million (after taking into account proceeds from other sources, such as insurance or FEMA aid) and result from extraordinary circumstances, such as hurricanes. The provision does not provide a lump sum payment up front; instead, it allows eligible hospitals that serve Medicare patients to depreciate the cost of the unanticipated capital expenditures over the life of the asset, once repairs have been made.³⁵ Charity and University hospitals (submitting a joint application), East Jefferson General Hospital, Tulane University Hospital and Clinic, and Ochsner Medical Center have applied for this funding. As part of the approval process, HHS requested that each hospital provide a plan and a schedule for submission of documents to support its exception request. As of June 8, 2006, only Charity and University hospitals had provided estimates of their expected capital expenditures, which they set at approximately \$900 million, an HHS official said.

HHS technical assistance to Louisiana related to restoration of the health care infrastructure includes both ongoing and planned technical assistance.³⁶ Since Hurricane Katrina, HHS has assigned staff members to assist hospitals and other state and local entities in Louisiana in evaluating

³⁴Pub. L. No. 109-148, 119 Stat. 2680, 2768.

³⁵For most hospitals, the payments under the extraordinary circumstances exception are based on 85 percent of Medicare's share of allowable capital costs attributed to the extraordinary circumstance. If approved by CMS, the qualifying hospitals will receive funds for extraordinary capital expenditures, based on a formula that considers such things as each hospital's normal payments through the Medicare Prospective Payment System. Qualifying hospitals request the depreciation payments on their Medicare cost reports after the repairs have been made.

³⁶HHS does not have a separate budget for technical assistance. Generally, the cost of technical assistance activities was absorbed by the various agencies within HHS, an official said.

health care challenges and identifying available resources. For example, HHS staff members did the following:

- Provided consultation services at Orleans Parish health planning committee meetings that addressed shortages of staff, hospital beds, and funding. As a result, an immediate need for registered nurses was identified, and HHS, in coordination with VA, made arrangements for 12 to 20 registered VA nurses on 2- to 4-week rotations through mid-April 2006 to provide emergency room, medical-surgical, and intensive care unit services at Tulane University Hospital and Clinic.
- Conducted joint weekly teleconferences beginning in January 2006 with the Joint Commission on Accreditation of Healthcare Organizations, state survey agencies, and hospital and other health care providers to coordinate the application of accreditation standards for hospitals that were providing care in temporary facilities or in facilities damaged by the hurricanes.
- Facilitated meetings between St. Bernard Parish and a nonprofit medical center that led to the opening of a new primary and urgent care facility in April 2006 after the parish lost all its health care facilities during Hurricane Katrina.

Additionally, since Hurricane Katrina, HHS officials have chaired two federal interagency working groups, the President's Health Care: Chronic Care and Facilities Restoration Workgroup and HHS's Gulf Coast Recovery Working Group. The President's Health Care: Chronic Care and Facilities Restoration Workgroup produced two major working papers in 2006, a summary of the federal payments available for providing health care services and rebuilding health care infrastructure after Hurricane Katrina and a document that sets out guiding principles for the federal government in the rebuilding process.³⁷ The federal payments summary served as the basis for two all-day interagency workshops in New Orleans on January 10, 2006, and February 9, 2006, sponsored by HHS and Louisiana, for local and regional health care providers and elected officials to identify information about available federal resources and to provide technical assistance in accessing them. While the President's Health Care: Chronic Care and Facilities Restoration Workgroup has disbanded, many

³⁷The documents are *Summary of Federal Payments Available for Providing Health Care Services to Hurricane Evacuees and Rebuilding Health Care Infrastructure* and *Federal Principles for Rebuilding the Healthcare Infrastructure in the Gulf States*.

of its members have been included in meetings of the Gulf Coast Recovery Working Group. The Gulf Coast Recovery Working Group is an HHS staff-level group that meets regularly to resolve issues and offer advice on how to improve HHS programs supporting the recovery efforts. The Gulf Coast Recovery Working Group also began working with the Department of Homeland Security's Office of the Federal Coordinator for Gulf Coast Rebuilding shortly after the office was established on November 1, 2005, by Executive Order 13390 to lead the federal response.³⁸ The Gulf Coast Recovery Working Group reports to the HHS Secretary and provides input to, and coordinates on a policy level with, the Federal Coordinator.

