Building Community Disaster Resilience: Perspectives From a Large Urban County Department of Public Health

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An emerging approach to public health emergency preparedness and response, community resilience encompasses individual preparedness as well as establishing a supportive social context in communities to withstand and recover from disasters. We examine why building community resilience has become a key component of national policy across multiple federal agencies and discuss the core principles embodied in community resilience theory—specifically, the focus on incorporating equity and social justice considerations in preparedness planning and response. We also examine the challenges of integrating community resilience with traditional public health practices and the importance of developing metrics for evaluation and strategic planning purposes. Using the example of the Los Angeles County Community Disaster Resilience Project, we discuss our experience and perspective from a large urban county to better understand how to implement a community resilience framework in public health practice. (*Am J Public Health.* 2013; 103:1190–1197. doi:10.2105/AJPH.2013.301268)

BUILDING COMMUNITY

resilience to disasters—the ability to mitigate and rebound quickly—has received increased attention in the relatively new field of public health emergency preparedness and is now a central focus and a required activity for all public health departments that are recipients of Centers for Disease Control and Prevention (CDC) Public Health Emergency Preparedness (PHEP) grants.[1] Critical lessons from Hurricane Katrina in 2005, the H1N1 pandemic of 2009, and, most recently, Hurricane Sandy continue to demonstrate that underlying issues of lack of trust and the absence of sustainable engagement with community-based organizations, faith-based organizations, and other neighborhood-level organizations create significant disparities in population health outcomes following emergencies and disasters. This situation hampers public health interventions in both everyday public health work and emergency response.[2,3] As a theory and approach, community resilience provides a framework that embraces principles of equity and social justice with a focus on developing the core capacities of populations both to mitigate disasters and to rebound from them.[4] The challenge is to clearly and operationally define community resilience, develop principles and practices that expand and enhance current community-based activities, and, through these changes, better align and integrate traditional public health and public health emergency preparedness.

Although the term community resilience is relatively new to emergency preparedness, the emerging operational frameworks embrace many of the core components of effective community-based public health practice and, in many ways, represent a reframing of long-standing approaches to improve community well-being that have not been incorporated in preparedness programmatic activities.[5]

We review the origins of the community resilience framework in the multidisciplinary research on individual resilience and assess how community resilience and related frameworks are shaping federal policies in all agencies involved in disaster and public health emergency response. We describe how the community resilience framework augments public health preparedness and reinforces longer-standing public health approaches to improving community health by examining a multiyear process developed by the Los Angeles County Department of Public Health (LACDPH) to implement this approach. The strategy consists of operationalizing community resilience through the following steps:

- Improving the community engagement skills of health department staff and building sustainable community engagement processes;
- Developing a resilience tool kit that can be used by community organizations to build coalitions and coordinated neighborhood strategies to increase community preparedness and specific mitigation skills; and
- Identifying metrics so that systematic interventions that can improve the abilities of communities to promote resilience and mitigate disaster impacts can be measured and evaluated.

DEFINING COMMUNITY RESILIENCE

Most definitions of resilience refer to notions (derived from physics) of rebound, or bouncing back, from deformation or distress. The concept of individual resilience has evolved in psychology and the behavioral health sciences as a means to understand what adaptive capacities allow some individuals to continue

functioning effectively and display positive outcomes in the face of adversity.[6] Individual resilience is seen as a set of protective factors and, most importantly, as a process of positive adaptation following exposure to adverse events.[7,8] Viewing resilience as a process of positive adaptation has led to the search for factors that may encourage and promote a cascade of protective properties during and following exposure to adversity. A supportive social context in a community, prior to an adverse event, has emerged as a key component of resilience and provides a bridge between individual resilience theory and an exploration of a community-level theory.[7,9,10] It is important to note, however, that community resilience is much more than the summation of individual resiliencies.[11]

Community resilience has been defined as the sustained ability of a community to withstand and recover from adversity (e.g., economic stress, pandemic influenza, manmade or natural disasters). It represents a paradigm shift in public health emergency preparedness in emphasizing an assessment of community strengths not simply describing vulnerabilities.[11,12]

