

The Communities Advancing Resilience Toolkit (CART): An Intervention to Build Community Resilience to Disasters

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Community resilience has emerged as a construct to support and foster healthy individual, family, and community adaptation to mass casualty incidents. The Communities Advancing Resilience Toolkit (CART) is a publicly available theory-based and evidence-informed community intervention designed to enhance community resilience by bringing stakeholders together to address community issues in a process that includes assessment, feedback, planning, and action. Tools include a field-tested community resilience survey and other assessment and analytical instruments. The CART process encourages public engagement in problem solving and the development and use of local assets to address community needs. CART recognizes 4 interrelated domains that contribute to community resilience: connection and caring, resources, transformative potential, and disaster management. The primary value of CART is its contribution to community participation, communication, self-awareness, cooperation, and critical reflection and its ability to stimulate analysis, collaboration, skill building, resource sharing, and purposeful action.

KEY WORDS: CART, community, community assessment, community resilience, disaster, disaster preparedness, terrorism

Natural disasters, large-scale technological accidents, and terrorist acts have focused attention on efforts to enhance psychological and social adjustment in the aftermath of mass casualty incidents. At the pol-

icy and planning level, community resilience is seen as a strategy to support and foster enhanced disaster preparedness and community recovery from such events. Homeland Security Presidential Directive 21, which

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established a National Strategy for Public Health and Medical Preparedness, identified community resilience as 1 of 4 most critical components of public health and medical preparedness.¹ Community resilience subsequently became the vision for national health security as expressed in the 2009 National Health Security Strategy of the United States of America.² Community resilience also plays a prominent role in guiding the work of the US Department of Homeland Security, as evidenced by the identification of resilience at the individual, community, and system levels as 1 of 3 key foundational concepts essential to a comprehensive approach to homeland security.³ The National Disaster Recovery Framework⁴ recognizes the importance of community resilience as part of a successful recovery process. Nonetheless, the increased attention to community resilience has not yet been accompanied by a commonly accepted definition of the concept^{5,6} or an abundance of applied research directed at measuring and enhancing it.^{7,8}

The Communities Advancing Resilience Toolkit (CART)⁹ (Toolkit), created by the Terrorism and Disaster Center of the National Child Traumatic Stress Network, is a publicly available theory-based and evidence-informed community intervention that has been recognized as an “important” tool for promoting community resilience.^{10(p2)} All research conducted as part of the development of CART (R. L. Pfefferbaum, B. R. Neas, B. Pfefferbaum, F. H. Norris, R. L. Van Horn, 2012, unpublished data) met the requirements of the University of Oklahoma Health Sciences Center Institutional Review Board. The Toolkit includes a survey questionnaire and other assessment and analytical instruments that evolved through field testing and key informant input. The CART process engages community representatives to measure their community’s resilience and to explore and promote actions to enhance it. This article reviews concepts used in constructing CART and describes the Toolkit (available at <http://www.oumedicine.com/tdc>).

● Concepts and Definitions

Discussed widely in social science and health literatures, the concept of community varies with context.¹¹ CART relies primarily on traditional definitions of a community as people, resources, organizations, structures, and systems in close geographic proximity (eg, a city or neighborhood), while recognizing that physical boundaries and borders are imprecise descriptors of a community. In practice, community organizations that use CART provide the environment and participants for implementation. These sponsors define their community as part of the CART process.

Similarly, definitions of resilience vary with context and purpose.⁵⁻⁸ Resilience can be thought of as an attribute (eg, ability or capacity), a process, and/or an outcome associated with successful adaptation to, and recovery from, adversity. Community resilience is not simply a collection of personally resilient community members who respond individually to adverse events. Community resilience entails the ability of community members to take deliberate, purposeful, and collective action to alleviate the detrimental effects of adverse events.^{5,12-14} As with personal resilience, community resilience involves attitudes, thoughts, beliefs, behaviors, and resources. Resilience-supporting resources can be acquired and developed, and resilience-enhancing skills can be taught, cultivated, and practiced at individual¹⁵ and community levels.¹⁶ Resilience is a dynamic process that must be sustained over time to support healthy adaptation.^{13,14}