Planned technical assistance is part of a broader effort to redesign the entire continuum of Louisiana's health care delivery system, from primary care clinics to the restoration of hospital inpatient care and emergency department services in the greater New Orleans area, HHS officials said. HHS plans to provide technical assistance to the Louisiana Healthcare Redesign Collaborative (Collaborative), a state and locally led effort to redesign the health care delivery system in Louisiana, including the existing hospital system.³⁹ HHS's Office of the Secretary expects to provide technical staff, guidance, and funds to support the redesign effort. In an address before the Louisiana state legislature on April 25, 2006, the Secretary of HHS committed to participating in the redesign effort but emphasized that the redesign effort must be locally led and governed according to guiding principles endorsed by all participants. A charter, signed July 17, 2006, places the Collaborative under the authority of the Louisiana Department of Health and Hospitals and includes guiding principles. To help coordinate technical assistance from HHS to the Collaborative, HHS has hired a full-time senior advisor to the Secretary of HHS and plans to provide part-time staff from across HHS agencies. HHS officials said that the agency expected to work with the Collaborative to develop a health care system recovery proposal that could include

³⁸The executive order referred to this position as Coordinator of Federal Support for the Recovery and Rebuilding of the Gulf Coast Region.

³⁹In June 2006 the Louisiana Legislature approved House Concurrent Resolution No. 127, creating the Louisiana Healthcare Redesign Collaborative to serve as an advising body to the Secretary of the Department of Health and Hospitals for the development of recommendations and plans for the redesign of the greater New Orleans area health care system.

requests for Medicare demonstrations and Medicaid waivers.⁴⁰ HHS officials said that they expected that the redesign effort would produce a more efficient and effective health care delivery system in Louisiana. HHS officials noted that prior to Hurricane Katrina, Louisiana had one of the most expensive health care systems in the United States, but that it generally ranked close to the bottom among states in terms of health care quality indicators.

The Secretary of HHS has waived or modified various statutory and regulatory requirements to assist hospitals and other health care providers in states in which he had declared a public health emergency. For example, certain Medicare billing and other requirements were waived or modified to accelerate Medicare payments in the hurricane-affected states, including Louisiana. Under the waivers, HHS has

- paid hospitals the inpatient acute care rate for Medicare patients that remained in a hospital but no longer required acute level care, until the patient could be discharged to an appropriate facility;
- relaxed the data requirements to substantiate payment to the provider when a facility's records were destroyed;
- allowed hospitals to have a responsible physician (e.g., the chief of medical staff or department head) sign an attestation of services provided when the attending physician could not be located; and
- instructed its payment processing contractors to immediately process requests for accelerated payments for health care providers, including hospitals, affected by the hurricane.

In addition, after HHS received inquiries concerning whether hospitals could provide free office space, low interest or no interest loans, or other arrangements to assist physicians displaced by Hurricane Katrina, the Secretary permitted CMS to waive sanctions for violations of the physician

⁴⁰CMS conducts and sponsors Medicare demonstration projects to test and measure the effect of potential program changes. Demonstrations study the likely impact of new methods of service delivery, coverage of new types of services, and new payment approaches on beneficiaries, providers, health plans, states, and the Medicare trust fund. Medicaid waivers allow states flexibility in operating Medicaid programs and include waivers that test policy innovations or that allow states to implement managed care delivery systems.

self-referral prohibition, known as the Stark Law,⁴¹ through January 31, 2006. This time-limited relief concerns statutory prohibitions against a physician referring Medicare patients to an entity with which the physician or a member of the physician's immediate family has a financial relationship. HHS officials said that a waiver had been approved for one hospital in the greater New Orleans area for one physician.

