The Long Road Home: Rebuilding Public Inpatient Psychiatric Services in Post-Katrina New Orleans

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In August 2006, a year after Hurricane Katrina, the first acute inpatient public psychiatric unit for adults was opened in New Orleans to serve patients referred from local emergency departments. This article describes the clinical and administrative experiences of providing inpatient care in post-Katrina New Orleans, including the increased demand for programs to treat patients with co-occurring disorders, the expanded scope of practice for psychiatrists to include primary care, and ongoing staff shortages in a traumatized and displaced workforce. Lessons learned in regard to disaster planning and recovery are also discussed. (*Psychiatric Services* 59:304–309, 2008)

Hurricane Katrina was the worst natural and man-made disaster in U.S. history. It devastated more than 90,000 square miles in the Gulf region, including 80% of the City of New Orleans (1). Many hospitals, group homes, nursing homes, residential facilities, and specialized clinics were damaged or destroyed. Although the protracted recovery phase is an unprecedented opportunity for New Orleans to restructure institutions and services, it is also a time characterized by a lack of services, a diminished workforce, unprecedented mental health needs, economic challenges, cumbersome political decision making, slow implementation, and the presence of a small community of resilient mental health care providers who themselves have been displaced, traumatized, and fatigued (2–4).

The effects of trauma exposure among first responders and their clinical needs have been widely discussed (5,6). However, the administrative challenges that institutions face when working with an entire population of traumatized providers for a prolonged period have received little attention in the psychiatric literature. This Open Forum describes clinical and administrative aspects of providing inpatient mental health services at the first public inpatient psychiatric facility in post-Katrina New Orleans—specifically, the apparent demand for treatments for co-occurring disorders, staffing difficulties, the absence of facilities and supportive health services, the changing scope of psychiatric practice in disaster areas, and implications for disaster preparedness and recovery.

Pre-Katrina services in New Orleans

With 196 psychiatrists, New Orleans essentially had a "two-tier" mental health system. The insured population had access to six private community hospitals and clinics, including the New Orleans Veterans Affairs (VA) Medical Center. The poor and uninsured were cared for mainly through the Medical Center of Louisiana at New Orleans–Charity Hospital and clinics affiliated with the state's Office of Mental Health (OMH), Louisiana State University, and Tulane University (7). OMH alone served more than 6,000 people a year, or about 28% of adults with severe mental illness (8). In 2004 Charity Hospital's emergency psychiatric services saw 6,268 patients, of which 1,960 (31%) were hospitalized (Medical Center of Louisiana, unpublished data, 2004). Most of the patients who visited the hospital's emergency room were discharged or hospitalized within 24 hours.

New Orleans had 254 functioning adult psychiatric beds before Katrina (9). Of these, 114 were in the private sector, and the remaining 140 were public-sector beds, 25 at the VA Medical Center and the remaining 115 at Charity Hospital. Charity Hospital beds were on seven units: four for general psychiatry, one for co-occurring disorders, one medical detoxification unit, and a crisis intervention unit. Much of the care provided by the hospital was uncompensated—83% of inpatient care and 88% of outpatient care (10). Charity's educational mission was central to programs at Louisiana State and Tulane University. Most health care and mental health care professionals in the region were trained at the hospital.

Post-Katrina services in New Orleans

It is not surprising that after Katrina there was an increased demand for mental health services in New Orleans. However, the lack of available providers was less expected. In January 2007 the Substance Abuse and Mental Health Services Administration estimated that 25%–30% of individuals in the affected area would

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have significant needs for mental health care and another 10%–20% would have subclinical conditions that nevertheless would require care (4). The first large empirical assessment of post-Katrina mental health revealed that anxiety- and mood-related mental illness doubled after the disaster (11). The number of individuals with a serious mental illness increased from 6.1% before Katrina to 11.3% after the disaster ($p<.001$), and the number with "any mental illness" rose to 31% from 15% ($p<.001$). The population of New Orleans one year after the disaster was estimated to be 281,449, and post-Katrina assessments predicted that 84,434 of these individuals would have mental health needs (4,11,12).