● A Description of CART

CART is a community intervention that brings stakeholders together to address community issues through assessment, group processes, planning, and action. The intervention encourages and supports communication, public engagement in the identification of local issues, problem solving, resource sharing, and the development and proper application of local assets to address community needs. CART is designed to strengthen communities, not to compare or rank them, although comparisons may be justified when samples and methodology are analogous. It has been implemented, for example, in 5 poverty neighborhoods of a metropolitan area served by a faith-based organization that seeks to rebuild communities, enhance safety, and create healthy interpersonal relationships. In addition to other activities, this CART implementation led to the development of a Neighborhood Preparedness Screen that has been implemented in conjunction with a Department of Justice grant to the community sponsor to develop a model for emergency, terrorism, and disaster preparedness.

The CART community resilience domains

CART was originally based on 7 community attributes¹³ borrowed from the theory on community capacity and competence in the social psychology and public health literatures¹⁷⁻²²: (1) connectedness, commitment, and shared values; (2) participation; (3) support and nurturance; (4) structure, roles, and responsibilities; (5) resources; (6) critical reflection and skill building; and (7) communication. Using field testing, key informant interviews, and factor analysis,

the Terrorism and Disaster Center refined these attributes and identified 4 overlapping domains (R. L. Pfefferbaum, B. R. Neas, B. Pfefferbaum, F. H. Norris, R. L. Van Horn, 2012, unpublished data) that both describe and help create capacity for community resilience and that form the foundation for CART. The 4 domains—connection and caring, resources, transformative potential, and disaster management—are described below.

Connection and caring

This domain includes relatedness, shared values, participation, support systems, and equity. A sense of belonging and commitment to community likely are strengthened by the perception that one's personal well-being is enhanced by affiliation with the community. Participation in community organizations and activities can strengthen the sense of belonging, ownership, and personal investment. Communities that facilitate and actively foster involvement of members may better identify and address issues through cooperation and civic engagement. Supportive and nurturing communities address needs of diverse members (eg, across a variety of socioeconomic backgrounds) and they can instill hope during personal and community crises.

Resources

This domain includes natural, physical, information, human, social, and financial resources. Resilient communities acquire, invest in, allocate, and use resources effectively to serve members and the community at large. A community's resource base should include sufficient diverse and redundant resources to permit essential community operations to be maintained even in the event of major disruptions. Community structure, roles, and responsibilities can create the capacity for preparedness and decisive, timely response to crises. In a highly uncertain, all-hazards environment, structural elements must permit flexibility in addressing unforeseen vulnerabilities and threats.

Transformative potential

This domain includes the ability of communities to identify and frame collective experiences, examine their successes and failures, assess their performance, and engage in critical analysis. This analysis helps community leaders establish goals, make decisions, and develop and implement strategies that enhance the community and its members. Coupled with skill building at individual, family, organizational, and systemic levels, critical analysis and collective action provide a force and essential mechanisms for transformation.

Disaster management

This domain includes disaster prevention and mitigation, preparedness, response, and recovery. It includes activities to avoid or control a crisis, reduce risks to people and property, and lessen actual or potential adverse effects. If implemented before, during, or after an incident, mitigation seeks to decrease the likelihood of, exposure to, or loss from hazardous events. Preparedness is a continuing process that identifies threats, assesses vulnerabilities, determines resource requirements, plans appropriate actions, and assembles necessary resources. Disaster response addresses the direct, short-term effects of an incident including efforts to limit damage during or immediately after a disaster, to support basic human needs, and to maintain or restore the affected community. The relatively short-term response phase transitions to a longer period of recovery and reconstruction during which survivors rebuild their lives and their community.

Interrelatedness of domains and shared properties

The 4 community resilience domains are interrelated and share some properties. For example, communication is an important element of all 4 domains: (1) communication is a mechanism for fostering connection and caring; (2) communication channels are part of a community's resource base; (3) communication is necessary to transmit information that enables critical reflection, skill building, and transformation; and (4) communication is fundamental for effective disaster management.