HHS officials said that few HHS programs or activities are designed to help address the restoration of hospital inpatient care and emergency department services in the greater New Orleans area. The department does not have broad authority to respond to the needs of hospitals affected by a disaster, HHS officials said. They cited several issues that limit the agency's ability to provide this type of assistance. First, agency officials emphasized that HHS's role in financing health care services does not easily translate into providing restoration assistance after a disaster. Second, HHS must consider whether proposed responses to problems identified in the greater New Orleans area could adversely affect other areas of the country. For example, Louisiana has requested that HHS adjust the wage index used in determining Medicare prospective payments to hospitals to account for the higher wages that must be paid to attract or maintain health care workers, including nurses and physicians, in the greater New Orleans area. However, HHS officials said that by law, changes to the wage index must be "budget neutral." Practically, this means that if the wage index is increased for the greater New Orleans area, then the wage index must be decreased for another area, HHS officials said.

Agency Comments

We sent a draft of this report for comment to DHS, HHS, VA, and the State of Louisiana. Excerpts from it were also sent to LSU for comment. HHS agreed with the draft report, and its comments are included as appendix II. VA informed us by e-mail that it agreed with the draft report. DHS also responded by email and informed us that it had no formal comments on the draft report. DHS, HHS, and VA also provided technical comments, as did Louisiana's Department of Health and Hospitals through an e-mail response. We considered all technical comments and incorporated those that were appropriate. LSU did not provide comments.

⁴¹42 U.S.C. § 1395nn (2000).

We are sending copies of this report to the Secretaries of Homeland Security, Health and Human Services, and Veterans Affairs and other interested parties. We will also make copies available to others on request. In addition, the report is available at no charge on the GAO Web site at <http://www.gao.gov>. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report.

If you or your staffs have any questions about this report, please contact Cynthia Bascetta at (202) 512-7101 or bascettac@gao.gov for issues related to health services. Please contact Terrell G. Dorn at (202) 512-6923 or dornt@gao.gov for issues related to medical facilities and FEMA. GAO staff members who made significant contributions to this report are listed in appendix III.

Cynthia Bascetta Terrell G. Dorn, PE

Cynthia A. Bascetta
Director, Health Care

Terrell G. Dorn, PE
Director, Physical Infrastructure

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The Honorable Nancy L. Johnson
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Committee on Ways and Means
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Appendix I: Scope and Methodology

To examine the availability of hospital inpatient care and the demand for emergency department services, we contacted nine operating public and private hospitals in the greater New Orleans area.¹ We randomly selected one day—April 25, 2006—and asked hospital officials to provide information on the number of available, staffed, and occupied beds² for that day, by type of patients served, such as critical care, medical and surgical, and pediatrics. We later asked for the number of available, staffed, and occupied beds for the entire month of April; however, only five hospitals responded to this request. From the hospital officials we also obtained estimates of the occupancy rates for the 12-month period prior to, and the 9-month period following, Hurricane Katrina for 8 of the 9 open hospitals. We weighted the estimated hospital occupancy rates by the number of staffed beds to obtain a weighed average. Further, we asked about plans to open more beds and about emergency department services provided for the 30-day period from March 28, 2006, through April 26, 2006.³ We conducted telephone interviews with senior officials from seven of the nine hospitals to clarify information provided in their written responses to our survey.⁴ We did not independently verify the data the hospitals provided on bed availability and the amount of emergency care provided. To determine the April 2006 population of the four parishes in the greater New Orleans area, we used estimates from the Louisiana Department of Health and Hospitals Bureau of Primary Care and Rural Health, which used two methodologies to estimate the population in each of the parishes. It used school enrollment data for Jefferson, St. Bernard, and Plaquemines parishes; and for Orleans Parish it used a survey of persons occupying residential structures. The survey had been conducted by the New Orleans Health Department in consultation with the Centers for Disease Control and Prevention. We limited our work to examining the

¹Ten hospitals were operating at the time of our study, but we did not include Elmwood Medical Center in our survey because it is a temporary facility that opened on April 24, 2006, after our survey began.