Chandra et al., in their literature review, describe the 5 core components of community resilience as physical and psychological health, social and economic equity and well-being, effective risk communication, integration of organizations (governmental and nongovernmental), and social connectedness.[12,13] Norris et al. describe community resilience as a set of networked adaptive capacities, including economic development, information and communication, community competencies, and social capital.[4] Consistent with the concept of resilience as a set of social characteristics and a process of adaptive behavior, Nuwayhid et al. describe components of resilience before as well as during and after an adverse event.[11] Their findings suggest that community resilience is a process rather than an outcome. Collective identity, prior experience with the adverse event, and social support networks contribute to building resilience over time. Additionally, community cohesiveness, social solidarity, and a connected political leadership help to sustain resilience after the event.[11,12] Castleden et al., in their literature review, identify 10 components of resilience.[6]

Chandra et al. link their core components of community resilience with 8 levers for action[12]: wellness, access, education, engagement, self-sufficiency, partnership, quality, and efficiency. These levers provide a particularly good framework for a programmatic and practice focus on improving community resilience.[14] They are immediately familiar to most public health practitioners and provide insight into how a community resilience perspective supports alignment between everyday public health practice and public health emergency preparedness and response. Such everyday public health interventions as reducing obesity and preventable injuries draw upon the identical levers found in the resilience framework, thus providing a practical bridge between preparedness and traditional community-based public health practice. The community resilience literature strongly embraces the importance of a sustained commitment to improving connectedness (both social networks and information linkages) between individuals, organizations, and formal governmental agencies as a primary objective of building community resilience.[12,15,16] The themes of improved connectedness through engagement, partnership, collaboration, and trust building provide the fundamental building blocks for improving social support structures, promoting social cohesiveness, and improving shared understanding of protective actions that improve community well-being, whether in their regular routines or in an emergency situation.[4,9,17]

The concept of community resilience embraces the core principles of increasing equity and social justice and recognizes that some communities bear the burden of inequitable distribution of critical resources. Communities with strong social and economic infrastructures have health insurance, stable housing, and other assets that make them better able to sustain healthy behaviors in the face of adversity than socially and economically marginalized communities.[9] These strengths, which are broadly recognized in current public health practice as promoting well-being, constitute the central premise of the social determinates of health framework. However, it is only recently that activities of public health emergency preparedness have incorporated a perspective that disasters occur within a social, cultural, and historical context of preexisting health disparities and, in some populations, of underlying mistrust of government.[18]

Vulnerability, in the emergency preparedness world, has traditionally focused on risk-related deficiencies in critical infrastructure (e.g., roads, buildings) or susceptibility to novel viruses (H1N1). However, it was only rarely recognized that vulnerability has a socially constructed component: in any given disaster scenario, those populations with mental health problems, chronic medical conditions, developmental disabilities, or extreme poverty are often most at risk for poor survival outcomes.[10,19–21] Vulnerability, which is influenced by demographic, cultural, social, economic, and historical contexts, changes according to the interactions of the social determinants of health, an individual's functional limitations, and the nature of an adverse event.[9]

COMMUNITY RESILIENCE AS A NATIONAL PRIORITY

Emergency response interventions and resources will be inadequate and delayed following a major disaster, which requires communities to develop self-sufficiency for extended periods of time, ranging from days to weeks. Building community resilience is gaining national attention as a mechanism through which all communities—particularly those that experience disparities during nonemergency times—can strengthen their ability to rebound from adversity even in the

absence of immediate, formalized governmental assistance. A commitment to building community resilience implies that individual members of a community should not be viewed as unavoidably reactive, helpless, and panicked in the face of a disaster; instead, they can be informed, trained, and empowered survivors and a capable source of human capital for response and recovery.[22]

A national commitment to building community resilience emerged in the Bush administration's 2007 Homeland Security Presidential Directive 21, where community resilience was identified as 1 of 4 critical components of public health and medical preparedness, along with biosurveillance, countermeasure distribution, and mass casualty care.[23,24] The Obama administration has furthered this commitment to building community resilience as outlined in the White House's National Security Strategy, the Department of Health and Human Service's National Health Security Strategy, the Federal Emergency Management Agency's Draft National Disaster Recovery Framework, and, most recently, Presidential Policy Directive 8.[25–28] These federal directives were a reaction to the challenges faced in numerous disaster responses where there had been insufficient attention to preparedness activities that both engaged and learned from vulnerable populations, thereby creating inequitable disparities in survival.