CART operating assumptions

CART builds on 3 key assumptions about group behavior: (1) communication among group members permits pooling of knowledge, skills, and other resources to achieve better outcomes; (2) members can learn and grow from group interactions; and (3) group participation can facilitate acceptance and implementation of group goals. It is designed to stimulate communication, analysis, and action and to motivate community participation and collaboration, community self-awareness, critical reflection, and skill development. Although time- and labor-intensive, community member involvement in the CART process contributes to the development of human and social capital and increases transformative potential.

The CART model assumes that communities with higher levels of competence in the 4 domains may be more effective at mitigating detrimental effects of disasters and other adversities. Communities with more communal resources are better able to interrupt loss

cycles experienced by their members.²³ A tight-knit, connected, engaged community may better prepare for and respond to a disaster than a community in which individual members have limited interaction and few shared values. Redundancy in emergency and human services and an accessible support system are likely to improve disaster management even if they were not established specifically to address disasters. Critical analysis and skill building at the community level can help identify and rectify resource limitations.

CART community sponsors

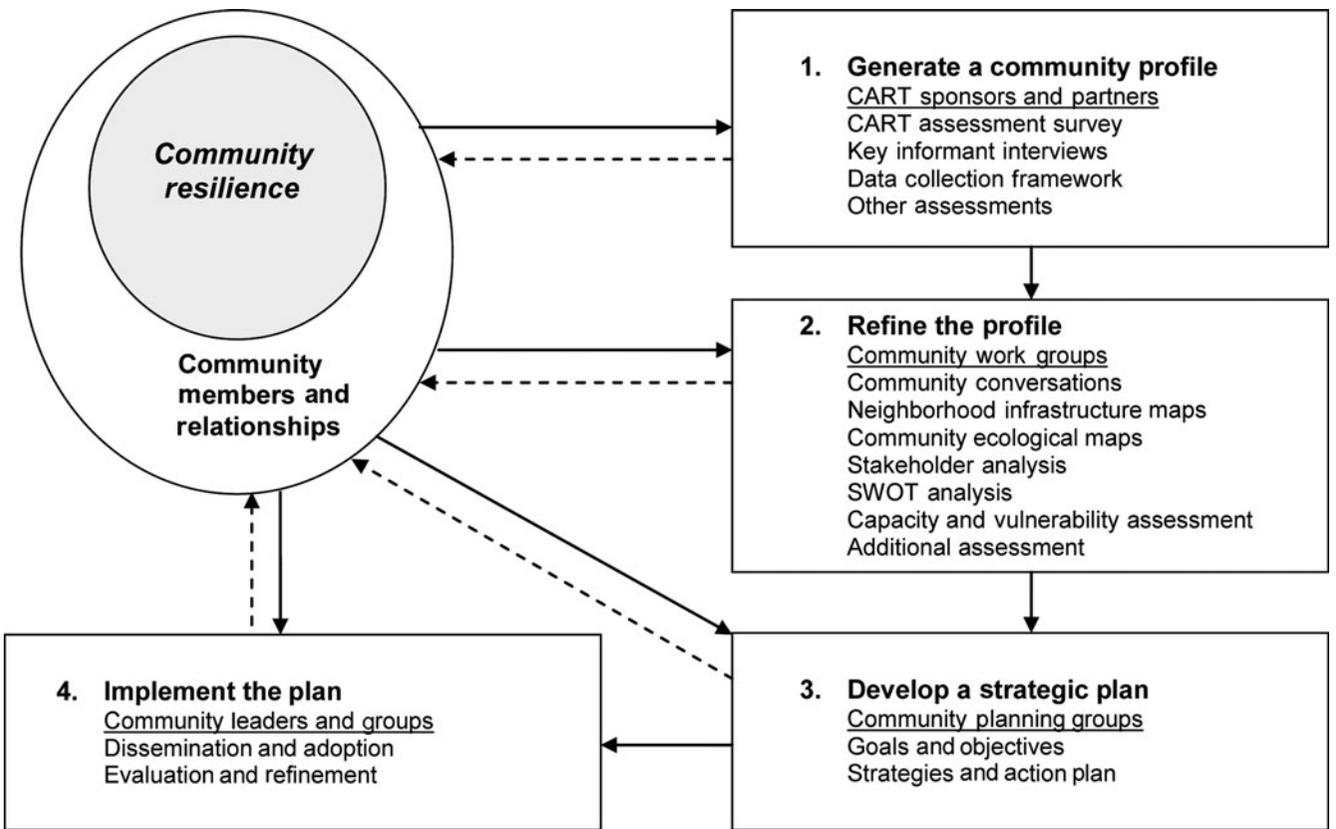
CART is designed for use by organizations knowledgeable about and committed to the well-being of their community. Consistent with methods frequently used in community health, the development of CART was based on principles of participatory action research,²⁴ as articulated by Israel and colleagues.²⁵ CART implementation also relies on those principles that include (1) recognizing the community as a unit of identity, (2) using community strengths and resources, (3) facilitating collaboration, (4) integrating knowledge

