
Rapid Community Participatory Assessment of Health Care in Post-Storm New Orleans

Benjamin F. Springgate, MD, MPH, Charles Allen, MPH, Catherine Jones, BS, Shaula Lovera, MPH, Diana Meyers, BSN, Rev. Larry Campbell, Lawrence A. Palinkas, PhD, Kenneth B. Wells, MD, MPH

Background: Hurricane Katrina and levee failures disrupted healthcare access for hundreds of thousands of New Orleans residents. Few models exist to explain community stakeholders' priorities for post-disaster recovery while building capacity for response. This project engaged community stakeholders in a rapid, participatory assessment of health priorities 1 year post-disaster, to inform the policy process and build capacity for recovery planning among community members.

Methods: This project combined community-based participatory research methods and rapid assessment procedures to engage diverse community members in design, conduct, data interpretation, and dissemination of results. Thirty stakeholders in the health and healthcare fields were interviewed in Summer 2006, and four grassroots community discussion groups were held in New Orleans neighborhoods to assess perceptions of the disaster's impacts on healthcare access. Interview transcripts were reviewed in Summer 2006, and themes were elicited using methods rooted in grounded theory. Findings were shared at a public community feedback conference, and recovery-relevant community action steps were set in motion.

Results: Three main themes emerged from the data: (1) healthcare access challenges; (2) unmet needs of specific vulnerable populations; (3) opportunities, resources, and community adaptations to improve healthcare access.

Conclusions: This rapid, community-based participatory assessment provided new information on diverse community members' concerns and priorities, and it produced a sustainable community-academic partnership dedicated to improving both access to care and the public's health following this major disaster.

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Introduction

Nearly 4 years after Hurricane Katrina, problems persist with accessing health care in New Orleans. Flooding from levee breaches destroyed the primary system of care for low-income people. Over 40% of the New Orleans population prior to the hurricane was either uninsured or enrolled in Medicaid and relied on the Medical Center of Louisiana, New Orleans system (MCLNO), which downsized after the flooding.¹ Nearly three quarters of MCLNO patients were African-American, and 85% of its patients had incomes below \$20,000.² Many people in affected areas

also lost their jobs and health insurance, at least temporarily.^{3–7} Clinics and public health centers were shut down by the disaster.⁸ Hospital capacity was reduced by 80% initially, and about 75% of the safety-net clinics closed in New Orleans.⁹ An estimated 4400 physicians were displaced, and many healthcare workers were laid off.^{10,11} Three years later, hospitals continued to operate at maximal capacity, and community-based providers remained strained.^{12–17} Although efforts such as the federal Primary Care Access and Stabilization Grant improved some aspects of primary care, access challenges remain, particularly in behavioral health and specialty care.¹⁸

Multiple surveys have documented high levels of unmet health needs in Katrina-affected communities.^{5,16,19–26} Efforts to address health issues in vulnerable populations ideally should involve building sustainable capacity for self-directed inquiry, advocacy, and action.²⁷ To our knowledge, the current study is the first community-based participatory research (CBPR) project to engage a group of affected community members in the design, interpretation, and planned

From the University of California (Springgate, Wells), and University of Southern California (Palinkas), Los Angeles; RAND Corporation (Springgate, Wells), Santa Monica, California; Tulane University (Springgate, Allen); Holy Cross Neighborhood Association (Allen); Common Ground Health Clinic Latino Health Outreach Project (Jones); Catholic Charities (Lovera); St. Anna Episcopal Church (Meyers); and Israelite Baptist Church (Campbell), New Orleans, Louisiana

Address correspondence and reprint requests to: Benjamin F. Springgate, MD, MPH, RAND Corporation, 650 Poydras Street, Suite 1400, New Orleans LA 70130. E-mail: benspringgate@gmail.com.