²Available beds are beds that are licensed, set up, and available for use. These are beds regularly maintained in the hospital for patient use with supporting services, such as food, laundry, and housekeeping. Available beds may or may not be staffed. Staffed beds are available beds for which staff are on hand to attend to the patients who occupy the beds. Staffed beds may or may not be occupied. Occupied beds are staffed beds that are being used by patients.

³We obtained information on emergency room wait times for 6 hospitals and the number of times that 8 hospitals diverted patients to other facilities for the 30-day period from March 28, 2006, through April 26, 2006.

⁴Officials from two of the hospitals did not respond to our request for an interview.

status of hospital inpatient and emergency departments in the greater New Orleans area and did not examine other aspects of hospital services, such as outpatient services or the financial condition of the hospitals. We also did not address other issues related to the health care system, such as the status of primary care, medical research, or graduate medical education.

To examine the Federal Emergency Management Agency (FEMA) and Louisiana State University (LSU) efforts to reopen Charity and University hospitals,⁵ we reviewed LSU and FEMA damage assessments and cost estimates for the facilities, FEMA regulations and guidance, and the Department of Veterans Affairs' (VA) damage assessment of its medical center in New Orleans. We toured Charity and University hospitals and the temporary facilities LSU has established to provide hospital outpatient care and emergency department services. We interviewed officials from FEMA; LSU (including LSU's Health Care Services Division that manages the public hospitals in the greater New Orleans area); VA because it is considering building a joint hospital complex with LSU in New Orleans; the Louisiana Recovery Authority because it is the planning and coordinating body that was created in the aftermath of Hurricane Katrina by the Governor of Louisiana to plan for recovery and rebuilding efforts; and Louisiana's Office of Facility Planning and Control because it is administering the design and construction of all Louisiana state-owned facilities damaged by Hurricane Katrina. We did not independently verify the damage assessments prepared by FEMA and LSU. We limited our review to the efforts to restore state-owned public hospital facilities.

To determine the activities that the Department of Health and Human Services (HHS) has undertaken to help hospitals recover in the greater New Orleans area, we interviewed officials in various HHS agencies, including officials in the Centers for Medicare & Medicaid Services headquarters and Dallas and Atlanta regional offices, the Health Resources and Services Administration, the Administration for Children and Families, and the Office of Public Health Emergency Preparedness. Additionally, we reviewed documents and summaries outlining HHS programs and activities related to helping restore hospital inpatient care and emergency department services after a disaster. Finally, we reviewed applicable federal law and regulations.

⁵While part of the statewide LSU public hospital system, Charity and University hospitals make up the Medical Center of Louisiana at New Orleans.

We conducted our work from April 2006 through September 2006 in accordance with generally accepted government auditing standards.

Appendix II: Comments from the Department of Health and Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the Assistant Secretary
for Legislation

Washington, D.C. 20201

SEP 12 2006

Ms. Cynthia A. Bascetta
Director, Health Care
U.S. Government Accountability Office
Washington, DC 20548

Dear Ms. Bascetta:

Enclosed are the Department's comments on the U.S. Government Accountability Office's (GAO) draft report entitled, "Status of Hospital Inpatient Care and Emergency Department Services in the Greater New Orleans Area" (GAO-06-1003), before its publication.

These comments represent the tentative position of the Department of Health and Human Services and are subject to reevaluation when the final version of this report is received.

The Department appreciates the opportunity to comment on this draft report before its publication.

