Roundtable on the National Health Security Strategy and At-Risk Individuals, Behavioral Health, and Community Resilience

Convened by

The Office of the Assistant Secretary for Preparedness and Response

U.S. Department of Health and Human Services

Held

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I. Executive Summary

The Biennial Implementation Plan (BIP) for the National Health Security Strategy (NHSS) describes a set of desired outcomes and specific activities that are designed to put the Nation on the path toward attaining the goals and objectives contained in the NHSS. A key theme of the BIP is that achieving national health security requires, in addition to federal involvement, contributions from multiple sectors of society, including state, tribal, and local governments; private, non-governmental, business, and academic entities; individuals, families, and communities; and health care and human services providers and emergency responders. As part of its effort to foster this wide-ranging involvement, the Office of the Assistant Secretary for Preparedness and Response (ASPR) in the U.S. Department of Health and Human Services (DHHS) convened a Roundtable on the National Health Security Strategy and At-Risk Individuals, Behavioral Health, and Community Resilience (ABC) in Bethesda, Maryland on October 26 and 27, 2010. The Roundtable was attended by 40 individuals comprising a spectrum of federal, national, tribal, state, and local officials; experts in issues affecting at-risk individuals[1], behavioral health[2], and community resilience; and public health stakeholders and emergency planners.

The group's discussions resulted in six overarching themes of importance to the NHSS BIP; these are: involve all communities and constituencies, engage in comprehensive planning, build community resilience, communicate effectively, plan for recovery, and include behavioral health in all implementation plans.

> ***Involve all communities and constituencies.*** Participants noted that, despite progress since the terrorist attacks of 9/11 and Hurricane Katrina in 2005, many demographic groups still feel left out of emergency planning. Roundtable participants strongly endorsed the BIP's goal of involving constituencies and communities as widely as possible in all aspects of planning for preparedness, response, and recovery for disasters and emergencies. Participants emphasized the need to embrace a broad definition of the varied communities that coexist in a given locality. These include not only all population groups, especially at-risk individuals, but also local organizations, faith-based and other civic groups, elements of the business sector, and relevant parts of state and local governments. In a disaster, all groups have specific needs that must be met, and all have contributions to make toward the recovery effort. Failure to include any group can exact a disproportionate toll on recovery efforts, particularly when plans must be altered to take care of people with needs that may have been overlooked.

> ***Comprehensive Planning.*** Integration of planning efforts is another key BIP theme that received much attention. Participants endorsed the goal of making sure that the voices

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[1] See *APPENDIX B: At-Risk Individuals: U.S. DHHS Definition and Summary*

[2] The term behavioral health includes mental health, stress, and substance use/addictions issues and concerns.

of diverse communities are heard throughout the planning effort. Planners must know what these communities need and how the communities can contribute to preparedness, response, and recovery. Planners should identify community leaders (both individuals and organizations) who can agree to take on defined responsibilities and who can be relied on as conduits of information both to and from the community or communities they represent.

Build Community Resilience. Discussions of community resilience, a major element of the NHSS, also emphasized the importance of integration and inclusivity. Resilience should be understood as a set of behaviors that individuals, families, and communities already demonstrate, in various degrees, and which can be strengthened in a systematic way through education and training. The skills of resilience enable communities to function in ordinary times and to respond better to public health emergencies and disasters. Resilience promotes self-reliance among individuals, families, and communities, allowing them to continue to function in the face of disaster when external support from government and other sources is limited. Building resilience throughout a community requires the involvement of local organizations and the business sector.

Communicate Effectively. Effective public health communication, whether in normal times or during a disaster, depends on establishing relationships with trusted intermediaries, especially to communicate with population groups and ethnic communities that may be less trusting of government intentions and actions. Information must therefore be conveyed in ways that maximize the chance it will be heard, understood, and acted upon. Messages must be adapted to communicate effectively and efficiently with a variety of communities. Participants stressed the importance of consistency, openness, timeliness, and honesty in communicating during an emergency. Trust is easily damaged, and appropriate responses to future information will be less likely to occur when information is withheld, when it changes from day-to-day, or when individuals hear or perceive conflicting advice from different sources. Communication must work in both directions: officials must have appropriate conduits for information into communities, and communities must be able to make their concerns heard and obtain responses that are sensitive and relevant to their specific needs, cultures, and traditions. Modern technology presents an array of new modes of communication, but technology is not a panacea. Communication plans must be built on an understanding of what kinds of communication are best suited to reach specific communities and a variety of individuals.

Plan for recovery. Some participants said that the traditional model of planning, response, and recovery is useful but not comprehensive. Planning traditionally has focused on physical and immediate aspects of recovery (for example, treatment for injury, illness, and disease and the restoration of community infrastructure). Participants agreed that long-term or full recovery after a disaster has not received appropriate attention in emergency planning. Recovery is difficult to define; it is a long, open-ended

process. Recovery requires engagement and effort from all sectors of a community. It is not achieved until civic organizations and the business community, as well as individuals and families, have reached what *they* regard as normal and acceptable functioning. It was noted, however, that "normal functioning" may not be the same level or type of functioning as was observed before the event.

Include behavioral health in all implementation plans. Behavioral health measures—not just to address the needs triggered by the disaster itself, but also for people with pre-existing functional needs—must be taken into account if the NHSS is to succeed. Among other concerns, the BIP must specifically address planning for the care of people with impaired behavioral health functioning, for communicating effectively with all segments of the population to maintain individual and community psychological equilibrium, and for reducing the risk for the development of behavioral health problems during and after a disaster, both in the affected population and among responders.

If the Roundtable had a single unifying theme, it was that a change of culture and attitude on the part of emergency responders and planners is necessary if the community at large is to be involved in building resilience and setting the groundwork for recovery. If federal and other governmental planning efforts are to maximize the involvement of diverse communities and effectively address their needs, officials must understand and incorporate the concerns of the whole community in every aspect of planning. Efforts carried out under the BIP should focus not on following federal directives but on identifying and achieving goals that are defined with the cooperation of communities.

II. Background

The National Health Security Strategy of the United States (NHSS)[3]—aimed at minimizing the health effects of major disasters such as earthquakes, floods, disease outbreaks, and possible terrorist attacks—provides the following definition of health security:

> National health security is a state in which the Nation and its people are prepared for, protected from, and resilient in the face of health threats or incidents with potentially negative health consequences.

The NHSS is a national—not just federal—strategy and is strengthened by the participation of a broad range of stakeholders. The vision for health security described in the NHSS is built on a foundation of community resilience: healthy individuals, families, and communities with access to health care and with the knowledge and resources to know what to do to care for themselves and others in both routine and emergency situations. Health security also requires taking into account the functional needs of at-risk individuals and planning carefully for issues surrounding behavioral health, both in terms of keeping people functioning effectively in the immediate aftermath of a disaster and preventing the development of behavioral health problems such as Post Traumatic Stress Disorder (PTSD) during and after the recovery phase.