response regarding healthcare needs resulting from the Katrina disaster.²⁸

A community-based participatory research strategy is important in this context, as it potentially offers decision makers in Louisiana and Washington DC information on the challenges and opportunities for recovery from their constituents' perspectives.^{29–31} In a post-disaster context, it may be particularly important to long-range recovery to couple data collection strategies with development of a local community–academic coalition, to contribute high-quality information through academic support, and to improve validity and utility through community support and expertise. Given historical problems with trust in healthcare systems and with participation in research among many underserved groups in the affected communities, as well as with trust of government actions following this disaster, a community–academic partnered effort may hold promise to both identify new approaches to support recovery and build greater trust in findings.^{32–34} Such a result could facilitate recovery planning for this disaster, with implications for future disaster preparedness policy and programs.³⁵ With such goals in mind, this study engaged community stakeholders in design and implementation of a rapid, participatory assessment of post-disaster priorities.

Methods

The REACH NOLA partnership used rapid assessment procedures and CBPR methods to assess perceptions of healthcare access in New Orleans since Hurricane Katrina.³⁶ In May 2006, a seven-member community advisory board (CAB) of diverse New Orleans residents and an academic partner (the project director) convened to design the assessment, nominate key stakeholders for interviews, coordinate data collection at community discussion groups, and plan data analysis and dissemination. Members of the CAB were identified following the disaster by the project director for their leadership in responding to community health concerns. The members had not worked together or with the academic partner prior to the disaster. Members included four people of color and three women. Member backgrounds were broad, and included a church minister who works in public housing; the president of a Lower–Ninth Ward neighborhood association; the director of a faith-based disaster recovery program; a community organizer working with the post-disaster immigrant population; a health educator for a social services organization; the medical director at a free clinic; and a public health program director. Thus, the CAB contributed validity and transparency to the project for the affected community.

The CAB met weekly throughout the project period to coordinate planning and implementation. A six-member scientific advisory board (SAB) provided methods and analysis support. This included health services researchers, health systems experts, an anthropologist, and an epidemiologist

with expressed interest in examining and addressing the health and healthcare consequences of the Katrina disaster. The project director, one member of the SAB, and two additional academic members of the six-member coding and analysis team were New Orleans residents.

The CAB nominated topics to focus on in semi-structured interviews. The selected topics were consistent across interviews and included assessments of available health services; emerging health needs; policy, provider, and community responses to access challenges; and visions for improving recovery of community health and healthcare access. Interviews were recorded for subsequent transcription and analysis.

In May and June 2006, project partners interviewed 30 key stakeholders divided into three strata. The interviewees participated in 10 interviews with policymakers and health-sector recovery planners (e.g., elected officials; industry and professional representatives; and appointees to agencies such as the Louisiana Recovery Authority, the Louisiana Healthcare Redesign Collaborative, and the Bring New Orleans Back Commission).^{37–39} Ten interviews were with health care systems leaders and providers (e.g., clinic managers, hospital executives, physicians, nurses, and social workers). Another 10 interviews were with other community health leaders (e.g., patient advocates, outreach workers, health care access activists, and clergy). These three strata represented many diverse interests in recovery planning, delivery, and advocacy for health care and community health, contributing breadth and depth to the interview data (Table 1).

The project was approved by the University of California Los Angeles IRB. All interviews were confidential. Interviewees provided oral and written informed consent prior to participation.

Interview transcripts were analyzed in Summer 2006 using a methodology of “coding consensus, co-occurrence, and comparison,” outlined elsewhere.⁴⁰ Themes were derived from data and then illustrated by characteristic examples of data.⁴⁰ Each transcript was independently coded at a general level in order to condense the data into analyzable units. Segments of transcripts ranging from a phrase to several paragraphs were assigned codes based on a priori (i.e., based on questions in the interview guide) or emergent themes. In some instances, the same text segment was assigned more than one code. The final list of codes consisted of a numbered list of themes, issues, accounts of behaviors, and opinions that related to organizational and system characteristics that influenced access to health care both before and after Hurricane Katrina. In June and July 2006, four community discussion groups were held (three conducted in English, and one in Spanish and English) involving 76 participants to assess healthcare recovery priorities of community members, an analysis of which has been described elsewhere.⁴¹

Participants and members of the general public convened for a project community feedback conference in New Orleans in August 2006 to review the process and results of this project, and to determine potential action steps. The CAB members presented the project design and results, illustrating themes with interview quotes. Feedback regarding potential next steps was elicited through facilitated discussions, breakout groups, and guided reflection exercises led by CAB members.