Sincerely,

for

Vincent J. Ventimiglia, Jr.
Assistant Secretary for Legislation

**COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES
ON THE U.S. GOVERNMENT ACCOUNTABILITY OFFICE'S (GAO) DRAFT
REPORT "STATUS OF HOSPITAL INPATIENT CARE AND EMERGENCY
DEPARTMENT SERVICES IN THE GREATER NEW ORLEANS AREA" GAO
06-1003**

We have carefully reviewed your report and are pleased that GAO has recognized the many efforts of the Department of Health and Human Services (HHS) in providing financial and technical assistance to the state and region. The Report specifically references a few of the many efforts since the Hurricane, many of which continue today. In addition to the \$221 million in Social Services Block Grant funds specifically mentioned in the Report, CMS has also provided \$768.9 million to Louisiana thus far for Medicaid and other health care costs. A new Medicaid Section 1115 demonstration waiver was developed that allowed Louisiana evacuees to quickly receive Medicaid coverage in their host states and provided funds to Louisiana and other significantly impacted States for the costs of care for victims with no health coverage. CMS also used existing authority to provide flexibility in many Medicare billing requirements, ensuring that providers continue to receive Medicare payments. CMS has extensively coordinated its health care quality assurance activities with State authorities and accrediting organizations to facilitate the reestablishment of acute care services.

Secretary Michael O. Leavitt has personally been involved in creating a vision to not only restore, but improve Louisiana's health care delivery system that can be a model for the Nation. There were many problems and imbalances in the New Orleans health care system for decades prior to Hurricane Katrina's destruction. The Secretary has challenged HHS at all levels to work with Louisiana officials to establish a collaborative process for creating a new, cost-effective, and quality health care model, based on guiding principles emphasizing personal responsibility from all citizens, use of electronic communications, full accessibility to coordinated, community-based, patient-centered care, taking into account the Medicare, Medicaid, and uninsured populations, and which considers an all-hazards approach for effective emergency preparedness.

To further demonstrate his support for the collaboration between the Department and LA, Secretary Leavitt has not only appointed a fulltime Senior Advisor for this rebuilding effort, but has supplied eight full time HHS staff -- four have been out-stationed to Louisiana and four to HHS Headquarters to facilitate development of the comprehensive Medicaid waiver and Medicare demonstration proposal.

The Report makes an important finding that even after a number of major hospitals have been closed due to Hurricane Katrina, the number of staffed and available beds in the greater New Orleans area is still above the national average.

We agree there are sufficient numbers of staffed hospital inpatient beds in the greater New Orleans area. GAO notes that demand for psychiatric care is an exception to this finding. The GAO report indicates that psychiatric and emergency department patients are currently underserved in the New Orleans area. These challenges are long term in nature and require sustained collaboration among local, State and Federal governments, together with both for-profit and non-profit providers.

**Appendix II: Comments from the Department
of Health and Human Services**

We also agree with your findings that a major challenge in restoring quality health care to the greater New Orleans area is success in the recruitment of sufficient trained and qualified health care workers (e.g., physicians, pharmacists, psychiatrists, nurses, therapists, social workers, nurse aides and other direct care workers, etc.) in all areas of health care. Currently, hospital stays are longer because there are limited community alternatives.

We believe Louisiana and New Orleans will be better prepared for future emergencies with a health care system that is not as dependent on institutionally-based care as it has been in the past. Supporting excess capacity in institutional care has inhibited adoption of community-based and person centered care. We are pleased to be part of Secretary Leavitt's efforts to assist Louisiana and New Orleans in creating a modern health care system that will meet the needs of all of their citizens.

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts

Cynthia A. Bascetta (202) 512-7101 or bascettac@gao.gov
Terrell G. Dorn (202) 512-6923 or dornt@gao.gov

Acknowledgments

In addition to the contacts named above, key contributors to this report were Michael T. Blair, Jr., Assistant Director; Nikki Clowers, Assistant Director; Karen Doran, Assistant Director; Jonathan Ban; Michaela Brown; Nancy Lueke; Roseanne Price; and Cherie Starck.

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