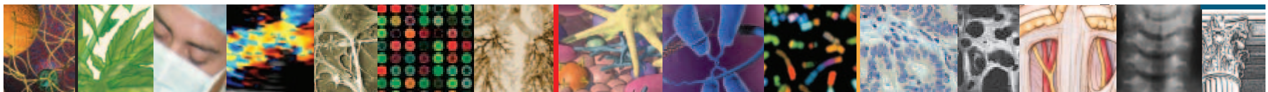

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Perspective

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After the Storm — Health Care Infrastructure in Post-Katrina New Orleans

Ruth E. Berggren, M.D., and Tyler J. Curiel, M.D., M.P.H.

On September 2, 2005, when Wildlife and Fisheries boats finally evacuated patients and staff from Charity Hospital in New Orleans, we could not fully comprehend the devastation of our health care infrastructure. Reflecting recently on the vast scope of the rebuilding effort, Fred Lopez, vice chair for education at Louisiana State University (LSU) School of Medicine, observed, "The desperate week we spent inside Charity after Katrina is the one that everybody saw on CNN, but that was the easiest week of the last six months."

Immediately after Hurricane Katrina, our crisis was acute, our options limited, and our decisions necessarily quick. Now, with the crisis in the chronic phase, options backed by conflicting interest groups abound, resulting in cumbersome decision making and dangerously slow implementation. During the crisis, two principles contributed to survival: initiative for self-rescue and professional teamwork. As we heal our infrastructure, these principles continue to guide us.

Although many citizens have yet to return, area hospitals are scrambling to meet local needs. The population of metropolitan New Orleans is approximately 24 percent smaller than before the hurricane, but only 15 of 22 area hospitals are open, with 2000 of the usual 4400 beds. According to data from the *Times-Picayune*, before the storm, New Orleans had only 3.03 hospital beds per 1000 population, as compared with the average of 3.26 per 1000 for U.S. cities; today, there are 1.99 per 1000. "The number one current problem is total hospital capacity," says Joseph Uddo, chief of general surgery at East Jefferson General Hospital in neighboring Jefferson Parish. "Emergency department patients can't move into the hospital because beds aren't available. We have no surge capacity."

Moreover, open hospitals must deliver ever greater amounts of uncompensated health care. Patrick Quinlan, chief executive officer (CEO) of the Ochsner Clinic Foundation, says uncompensated care in his facility has tripled since Katrina. "Many people have lost their jobs, and we have throngs of transient workers in town without health insurance," reports Les Hirsch, CEO of Touro Infirmary. Reimbursement for uncompensated care has yet to come, and, Hirsch notes, there is "a huge debate regarding how best to have uncompensated care dollars follow the patients, rather than following the hospitals."

Common themes at all facilities include complications in patients with untreated chronic diseases,

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particularly hypertension, diabetes, and AIDS (see box). "These people come in with extremely severe problems," notes Alfred Abaunza, chief medical officer of West Jefferson Medical Center. "Diabetics have been off their insulin for six months. They come to us in diabetic ketoacidosis."

Many believe that mortality has also increased substantially, although specifics are difficult to obtain — the Louisiana Department of Health is still struggling to complete the compilation of 2005 data. As a crude indicator, there were 25 percent more death notices in the *Times-Picayune* in January 2006 than there were in January 2005. Stress exacerbating underlying health problems is blamed for some deaths. Post-traumatic stress disorder and suicide remain tangible public health issues. There are insufficient numbers of mental health facilities and care providers to deal with the crisis.

Immediately after Katrina, victims waited days for rescue. Similarly, assistance for the chronic phase of the health care crisis has been excruciatingly slow to materialize. When asked what government had contributed to the efforts of the Ochsner Clinic, Quinlan said, "Nothing. We have asked and asked [authorities] for fair compensation, and perhaps we will get it eventually, but we cannot go on indefinitely providing uncompensated care."

Approximately 40 of Ochsner's 600 physicians and 1500 of its 7400 other employees resigned after Katrina — because their spouses no longer had local employment, children's schools were closed, or housing was not available, among other reasons. One New Orleans nurse who resigned her post in frustration explained that "the patient rooms are crowded, the staff is stressed, and there are serious supply shortages. Our standards of quality are tough to meet when the system is so strained." Staff shortages cause bottlenecks at many hospitals. Elective surgery has been postponed at some hospitals owing to a lack of anesthesiologists. Hirsch reports that to address its shortage of nurses, Touro Infirmary is paying those willing to come to New Orleans "a 50 to 100 percent premium."