with action for communal benefit, (5) developing and maintaining partnerships, (6) conducting community assessments, (7) identifying policy and action implications and mechanisms for sustainability, and (8) disseminating findings to community partners. Organizations using CART must have access to, and be able to motivate involvement of, community stakeholders who can identify community issues and assets, help interpret CART findings, and generate and implement strategies to address community problems.

The CART process

The CART process, illustrated in the Figure, shows how CART sponsors involve a community in using assessment and analytical tools (contained in the Toolkit⁹ and described later) in an integrated process to understand and build community resilience. Within each stage of the process (shown in boxes), instruments are used by groups of participants (underlined) in CART activities. The solid arrows show data and information flows. At each stage, data and information flow from the community as community members work with the CART

FIGURE ● The CART Process^a



^aThe solid lines show data and information flows. The dotted lines show potential changes in, or effects of the CART intervention on, community resilience characteristics. With permission from Pfefferbaum et al.⁹

instruments. Data and information also flow from stage to stage as each later stage builds on prior work. The dotted arrows show the effects of CART activities on community resilience characteristics flowing back into the community.

Stage 1

In the first stage of the process, CART community sponsors and their partners generate a preliminary community profile on the basis of local demographics, CART survey data, and information provided through key informant interviews. Other assessments, often available from previous local, county, or state studies, can contribute to the profile. Such studies might have been conducted by universities, foundations, banks, newspapers, private agencies, or the public sector. The CART data collection framework (see later) can help guide the collection of assessment data at this stage.

Stage 2

In the second stage, participants may identify information gaps that warrant additional assessment as they refine the community profile. CART community conversations, infrastructure mapping, ecological mapping of local relationships, stakeholder analysis, SWOT analysis, capacity and vulnerability assessment, and other group processes can be used to identify and more effectively analyze a community's assets and needs, opportunities for improvement, and internal and external considerations in community development and disaster management.

Stage 3

In the third stage, participants develop a strategic plan, typically by working in groups to establish goals and objectives, identify ways to accomplish them, and prepare an action plan. Ideally, both formal and informal community leaders participate in this stage. Stages 2 and 3 tend to overlap: while refining the CART profile, participants may begin to identify goals, objectives, and strategies, and while developing strategies, participants may recognize the need for additional assessments. Preparing the action plan is likely to present the greatest challenge. During their discussions, participants may begin to formulate community goals and objectives, but devising strategies and action steps may be more difficult. Strategy development within the CART process covers a complex range of activities.

Stage 4

In the fourth stage, participants adopt and implement the strategic plan. Typically, the first activity is to disseminate the plan among community members, orga-

nizations, and leaders. Because this brings new people into the process, a number of different ideas and suggestions likely will emerge. A strategy oversight group may be needed to decide whether and how to incorporate new ideas. Although dissemination may generate conflict and prolong the process, it can improve the plan and secure the support of important community allies that can enhance community resilience by bringing people together in discussions that reveal values, foster understanding, and encourage collaboration. Adoption of action items generally requires identifying responsible parties, establishing a schedule, and determining measures of success. With community plans, not every action will succeed: some will prove undesirable, ineffective, or impractical; others may die from neglect; and many may take years to accomplish. The process should include an evaluation of each action item and the ultimate outcome of the plan.

Under ideal circumstances, CART users will complete all stages in the process. In practice, however, some users will complete only the CART survey activities whereas other users will elect to apply parts of the stages. Even partial implementation of the full CART process is likely to generate valuable information and may contribute to a community's resilience through the identification of community issues, creation of new relationships, and establishment of cooperative ventures.