The post-Katrina demand for services coincides with the loss of pre-Katrina resources. Charity Hospital was flooded and subsequently closed; nearly 2,600 employees were furloughed (13). No replacement medical center is expected until at least 2010. Without Charity Hospital and the VA Medical Center, the psychiatric public-sector bed capacity in New Orleans was reduced 96% at four months after the disaster; one year later the reduction remained at 70% (9). On April 24, 2006, the Health Resources and Services Administration designated New Orleans a health professional shortage area: the city had about one primary care doctor for every 3,000 residents, one psychiatrist for every 21,000, and one dentist for every 4,000 (14). The shortage shifted mental health treatment to primary care physicians, emergency departments functioning at full capacity, 40 inpatient private psychiatric beds in neighboring areas, and 60 prison psychiatric beds; thus the prison became the largest inpatient mental health provider in post-Katrina New Orleans (9,15; Higgins M, director of psychiatric services for the Orleans Parish Prison, personal communication, July 26, 2007).

The long road to NOAH

Forty-eight hours before Katrina's landfall, Charity Hospital discharged as many patients as possible—mostly higher-functioning individuals with relatives willing to take them in. The remaining patients had severe mental illnesses. When Charity was flooded and power was lost, patients and staff endured a grueling five-day wait for rescue in an unventilated facility during the painfully hot New Orleans summer. They survived on rationed food and without running water or functioning bathrooms (16). Once evacuated, 91 patients and 95 staff (21 nurses, 22 psychiatric aides, six social workers, three psychiatrists, one medical resident, two occupational therapists, 19 staff's family members, and 21 other various staff) traveled 219 miles from New Orleans to Central Louisiana State Hospital, an OMH facility in Pineville, Louisiana, for persons with chronic mental illness (Central Louisiana State Hospital, unpublished data, 2005).

Between September and December 2005, the population of New Orleans grew rapidly from a few thousand inhabitants to approximately 91,000 (17). As newly symptomatic individuals and patients with a history of mental illness returned to the city, demands for psychiatric services also grew rapidly, turning the situation into a crisis. The city lacked functional facilities large enough to accommodate inpatient operations, and opening public psychiatric inpatient services in New Orleans remained a daunting task.

To address the crisis, on February 1, 2006, OMH and the Louisiana State University Health Sciences Center (LSUHSC) opened 20 acute beds at South East Louisiana State Hospital (SELH), an OMH facility approximately 38 miles from New Orleans on the north shore of Lake Pontchartrain. OMH then closed its postevacuation acute operations at Central Louisiana State Hospital. Because SELH was a chronic treatment facility, administrators at the facility consulted with preparedness consultants at the Joint Commission on Accreditation of Healthcare Organizations to rapidly create policies and procedures to accommodate acute services. Although the newly opened beds at SELH were intended to address New Orleans' mental health care crisis, SELH administrators and clinicians were surprised that only 14% of patients came from New Orleans proper (South East Louisiana State Hospital, unpublished data, 2007). Although it was likely that SELH was serving areas with displaced patients who were formerly served by Charity Hospital, a majority of patients with mental illness had not yet returned to the city—or those who had returned did not know how to gain access to the SELH beds.

In June 2006 the New Orleans Adolescent Hospital (NOAH), a freestanding psychiatric hospital operated by OMH, reopened 15 of its 34 child and adolescent psychiatric beds. Since October 2005 NOAH had been livable, and 400 National Guardsmen were housed there until these beds were reopened. The beds might have become available sooner, but OMH had frozen NOAH's operating funds, and funds for repairs from the Federal Emergency Management Agency (FEMA) could not be used for operational expenses (18). On August 7, 2006, NOAH and the Department of Psychiatry at LSUHSC, in a collaborative effort, opened the first adult public inpatient psychiatry unit in post-Katrina New Orleans with 20 beds.

A changing patient population?

In August 2006 NOAH admitted 21 patients to the acute inpatient unit for adults (New Orleans Adolescent Hospital, unpublished data, 2007). All but one of these patients came from New Orleans. Thirteen had severe mental illnesses, such as schizophrenia, schizoaffective disorder, or bipolar disorder, and three had depression that was worsened by the one-year anniversary of Hurricane Katrina. Thirteen patients had a co-occurring substance use disorder, although the substance use was directly responsible for the admission in only five cases. Sixteen patients had stopped taking their medications during the year after Katrina. Most had not sought mental health services in the cities to which they evacuated or in New Orleans. Many received minimal outreach from already overwhelmed mental health

services in neighboring states (13). These patients reported that living in the close quarters of small FEMA trailers was stressful, and it often contributed to a rapid escalation of violence or threats toward relatives, which resulted in hospitalization. They also reported feeling depressed, isolated, and despondent when they returned to their flooded homes, which were located in damaged, unsanitary, unsupervised, and dangerous neighborhoods.