An Interim Implementation Guide[4] that identified initial activities relevant to the NHSS is currently being superseded by the first Biennial Implementation Plan (BIP). The BIP describes a set of desired outcomes and specific activities that are designed to put the Nation on the path toward attaining the goals and objectives contained in the NHSS. The primary focus of the BIP is on the activities that should be performed in the next two years in order to realize the four year key outcomes of the NHSS. Adoption of a performance measurement system to track the Nation's progress toward achieving national health security will be critical as the BIP is implemented at the federal, tribal, state, and local levels.

Although government participation is critical to achieving the desired outcomes, the strong systems needed to achieve national health security must be built on the efforts of all sectors of society, including private-sector, non-governmental, business, and academic organizations; individuals, families, and communities; as well as health care and human services providers and emergency responders. Therefore, the activities in the BIP will involve the efforts of multiple sectors working in collaboration.

The Department of Health and Human Services (DHHS) is committed to delivering a comprehensive and effective response to public health emergencies and disasters that is informed by the NHSS and is fully inclusive of both behavioral health issues and the functional

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[3] U.S. Department of Health and Human Services, *National Health Security Strategy of the United States of America* (December 2009). http://www.hhs.gov/aspr/opsp/nhsslnhss09 12.pdf

[4] U.S. Department of Health and Human Services, *Interim Implementation Guide for the National Health Security Strategy* (December 2009). http://www.hhs.gov/aspr/opsp/nhsslnhss_iig0912.pdf

needs of at-risk individuals. As part of that effort, the DHHS Office of the Assistant Secretary for Preparedness and Response (ASPR) convened a Roundtable on the National Health Security Strategy and At-Risk Individuals, Behavioral Health, and Community Resilience (ABC) in Bethesda, Maryland on October 26 and 27, 2010. The Roundtable was attended by 40 individuals comprising a spectrum of federal, national, tribal, state, and local officials; experts in issues affecting at-risk individuals, behavioral health, and community resilience; and public health stakeholders and emergency planners.

III. Opening Sessions

To open the Roundtable, Dr. Lisa Kaplowitz, Deputy Assistant Secretary and Director of the Office of Policy and Planning at ASPR, reviewed key elements of the NHSS relevant to the purpose of the meeting. Drawing on her previous experience as Deputy Commissioner for Emergency Preparedness and Response in the Virginia Department of Health, Dr. Kaplowitz emphasized the importance of establishing working relationships, operating procedures, and unified command systems at the local and community levels in order to be ready to respond effectively to emergencies. Such systems should involve police, fire, emergency medical services, schools, and community organizations, among others.

Working now in ASPR, Dr. Kaplowitz explained that her goal is to make sure that tribal, state, and local views are heard at the federal level and that the federal government is doing all it can to support tribal, state, local, and community activities that further the NHSS. Health security plans and activities need to involve all parts of the population. The needs of each cohort within the population—and potential contributions of these cohorts to preparedness, response, and recovery—are important to identify. The NHSS emphasizes that preparedness is necessarily linked to and should be developed among routine activities and behaviors, and that systems must work on a daily basis if they are to be relied upon during disaster response and recovery.

The chief challenge for ASPR, Dr. Kaplowitz concluded, is to devise and carry out realistic implementation strategies that all stakeholders can use to achieve the goals and objectives set out in the NHSS.

Dr. Anita Chandra of the RAND Corporation then discussed more specific aspects of NHSS that the Roundtable was convened to address. The NHSS is designed to achieve two goals: building community resilience and strengthening and sustaining health and emergency response systems. To achieve the first goal, it is necessary to start by defining what community resilience means. This is a relatively new area of research that melds traditional ideas from public health with new thinking from recent research on emergency preparedness. Building community resilience means adopting lessons that have been learned from past experiences with disasters and emergencies in order to build nimble systems that are ready to swing into action when new challenges and threats arise.

Moreover, resilience is an evolving quality. Maintaining resilience requires a capacity to learn from new experience. A major difficulty at present is that evidence of and metrics for resilience are in short supply, a deficiency that hampers efforts to strengthen resilience. In order to address that lack of quantifiable measures for resilience, DHHS planners have surveyed research and other literature[5] and consulted with numerous relevant stakeholders, including state and local entities, non-governmental organizations (NGOs), and appropriate subject matter experts (SMEs). An important theme emerging from this analysis is that the capability for recovery from a disaster or emergency must be counted as part of community resilience. Recovery is not a distinct question that can be addressed separately from community resilience, but rather the development of individual and community resilience will enhance our collective capacities for response and recovery.

The two major NHSS goals are supported by ten strategic objectives that address areas requiring focused attention and improvement over the next four years. The vehicle for attaining these objectives and thereby turning the NHSS into a practical reality is the Biennial Implementation Plan, which will prioritize activities over the next two years. The BIP is built around four elements: (1) desired outcomes; (2) activities to achieve the outcomes; (3) capabilities that are needed for those activities to happen; (4) identification of an entity or entities to take lead coordination roles for a varied partnership of stakeholders.

Audience discussion during and following Dr. Chandra's presentation raised a number of broad issues. Questions were asked about the federal role in building preparedness in general and community resilience in particular, and also about possible confusion between the goals of the NHSS, which is a product of DHHS, and those of the National Disaster Recovery Framework (NDRF), which stems from an interagency effort coordinated by the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA). There was also concern about the NHSS being seen as an "unfunded mandate" in what is already a strained economic climate. Dr. Chandra responded that federal agencies are working to ensure that plans such as NHSS and NDRF are complementary and not duplicative or contradictory.

Dr. Kaplowitz emphasized that NHSS is a national plan, not a federal directive. The role of federal agencies in NHSS and BIP activities is to provide guidance and coordination where necessary, but actions by state, local, and other entities must be the foundation for successful implementation of the NHSS.

Finally, Dr. Chandra concluded by urging Roundtable participants to focus on some general issues: What efforts, if any, are already under way to build community resilience? What are examples of efforts that work? What promising practices and benchmarks for resilience have been identified? How can academic research be transferred into practical tools and systems? What synergies or dual-use systems exist for building community resilience? What partners in resilience-building can be found and recruited to the effort?

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[5] see http://www.rand.org/pubs/working_papers/WR737/

IV. Structure and Purpose of the NHSS ABC Roundtable Meeting

Although behavioral health, at-risk individuals, and community resilience are crosscutting through all ten NHSS objectives, the Roundtable focused on the three objectives that most specifically relate to protecting and restoring behavioral health, meeting the functional needs of at-risk individuals, and establishing and maintaining community resilience. Those three objectives are:

- NHSS Objective 1: Foster informed, empowered individuals and communities
- NHSS Objective 5: Ensure timely and effective communication
- NHSS Objective 8: Incorporate post-incident health recovery in planning and response[6]

After the introductory session, participants in the Roundtable separated into three groups, each including representatives from a range of federal agencies, different levels of government, and stakeholder organizations. Each group then discussed, in consecutive breakout sessions, the three NHSS Objectives listed above. Discussions were guided by a facilitator and were organized around three fundamental questions:

- How does this objective pertain to your organization's constituents or service recipients?
- How can implementation be targeted to better address constituent or service recipient issues?
- What are concrete measures we can look for and document to assess implementation progress?