Results

Themes from the interviews were organized into three broad categories: (1) healthcare access challenges; (2) unmet needs of specific vulnerable populations; (3) opportunities, resources, and community adaptations to improve healthcare access. Themes and supporting quotes are illustrated in the following sections.

Healthcare Access Challenges

Access challenges, as assessed by the interview analysis team, included difficulty seeking and obtaining services, availability of services, and underlying reasons or barriers. Interviewees often framed the discussion of post-disaster access and healthcare recovery in relation to the pre-Katrina disparities. Of particular importance to perceptions of pre-Katrina health care was the historic role of the MCLNO Charity and University Hospitals as the primary sources of health care for the region's uninsured.

Interviewees described Charity Hospital's importance as a symbol of the state's health care for the uninsured. Participants also noted the value of its training programs in maintaining a healthcare workforce. Many interviewees expressed reservations that health care for the uninsured, and training programs, might suffer during the disaster recovery.

Interviewees also expressed concerns about their perceptions of care at MCLNO prior to Katrina, including prolonged wait times for needed services; inadequate supervision of trainees; and the cultural normalization of a lesser, "second tier" of health care for the uninsured. Multiple participants believed that MCLNO's continued closure after the disaster represented an attempt by its administrators to draw funding for a new Charity Hospital from FEMA, Congress, or the Louisiana legislature. Some interviewees argued that Charity should be reopened to alleviate the current access crisis. Other participants noted that even if one could reopen the hospital to in its pre-disaster condition, the return on such expenditures, given prior limitations and competing hurricane recovery needs, would not warrant the investment.

The strong sense of uncertainty about healthcare access following the closure of MCLNO, and implications for the community, are revealed by this provider:

People that had very limited access to health care pre-Katrina, they have come back [to New Orleans]. And mainly Charity [Hospital] was their access to care. And, you know, I've heard positive things and I've heard negative things about that system. But . . . we're seeing nurses and teachers that were employed, and happy, the day before Katrina, and no . . . months later . . . they have no income . . . and no health care. And they're trying to put their lives together. Their families are

displaced. And their homes are destroyed. And you know? It's just too much . . . I don't know how people get through it all.

Interviewees expressed concerns about closures of other facilities and the diminished availability of dialysis units, assisted living homes, and daycare centers. Prolonged waits in the emergency room and crowded hospitals remained routine. Decreased availability of post-hospital facilities such as skilled nursing facilities, rehabilitation units, and nursing homes compounded a hospital bed shortage, contributing to extended hospital stays.

Healthcare workforce re-entry was described as difficult, complicated by closures of facilities, layoffs, and housing shortages. Primary care physicians, medical and surgical specialists, dentists, and mental health providers were noted to be in critically short supply relative to population needs. The greatest barrier to healthcare workforce return was insufficient affordable housing. As one industry executive summarized the problem, "New Orleans is [difficult] to recruit people into right now. I mean . . . there's no place to live." These challenges were further complicated by the difficulty of workforce retention. According to one hospital leader, "We don't have a lot of new workforce coming in, and we're afraid that the workforce that's here is going to start getting tired."

Unmet Needs of Specific Vulnerable Populations

Interviews revealed a widespread belief that the flood, displacement, and slow recovery disproportionately affected certain vulnerable populations' access to health care and health status. People who were HIV-positive, mentally ill individuals, women in need of reproductive healthcare services, chronically ill people, and frail elderly were all described as suffering from increased unmet health needs, as reflected in the Results section.

