



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

Alonzo Plough, PhD, MPH, Jonathan E. Fielding, MD, MPH, Anita Chandra, DrPH, Malcolm Williams, PhD, David Eisenman, MD, Kenneth B. Wells, MD, MPH, Grace Y. Law, MA, Stella Fogleman, RN, CNS, MSN/MPH, and Aizita Magaña, MPH

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.<sup>1</sup> 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.<sup>2,3</sup> 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.<sup>4</sup> 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.<sup>5</sup>

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 multi-year 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



### 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.

### References

- Centers for Disease Control and Prevention. Public health preparedness capabilities: national standards for state and local planning. March 2011. Available at: [http://www.cdc.gov/phpr/capabilities/DSLRCapabilities\\_July.pdf](http://www.cdc.gov/phpr/capabilities/DSLRCapabilities_July.pdf). Accessed September 2, 2011.
- Cordasco KM, Eisenman DP, Glik DC, Golden JF, Asch SM. "They blew the levee": distrust of authorities among Hurricane Katrina evacuees. *J Health Care Poor Underserved*. 2007;18(2):277-282.
- Plough A, Bristow B, Fielding J, Caldwell S, Khan S. Pandemics and health equity: lessons learned from the H1N1 response in Los Angeles County. *J Public Health Manag Pract*. 2011;17(1):20-27.
- Norris FH, Stevens SP, Pfefferbaum B, Wyche KF, Pfefferbaum RL. Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *Am J Community Psychol*. 2008;41(1-2):127-150.
- Manyena SB. The concept of resilience revisited. *Disasters*. 2006;30(4):434-450.
- Castleden M, McKee M, Murray V, Leonardi G. Resilience thinking in health protection. *J Public Health (Oxf)*. 2011;33(3):369-377.
- Dutton MA, Greene R. Resilience and crime victimization. *J Trauma Stress*. 2010;23(2):215-222.
- Fleming J, Ledogar RJ. Resilience, an evolving concept: a review of literature relevant to aboriginal research. *Pimatisiwin*. 2008;6(2):7-23.
- Levac J, Toal-Sullivan D, O Sullivan TL. Household emergency preparedness: a literature review. *J Community Health*. 2012;37(3):725-733.
- Morrow BH. Community resilience: a social justice perspective. 2008. Available at: [http://www.resilientus.org/library/FINAL\\_MORROW\\_9-25-08\\_1223482348.pdf](http://www.resilientus.org/library/FINAL_MORROW_9-25-08_1223482348.pdf). Accessed March 18, 2013.
- Nuwayhid I, Zurayk H, Yamout R, Cortas CS. Summer 2006 war on Lebanon: a lesson in community resilience. *Glob Public Health*. Epub ahead of print, March 21, 2011.
- Chandra A, Acosta J, Stern S, et al. *Building Community Resilience to Disasters: A Way Forward to Enhance National Health Security*. Santa Monica, CA: RAND Corporation; 2010.
- Chandra A, Acosta J, Meredith LS, et al. *Understanding Community Resilience in the Context of National Health Security: A Literature Review*. Santa Monica, CA: RAND Corporation; 2010.
- Chandra A, Williams M, Plough A, et al. Getting actionable about community resilience: the Los Angeles County Community Disaster Resilience Project. *Am J Public Health*. 2013;103(7):1181-1189.
- Bava S, Coffey EP, Weingarden K, Becker C. Lessons in collaboration. Four years post-Katrina. *Fam Process*. 2010;49(4):543-558.
- Landau J. Communities that care for families: the LINC model for enhancing individual, family, and community resilience. *Am J Orthopsychiatry*. 2010;80(4):516-524.
- Herrman H, Stewart DE, Diaz-Granados N, Berger EL, Jackson B, Yuen T. What is resilience? *Can J Psychiatry*. 2011;56(5):258-265.
- Crouse Quinn S. Crisis and emergency risk communication in a pandemic: a model for building capacity and resilience of minority communities. *Health Promot Pract*. 2008;9(4 suppl):18S-25S.