In March 2011, the CDC identified 15 public health emergency preparedness capabilities to serve as national standards for state and local planning. These capabilities, which represent a new structure for federal grant assistance, are designed to guide local jurisdictions in planning and prioritizing their work and identifying areas to sustain and build. Two of these capabilities, community preparedness and community recovery (Box 1), detail resilience resource elements and functions that should be in place in a health department and set performance standards for developing sustainable and direct engagement with community-based organizations, faith-based organizations, and communities in developing a collaborative approach to emergency response planning. These broader and more community-grounded requirements for public health emergency preparedness programs are much-needed correctives, but at the same time they create challenges for health departments that must now expand their preparedness activities after years of declining levels of funding.[1]

ALIGNING EVERYDAY PUBLIC HEALTH AND EMERGENCY RESPONSE

Following the events of September 11, 2001, and the subsequent anthrax attacks, emergency preparedness became a core component of public health practice, as CDC PHEP grants equipped state and local health departments to develop capacities to prepare for and respond to emergent events.[29,30] As the field of public health emergency preparedness has evolved, some public health practitioners have often criticized the lack of alignment between the practice of everyday public health and those activities associated with emergency management. Emergency preparedness and response initiatives and programs are often viewed as add-on activities that have not embraced nor been aligned to the core processes of the public health sciences.[31] Additionally, prior to 2001, emergency preparedness and response was largely under the purview of law enforcement, fire, and emergency management agencies, whose organizational culture differs substantially from that of public health. Early public health emergency preparedness programs drew staff from those agencies and adopted planning approaches

The Centers for Disease Control and Prevention's Community Resilience Capabilities

Community preparedness: The ability of communities to prepare for, withstand, and recover—in both the short and long term—from public health incidents.

- Function 1. Determine risks to the health of the jurisdiction.
- Function 2. Build community partnerships to support health preparedness.
- Function 3. Engage with community organizations to foster public health, medical, and mental and behavioral health social networks.
- Function 4. Coordinate training or guidance to ensure community engagement in preparedness efforts.

Community recovery: The ability to collaborate with community partners (e.g., health care organizations, business, education, and emergency management) to plan and advocate for the rebuilding of public health, medical, and mental and behavioral health systems to at least a level of functioning comparable to preincident levels, and for improved levels where possible.

- Function 1. Identify and monitor public health, medical, and mental and behavioral health system recovery needs.
- Function 2. Coordinate community public health, medical, and mental and behavioral health system recovery operations.
- Function 3. Implement corrective actions to mitigate damages from future incidents.

Source. Centers for Disease Control and Prevention.[1]

developed by them, thus contributing to the impression that emergency preparedness is isolated and a somewhat foreign interloper in mainstream public health practice in both content and process.[32]

Along with this tension, there are increasing calls from Congress for greater accountability to ensure a return on investment for the substantial resources devoted to public health emergency preparedness and response over the last 10 years. It has been a tenet in public health practice that public health emergency preparedness resources should be dual purposed whenever possible to ensure a social benefit even in the absence of a disaster or emergency event; however, there is now increased accountability through capability requirements and performance measures that ensures these resources are tightly aligned with evidenced-based approaches to specifically improve emergency preparedness and response.

A community resilience perspective has the potential to address the concerns of public health professionals, who frequently see themselves as either everyday public health practitioners or preparedness practitioners, but rarely both. The community resilience approach frames the activities as a continuum and not a rigid demarcation of fundamentally different activities. Community resilience provides a framework with which to align emergency preparedness with the rest of public health. Just as health is defined as more than the absence of disease, community resilience is defined as more than the absence of vulnerability.[4] This simple relationship between health and resilience immediately provides a bridge to alignment. Furthermore, many of the activities that constitute effective everyday public health practice, such as promoting safety and health, working to reduce the burden of disease, and building social capital, can be viewed as activities that also build community resilience.[33] Conversely, many of the activities that constitute the practice of public health emergency preparedness, such as strengthening communities to resist a wide range of health hazards, can be viewed as activities that promote general community health. With a community resilience perspective, abundant dual-purpose opportunities become apparent. For example, increased community engagement for preparedness can also be a platform for addressing neighborhood public safety concerns. These collaborative activities simultaneously strengthen community social ties and improve dialogue and trust with public agencies. Building community resilience as a strategy in preparedness programs holds the promise of an immediate real-time enhancement of community capability improvements that bolster existing community well-being. This can also demonstrate tangible return on valuable preparedness investments when used to facilitate rebound and improve mitigation from the trauma of future emergencies. Thus, natural alignment provides a foundation for bridging everyday public health practice and emergency preparedness efforts that both policymakers and public health practitioners will find to be efficient, achievable, and valuable, as health departments throughout the nation experience increased budgetary pressures and funding constraints.