It is of interest that within a few months the patient population at the NOAH unit changed. In November 2006, for example, of the 29 patients who were admitted, 25 had co-occurring substance use disorders or axis II conditions. In addition, these patients had more comorbid medical conditions. Admissions of 21 patients in this group were directly triggered by use of illicit substances or alcohol, a threefold increase since August. Twenty-seven of these patients stayed for less than seven days, and all but one of the 29 patients were discharged to uncertain or nonexistent outpatient services because no treatment programs for addiction or co-occurring disorders were available in New Orleans.

The change in patient composition at NOAH was likely attributable to several factors. Only a handful of residential programs for addiction and only a few beds for medical withdrawal were available in Louisiana, and the number of patients seeking drug rehabilitation after Katrina increased by 32% (19). Thus the psychiatric beds available at NOAH were likely sought by patients who needed medical withdrawal and by those who presented with drug-induced mood and psychotic conditions. According to one local hospital, when NOAH opened, the number of hours that people with mental illness spent waiting in that hospital's emergency department fell 50%—from 33.9 hours to 17.2 hours (Ray J, personal communication, Jan 18, 2007). It is likely that patients with addictions who had been previously seen, treated, and discharged during a prolonged stay in the emergency department were now accessing NOAH's beds. To deal with this surge of patients with substance use disorders at NOAH, the facility created a co-occurring disorders track, and it is currently enhancing its capacity to treat patients with co-occurring disorders.

After Katrina it has been difficult to obtain outpatient and intermediate-level mental health services, which has made discharge planning cumbersome. One year after the disaster, three out of five public-sector OMH outpatient clinics were damaged or had relocated (20). Even now, those clinics cannot guarantee that an individual who needs psychiatric care can be seen immediately. Uncertainty about how long it will take to obtain an outpatient appointment with a psychiatrist after inpatient discharge has made it difficult to provide an adequate supply of medication and postdischarge follow-up for a vulnerable and recidivist population. Similarly, before Katrina, New Orleans and neighboring communities had 70 licensed beds in intermediate care facilities, including developmental centers, group homes, and community homes (9). One year after Katrina, 30 of the beds in these intermediate care facilities were operating at alternative locations because of an insufficient number of direct service workers and medical-therapeutic contractors in the New Orleans area (9). This scarcity of alternative placement options has left 25% to 38% of NOAH's patients waiting for placement at any given time, which has doubled the average length of stay at the hospital—from 12 to 24 days—and has reduced the number of available acute beds, which in turn results in a backlog for local emergency services (19).

Changing scope of practice

NOAH's inpatient psychiatry practice changed after Katrina. Among other things, the hospital lost collateral information when flooding destroyed paper records in mental health clinics and hospitals. NOAH's clinicians also became primary care providers for the patients at the facility. Until a family practitioner could be contracted for NOAH, which took eight months, the adult inpatient unit lacked supportive medical services on site to care for patients with comorbid medical conditions. Accordingly, NOAH expanded its scope of practice to care for most common uncomplicated medical conditions, including hypertension, diabetes, infections, minor wounds, urinary incontinence, asthma, seizure disorders, obesity, dyslipidemias, HIV, and tuberculosis. Consequently, NOAH's clinicians also have had to become familiar with current recommendations, best practices, and standards of care.

Having limited access to medical consultants forced NOAH's clinicians to refer patients with medical conditions that were beyond their capability back to emergency departments and clinics that were already at capacity. Moreover, NOAH's staff had to transport and accompany patients to their appointments, which significantly taxed the already limited staffing resources. The reverse was also true; all emergency departments that sought to refer patients to NOAH had to conduct a detailed medical clearance in order to admit a patient. This task was often in addition to a facility's routine work-up, which delayed transfers, increased costs, and created tensions between emergency services and NOAH.

Robbing Peter to pay Paul

A striking reality in post-Katrina New Orleans is the shortage of professional and paraprofessional staff. The number of nurses in Louisiana who renewed their licenses by July 2006 decreased by 27% (9). Similarly, 18 months after Katrina there were 969 nursing vacancies for New Orleans and surrounding communities (9). With hospitals and clinics competing for the few available professionals in the area, state-funded positions are at a compensation disadvantage compared with positions in private settings or even positions at university hospitals.