In the final sessions of the Roundtable, participants reconvened to review the ideas generated during the separate breakout sessions. That general discussion identified and elaborated upon some of the more important themes that had emerged.

This report captures the wide-ranging discussions that occurred within the breakout groups and concluding sessions. It does not follow the chronology of the discussions but instead arranges the material thematically. In addition, this report does not associate the views and ideas expressed with particular individuals.

The first of the three questions prompted participants in the breakout groups to describe their activities, roles, and general interests in preparedness, response, and recovery, but it did not generally provoke much further discussion once those basics had been established. For that

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[6] The other NHSS strategic objectives are: Develop and maintain the workforce needed for national health security; Ensure situational awareness; Foster integrated, scalable health care delivery systems; Ensure prevention or mitigation of environmental and other emerging threats to health; Work with cross-border and global partners to enhance national, continental, and global health security; Ensure that all systems that support national health security are based upon the best available science, evaluation, and quality improvement methods.

reason, this report summarizes in a single section (V, below) issues and concerns raised by participants in all the breakout sessions as they described the needs and capabilities of their constituencies and service recipients. The following three sections (VI, VII, and VIII) then present summaries of the breakout group discussions of each of the three NHSS Objectives. Organizers of the Roundtable expressed their desire for participants to express their views and describe their experiences in an unfettered way. They also emphasized that the purpose of the meeting was not to reach consensus or generate recommendations but rather to use the perspectives of the participants to influence future refinement of the BIP.

In the sections relating to the three objectives, discussion provoked by the second question is largely captured under the broad heading "Themes," while responses to the third question are summarized under the heading "Metrics." However, the discussions in the breakout groups ranged widely, blurring the boundaries between the three questions and going in many new directions. For that reason, the summaries below roughly follow the organization implied by the three questions.

V. Constituencies and Service Recipients

Throughout the Roundtable, participants repeatedly noted the diversity of constituents and service recipients whose interests, needs, and capabilities they represented. A particular point of emphasis was that the notion of communities of constituents and service recipients must be construed very broadly. Indeed, the word "community" was used in overlapping senses. A traditional definition of a community is a geographic neighborhood or locality, containing within it many diverse demographic segments. However, those segments also form communities with specific interests, needs, and capabilities; they may be tribal, ethnic, or cultural in nature; they may consist of at-risk individuals (notably, people living with disabilities, pregnant and nursing women, children, and seniors); communities may also be work-related or Internet-based.

People as well as organizations can clearly belong to more than one of these generalized communities. It was suggested that people or organizations standing at the intersection of one or more communities should be regarded as "nodes," offering opportunities for interacting with a broad range of population segments. That is, nodes can be useful both for understanding the functional needs and capabilities of various communities and for efficiently communicating with those communities.

A note of caution was raised by a number of participants. They warned that although the importance of connecting federal efforts to diverse communities has now been well recognized—especially in the aftermath of the 9/11 terrorist attacks and Hurricane Katrina—and although discussions and communications with certain communities have indeed been undertaken, many population groups still feel left out of preparedness, response, and recovery efforts. Some participants suggested that people living with disabilities, guided by the motto

"nothing about us without us," have succeeded in getting their voices heard and their views incorporated to an extent that other groups representing at-risk individuals within the population could learn from.

Issues particular to tribal participation were mentioned throughout the meeting. Tribal groups have their own autonomous structures, history, and traditions that emergency and disaster planners need to recognize; federal, state, and local authorities cannot dictate actions to tribes in ways that laws may permit them to do for other parts of the population. Moreover, it is important to keep in mind that Native American organizations and traditions are not monolithic; each tribe may have a unique structure of ethics, culture, and principles, some of which it may not reveal even to other tribes.

Going beyond general population demographics, some participants noted that communities and service recipients include multiple organizations of various types (such as civic groups, NGOs, and faith-based institutions). Such groups act not only as service providers to certain population segments, but also at times as recipients of services provided by local and federal government entities. In turn, these government entities may at times receive services from other entities—for example, from other government agencies, from universities involved in researching resilience, preparedness, response, and recovery issues, or from NGOs conducting exercises in various aspects of disaster and emergency planning.

Numerous participants emphasized that this broad understanding of communities and service recipients must be kept in mind at all times. There was strong agreement that accomplishing NHSS objectives requires planning and response efforts that are thoroughly integrated across federal, tribal, state, local, and civic levels. A particularly important element of this integration is that the functional needs of at-risk individuals and recognition of behavioral health concerns must be transparently included at all levels and stages of the effort.

VI. Discussion of the Three Objectives

Objective 1: Foster informed, empowered individuals and communities

Discussion of this objective produced two broad themes: What does it mean, in practical terms, when we say that individuals and communities are empowered and resilient; and how is that empowerment to be achieved?

What does it mean for individuals and communities to be empowered and resilient?
Building on Dr. Chandra's observation in the opening session that community resilience means having systems in place that are ready to be called on in times of crisis, participants listed a number of characteristics that define a resilient community and empowered individuals.

Fundamentally, empowered individuals are informed and prepared: in a disaster or emergency, they have substantial ideas on what to do, where to go, and where to turn to for help and information. Moreover, prepared individuals will be ready to take appropriate actions on their own initiative. Such actions will range from communicating with federal, state, and local authorities to reaching out to at-risk individuals in their own communities. It is important to note that while empowered individuals expect assistance from relevant authorities at all levels of government, they do not expect government to solve all their problems immediately, especially in the first day or two following a major crisis. Empowerment and resilience include a strong element of self-reliance; empowered individuals and organizations will already have their own support networks that can function in the absence of immediate help from the government.

Empowerment requires suitable education and training. Although emergency responders have the capability to deal with a wide range of general hazards, they need additional training and practice in responding to disasters of an unusual kind or on a larger than usual scale, such as a large earthquake or a terrorist attack. An important part of such training should be building emergency responders' awareness of the existence and functional needs of various at-risk individuals and of basic behavioral health issues that are likely to arise in an emergency or disaster. In addition, there should be means for a wide range of citizens, including nurses, teachers, members of community groups, and indeed any interested volunteers, to receive training in disaster response that is tailored to their abilities and to the people they serve.