The need for creative solutions to the bed shortage has led to new

Adaptations

Ruth E. Berggren, M.D.

Two outpatient clinics serving the disenfranchised have adapted in creative ways to deliver community-based care to New Orleans. Charity Hospital's HIV Outpatient (HOP) Clinic, funded under the Ryan White Comprehensive AIDS Resources Emergency Act, responded to Hurricane Katrina by reconstituting itself with a much smaller staff. In the Algiers neighborhood, a new free clinic dubbed the Common Ground Health Clinic has drawn volunteer medical professionals from around the country. In the early days after Katrina, these clinics coalesced around the neediest populations. Today, they are moving from stopgap measures to sustainable models promoting continuity of care.

Libby Goff, 2006

The reconstitution of the HOP clinic was driven by the urgent need to restore antiviral treatment for patients with human immunodeficiency virus (HIV) infection in order to avert virologic resistance and disease progression. Many patients had to leave medications behind during the emergency; others rationed pills by taking them every other day or taking just part of a multidrug cocktail. These strategies are more likely to cause resistance than withholding the regimen entirely, but patients could not contact their providers for advice. Patients and providers finally did connect when cellular telephones started working again weeks after the storm, but only if they had previously exchanged numbers.

New Orleans had 7000 HIV-infected citizens before Katrina, and no one knew whether they had reached care providers after the storm. Despite devastation of the infrastructure, HOP providers, of whom I am one, opened a temporary clinic using volunteer couriers to transport laboratory samples and medications to and from neighboring cities. Today, the clinic is housed in an aged building while our clinic home undergoes remediation for mold. Laboratory tests for CD4 cell counts and viral loads are performed in Houma, Louisiana, since Charity's equipment was decimated. Microbiologic testing remains unavailable. Services have been pared down to basic primary care, social services, and mental health care for patients infected with HIV. Yet we have welcomed back some

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750 of our 3000 patients, with many more expected to return later this year.

Like the HOP clinic, Common Ground is challenged by the dearth of facilities and laboratory services in New Orleans. On September 9, three street medics broke through the barricades that surrounded the city to set up a first-aid station. They soon connected with community activist Malik Rahim and together envisioned a grassroots clinic to address the city's health care void. Their vision was embraced locally, and thanks to the Internet, volunteer providers streamed in from around the country.

Initially housed in a mosque, Common Ground seeks to offer sustainable primary care based on the model of other free clinics. Its hunt for support includes requests to local hospitals for laboratory services and appeals to foundations such as Direct Relief International, the National Association of Free Clinics, the International Medical Corps, and Veterans for Peace, as well as private donors.

As of early March, Common Ground volunteers had provided 10,000 free patient visits. Clients include former Charity patients, migrant workers, and nurses and teachers who lost their jobs and health insurance. "These people are overwhelmingly grateful for the clinic and enthused about the care they receive, even though we often have minimal resources," remarked Caroline Christopher, an internist with Tulane University Medical Center. "We spend so much more time with patients now, hearing about their lives." Services include immunizations, primary care consultation, prescription assistance, acupuncture, mental health care, herbal medicine, and massage therapy. The clinic recently moved from the mosque into a remodeled corner grocery store it has leased.

As national attention to New Orleans wanes, fewer volunteers are coming. Common Ground is recruiting local volunteer professionals who will commit to regular hours and is seeking funding for 12 paid positions. The task is challenging, since as the population returns, local professionals are busy with their paying jobs. Not surprisingly, some of the most enthusiastic volunteers are medical residents from Louisiana State University and Tulane.

Difficult as it is to accept that resources are now profoundly limited in New Orleans, Common Ground doctors say there are positive effects on their medical practices. "We make do with drastically fewer lab tests, and we try to manage more complicated things on our own," says the clinic's medical director Ravi Vadlamudi. "The best adaptation seems to be that everybody is a little more human."

Dr. Berggren is a teaching physician and primary care provider at the Charity HIV Outpatient Clinic in New Orleans.

alliances among hospitals. Touro is collaborating with LSU and Tulane; Ochsner helped LSU to open a trauma center; LSU and the Veterans Affairs (VA) hospital are pooling resources for a hospital to replace flood-damaged facilities; and the VA now contracts beds from Tulane. Still, some indigent patients must go to a safety-net hospital 75 miles away in Baton Rouge to find care. Consumers remain confused about which hospitals are open and what services they provide.