Ideally, the CART process both uses and advances the resilience of the participating community. Information flows throughout the process, requiring participants to learn about their community and to generate sources of information as they engage in purposeful communication, clarify issues, and solve problems. Strategic planning requires critical analysis based on a commitment to shared values and community development. Implementation of action plans, modified through the engagement of additional individuals and organizations, enhances participation and connection. The process itself is intended to create social and human capital as people engage each other, learn about the structure of their community, gain an appreciation of roles and responsibilities, and undertake an in-depth examination of issues.

The CART process calls attention to the essential role of disaster management in the long-term viability of the community. The process also creates a consciousness of community resilience, reinforces that resilience is a process that can be cultivated, and emphasizes the importance of meaningful, deliberate, collective action in promoting community health over time.

The CART process helps communities examine their strengths and challenges and identify ways to use their assets to address problems. Obviously, communities lacking individual and communal resources, involved members, and capable leadership will face greater

problems in undertaking disaster management and community development than will better-endowed communities. Still, a focus on assets recognizes that community members' investment of themselves and their resources is an important precursor to significant community development.²⁶ This focus is consistent with CART's reliance on approaches identified in participatory action research,²⁷ including partnerships, community involvement throughout the process, building on community assets, and using knowledge gained for positive social change.

The CART process is similar, in ways, to the National Association of County & City Health Officials' Mobilizing for Action through Planning and Partnerships process.²⁸ CART offers tools (eg, neighborhood infrastructure maps, community ecological maps, and capacity and vulnerability assessment) that promote the examination of relevant information about community assets and challenges that may be useful to those using Mobilizing for Action through Planning and Partnerships. Likewise, Mobilizing for Action through Planning and Partnerships resources can be used to augment the CART process.

● CART Tools

The following CART tools are included in the Toolkit⁹ and described briefly in this article: CART assessment survey, key informant interviews, data collection framework, community conversations, neighborhood infrastructure maps, community ecological maps, stakeholder analysis, SWOT analysis, and capacity and vulnerability assessment. Instructions included in the Toolkit should enable organizations, groups, or teams to implement the tools and address clearly defined objectives on behalf of a community with minimal or no expert consultation. Users can assess and analyze their community's resilience and disaster readiness, response, and recovery by formulating questions about, and conducting a systematic review of, their community, objectives, and initiatives. In doing so, users may discover areas in which they want or need to modify plans, enlist local constituents in various activities, create or enhance relationships, and circumvent potential negative effects of planned initiatives.

Although most CART tools are appropriate for an all-hazards environment, actual application of any given tool may be more successful when considering a specified hazard. For example, a stakeholder analysis may be easier to conduct if one considers a specific hazard (such as a disease outbreak, weather event, terrorist attack) rather than all hazards at one time. Some tools require users to identify a clear, attainable, time-limited, and measurable objective, whereas other tools can be

used to reframe or shape objectives. In the descriptions that follow, the stage 1 tools (CART assessment survey, key informant interviews, and data collection framework) are described first, followed by the other tools (see the Figure).

CART assessment survey

The CART assessment survey is a field-tested questionnaire for assessing a community's resilience. The design of the CART survey facilitates addition of items to address concerns of sponsoring organizations. The questionnaire, which can be administered in person, over the telephone, through the Internet, or via postal or electronic mail, provides a mechanism for gathering baseline community information. Survey results also can help users identify relative strengths and challenges that are meaningful for their community and sponsoring organizations. The CART survey usually is administered early in the process because other work potentially builds on survey results. Survey data can also be collected after a disaster or intervention and compared with baseline data.

Key informant interviews

Key informant interviews yield qualitative information from people who are knowledgeable about a community and/or issue.²⁹ Interview findings can be used to augment survey or other information, determine needs, identify and address problems, develop goals and objectives, design and establish new programs, and evaluate new or existing programs. Instructions for this tool provide guidelines for selecting and contacting key informants and conducting interviews. Questions available as part of the Toolkit address various aspects of community resilience, each of the 4 CART domains, terrorism preparedness, and public engagement. These questions can be adapted to fit the community and the type of disaster under consideration.