Roundtable participants cited a number of examples of how education and preparation had helped in dealing with crises. The response to the Virginia Tech shooting of April 2007 benefitted from prior efforts to strengthen linkages between Virginia Tech and the local community, which assisted with the coordination of activities by local emergency services, hospitals, and university authorities. In New York, groups that had received training following the 9/11 terrorist attacks were quick to reach out to local public health agencies when a tornado hit Brooklyn in September 2010. Likewise, citizens trained under the Community Emergency Response Team (CERT) program in the District of Columbia performed valuable services after the crash of a Metro train in June 2009.

A point frequently emphasized was that resilience and empowerment should not be portrayed as characteristics relevant only to emergencies and disasters. Rather, these qualities strengthen a community in dealing with everyday issues, as well as improving the ability to cope with a major incident. Resilience, moreover, is a quality that people already possess in varying degrees, and building resilience should be seen as way of strengthening existing capabilities. This is especially true for many at-risk individuals, who already face numerous difficulties in their everyday lives. Resilience also may have special meaning for some groups, such as Native Americans, for whom spirituality is an important existing source of community and individual strength. However, some participants warned against giving resilience and empowerment so broad a meaning that the connection to public health emergencies and disasters is lost.

Although individual empowerment and community resilience are clearly related, some doubts were expressed as to whether a community of empowered individuals is necessarily a resilient community. For example, overemphasis on self-reliance and responsibilities to one's immediate family or neighborhood may diminish a sense of shared responsibility with the larger community. This issue was cited as one needing further research; little is understood about the elements that contribute to community resilience and how these elements relate to individual preparedness.

How can we empower people and build community resilience?

An essential foundation for building community resilience is identifying the crucial components that constitute the community. As described earlier, a community in the geographic sense consists of many overlapping communities, defined in more specific terms. There will be "nodes," where the different communities intersect, and there may be leaders with evident influence and authority among one or more of the communities. Interaction with leaders and nodes may allow planning authorities both to learn of the needs and capabilities of different communities and to provide these leaders with education and training. Emergency and disaster planning efforts must engage these points of contact at the outset of the planning process, both to tailor plans to the needs of particular communities and to exert positive influence on their behavior. A noteworthy observation was that efforts to engage communities in such planning may draw out community leaders who had not previously been evident.

However, in their eagerness to identify fruitful points of contact with a particular community, planners should not overlook the need to establish working and trustworthy relationships with all communities within their areas. This is an important issue for some communities that, for a range of reasons, have historically had little trust in government, whether at the local, state, or federal level. Efforts to bring empowering education to such communities must almost necessarily go through local leaders and organizations (such as faith-based groups) that have gained the trust of the communities they lead and serve.

A cautionary note is that some individuals and communities may have willfully made themselves hard to reach; even with extraordinary efforts, some people may choose to remain beyond the reach of any efforts to deliver education or build resilience.

Assuming that workable contacts with diverse community segments have been established, participants offered a wide range of ideas on what can be done to empower individuals and build community resilience. An important principle to emphasize in such efforts is that resilience is not something the government, at any level, bestows on individuals or a community; it is something that individuals, families, and community groups create for themselves, with appropriate assistance. To that point, authorities should be clear about what people and communities can expect from government in the aftermath of a disaster or public health emergency, as well as what is expected from them.

An example of resilience-building currently under way is a psychological first aid and resilience curriculum now being rolled out in five states by the American Red Cross, intended to be taught in a four-hour course to any citizen in a community.[7] Although this effort is not exclusively aimed at disaster preparedness, it provides a model for how disaster workers and citizens can be trained to cope with a variety of day-to-day issues as well as emergencies, using the principles of psychological first aid and resilience. In general, programs of this sort can build resilience by identifying individuals who are likely to be at greatest risk in a disaster and by establishing methods through which members of the community can come to their assistance. An overriding goal of such efforts should be to teach people to be self-sufficient, as far as their individual circumstances and capabilities allow, as well as to teach them ways to contribute to the resilience of their community or communities. Suitable preparedness training can also guide ad hoc efforts at assistance by well-intended individuals whose efforts may otherwise do more harm than good.

It will also be important to enlist local businesses and civic organizations in resilience-building efforts by cultivating public-private partnerships. Cooperative activities of this sort can identify valuable local resources and promote community involvement in a wider sense.

Children occupy a sensitive position in resilience-building. Making sure that children are cared for contributes enormously to community strength and allows parents greater freedom in undertaking activities that help recovery in other ways. Moreover, schools and day care centers are community focal points that, in an emergency, can play an important role as response and recovery centers. Schools may have nurses and counselors who can contribute, though they would need suitable training in emergency response. For example, school nurses may need retraining in such elementary matters as giving injections and, without further education, school counselors are typically not ready to function as crisis counselors or purveyors of psychological first aid.

Children can contribute to resilience in another way. Experience has shown that messages delivered to children have considerable influence on their parents' behavior. Campaigns against smoking and for the use of motor vehicle seat belts are two notable examples. Student Tools for Emergency Planning (STEP)[8] is a FEMA program, now operating pilot efforts in six New England States, to give fourth-graders basic instruction in emergency preparedness, including homework exercises and a backpack with emergency supplies.

A general issue pointed out by many participants is that building resilience requires a certain change of culture and attitude on the part of emergency responders and planners. Such people traditionally work from a "command and control" stance in which they see their role as directly organizing and administering appropriate responses and carry the expectation that people and

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[7] Coping in Today's World: Psychological First Aid and Resilience for Families, Friends and Neighbors. American Red Cross, Washington, D.C. 2010.

[8] http://www.fema.gov/about/regions/regioni/step.shtm

communities will cooperate as required. However, individual empowerment and community resilience are built on the expectation that individuals and groups will act on their own responsibility and take appropriate action in the absence of government authority.

For much the same reason, participants representing a variety of local and state entities observed that resilience-building also requires a rethinking of the federal role. Ideally, federal planners should identify needs and perhaps recommend appropriate actions, but should then let tribal, state, local, and civic organizations address those needs in the ways that they deem most likely to be effective in consideration of local circumstances. In particular, the focus should be on achieving desired goals, which is not the same as following federally-defined directives. Although federal guidance is important, achieving empowerment and resilience means capitalizing on local knowledge and flexibility. An overall principle for federal planners should be to learn what local communities need and help them achieve it rather than telling them what they should do.

A weak point in efforts to achieve resilience is that they must enlist local and community organizations that are often stretched thin in their efforts to deal with existing community and individual problems. This is especially true for behavioral health issues, which tend to be neglected in contrast to traditional public health matters.

An issue of general concern in all efforts to build resilience is lack of necessary resources. The NHSS has no new dedicated funding to help state and local governments or other entities, which may therefore see NHSS goals as creating an unfunded mandate at a time when state and local economies face major difficulties. Federal agencies also lack legal authority to mandate many of the actions required to reach NHSS goals. Work is needed on incentives for governments, civic organizations, and individuals to take steps that will foster resilience. Even simple preparedness activities, such as stockpiling food and water and maintaining a cache of simple materials for emergency use, may be beyond the means of many families that struggle to make ends meet. Local organizations that wish to obtain certification in disaster response capabilities may also find that fees and training costs are a significant deterrent to pursuing training.