Improved alignment can link, for example, emergency preparedness activities with those conducted under the community transformation grants and other prevention components of the Affordable Care Act that are building coalitions and community partnerships to increase well-being and prevent disease.

A community resilience strategic framework offers alignment to other important activities in public health. Public health's commitment to addressing the social determinants of health, building healthy communities, focusing on the built environment's contribution to health, and developing policies that aim for improved health is advanced by a community resiliency framework. Community resilience allows public health emergency preparedness to align all of these activities, strengthening and integrating the practice agenda and message across the myriad public health disciplines.

BUILDING COMMUNITY RESILIENCE IN LOS ANGELES COUNTY

Los Angeles County spans more than 4000 square miles, from coast to high desert. It has a population of more than 10 million people speaking more than 200 languages; roughly 80 000 of its residents are homeless and approximately 1 in 6 live below the poverty level. This large, diverse county houses many distinct communities defined by language, geography, ethnicity, and numerous other self-identifying characteristics that cognitively and experientially connect a person or group to another. Although the definition of community in Los Angeles County is problematic, it is not an intractable barrier in building community resilience. The LACDPH has reframed public health emergency preparedness practices to include a significant commitment to building community resilience, drawing on the strength of existing community health activities, a decentralized community public health service structure, and a strong department emphasis on health equity in all activities.

The LACDPH is 1 of 4 directly funded PHEP grant recipients. This arrangement permits streamlined planning and reporting, as well as the ability to target funding solely on what works in Los Angeles County. A direct relationship with the CDC has helped to facilitate opportunities for pilot testing innovations in public health emergency practice, and building community resilience is at the forefront of those efforts.

The LACDPH views sustainable community engagement, trust building, and the development of both individual and community efficacy—with a focus on cross-sectoral partnerships—as the core of the community resilience operational strategy. The LACDPH is shifting from an exclusive focus on individual preparedness to embrace a broader approach that also emphasizes providing tools, collaborative strategies, and support

FIGURE 1—"Houses" ad for Los Angeles County Department of Public Health community resilience social media campaign, launched January 2013.

for community preparedness. The department's strategies include the following: developing and implementing a comprehensive resilience curriculum for community leaders and health workers, identifying and linking to existing LACDPH community coalitions (e.g., Ryan White Planning Council) to promote community preparedness, expanding disaster volunteer networks, and facilitating community-level emergency planning partnerships to assess hazards, risks, and assets and to prioritize emergency plan development.

Many LACDPH employees are developing a new skill set, through a curriculum to train employees in building community resilience, and will have specific tools to engage communities on preparedness issues that are locally relevant to supplement their regular outreach activities. The staff implementing the Los Angeles County Community Disaster Resilience (LACCDR) Pilot Project, which includes LACDPH health educators and public health nurses, has participated in a series of trainings that provide structured content on community engagement principles, how to build effective multisectored partnerships, and specific training on each component of the toolkit modules that will be used in community meetings. Staff training, which is ongoing, includes organized opportunities to discuss and refine toolkit content and participate in qualitative evaluation. Additionally, staff across the department has been trained in core themes and concepts relevant to emergency preparedness, community resilience,

FIGURE 2—"People" ad for Los Angeles County Department of Public Health community resilience social media campaign, launched January 2013.

and overall project goals and objectives.

Emergency preparedness staff are developing a skill set that goes beyond the promotion of individual and family stockpiling and emergency plan formation to encompass community coordination, neighborhood planning, and increased volunteer participation. As a result, the LACDPH emergency preparedness work is much better aligned and integrated with the rest of the department's community-based activities.

The LACCDR is the key public–private partnership that serves as an umbrella for all of these outward-facing activities. The CDC, the Robert Wood Johnson Foundation, and the National Institute of Mental Health are sponsoring the LACCDR with project partners from the LACDPH, the RAND Corporation, the UCLA Center for Health Services and Society, and the Emergency Network of Los Angeles (a network of local voluntary organizations active in disaster work) to develop best practices and a curriculum for engaging community-based organizations, faith-based organizations, and communities directly.[34] The team is engaging 16 community-based organizations in neighborhoods representing the economic, geographic, and ethnic diversity of the county in providing leadership and partnership to promote community resilience in the face of public health emergencies. The LACCDR employs community-partnered participatory processes as a central feature of the engagement strategy to develop the evidence base for community resilience, working

with formal and informal community leaders.[35–38] The methodology and approach of this process is fully described in the accompanying article.[38] The project provides a unique opportunity to translate community resilience theory into practice and to develop and test a comprehensive community resilience action plan.