Tuberculosis and HIV. The HIV-positive and tuberculosis (TB)-positive communities faced considerable difficulty accessing needed medications and care following evacuation, leading to progression of disease and new, potential exposures. According to one public health specialist:

Patients went to [evacuation] shelters. Whether they had TB or HIV, they were reluctant to disclose their status. We have documented case histories of individuals who were under directly observed therapy . . . in New Orleans for TB, who were smear negative, who got evacuated, were fearful of disclosure, and came back to New Orleans, smear positive.

Another provider described how, months later, limited access to basic tests for people returning to New

Orleans continued to pose threats both for patients and the general public:

“Even today (June 2006), we can’t get a TB smear done [through the public hospital in New Orleans]. . . . It can take 10 days to get a [TB] smear back. . . . And since we haven’t met his needs, to have TB screened, diagnosed, and treated—then infectious diseases like TB can spread.”

Reproductive health. Closure of healthcare facilities and workforce displacements limited reproductive healthcare services after the disaster. As described by one provider:

“A woman . . . came in with abdominal pain and got evaluated, but once she got her diagnosis [of ovarian cancer], she couldn’t get further outpatient care. . . . [The doctor] had to refer her out to Pineville . . . 200 miles away, to get care for her ovarian cancer.”

Prenatal services were also cited as very limited after the disaster. According to one administrator:

“I was just told this week, that [the primary provider of prenatal care to uninsured women] . . . stopped accepting any new pregnant women—just because they are so overwhelmed.”

One public official noted safety concerns due to limited access to obstetrics care:

“My brother and his wife had a baby. They had to do that in Baton Rouge [75 miles away].”

Chronically ill. Interviewees worried about the availability of healthcare services for chronically ill people as well. One executive reflected: “I think that in general, people who are very, very sick—dialysis patients, oncology patients . . . certainly those without insurance, shouldn’t try to come back to the city. . . . We don’t have the resources to care for them.”

Due to limited availability of outpatient specialty services, one provider suggested that chronically ill people may be better off in the hospital: “If you’re lucky enough to be sick enough to be admitted to the hospital, you do okay. But that’s a small percentage of our patients. . . . We have a handful of clinics in the community . . . that are open for uninsured patients . . . that just isn’t sufficient.”

Frail elderly. Interviewees described elderly community members as particularly at risk as well. According to one community advocate:

“[Among the elderly] dehydration is very high. We’re seeing renal failures. . . . We’re seeing a lot of Coumadin toxicity because people can’t get to their labs to have their Coumadin levels checked. We’re seeing diabetics not getting their supplies.”

The healthcare workforce shortage was noted by one provider as contributing to the unsafe conditions for elderly: “[At one nursing home] an RN was respon-

sible for all the care, all by herself, for 32 patients. . . . With no nursing aide!” Such unsafe conditions led some local providers, advocates, and policymakers to discourage elderly community members from returning to the New Orleans area. As one provider described.

“There have been a lot of elderly folks that I’ve told don’t come back to New Orleans . . . health care is too on the fence, it’s too risky. And it’s true with our own—my wife’s mother and father who lost their house . . . they’re in Baton Rouge, and they have health issues. . . . They want to come back, but it’s not safe.”

Mentally ill. Service availability for the mentally ill was reduced to critical levels, according to interviewees, despite higher prevalences of depression and post-traumatic stress syndrome. One inpatient provider noted, “(Mentally ill people are) sitting in the emergency room for four or five days in a row, waiting . . . suicidal, psychotic patients, sitting there for four or five days!” Barriers to care were substantial for outpatient behavioral health services as well. As one healthcare recovery planner indicated:

“For behavioral health . . . it doesn’t really matter whether you have insurance or not. The services are so scarce that it is difficult to receive care. . . . Even with insurance you’re looking at a one- to two-month wait for an initial appointment with a psychiatrist.”