Even in the absence of significant new federal funding, there are federal actions that could promote resilience. For example, planning tools that help local governments map out their communities, identify nodes, and draw up a checklist of desirable activities would have considerable value. Many kinds of consultation and conversations among interested parties can proceed even in the absence of funding and would be aided by "roadmaps" indicating worthwhile avenues to explore.

Metrics for empowerment and resilience

A qualitative definition of resilience, in the words of one participant who had experienced the aftermath of Hurricane Katrina, is the extent to which people feel they have choices in their actions and are not pushed helplessly by forces they cannot control. Although empowerment

and resilience are, in a basic sense, qualitative characteristics, participants offered a variety of ways in which these qualities could be assessed and compared.

Researchers have attempted to construct measures of the ability of individuals and communities to cope with everyday problems, and these measures also have value in assessing the ability to respond to an emergency. Social vulnerability metrics are being developed that measure the sensitivity of people, organizations, and societies to a variety of stressors. The Behavioral Risk Factor Surveillance System,[9] a survey conducted by the Centers for Disease Control and Prevention (CDC) to assess health indicators and risk behaviors throughout the United States, contains some elements that relate to resilience. It is clear, however, that as of yet no comprehensive definition of community resilience exists. Therefore, attempts to measure community resilience are inevitably fragmentary.

Some indicators do give insight into a community's degree of preparedness and resilience. Is there an accessible list of community and group leaders who have agreed to take on certain roles in an emergency? Does that list match demographic census data (that is, are all population segments properly represented)? Are these leaders included in disaster plans? Have memoranda of understanding (MOUs) been drawn up that indicate the roles various groups and organizations have agreed to take responsibility for? Is there, within a given community, a known number of residents and emergency responders who have received disaster training of various kinds? For example, in the aftermath of the Deepwater Horizon oil spill, the National Institute of Mental Health (NIMH), with the involvement of CDC and the Substance Abuse and Mental Health Services Administration (SAMHSA), sought out people who received some training in dealing with particular aspects of the spill's consequences.

For at-risk individuals in particular, an important indicator is whether planners have identified the functional needs of at-risk communities they are responsible for, included these communities in planning activities, and taken steps to address functional needs by ensuring that facilities will be accessible and available to meet these needs, especially if the usual public health resources are under strain. Some local health data (such as use of various services) can indicate the extent of at-risk individuals and their functional needs, as can data on substance abuse and treatment programs. An example of a program aiming to build resilience for a particular at-risk community is the National Child Traumatic Stress Network;[10] this program involves many projects that may hold lessons or offer best practices for other communities.

A useful metric, but one for which few data currently exist, would be the proportion of families that have successfully stockpiled food, water, and medical supplies. A more general measure would be an estimate of the time that families expect to be able to take care of themselves in the absence of government or other supportive services.

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[9] http://www.cdc.gov/brfss/
[10] http://www.nctsn.org/nccts/nav.do?pid=hom_main

Some measure of progress can be gained by monitoring funding for preparedness programs and ensuring that benchmarks for the inclusion of at-risk individual and behavioral health issues are set and achieved. A few participants reported, however, that attempts to measure preparedness in such ways are not always straightforward. For example, when continued funding of a program depends on communities achieving certain benchmarks, reporting of progress can be distorted.

Objective 5: Ensure timely and effective communication

Throughout the Roundtable, participants stressed the importance of communication to many other goals connected with preparedness, response, and recovery. The following section summarizes the wide-ranging discussion under a few broad headings.

Communication must be purposeful and inclusive

If people are to act in constructive and appropriate ways before, during, and after a public health emergency or disaster, they must know what to do, which means in turn that they must receive appropriate information that supports and guides them to act on it appropriately. A fundamental attribute of emergency messaging is that it should clearly communicate the desired responses or actions by the people and communities that receive the message. Information must therefore be conveyed in ways that maximize the chance it will be heard and understood, and it must be fashioned to communicate efficiently with a variety of communities.

Participants noted that in many large cities, hundreds of languages may be in regular use. Translating messages into another language requires an understanding of the culture of the community using that language, not simply word-for-word substitutions. In New York City, for example, information warning of the dangers of West Nile virus, transmitted by mosquito bites, proved puzzling to some communities whose members were familiar with many different kinds of mosquitoes and wanted to know which ones in particular to be wary of. Resolving this issue was not merely a matter of translation but required health authorities to understand the knowledge specific to that community. Likewise, Native American tribes embrace a great diversity of cultures and traditions that must be borne in mind when fashioning messages to reach those communities. A general principle is that representatives of communities that are on the receiving end of information should be included from the very beginning in the communication planning.

Communication with at-risk individuals requires special thought, too. For individuals with hearing impairment as well as for those with limited proficiency of English, information conveyed pictorially can be a useful supplement to information designed to reach a wider audience. An example from the aftermath of Hurricane Katrina illustrates how important it is that messaging reach all community members. It took as long as seven additional days for some hearing-impaired and non-English speaking people to receive information distributed in

conventional forms, even though these people lived in tight quarters with others who received the information directly and quickly.

Use of pictures for conveying information has limits, however. The Transportation Security Administration (TSA) makes use of pictographic systems to guide people through security inspections at airports. Such methods can work well when large numbers of people with diverse and unpredictable language skills are asked to cooperate with a modest number of fairly straightforward procedures. Similarly, pictographic tools may work well in some emergency situations when people under stress are asked to respond quickly to simple instructions. But participants expressed that such systems were less likely to be useful in the more complex task of presenting diverse communities with more sophisticated kinds of information in order to promote preparedness, safety measures, and resilience. Research is being done on the effectiveness of pictographic communication, and this was felt to be an area where more research would be of significant value. In particular, standardization of pictographic systems needs to be supported by good evidence of what works well for a large range of people and communities.

Modern technology presents a wide range of communication modalities, the use of which is evolving rapidly. Some of technologies have useful applications for multiple communities and demographics, however, participants cautioned against a tendency to move all communication toward high-tech systems. Many people, especially seniors and the economically disadvantaged, do not have cell phones and do not use e-mail or the Internet. For such groups, communication by radio, television, the U.S. postal service, and other traditional modes may remain the most reliable methods for some time.

Moreover, those who have embraced newer forms of communication have not done so in a demographically uniform way. Older adults mainly communicate verbally by telephone (both land line and mobile) as well as through written e-mails, whereas younger people rely to a much larger extent on text messaging through their mobile phones. Several participants cited university emergency communication systems, relying principally on cell phones, as an example of how the use of technology can be tailored to provide actionable information to a specific population. Another example is the "text4baby" program,[11] run by a public-private partnership, which provides regular text messages with advice and support to pregnant women and young mothers. This system is not designed to deal with emergencies but illustrates how educational information can be delivered quickly to a targeted population and how communication methods can be maintained over a lengthy period of time.