NOAH's unit has had a shortage of nursing staff since its inception. The December 2006 opening of the Medical Center of Louisiana–LSU University Hospital and the September 2007 opening of Medical Center of Louisiana–LSU-Tulane psychiatric unit at DePaul Hospital (see

below), all public-sector facilities, have exacerbated this regional shortage, further complicating staffing patterns. When NOAH first opened, OMH gave senior staff priority to choose to return to New Orleans from SELH. Ironically, that policy, which favored NOAH, is now compounding the problem, because NOAH faces an unusually high number of retirements.

Among the reasons for the regional personnel shortage is a lack of affordable or available housing, additional sources of employment competition that lure away lower-paid staff, and the perceived state of New Orleans—the daunting nature of the cleanup, the lack of high-quality schooling, the high crime rate, the loss of social and physical infrastructure on which labor markets are based, the uncertainty of federal or city help, and the pull-out of home insurance companies and steep increases in existing insurance premiums (21).

Last but not least are the emotional effects of Katrina and its aftermath. Although 40% of mental health providers in the New Orleans area who responded to a recent Web-based survey complained of being "burned out" (22), sound empirical data do not yet exist about the mental health of mental health providers after Katrina. At NOAH it appears that a significant number of providers are themselves victims or are traumatized. Providers are burned out and physically or emotionally sick, which has increased absenteeism. Sick leave, leave of absence, or family medical leave may also result from new medical conditions or the exacerbation of preexisting ones, postponement of elective procedures, or the need to care for children, spouses, or other relatives. Other mental health providers take personal time off to attend to other priorities, such as house repairs. These emotional, physical, and practical effects of Katrina contribute to increasingly difficult and unpredictable staffing challenges. And the time adds up. For example, SELH has experienced a 30% surge in leave time compared with a similar period during the year before Katrina (South East Louisiana State Hospital, unpublished data, 2007). NOAH has reported a similar surge in medical leave—23.81 hours per person per month, compared with 8.9 hours during a similar period in the year before Katrina, or a 267% increase in leave time per person per month (New Orleans Adolescent Hospital, unpublished data, 2007).

Lessons learned about disaster preparedness in mental health

New Orleans is facing a unique historical moment. Rather than generalizing observations and applying them to other major disasters, it is perhaps better to see Katrina as a cautionary tale in disaster preparedness and response that is worth studying by administrators, researchers, policy makers, and health care providers.

First, our experience cautions that disaster-stricken areas must rehabilitate mental health services with the same effort as for emergency services and inpatient medical and surgical beds. The rebuilding of New Orleans health infrastructure has focused on these other services, leaving mental health services behind. Lagging mental health services have handicapped medical and surgical recovery, which has had an overall impact on the incipient health care system.

Also, outpatient, inpatient, and emergency mental health services must all be rehabilitated at the same pace. Otherwise, inpatient services compensate for and enable deficiencies in community, acute, and intermediate care services. New Orleans appears to lack a centralized plan and oversight of recovery efforts to allocate and prioritize resources. At 18 months post-Katrina, the city had some inpatient beds, some poorly defined outpatient services, and no crisis services. The ongoing inability to staff mental health programs citywide, the unpredictability of staffing patterns, and the prevailing competition among institutions will continue to fuel the mental health crisis unless these dynamic factors are incorporated in planning. In May 2007 the Medical Center of Louisiana and OMH announced separate plans to further expand inpatient mental health services by each opening additional psychiatric beds in facilities a few miles from each other, whereas emergency mental health services and transitional, rehabilitation, and outpatient services still lag significantly behind.

Also in May 2007, New Orleans Mayor Ray Nagin finally wrote a letter to Governor Kathleen Blanco demanding that she "fix" the mental health crisis; Blanco responded with a list of things to do for public agencies and other entities that share responsibility for the problem (23). Issues of enforcement, accountability, and oversight of the tasks outlined on the governor's list were not addressed. In September 2007 the Medical Center of Louisiana and LSU and Tulane University opened 20 additional adult acute psychiatric beds at DePaul Hospital. NOAH-LSU and DePaul Hospital project that 20 more beds will be opened at each facility, and OMH-Tulane will add ten more acute beds at Lakeside Hospital in February 2008. With SELH's 24 beds available to New Orleans, the total acute public-sector bed capacity for the city by the spring of 2008 will be 113 beds, practically meeting the Pre-Katrina capacity.

