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TECHNICAL REPORT

Building Community Resilience to Disasters

A Way Forward to Enhance National Health Security

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*Cover: Survivors of Hurricane Katrina arrive at New Orleans Airport where FEMA's D-MAT teams have set up a medical hospital and where people will be flown to shelters in other states, September 1, 2005.
FEMA photo by Michael Rieger.*

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Summary

Community resilience, or the sustained ability of a community to withstand and recover from adversity (e.g., economic stress, influenza pandemic, man-made or natural disasters), has become a key policy issue, especially in recent years (HHS, 2009; National Security Strategy, 2010; DHS, 2010a). This emphasis on resilience is being embraced at federal (Department of Health and Human Services [HHS], Department of Homeland Security [DHS], the White House), state, and local levels. The National Health Security Strategy (NHSS) (HHS, 2009) identifies community resilience as critical to national health security, i.e., ensuring that the nation is prepared for, protected from, and able to respond to and recover from incidents with potentially negative health consequences. Given that resources are limited in the wake of an emergency, it is increasingly recognized that communities may need to be on their own after an emergency before help arrives, and thus need to build resilience before an emergency. Resilience is also considered critical to a community's ability to reduce long recovery periods after an emergency, which can otherwise require a significant amount of time and resources at the federal, state, and local levels.

While there is general consensus that *community resilience* is defined as the ability of communities to withstand and mitigate the stress of a disaster, there is less clarity on the precise resilience-building process. In other words, we have limited understanding about the components that can be changed or the “levers” for action that enable communities to recover more quickly. The literature to date has identified factors likely to be correlated with achieving resilience for communities, including reducing pre-disaster vulnerabilities and conducting pre-event prevention activities to minimize the negative consequences of disaster; however, these domains have been rather broad and lack the specificity required for implementation. Further, community resilience in the context of health security represents a unique intersection of preparedness/emergency management, traditional public health, and community development, with its emphasis on preventive care, health promotion, and community capacity-building. Thus, addressing the national goal of building community resilience (as outlined in the NHSS) offers an opportunity for communities to identify and build on the public health activities that local health departments and their partners are already pursuing. Community resilience is a relatively new term for the public health community, but it captures and expands upon many traditional themes in emergency preparedness as well as general health promotion. In the context of today's resource-limited environment where efficiency is critical, communities can identify and leverage the activities that are already in place to further build resilience.

Although the importance of community resilience to health security is widely recognized, understanding how to leverage existing programs and resources to build community resilience is a significant challenge. Important community tools have been developed to assist communities in enhancing aspects of resilience, and they should be used. They include the Community

Advancing Resilience Toolkit (CART) and the work by the Community and Regional Resilience Institute (CARRI).

However, a roadmap or initial list of activities that communities could implement to bolster community resilience *specific* to national health security is still needed. Several important assumptions motivate the need for this roadmap. Despite progress in identifying the conceptual and theoretical underpinnings of community resilience, a working definition of community resilience in the context of health security has been lacking. Further, we acknowledge that communities have been implementing many strategies to enhance their resilience. However, it is difficult for local health departments and their partners to synthesize the wealth of information from the current body of literature and place it within the context of national health security in a way that will inform local planning. To date, communities have minimal opportunity to share activities for building or enhancing community resilience and to discuss whether and how government and nongovernmental actors should be involved. Further, it is currently unclear how to measure community resilience to assess the level of progress toward achieving greater health security.

This report provides an initial model of options for building community resilience in key areas. Note that in certain circumstances, communities have already undertaken activities similar to those listed herein. This report is intended to be comprehensive, and therefore it provides a menu of options that can be prioritized.

The report is intended principally for community leaders developing a local strategy for building resilience. These leaders include government and nongovernment actors who may be part of local emergency planning committees or related community planning teams. Given the limited evidence base on what activities are most effective for bolstering community resilience, the report is not intended as an implementation guide or “how to” toolkit. Although the goal of the report is to provide information to motivate local planning, it will be incumbent upon communities to critically review the information, assess the activities they are already undertaking, select from newly identified activities with attention to which activities are feasible given resource constraints, develop locally driven plans, test activities, and share lessons learned with other communities.