Data collection framework

The data collection framework provides a template for identifying the type and some sources of available data that may be used by a community in strategic planning to build community resilience. Data collected can help tell the story of a community, identify local resources, uncover limitations, and anticipate the complexities that may arise as part of local disaster management. Data can be collected at any time to learn more about a community and should be updated when significant changes occur within the community.

Community conversations

Community conversations involve the exchange of information, ideas, and opinions among individuals assumed to have useful knowledge about a particular issue. By engaging them in a group setting, the sponsoring organization can collect a lot of information at one time. Individual comments often generate new ideas from others. Recommendations regarding logistics for convening conversations (eg, selection of a location to conduct conversations) and techniques for facilitating conversations are provided in the Toolkit. Based on the focus group model,³⁰ conversations can address specific issues associated with applying CART instruments before the instruments are employed or can help interpret results afterward. Conversations also are useful for gathering other specific information about a community and/or local disaster management.

Neighborhood infrastructure maps

Neighborhood infrastructure maps detail the physical infrastructure of a neighborhood, focusing on relevant structures and features for disaster management. In addition to improving awareness of a neighborhood in terms of its physical presence, infrastructure mapping can introduce an organization to, and initiate networking with, neighbors (eg, households, businesses, and agencies). Maps also can help when orienting new members to an organization or community. Guidelines for the use of this tool describe what and how to map.

Community ecological maps

The community ecological map (eco-map) is a visual tool for describing the nature and strength of relationships within a community.^{31,32} These maps can identify potential concerns regarding communication and interaction among individuals, groups, and organizations within the community. Eco-maps provide information for creating partnerships and coalitions, improving relationships, and reducing tensions. These maps can be particularly helpful when an organization wants to build support for an initiative, plans to undertake outreach efforts, feels disconnected from its community, or experiences conflict with others in the community.

Stakeholder analysis

Stakeholders—individuals, groups, or other entities with an interest in an organization or initiative—may operate within or outside the organization. They may act individually or in groups and may positively or negatively affect, or be affected by, the organization. Stakeholder analysis involves (1) identifying and describing

those who can influence the organization or its initiative; (2) considering the influence of these stakeholders, both positive and negative; and (3) creating strategies to gain effective support for, and curtail opposition to, the organization or initiative.³³ Stakeholder analysis can assist an organization in framing and shaping a program, anticipating reactions, uncovering potential conflicts, identifying consequences and unintended effects, recognizing possible advocates, and gaining and maintaining support. Involving stakeholders in an initiative can help develop a sense of ownership, build capacity within a community, and promote sustainability.

SWOT analysis

SWOT analysis, a strategic planning tool for assessing the internal strengths and weaknesses and the external opportunities and threats associated with an initiative or organization³⁴ provides information to help an organization match its resources and capabilities with the environment in which it operates. This analysis is useful for developing strategies to maximize and use an organization's strengths, limit and overcome its weaknesses, identify and exploit its opportunities, and uncover and protect against its threats. A user can conduct a SWOT analysis before undertaking an initiative to determine its feasibility, while the initiative is in progress to identify changes that might affect the outcome, and/or upon completion of the initiative to determine how the initiative may have affected the organization and its environment.

Capacity and vulnerability assessment

The capacity and vulnerability assessment tool provides a framework for analyzing the long-term strengths and weaknesses of individuals and groups within a community that help determine the differential impact of a disaster on these individuals and groups.³⁵ This tool guides users in identifying physical and material limitations and resources, social and organizational deficiencies and assets, and motivations and attitudes that create or mitigate challenges for a community. The tool can generate information for strengths-based community action to enhance capacities and decrease vulnerabilities over time.

● Conclusion

The CART community intervention, which is designed to improve disaster readiness and response, fosters meaningful dialogue within a community as members discover and explore aspects of the community in relationship to an actual or potential threat. The

CART process, informed by participatory action research, involves assessment, feedback, and action planning. In identifying community strengths and challenges, CART seeks to help communities focus on their assets as well as needs and to help them find ways to use their strengths to address specific problems. Although external support and resources can contribute significantly to community resilience, especially for resource-poor communities, the CART process focuses on creating, enhancing, and maintaining resilience from within.