Finally, the LACDPH has made a major shift in the social media messaging for public health emergency preparedness. The previous campaign, "Just Be Ready," emphasized the importance of having a stockpile of emergency supplies and an emergency plan. This has been reframed and augmented by a community resilience–oriented message that encourages social connectivity as a central feature of a community's ability to survive and rebound from a disaster (Figures 1 and 2).

A new county-wide media campaign will be implemented in conjunction with the launch of the LACCDR Pilot Project. The campaign, using community events, billboards, public transit, radio, and an interactive Web site, will promote the key strategies to building community resilience with the tagline, "Know your neighbors. Plan together. Be ready." Activities will include surveying residents regarding campaign exposure and the campaign's impact on the pilot project. Residents are encouraged to meet their neighbors and to prepare both individual and neighborhood disaster plans; they are provided online resources to improve appropriate responses to emergencies. Adding the importance of neighborhood connectedness to the previous messages of individual preparedness gives the LACDPH a new and enhanced message with which to reengage communities and improve on the currently low percentage of households (estimated at only 20%) that have an emergency kit or a family emergency plan. We are using Partner, a social network analysis tool designed to measure and monitor collaboration among people and organizations. The tool is free and designed for use by collaboratives and coalitions to demonstrate how members are connected and how resources are leveraged and exchanged, as well as to measure levels of trust. We can link improvement in outcomes of resilience measures over time to changes in the process of collaboration in the LACCDR.

All of these inward and outward efforts provide ongoing opportunities to weave the importance of community resilience throughout almost all LACDPH programs and initiatives. This is exemplified by the recent addition of building community disaster resilience as a major component of the overall departmental strategic plan.

CONCLUSIONS

The nascent field of community resilience builds on a strong research base in the areas of community cohesion, neighborhood effects on individual and community well-being, social equity, trust, and knowledge acquisition and transfer. All large-scale disasters, the most recent example being Hurricane Sandy, clearly demonstrate the critical importance of building community resilience.[39,40] Equitable and effective response and recovery strategies can be greatly enhanced by the presence of resilience capabilities in communities. However, translating federal policy directives like the CDC community preparedness guidance or the Federal Emergency Management Agency's "Whole of Community Planning" imperative into operational public health practice activities requires revising health department internal practices as well as developing a sustainable structure for community-level collaboration linked to clearly defined and measurable programmatic outcomes.[14] As with any new and evolving field, promising practices such as the approach developed in Los Angeles County need to be evaluated and the evidence-based strategies disseminated to other health departments. Although the CDC is currently working with partners across the country to develop effective metrics for measuring resilience baseline levels and progress, this project incorporates these measures to determine what actually improves resilience.

In practice, a health department's primary limitations in implementing community resiliency initiatives arise from challenges in achieving a cultural shift from a bioterrorism-focused and individual-preparedness orientation to an all-hazards, community-partnered, and collaborative approach to building resilience. This shift has to occur both within the health department and with community partners. Reframing preparedness while integrating new approaches into standard public health practice is often difficult given the overall budget challenges for public health departments, but alignment and integration of preparedness can strengthen the impact of community resilience intervention and enhance other community-based activities. ■

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This article was accepted January 27, 2013.

Contributors

A. Plough conceptualized and directed the Los Angeles County Community Disaster Resilience (LACCDR) Project, developed first draft of the article, and contributed to all edits and revisions. J. E. Fielding contributed to the first draft and provided editing and input to all subsequent drafts. A. Chandra, M. Williams, D. Eisenman, and K. B. Wells, principal partners in LACCDR, reviewed the first draft and contributed to all revisions. G. Y. Law wrote the abstract, managed revisions and response to reviewers' comments, and prepared the article for submission and multiple revisions. S. Fogleman, project manager for LACCDR, developed media materials, reviewed the first draft, and contributed to revisions. A. Magaña contributed to final revisions and provided critical research assistance for the project.

Acknowledgments

This work was supported by grants from the Centers for Disease Control and Prevention (grant 2U90TP917012-11), the National Institutes of Health (research grant P30MH082760; funded by the National Institute of Mental Health), and the Robert Wood Johnson Foundation.

We thank all workgroup and Steering Council members for their commitment to the project.

Note. The findings are those of the authors and do not necessarily represent the views of the funders.

Human Participant Protection

The human subjects review was from Rand and LA County Department of Public Health committees.

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