As mentioned above, child care and school systems are effective in delivering information not only to students but also to their parents. Some participants wondered whether schools and universities could act as focal centers for communication in an emergency; they noted that some universities are now experimenting with "reverse communication," strategies in which

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[11] http://www.text4baby.org/index.html

students can send alerts or questions to the appropriate authorities. It was felt, however, that turning educationally-based systems to larger purposes would raise both logistical and legal questions. Moreover, allowing the recipients of such communications—in this case, the students—to send alerts and questions to system operators may raise difficult issues of trust and verification.

Some participants suggested that authorities seeking to improve communication with the public might look toward the advertising industry. For example, many businesses are now promoting "eco-friendliness" as a selling point. It was suggested that preparedness and resilience could similarly be portrayed as socially and nationally important goals that people will want to embrace.

Communication must go both ways

A repeated theme was that communication cannot be simply a one-way flow of information from authorities at the federal or state level to local organizations and individuals. Local communities and individuals must also be able to communicate their needs and desires to government at various levels, and government planners must understand those needs and desires in order to create useful and actionable messaging. Effective communication relies on trust: people are more likely to respond appropriately to information if they feel that their voices have been heard. Formal structures establishing links between emergency planners and local groups and organizations would enable the appropriate agencies and government entities to learn what communities want. For example, according to a survey conducted in a Louisiana community near a chemical plant, residents asked about a potentially dangerous hypothetical incident indicated they would want to know as soon as possible that something had happened, even though details might be slow to emerge. This contrasted with the view of local officials, who were generally wary of releasing any information until it was adequately substantiated.

These principles also apply to communication between the government and relevant professional organizations. For example, in the early days of the 2009 H1N1 influenza pandemic, the CDC recommended administering the antibiotic Tamiflu to all infected children, but physicians' organizations objected and pointed out that supplies of Tamiflu were far from sufficient to make that recommendation feasible. In response, the CDC adjusted its message.

Several participants reported that governments at the state and local level were already making progress in communicating regularly and effectively with a variety of local groups within their communities. Such efforts provide a model for the federal government to learn from as it embraces a more open communication philosophy. Communication from the federal government typically goes through many layers of review before it reaches state and local governments and the public, a process which sometimes significantly delays release of information, and maintaining openness and transparency throughout this process requires vigilant attention.

Improving communication also is an area in which the traditional "command and control" stance of emergency responders needs to adjust. Emergency planners and responders sometimes expect to be able to dictate actions to the public without necessarily having to explain their reasoning. But participants agreed that full disclosure, openness, and honesty are desirable because they contribute to the effectiveness of communication, making it more likely that people will follow government instructions in an emergency. When authorities are seen as unresponsive or as withholding bad news, they are likely to lose the trust of the people they are trying to reach. Often, lack of information—even fragmentary or potentially frightening information—and lack of clarity can cause greater confusion and alarm than an honest assessment of a difficult or dangerous situation. And once lost, credibility and trust are very difficult to restore.

Importance of trustworthy messages and trusted messengers

Many participants alluded to distrust in some communities of information coming from the federal government or, in some cases, from local governments. For example, FEMA officials are frequently met with suspicion or fear in communities that include large numbers of immigrants when they travel in vehicles bearing DHS insignia, because FEMA resides in the same department that houses the Immigration and Customs Enforcement. But wariness of federal activities exists at some level in many communities. One participant spoke of a fundamental conundrum: many people don't want the federal government interfering in their normal lives, but they also expect prompt federal assistance during and after an emergency.

Whatever the source, mistrust of government is a factor that emergency planners and responders must deal with. One strategy is to establish links with trusted community leaders who can deliver information in a way that will be taken seriously. These trusted leaders must be sought out in advance of any crisis; trusted channels for routine communication must exist in everyday matters if they are to be called upon in an emergency. These leaders may be respected individuals (for example, heads of faith-based groups), or they may be part of local organizations that have deep roots in a community or of any group in which people gather, such as tenants' associations and 12-step organizations.

In addition to *methods* of communication, the *location* of centers where people can communicate with government or other authorities can be an important factor in establishing trust. Participants with experience in a number of disaster recovery operations reported that allowing citizens to communicate with authorities in places of their own choosing is very helpful in that regard. These may be specific locations that can act as centers for the dissemination of information; for example, to reach some communities beauty salons may play a key role, for others, coffee houses might be better. The same principle applies to places where services are provided. For many people, barriers remain for seeking help from behavioral health or human services providers, such as concerns over potential negative career consequences, financial implications, and negative perceptions or stigma about needing assistance. More generally, giving people choice over the means by which they receive information or consult health professionals can confer a valuable sense of control.

Identifying trusted messengers is an aspect of identifying the local network of overlapping communities and nodes, as discussed above. Establishing in advance how information spreads through a community is an important element not only of building resilience but also of the capability to maintain good communication in a crisis.

Identifying individuals and organizations who can act as trusted messengers may depend on the nature of the message. Local physicians and their practices, for example, may be excellent at distributing information about health risks and threats, but not about natural disasters or terrorism. No matter the particular nature of information, a range of trusted messengers will generally be needed to reach all segments of a population. Physicians may be good conduits for health information, but not everyone has a personal physician. Pharmacists, home health care providers, and even meals-on-wheels delivery staff may also serve as trusted messengers.

Consistency of the message is also important in establishing trust. In some cases, reliance on a single spokesperson (such as retired U.S. Coast Guard Admiral Thad Allen, who was the primary conduit of information about the Deepwater Horizon oil spill) may help to build confidence in the messages being delivered. Ensuring that a single spokesperson delivers information should, generally, not be difficult but will often require a deliberate exercise of authority at the appropriate level. On the other hand, in a more geographically widespread incident, or one in which information about many kinds of concerns needs to be integrated, channeling all communications through a single spokesperson may be impractical. In such cases the need for coordination between the relevant authorities, before information is released, becomes more urgent. The creation of a joint information clearinghouse, as was done with flu.gov for the 2009 H1N1 influenza pandemic and avian influenza before it, can help with coordination and delivery of consistent messaging.

Although emergencies and disasters will often require prompt responses to rapidly developing situations, planners should work out as far in advance as possible the information that will be disseminated in anticipatable aspects of a crisis. Although participants generally praised communication during the H1N1 influenza pandemic, they also noted that needless confusion sometimes arose (as in the case of the Tamiflu recommendation mentioned above), because a strategy had not been settled beforehand. Moreover, developing information in advance presents an ideal opportunity to involve communities in the creation of messages that will be effective, including the development of different styles and modes of communication for distinct communities.