The primary value of CART lies in its contribution to community participation, communication, self-awareness, and critical reflection and in its ability to stimulate analysis, cooperation, skill building, resource sharing, and purposeful action. Ideally, the CART process empowers communities through information, communication, and assistance by identifying issues, solving problems, and planning activities. At its best, CART is an intervention that initiates and reinforces community resilience building through participatory action.

REFERENCES

1. US Department of Homeland Security. *Homeland Security Presidential Directive 21: Public Health and Medical Preparedness*. Washington, DC: The White House; 2007. <http://www.fas.org/irp/offdocs/nspd/hspd-21.htm>. Accessed August 13, 2012.
2. US Department of Health and Human Services. *National Health Security Strategy of the United States of America*. Washington, DC: US Department of Health and Human Services; 2009. <http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Documents/nhss-final.pdf>. Accessed February 25, 2012.
3. US Department of Homeland Security. *Quadrennial Homeland Security Review Report: A Strategic Framework for a Secure Homeland*. Washington, DC: The White House; 2010. http://www.dhs.gov/xlibrary/assets/qhsr_report.pdf. Accessed August 13, 2012.
4. US Department of Homeland Security, Federal Emergency Management Agency. *National Disaster Recovery Framework: Strengthening Disaster Recovery for the Nation*. Washington, DC: The White House; 2011. <http://www.fema.gov/pdf/recoveryframework/ndrf.pdf>. Accessed February 25, 2012.
5. 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;41:127-150.
6. Plodinec MJ. *Definitions of Resilience: An Analysis*. Oak Ridge, TN: Community and Regional Resilience Institute, National Security Directorate, Oak Ridge National Laboratory; 2009. http://www.resilientus.org/library/CARRI_Definitions.Dec.2009_1262802355.pdf. Accessed August 13, 2012.
7. Chandra A, Acosta J, Meredith LS, et al. *Understanding Community Resilience in the Context of National Health Security: A Literature Review*. Arlington, VA: Rand Corporation; 2010. Report WR-737-DHHS (Working Paper). http://www.rand.org/pubs/working_papers/WR737.html. Accessed February 25, 2012.
8. Cutter SL, Barnes L, Berry M, et al. *Community and Regional Resilience: Perspectives From Hazards, Disasters, and Emergency Management*. Oak Ridge, TN: National Security Directorate, Oak Ridge National Laboratory; 2008. Community and Regional Resilience Initiative Research Report no. 1. <http://www.resilientus.org/publications/reports.html>. Accessed February 25, 2012.
9. Pfefferbaum RL, Pfefferbaum B, Van Horn RL. *Communities Advancing Resilience Toolkit (CART)®: The CART Integrated System*. Oklahoma City, OK: Terrorism and Disaster Center, University of Oklahoma Health Sciences Center; 2011. <http://www.oumedicine.com/tdc>. Accessed February 25, 2012.
10. Chandra A, Acosta J, Stern S, et al. *Building Community Resilience to Disasters: A Way Forward to Enhance National Health Security*. Arlington, VA: Rand Corporation; 2011. Report TR-915-DHHS. http://www.rand.org/pubs/technical_reports/TR915.html. Accessed February 25, 2012.
11. Institute of Medicine of the National Academies. *The Future of the Public's Health in the 21st Century*. Washington, DC: National Academies Press; 2003.
12. Brown DD, Kulig JC. The concept of resiliency. Theoretical lessons from community research. *Health Can Soc*. 1996-1997;4(1):29-50.
13. Pfefferbaum B, Reissman DB, Pfefferbaum RL, Klomp RW, Gurwitsch RH. Building resilience to mass trauma events. In: Doll LS, Bonzo SE, Mercy JA, Sleet DA, Haas EN, eds. *Handbook of Injury and Violence Prevention*. New York, NY: Springer; 2007:347-358.
14. Pfefferbaum RL, Reissman DB, Pfefferbaum B, Wyche KF, Norris FH, Klomp RW. Factors in the development of community resilience to disasters. In: Blumenfeld M, Ursano RJ, eds. *Intervention and Resilience After Mass Trauma*. Cambridge, UK: Cambridge University Press; 2008:49-68.
15. American Psychological Association, Task Force on Resilience in Response to Terrorism. *Fostering Resilience in Response to Terrorism: A Fact Sheet for Psychologists Working With Adults*. Washington, DC: American Psychological Association. <http://www.deep.med.miami.edu/media/FostResilRspTerAdltsAPA.pdf>. Accessed February 25, 2012.
16. McGee S, Bott C, Gupta V, Jones K, Karr A. *Public Role and Engagement in Counterterrorism Efforts: Implications of Israeli Practices for the US*. Arlington, VA: Homeland Security Institute; 2009. HSI publication RP08-22-01. www.hstoday.us/images/public_role_in_ct_israeli_practices_task_08-22.pdf. Accessed August 13, 2012.
17. Cottrell LS Jr. The competent community. In: Kaplan BH, Wilson RN, Leighton AH, eds. *Further Explorations in Social Psychiatry*. New York, NY: Basic Books; 1976:195-209.
18. Gibbon M, Labonte R, Laverack G. Evaluating community capacity. *Health Soc Care Community*. 2002;10(6):485-491.
19. Goepfing J, Baglioni AJ Jr. Community competence: a positive approach to needs assessment. *Am J Community Psychol*. 1985;13(5):507-523.
20. Goodman RM, Speers MA, McLeroy K, et al. Identifying and defining the dimensions of community capacity to