For this study, we performed three tasks: (1) conducted a substantive literature review, (2) convened six stakeholder focus groups across the United States, and (3) held three meetings with relevant subject matter experts (SMEs). The definition of community resilience and the activities we outline here for achieving resilience were created in consultation with outside experts representing various stakeholder groups in public health, medicine, social services, and emergency management.

Definition of Community Resilience in the Context of National Health Security

The definition of community resilience is shown in the box. The definition draws upon both the literature review (Norris, 2008; Chandra et al., 2010; HHS, 2009; HHS, 2010a), as well as discussions with focus group participants.

Definition of Community Resilience

Main Definition:

Community resilience entails the ongoing and developing capacity of the community to account for its vulnerabilities and develop capabilities that aid that community in (1) preventing, withstanding, and mitigating the stress of a health incident; (2) recovering in a way that restores the community to a state of self-sufficiency and at least the same level of health and social functioning after a health incident; and (3) using knowledge from a past response to strengthen the community's ability to withstand the next health incident.

Key Components:

Key components or “building blocks” of community resilience that affect both a community’s pre-event vulnerability to disaster and its adaptive capacity to recover include the physical and psychological health of the population; social and economic well-being; individual, family, and community knowledge and attitudes regarding self-reliance and self-help; effective risk communication; level of social integration of government and nongovernmental organizations in planning, response, and recovery; and the social connectedness of community members. In order to build community resilience, a community must develop capabilities in the following areas: active engagement of community stakeholders in health event planning and personal preparedness, development of social networks, creation of health-promoting opportunities to improve the physical and psychological health of the community (as well as to address disparities in health across subgroups), plans and programs that address and support the functional needs of at-risk individuals (including children), institution of plans to respond effectively to the post-disaster physical and psychological health needs of community members, and rebuilding plans for health and social systems that can be activated immediately.

The definition emphasizes the following concepts, which focus group participants suggested would be evident in a resilient community:

- Engagement at the community level, including a sense of cohesiveness and neighborhood involvement or integration
- Partnership among organizations, including integrated pre-event planning, exercises, and agreements
- Sustained local leadership supported by partnership with state and federal government
- Effective and culturally relevant education about risks
- Optimal community health and access to quality health services
- Integration of preparedness and wellness
- Rapid restoration of services and social networks
- Individual-level preparedness and self-sufficiency
- Targeted strategies that empower and engage vulnerable populations
- Financial resiliency of families and businesses, and efficient leveraging of resources for recovery.

We acknowledge that the definition of “community” can widely vary; it can be a geographic term or can be bounded by membership to a cultural group. Although it will be important for local planning teams to define community boundaries with community stakeholders, for the purpose of this roadmap, we primarily use a geographic definition guided by the catchment area of the local health department (e.g., city/county/parish/municipality).