In this environment, medical education has suffered, but both local medical schools are tenacious. Tulane laid off one third and LSU lost one quarter of their medical school faculties. Other faculty members, without assurances regarding their future, continue to leave. Tulane's medical students were welcomed by Baylor Medical School in Houston, and its house staff were dispersed to other hospitals. LSU decamped temporarily to Baton Rouge, where students and professors are living on a ship on the Mississippi River and commuting to classes at a conference facility. Hospitals throughout Louisiana accommodated LSU's residents. Training continues at both medical schools, because some dedicated faculty members are willing to commute, relocate, sleep on a boat, or do whatever is necessary in order to go on teaching. Some residents and fellows drive hundreds of miles weekly to work at temporary hospital assignments.

Despite these difficulties, Tulane's internal-medicine training program has lost only 6 of its 90 residents. Pediatric training at Tulane has been gravely affected by Charity's decision to close its inpatient pediatrics program in the face of a diminished population of children: 11 of 24 medicine–pediatrics trainees have left. But overall, says Jeffrey Wiese, medical-residency program director, "our residents learned a lot of personal and character lessons that, in the end, will make them better physicians." Moreover, both schools are heartened by the number and quality of applicants for next year.

Leaders from all health care sectors have emphasized the importance of graduate medical education (GME) to the health care infrastructure. Medical residents are the care providers for most un-

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Michael Brumlick, Ph.D., Tulane Medical School, 2005

derinsured patients in any major U.S. city, and the need for them in post-Katrina New Orleans is self-evident. Moreover, physicians trained at LSU and Tulane have historically stayed to practice in Louisiana. "If we don't support GME, then we do serious damage to the future of health care in this state," asserts Tulane's Ron Amedee, associate dean for GME.

Nonetheless, protecting GME appears to be a low priority for government agencies. Tulane relies on the Hospital Corporation of America, an 80 percent owner of Tulane Hospital, to sustain residents' salaries while funds are held up by the Centers for Medicare and Medicaid Services (CMS), which funds specific hospitals, not individual residents. CMS says that a waiver is being negotiated to mitigate the deficit in the salaries of displaced residents. The pace of bureaucratic change could be lethal to training programs.

Early after Katrina, a policymaking group, facilitated by the Public Health Service, developed "A Framework for Rebuilding the Health Sector of Metropolitan New Orleans." Participant Karen DeSalvo, chief of general internal medicine at Tulane, notes that the development of this framework brought together diverse members of the public and private sectors. Though the group acknowledges offering a utopian vision to a city of few resources, DeSalvo says they reached agreement in key areas that are necessary for progress. In further work with the health care task force of Mayor Ray Nagin's Bring New Orleans Back Commission, she adds, the long-term–redesign group "looked at best practices around the country, and at models of health care delivery that focused on the underserved." Governor Kathleen Babineaux Blanco's Louisiana Recovery Authority hopes to adapt the Institute of Medicine's "Crossing the Quality Chasm" concept of a safe, effective, equitable, patient-centered, sustainable system for Louisiana.

Meanwhile, seven months after Katrina, health care here remains unacceptably primitive. Legislative action is warranted to ensure that CMS dollars for GME salaries follow residents, rather than institutions, and that health care reimbursements for the uninsured persons follow patients, rather than hospitals. The absence of chronic care facilities contributes to the lengthening of stays in acute care hospitals whose costs exceed CMS reimbursement, and these additional uncompensated expenses may soon force recently reopened hospital beds to close again. Without rapid, coordinated, and effective help from government agencies, we fear that disproportionate human suffering and death will continue to plague greater New Orleans.

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Access to the Scientific Literature — A Difficult Balance

Martin Frank, Ph.D.

During the past decade, scientific publications have increasingly become available on the Internet, where they can be used by far more readers than print journals have ever reached. In *The Access Principle,*[1] John Willinsky argues that since the knowledge conveyed in these publications is a public good, access to it should be broadened as far as possible. Willinsky, the principal investigator of the Public Knowledge Project at the University of British Columbia, is deeply involved in efforts to use technology to improve the professional and public value of research. Publishers of open-access online journals rely on open-source software that this project has developed, which makes it economically viable for them to comply with standards such as those set by the Open Archives Initiative for harvesting and searching indexed items from journals and databases.

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