One healthcare administrator bluntly assessed the mental–health care situation:

“There’s no psychiatrists in town. Mental health (services delivery) is just a wasteland, an abysmal wasteland. . . . How [can we] care for folks that are dealing with . . . the biggest crisis they’ll ever face in their lives?”

One provider described the community’s experience of stress as follows:

“Probably 90 percent of the patients that I see now include stress as part of their history taking. ‘I’m under a lot of stress at home,’ ‘I’m under a lot of stress with the insurance companies. . . . Stress is mentioned . . . at least 90 percent of the time during a medical office visit—and I’m not a psychiatrist!”

Opportunities, Resources, and Community Adaptations to Improve Healthcare Access

Despite the pressing health and healthcare challenges cited, interview participants acknowledged many opportunities to improve health care since Hurricane Katrina and the levee failures. New collaborations formed among community groups, private sector interests, government agencies, and academia. As one public health official described it: “There’s a great oppor-

tunity to put something into place. . . . Katrina has broken down a lot of the barriers to the discussion and the obstacles.” According to one community advocate describing civic activity among community members and community organizations: “One of the really great things that is happening is that . . . communities and those people that have been able to get back are really galvanizing around what’s going to happen. . . .”

Many participants described volunteerism as a bridge to re-establishing healthcare services. Volunteer clinicians served evacuees, developed new clinics, and partnered with local service organizations after the disaster.

Particular innovations enhanced the community’s capacity to address emerging health needs. Clinical services for uninsured patients were relocated to the convention center; mobile health units served FEMA trailer villages; schools and churches offered health programs; physical and mental health services were increasingly colocated; Spanish-language services multiplied; and forums for sharing information across service providers flourished, including regional provider meetings, websites, and print resource guides.

Finally, interview participants described often consistent hopes for the future: the emergence of visionary leadership during the recovery; increased government transparency during disaster recovery; and frank dialogue between returning citizens and policymakers. Many interviewees worried that dysfunctional systems and practices that contributed to historically low-quality health care in Louisiana would maintain a pre-eminent role in the post-disaster healthcare arena in the absence of a new vision and new voices.⁴² Means for ensuring hope for the community’s health was described by two community advocates:

“I think we’ve got to look beyond ourselves to come up with the most creative way of creating a health care system.”

“[Our] purpose is not just to provide quality, culturally competent health care. [Our] responsibility . . . is to do that, plus engage the healthcare system so [we] can transform it.”

Discussion

Following a major disaster, it is challenging to engage diverse voices in the affected community to contribute to community health planning and recovery, at a time when they are also attending to personal recovery needs and living or working in damaged areas. However, REACH NOLA developed a leadership coalition from diverse community sectors that provided consistent leadership to design, complete, and share with the community new data from a rigorous qualitative assessment effort. This project elicited divergent, important insights from multiple community perspectives, and contributed to the public discourse as to which of many

priorities require the most urgent attention, as well as how disaster recovery may proceed.

To the knowledge of the authors, who include five members of the CAB, two members of the SAB, and the project director, this is the first application of combined CBPR and rapid assessment procedure methods to assess healthcare access and community recovery following a major U.S. disaster. Equitable CBPR practices may elucidate concerns in a manner that is both empirically rigorous and grounded in transparency and trust for participating stakeholders.^{28,43,44} Applied in the context of a difficult disaster recovery, in which populations are vulnerable and trust is strained, this methodologic approach allowed project participants to advance a community-relevant recovery agenda grounded in timely and objective inquiry.³² In an environment that often was (and still is) fraught with loss and disappointment, the perception of the authors and our partnership network is that this participatory process contributed hope and new opportunities for community recovery, while increasing understanding of how disasters can elicit complex changes in the community’s health and healthcare services.