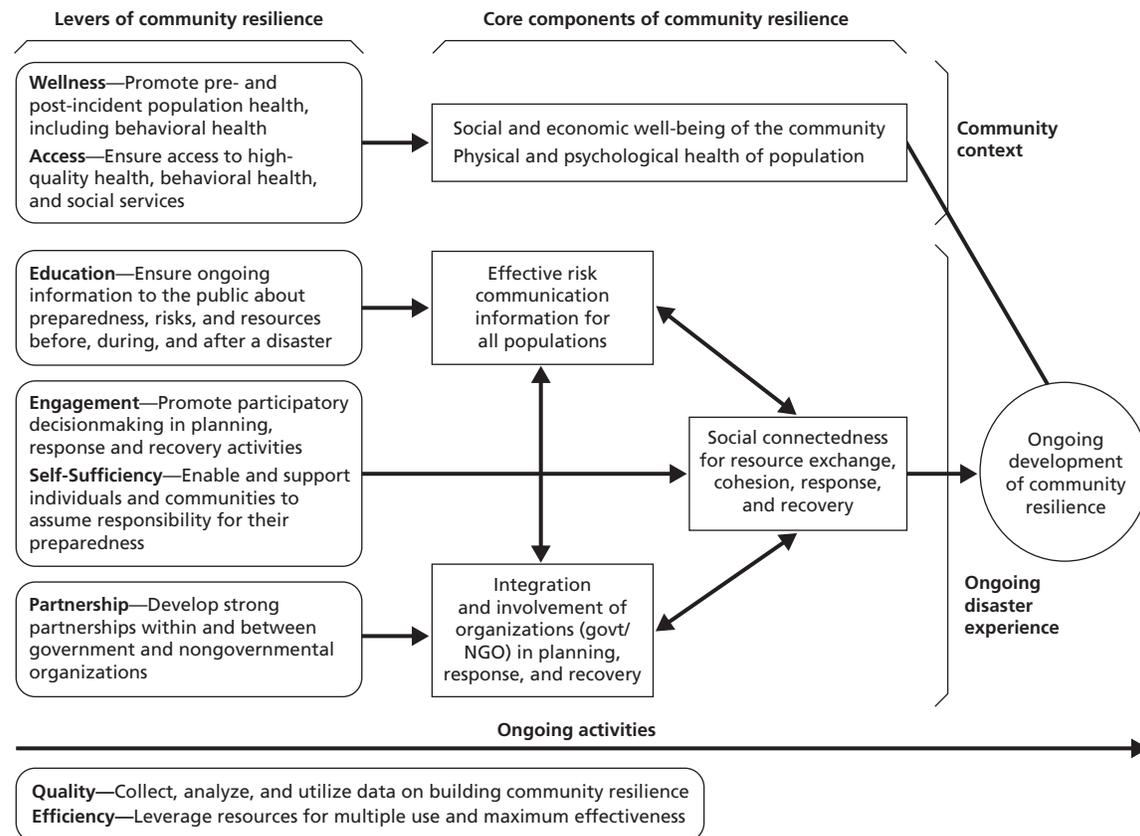
Levers for Building Community Resilience

To identify key activities for building and strengthening community resilience, we drew on findings from the literature review, focus groups, and SME meetings to define eight “levers” that can be used by communities to strengthen community resilience in the context of the health security. These levers are shown in the rounded boxes in Figure S.1.

The levers are designed to strengthen the five core components (shown in rectangular boxes), which are correlated with community resilience in the specific context of enhancing health security or public health preparedness. The *components* are the main domains or factors associated with community resilience, such as the health of the population. The *levers* are the means of reaching the components, such as improving a population’s access to health services. The levers are highlighted in boldface type below:

- **Wellness** and **access** contribute to the development of the social and economic well-being of a community and the physical and psychological health of the population.
- Specific to the disaster experience, **education** can be used to improve effective risk communication, **engagement** and **self-sufficiency** are needed to build social connectedness, and **partnership** helps ensure that government and nongovernmental organizations (NGOs) are integrated and involved in resilience-building and disaster planning.

Figure S.1
Levers and Core Components of Community Resilience



- **Quality** and **efficiency** are ongoing levers that cut across all levers and core components of community resilience.

Activities for Building Community Resilience

Because activities related to the levers strengthen each of the components of community resilience, a community moves closer to achieving community resilience as it conducts more activities. This process is shown in a circle in Figure S.1 because developing resilience is not static but rather is an iterative and ongoing process.

The main body of this report (Chapters Three through Ten) describes suggested activities that communities can use or build on to strengthen community resilience in specific areas. The activities presented in the report offer a range of ideas that can be implemented by communities according to their specific needs. It will be important for communities to use the roadmap as a starting point for local community resilience strategy development (see next section). None of these activities has undergone rigorous evaluation. Before a community resilience *toolkit* can be developed, communities will need to use this roadmap, report on lessons learned, and assess the impact of implementing particular activities (see Appendix C for a community prioritization tool).