- Cutter SL, Boruff BJ, Shirley WL. Social vulnerability to environmental hazards. *Soc Sci Q*. 2003;84(2):242-261.
- Morrow BH. Identifying and mapping community vulnerability. *Disasters*. 1999;23(1):1-18.
- Curtis A, Mills JW, Leitner M. Katrina and vulnerability: the geography of stress. *J Health Care Poor Underserved*. 2007;18(2):315-330.
- Glass TA, Schoch-Spana M. Bioterrorism and the people: how to vaccinate a city against panic. *Clin Infect Dis*. 2002;34(2):217-223.
- US Department of Homeland Security. Homeland security presidential directive 21. Public health and medical preparedness. October 2007. Available at: <https://www.hsdl.org/?view&did=480002>. Accessed March 18, 2013.
- Schoch-Spana M, Courtney B, Franco C, Norwood A, Nuzzo JB. Community resilience roundtable on the implementation of Homeland Security Presidential Directive 21 (HSPD-21). *Bio Secur Bioterror*. 2008;6(3):269-278.
- The White House. National security strategy. May 2010. Available at: [http://www.whitehouse.gov/sites/default/files/rss\\_viewer/national\\_security\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf). Accessed September 2, 2011.
- US Dept of Health and Human Services. National Health Security Strategy of the United States of America. December 2009. Available at: <http://www.phe.gov/preparedness/planning/authority/nhss/strategy/documents/nhss-final.pdf>. Accessed September 2, 2011.
- Federal Emergency Management Agency. National Disaster Recovery Framework. Draft. February 2010. Available at: [http://www.fema.gov/pdf/recoveryframework/omb\\_ndrf.pdf](http://www.fema.gov/pdf/recoveryframework/omb_ndrf.pdf). Accessed September 2, 2011.
- US Dept of Homeland Security. Presidential Policy Directive/PPD-8. National Preparedness. March 2011. Available at: [http://www.dhs.gov/xabout/laws/gc\\_1215444247124.shtm](http://www.dhs.gov/xabout/laws/gc_1215444247124.shtm). Accessed November 20, 2011.
- Perkins BA, Popovic T, Yeskey K. Public health in the time of bioterrorism. *Emerg Infect Dis*. 2002;8(10):1015-1018.
- Gerberding JL, Hughes JM, Koplan JP. Bioterrorism preparedness and response: clinicians and public health agencies as essential partners. *JAMA*. 2002;287(7):898-900.
- Bosshard M, Bristow B, Bazini-Barakat N, Hinojos E. Employees as first responders: a framework for emergency readiness. In: Fielding J, Teutsch S, eds. *Public Health Practice: What Works*. New York, NY: Oxford, University Press; 2013:215-226.
- Contreras M, Bristow B, Plough A, Harrison Eowan K. Emergency management: building an effective structure for local public health. In: Fielding J, Teutsch S, eds. *Public Health Practice: What Works*. New York, NY: Oxford University Press; 2013:203-214.
- Keim ME. Building human resilience: the role of public health preparedness and response as an adaptation to climate change. *Am J Prev Med*. 2008;35(5):508-516.
- The Los Angeles County Community Disaster Resilience Project. Available at: <http://www.laresilience.org>. Accessed October 25, 2011.
- Brownson RC, Fielding JE, Maylahn CM. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health*. 2009;30:175-201.
- Jones L, Wells K. Strategies for academic and clinician engagement in community-participatory partnered research. *JAMA*. 2007;297(4):407-410.
- Wells K, Jones L. "Research" in community-partnered, participatory research. *JAMA*. 2009;302(3):320-321.
- Wells KB, Lizaola E, Tang J, et al. Applying community engagement to disaster planning: developing the vision and design for the Los Angeles County Community Disaster Resilience (LACCDR) Initiative. *Am J Public Health*. 2013;103(7):1172-1180.
- Aldrich DP. *Building Resilience: Social Capital in Post-Disaster Recovery*. Chicago, IL: University of Chicago Press; 2012.
- Klinenberg E. How can cities be "climate-proofed?" *New Yorker*. January 7, 2013:32-37.