An overriding concern with messaging—whether as part of preparedness and resilience-building, or during an emergency—is delivering information with the right tone to make people aware, or cause them to act, without causing undue alarm that can trigger inappropriate actions and behaviors. Participants admitted frankly that this was an issue on which many viewpoints existed and for which a general consensus had not been established. Some participants felt that blunt or graphic messages conveying extreme consequences for failure to comply with emergency directives were effective, however such messaging is difficult for leadership to sanction and may provoke negative stress risks.

Involving the media in the dissemination of information is a delicate matter. Especially in times of immediate danger, many local media outlets may be eager to assist in getting important information to the community. At the same time, however, members of the media are unlikely to relinquish their role as skeptical interrogators of public officials, whereby emergency authorities cannot necessarily count on the media as willing partners.

Metrics for the effectiveness of communication

Participants agreed that a useful message must trigger an intended action by those who receive it. The national "color alert" system to indicate the terrorism threat level was seen as ineffective because it gives little guidance on how people are expected to respond. In principle, if a message specifies an action, then a measure of its effectiveness is whether the intended actions indeed came about. In practice, however, quantitative measures along these lines are difficult. Messages may not reliably lead to the intended actions for various reasons: Was the message heard? Did it cause a change in attitude among those who heard it? Did the change in attitude lead to different behavior? Answering these questions requires long-term research, but such research has generally been difficult to fund in comparison, for example, with technological research on new ways of delivering messages.

Practice drills, followed by quantitative assessment of results, can yield useful information about the effectiveness of communications in terms of both content and mode of delivery. However, messages that are likely to be delivered in earnest only during a serious emergency are difficult to test realistically in practice drills.

Given the paucity of research data on communication effectiveness, some participants suggested the establishment of a clearinghouse that would gather and assess ideas and methods that have been proposed or used in a variety of situations. Simply assembling such material in one place would allow valuable insight into work that may have been done in an ad hoc manner, in many different localities, and which would otherwise go unrecorded.

Objective 8: Incorporate post-incident health recovery in planning and response

Roundtable participants agreed that long-term recovery has generally received insufficient attention in emergency and disaster planning, as compared to work on preparedness and immediate response. A difficult and not fully resolved issue is that recovery is hard to define. Discussion of these concerns focused on two large, related questions: What is recovery, and what form should plans for recovery take?

Definition of recovery

Although participants identified a variety of issues relating to the recovery of a community following a disaster, they struggled to define in a comprehensive way what full recovery means and how it can be recognized. A major difficulty is that recovery can be a very long and open-

ended process, and is therefore impossible to define precisely. Post-event problems can take a long time even to emerge, let alone to resolve. Post-traumatic stress disorder (PTSD) may not affect some people until years after an incident. For example, the lives and particularly the mental health of some residents of Oklahoma City are still influenced by the 1995 bombing of the Alfred P. Murrah Building. Similarly, New Orleans is still suffering the consequences of Hurricane Katrina, which hit the city in 2005: many residents have not returned, many businesses have not reestablished themselves, and the city itself retains obvious imprints of the disaster.

On the other hand, restoration of the status quo does not generally constitute a good definition of recovery. New Orleans may never regain the population it had before Katrina, but those who do return expect to find better housing and urban infrastructure than existed previously. For members of some at-risk populations (for example, senior citizens, children who have lost their parents, the homeless), it may be impossible, unrealistic, or undesirable that they should return to their former living conditions.

Further, recovery for individuals, even a large proportion of those in a community, does not necessarily constitute recovery for community itself. Community recovery requires businesses, civic and faith-based organizations, and political structures to revive in a functionally satisfactory way. One participant said that the definition of recovery for a community is "that the people who live in it believe they have recovered," – that is, they think of their lives as normal, even if different in some ways from what life was before. In that sense, New Orleans does not yet constitute a recovered community. In contrast, the town of Greensburg, Kansas, which was almost obliterated by a tornado in May 2007, has clearly recovered; it has to a large extent rebuilt itself and indeed used the disaster to upgrade basic infrastructure and adopt energy-efficient technology on a large scale.

Several participants expressed concern that the traditional "disaster cycle" model, divided into preparedness, response, and recovery phases, assumes a clearer distinction between those phases than appears in practice. Moreover, recovery does not proceed at the same pace for all residents and organizations in a community, increasing the likelihood that at-risk individuals may be left behind. In addition, the transition from response to recovery usually focuses on physical aspects of an incident—recovery of people from disease and injury, clean-up of pollution, rebuilding of homes and businesses, etc.—while mental and behavioral health issues that are known to persist for much longer do not receive the attention they need. Mental and behavioral health, moreover, encompass a wide variety of disorders (such as PTSD, depression, substance abuse, and domestic violence), affecting different populations in different ways and on different time scales.

Planning for Recovery

General agreement emerged that planning for the extended period of recovery from a disaster would benefit from a shift away from the emergency response perspective embodied in the traditional "disaster cycle" model. Instead, efforts to promote recovery should be viewed as a

post-incident complement to building community resilience. It is resilience, or the lack of it, that largely determines the progress and pace of recovery. Current efforts by the American Red Cross, for example, overtly describe resilience as a quality that not only enables communities to better cope with everyday issues but also boosts their ability to respond to and recover from disasters and other setbacks such as the closing of a major employer.

A major complication in recovery planning is that funding for different aspects of recovery comes from many federal, state, and local sources, and sources of funds depend on the phase of the disaster cycle that a community is deemed to be in. The transition from immediate response to the recovery phase, for example, causes some sources of federal funding to no longer be applicable under the funding regulations, changes the legal obligations and capabilities of many agencies, and sees many emergency response organizations tapering off their efforts while the needs of the community remain urgent and significant. In addition, many smaller events, such as flooding in a limited geographical area, may not rise to a level that triggers federal funding and action, but for the people and communities involved, such local incidents require the same remedies and assistance as disasters on a larger scale.

As Hurricane Katrina illustrated, a disaster in one area can have national consequences. Evacuees from the Gulf Coast ended up scattered across the country, sometimes in places that lacked the necessary personnel and services to attend to their needs. For such people, recovery may or may not be connected with an intention to return to the locality of the disaster, so recovery planning for a localized incident may have to extend over a far greater area than that acutely affected by the incident itself. Problems with transitioning from response to recovery— for example, supplementing faith-based counselors who helped evacuees in the immediate aftermath of a crisis with support from people trained to treat long-term psychological issues— are likewise not confined to the vicinity of a disaster.

In general, however, community recovery issues arise most urgently in areas that have suffered the immediate impact of a disaster. Recovery requires that local organizations and businesses resume responsibility for numerous services that were disrupted by a disaster. As several participants pointed out, the predominance of support from emergency response groups in the short term can inhibit recovery of normal commercial and civic activity. Federal assistance goes mainly to a variety of non-profit organizations, which do sterling work in a crisis but whose intervention is by design temporary. Physicians' practices, for example, as well as pharmacies and home health care services, are overwhelmingly small businesses. To the extent that the services they normally provide to a community are supplanted by federally supported or other response organizations, these businesses become untenable and may go out of business altogether. A community that lacks a viable economic base for these businesses is one that people, both residents and service providers, may be reluctant to return to.