Implementation and Measurement of Community Resilience–Building Activities

As communities review this roadmap, it is important to determine an approach to implementation, including monitoring and evaluating implementation and determining the effectiveness of particular activities. These implementation questions include the following:

- How will we know if these activities are working?
- What capacities are needed for communities to fully implement community resilience–building activities?
- How long will it take communities to achieve full implementation of community resilience–building activities?

How Will We Know If Community Resilience–Building Activities Are Working?

Measurement of community resilience is essential for the operationalization and implementation of community resilience. Measurement will allow communities, states, and the nation as a whole to assess hypothesized links between inputs into the community resilience process (e.g., community partnerships and education of community members) and outcomes (e.g., greater resilience). Measurement is also critical to track progress in building community resilience at the local level. In Chapter Eleven, we suggest some potential areas of measurement for community resilience. Testing of proposed measures will be needed to develop the evidence base, refine the measures, and inform the next generation of measures.

What Capacities Are Needed for Communities to Fully Implement Community Resilience–Building Activities?

Much as in traditional public health practice, implementing community resilience–building activities requires the capacity to build and maintain strong and reliable partnerships (e.g., the partnership lever), mobilize community members (e.g., the engagement lever), and use data and information for evaluation, monitoring, and decisionmaking (e.g., the quality lever). Strong and reliable partnerships involve a diverse array of public, private, governmental, and nongovernmental organizations (e.g., academic institutions, healthcare providers, advocacy groups, media outlets, businesses). In building partnerships, communities will have to consider such questions as who should take the lead in establishing partnerships and how community resilience–building activities might need to be adapted for specific communities. Engagement and self-sufficiency also require the capacity to mobilize partnerships. Models such as the Mobilizing for Action through Planning and Partnership (MAPP) have been developed to support community mobilization efforts (Mays, 2010). Finally, state and local health agencies are increasingly utilizing performance standards, measures, monitoring, and quality improvement processes.

How Long Will It Take for Communities to Achieve Full Implementation of Community Resilience–Building Activities?

Implementing community resilience activities takes time. In order to appropriately gauge expectations, a richer understanding of the process of implementation is needed. In addition, implementation planning should acknowledge the activities that communities are already pursuing to enhance resilience. It can be helpful to draw guidance from a model of implementation that outlines the stages that a community must pass through before *full implementation* is achieved (Simpson, 2002). One such model is the Simpson Transfer Model, in which diffusion happens in four stages: exposure, adoption, implementation, and practice (Simpson, 2002). Communities must first be exposed to community resilience–building and then can build the capacity needed to adopt activities to build resilience. Once organizations have the capacity to implement community resilience–building activities, they begin early implementation, followed by practice of the activities until they become institutionalized. Appropriate monitoring and evaluation can help communities assess what stage of implementation they are in and gauge outcomes accordingly.

Conclusion and Future Research Directions

This roadmap represents an important step forward in identifying the critical elements of community resilience to support national health security and offers a practical list of potential activities for building resilience before a disaster. The report also suggests several areas in which the evidence base for community resilience needs to be strengthened. Clarification in such areas as the following should identify best practices in community resilience-building and measure the overall effect of increasing community resilience:

Wellness and Access: What are the best ways to frame preparedness in the context of wellness messaging? How should communities convey the connection between individual/family and community preparedness?

Education: How do we link better risk communication with improved community resilience?

Engagement: How can we use advanced technologies, including new social media, to inform the public, facilitate the social re-engagement of people after a disaster, and promote social connectedness?

Self-Sufficiency: What are the best means to incentivize individual and community preparedness? What policies, including financial and other incentives, will work?

Partnership: What is the best way to integrate nongovernmental organizations in planning, and what is the most effective way to assess the capacities and capabilities of specific NGO partners?

Quality and Efficiency: What are the best metrics for monitoring and evaluating resilience-building activities? Which baseline data are most critical for assessing key community resilience components and elements?