It was found that a broad range of community stakeholders could provide articulate and often dramatic accounts of critical gaps in healthcare services even 1 year after this major disaster. Examples ranged from individual to public health implications of healthcare delays, missed diagnoses, and widespread hopelessness. Despite some divergence in opinion on particular priorities, the common perspective across stakeholders was one of dramatic, persistent unmet needs across almost every area of health care and community health, even at 1-year post-disaster. These unmet needs were particularly common for low-income, uninsured, and other vulnerable populations, but also more generally reflected in the loss of historic systems of care such as MCLNO, widespread infrastructure loss, workforce shortages, and community-wide psychological strain. Similar areas of unmet need became major policy priorities as government capacities to respond in the affected areas increased in 2007 and 2008, offering some validation to the community’s view of priorities in this project.

This assessment initiative offered opportunities to improve community participation in health and healthcare recovery planning. This constructive outcome was itself a project goal and occurred in the context of widespread public disappointment in policy actions in the communities of New Orleans. Despite initial fears that public participation in recovery planning might lead to increased tensions or unconstructive dialogue, owing to widespread disappointment, in fact the policy–community conference to review these findings led to constructive dialogue and action plans, such as ongoing, partnered work groups to address priority areas arising from the dialogue.⁴¹ This example of capacity building through

Table 1. Sample interview questions

- How has the population shift affected the need for specific health services?
 - From your perspective, what are the most important challenges to meeting health care needs in the greater New Orleans area since August 29, 2005?
 - How have health care organizations and providers of health services responded to these types of challenges?
 - How would you characterize the various levels of public policy responses to the current health services challenges in the Greater New Orleans area?
 - How would you describe the ways in which community groups and community members have responded to current health services challenges?
 - What policy mechanisms or solutions might be employed to improve health services or decrease the unmet needs you described?
 - What are your views on the future of unmet need and access to health services in the New Orleans area?
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participatory assessment and planning, even following a major disaster, suggests that community participation as a component of recovery planning can help assure that diverse, urgent needs receive appropriate prioritization, and that community voices are effectively represented in policy planning processes. For example, as of April 2008, the partnership that emerged from this initiative, including original CAB and SAB members, has raised funds to plan and implement four health and resiliency centers focused on behavioral health issues from the Robert Wood Johnson Foundation, and additional funds from the American Red Cross to provide behavioral health services and support evidence-based trainings over 1 year.⁴⁵

This project has several limitations. Although the semi-structured interviews involved a broad-based range of participants in south Louisiana and New Orleans almost 1 year after the Katrina disaster, these findings may not be generalizable to every affected population or community, or applicable to all contexts and time frames of post-disaster recovery. Further, strategies of community engagement through CBPR are noted historically to take a very long time to develop. Although project partners were able to plan and conduct a rapid assessment and present the preliminary results to the community within 5 months, development of agendas for subsequent action steps may take months or years to mature, especially given the competing concerns of a post-disaster environment. The REACH NOLA experience nonetheless suggests that it is also possible that the context of a major disaster can facilitate mobilization of new partnerships by expediting early stages of engagement in a CBPR process.

Since October of 2005, government officials at all levels have assured the public of its health and safety on return to the New Orleans area. Yet when major barriers persisted in access to healthcare for women

requiring reproductive healthcare, people with chronic physical illnesses, the mentally ill, and the frail elderly, returning community members felt that they were left to fend for themselves. Local community leaders and organizations have demonstrated innovative, collaborative approaches to expanding healthcare access with limited resources in the face of substantial challenges of the ongoing disaster recovery. As of 2007, the USDHHS and Congress began to provide increased resources to enhance healthcare access and community health assets, but substantial barriers to care and recovery remain. Partners in REACH NOLA hope to continue to provide the community-academic, participatory leadership to support policymakers and the public in monitoring ongoing needs and responses over what is likely to be a relatively long period of local recovery, to share lessons drawn from objective data, and to offer strategies for other communities facing future disasters.

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