Organized and coordinated leadership is invaluable. The rebuilding of mental health services in New Orleans often seems driven by crises and with limited data. Nongovernmental organizations help to fill in some gaps. To the extent that pre-Katrina New Orleans lacked an ideal comprehensive system of care (20) and the disaster exposed the system's preexisting fault lines, rebuilding is a challenging but welcome opportunity to reassess the model. One excellent think tank, the Behavioral Health Action Network, which is spearheaded by the Louisiana Public Health Institute (24), has taken the initiative to foster regular dialogues among key players in mental health and to make recommendations that will help in rebuilding a better comprehensive system of care.

The resilience of health care systems can be enhanced by local, city, state, and national initiatives. For example, there is a pressing need for a unified state and national electronic

medical records system, particularly as displaced disaster victims reach other hospitals both in and out of their home state. Similarly, there is a need for greater flexibility in the use of federal funds for repairs and for operational expenses. More flexibility might have accelerated the opening of inpatient psychiatric services in New Orleans. Calls for greater flexibility of federal recovery funds are growing after the New Orleans experience (7).

In addition, empirical data on the prevalence of common conditions may help guide recovery efforts and allocate resources. However, data from areas affected by other hurricanes and floods vary in regard to the prevalence of stress-related conditions. For example, survivors of hurricanes Hugo and Andrew reported ranges of posttraumatic stress disorder (PTSD) from 5% for Hugo to 25%–36% for Andrew (25). Norris and colleagues (26,27) reported on the impact of the 1999 floods in Tabasco, Mexico. Like the residents of New Orleans, many people in Tabasco suffered personal injury, loss, bereavement, displacement, and extensive community destruction. Reports of survivors at six months indicated a 46% prevalence rate for PTSD and a 15% rate for major depression, far higher than rates of PTSD in the general Mexican population (2%). The prevalence of PTSD declined over time in Tabasco, but even two years after the disaster, the mental health effects remained a public health concern. In the months after Katrina, Mills and colleagues (28) estimated that at two years after the disaster the prevalence rate of PTSD would be 38%–49%. High prevalence of stress-related conditions after disasters may be partly explained by perceived low social support (29). Perceived low social support may be particularly relevant to New Orleans, where even before Katrina the population's high levels of poverty, morbidity, and mortality (7) contributed to perceptions of low support and control (28); the disaster and recovery efforts might have further magnified this perception. Additional empirical data about the dynamics of stress-related conditions post-Katrina may guide interventions by which to measure successes.

In preparing for postdisaster challenges, health care providers need to develop or implement a core set of disaster-emergency competencies that may differ from their nonemergency roles—for example, caring for children and treating mental health, addiction, or medical conditions resulting from disasters. Core competencies for disaster preparedness already exist (30–32). For freestanding psychiatric hospitals without sufficient medical back-up, the sudden role change to primary care and addiction medicine can be challenging and threatening to health care providers and administrators alike. Consultants, peer-to-peer learning opportunities, and supervisory processes, either in person, online, or via telemedicine, need to be accessible during the aftermath of disasters and included in preparedness efforts.

Similarly, health care providers also need to prepare for changes in the population's mental health needs after a disaster (11). The need for addiction treatment increased significantly at NOAH, possibly reflecting the absence of addiction services or an apparent citywide increase in the prevalence of substance use. Although no data are available to support the existence of an increased prevalence in substance use (Kessler R, personal communication, 2007), addiction treatment capacity deserves both clinical and administrative attention.

Finally, mass disasters may traumatize or displace large numbers of staff, which greatly affects staffing patterns. At NOAH the expansion of inpatient services has been delayed by a lack of staff or by "virtual staff," who are present on paper but physically absent while on personal, medical, or family leave. Similarly, systems that are staffed with senior staff members during disaster recovery need to consider the medium- and long-term impact of retirement as new services are created after the disaster. NOAH may not be able to staff its services completely before a wave of retirements occurs.

As the medical, psychological, sociopolitical, and economic ripples of Hurricane Katrina continue to make landfall in New Orleans, rebuilding will require adjustments and readjustments to the shifting landscape. It is helpful, however, to recognize that change can create opportunities for positive transformation, resilience building, personal and systemwide growth, and new ways of meeting the needs of patients.

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