- provide a basis for measurement. *Health Educ Behav.* 1998;25(3):258-278.
21. Labonte R, Laverack G. Capacity building in health promotion, Part 1: for whom? And for what purpose? *Crit Public Health.* 2001;11(2):111-127.
 22. Labonte R, Laverack G. Capacity building in health promotion, Part 2: whose use? And with what measurement? *Crit Public Health.* 2001;11(2):129-138.
 23. Jerusalem M, Kaniasty K, Lehman DR, Ritter C, Turnbull GJ. Individual and community stress: integration of approaches at different levels. In: Hobfoll SE, de Vries MW, eds. *Extreme Stress and Communities: Impact and Intervention.* Dordrecht, the Netherlands: Kluwer Academic Publishers; 1995:105-129.
 24. Norris FH, Sherrieb K, Pfefferbaum B. Community resilience: concepts, assessment, and implications for intervention. In: Southwick SM, Litz BT, Charney D, Friedman MJ, eds. *Resilience and Mental Health: Challenges Across the Lifespan.* Cambridge, UK: Cambridge University Press; 2011:162-175.
 25. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Pub Health.* 1998;19:173-202.
 26. Kretzmann JP, McKnight JL. *Building Communities From the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets.* Chicago, IL: Acta Publications; 1993.
 27. Israel BA, Eng E, Schulz AJ, Parker EA, eds. *Methods in Community-Based Participatory Research for Health.* San Francisco, CA: Jossey-Bass; 2005.
 28. National Association of County & City Health Officials. *Mobilization for Action Through Planning and Partnerships (MAPP) Framework.* Washington, DC: National Association of County & City Health Officials. <http://www.naccho.org/topics/infrastructure/mapp/framework/index.cfm>. Accessed June 8, 2012.
 29. Stewart CJ, Cash WB Jr. *Interviewing: Principles and Practices.* 12th ed. Boston, MA: McGraw-Hill; 2008.
 30. Morgan DL, Krueger RA, eds. *The Focus Group Kit.* Vols 1-6. Thousand Oaks, CA: Sage Publications; 1997.
 31. Hartman A. Diagrammatic assessment of family relationships. *Soc Casework.* 1978;59(8):465-476.
 32. Hartman A. Diagrammatic assessment of family relationships. *Fam Soc.* 1995;76(2):111-122.
 33. Brugha R, Varvasovszky Z. Stakeholder analysis: a review. *Health Policy Plan.* 2000;15(3):239-246.
 34. Pickton DW, Wright S. What's SWOT in strategic analysis? *Strateg Change.* 1998;7:101-109.
 35. Anderson MB, Woodrow PJ. *Rising From the Ashes: Development Strategies in Times of Disaster.* Boulder, CO: Lynne Rienner Publishers Inc; 1998.