Preparatory planning for the recovery phase should therefore include the local business community involved in the provision of health care. If private physicians' practices and other for-profit services are to be an integral part of a recovering community, there needs to be a system by which they can receive appropriate federal and state support (for example, through a

temporary increase of Medicare/Medicaid payments), with the understanding that such arrangements will be phased out as recovery proceeds. Any such plans would have to negotiate questions of fairness among businesses, which may cooperate well during the response phase but subsequently return to a more competitive business model.

Beyond the health care sector, several participants noted the importance of engaging the business community in resilience building and recovery planning. Some businesses may have particular resources they can contribute, but, more broadly, community recovery depends on the presence of businesses to provide employment and contribute to social structure and networks.

Written agreements or MOUs that define the role that state and local governments, local organizations, and local businesses agree to perform during response and recovery can help smooth the path to full community recovery. For example, Massachusetts has made some progress on developing agreements of this sort related to behavioral health: MOUs delineate who will take a lead role in various activities and set standards for participation, along with provision for periodic review.

Many difficulties arise when evacuees from a disaster area need support in other states and conversely when health care and other professionals arrive from out of state to deliver essential services. Patient health care records may have been lost in a disaster but if they have not, there are often legal obstacles preventing an out-of-state physician from gaining access to them. In some tribal areas, programs have been instituted to persuade individuals with specific medical concerns to wear bracelets that identify their needs, but these systems have not yet been tested in a crisis. Moreover, greater sharing of medical records raises privacy concerns among many segments of the population.

Professional credentials from one state are generally not accepted in another. These matters are often regulated at the state level, so if states wish to ease or waive certain rules in an emergency they need to enact a process for doing so. Participants suggested that organizations such as the National Governors Association, rather than federal agencies, are the best place to tackle such problems. There is also a place for medical organizations such as the American Medical Association and numerous specialist groups to get involved.

However, waivers of rules during an emergency can ultimately slow the recovery process for some populations, especially at-risk individuals. For example, rebuilding may be hastened by easing the requirements of the Americans with Disabilities Act (ADA), but that makes it harder for individuals living with disabilities to return to an impacted community.

Several participants expressed frustration that many of these legal and logistical issues had been raised after the 9/11 terrorist attacks and Hurricane Katrina, but that despite much discussion little progress has been made in resolving them.

Metrics for recovery

Although recovery is an elusive concept, ultimately determined by the perceptions of people in a community, participants made several suggestions for quantitative ways of assessing the progress of a recovering community.

Some of the metrics alluded to in the earlier section on resilience can be applied in a "before and after" way to gauge progress. Such measures may include general assessments of community health and social vulnerability, as well as more specific measures such as emergency room visits, use of substance abuse services, and estimates of the extent of homelessness. Determining the number of providers—including physicians, nurses, and home health care workers—can measure a community's ability to cope with its most pressing issues. More specifically, for at-risk individuals, the availability and uptake of essential services can provide a snapshot of how well various demographic groups are faring. On the negative side, identifying persistent gaps in services to such communities indicates where recovery is not moving as fast as it needs to move.

If written agreements or MOUs had been drawn up in advance of a disaster or emergency, knowing the extent to which they have been implemented would provide a measure of the community's activity in recovery efforts and whether it is doing as much as it is capable of.

Some participants suggested that very general kinds of community and social network data can indicate how well a community is functioning in basic ways. Such data might include rates of church attendance, supermarket activity, attendance at recreational events, and so on. This is an area of active research, but so far it has proved difficult to acquire and interpret data in ways that allow quantitatively useful conclusions to be drawn.

The contrast between the slow recovery of New Orleans, post-Katrina, and the comparatively rapid rebuilding of Greensburg, Kansas, (admittedly a much smaller community) led some participants to suggest that research efforts could identify and quantify the characteristics that affect recovery rates in different communities. The fact that Latino communities generally fared better than African-American communities in the Chicago heat wave of 1995 was cited as an example of a difference in response and recovery, although the reasons for this phenomenon remain largely unknown.

VII. Conclusion

In the closing session of the Roundtable, participants endorsed the value of the meeting and the discussions it provoked, not only for ensuring that the voices of diverse communities were heard during the process of drafting the BIP but also for enabling representatives of those communities to share their concerns and explore common interests. Since community involvement in building resilience and achieving national health security is a basic theme of the BIP, ongoing engagement with communities, organizations, business interests, and other relevant stakeholders will continue to be of fundamental importance.

Participants also emphasized that the value of the Roundtable must ultimately be measured by its impact on the BIP and on planning for disaster and emergency preparedness, response, and recovery in general. Representatives of ASPR reiterated their commitment to basing the BIP on a foundation of community input and involvement.

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APPENDIX B:
At-Risk Individuals: U.S. DHHS Definition and Summary

Before, during, and after an incident, members of at-risk populations may have additional needs in one or more of the following functional areas: communication, medical care, maintaining independence, supervision, and transportation. In addition to those individuals specifically recognized as at-risk in the Pandemic and All-Hazards Preparedness Act (i.e., children, senior citizens, and pregnant women), individuals who may need additional response assistance include those who have disabilities, live in institutionalized settings, are from diverse cultures, have limited English proficiency or are non-English speaking, are transportation disadvantaged, have chronic medical disorders, and have pharmacological dependency.

This HHS definition of at-risk individuals is designed to be compatible with the National Response Framework (NRF) definition of special needs populations. The difference between the illustrative list of at-risk individuals in the HHS definition and the NRF definition of special needs is that the NRF definition does not include pregnant women, those who have chronic medical disorders, or those who have pharmacological dependency. The HHS definition includes these three other groups because pregnant women are specifically designated as at-risk in the Pandemic and All-Hazards Preparedness Act and those who have chronic medical disorders or pharmacological dependency are two other populations that HHS has a specific mandate to serve. At-risk individuals are those who have, in addition to their medical needs, other needs that may interfere with their ability to access or receive medical care. They may have additional needs before, during, and after an incident in one or more of the following functional areas (C-MIST):

Communication – Individuals who have limitations that interfere with the receipt of and response to information will need that information provided in methods they can understand and use. They may not be able to hear verbal announcements, see directional signs, or understand how to get assistance due to hearing, vision, speech, cognitive, or intellectual limitations, and/or limited English proficiency.
Medical Care – Individuals who are not self-sufficient or who do not have adequate support from caregivers, family, or friends may need assistance with: managing unstable, terminal or contagious conditions that require observation and ongoing treatment; managing intravenous therapy, tube feeding, and vital signs; receiving dialysis, oxygen, and suction administration; managing wounds; and operating power-dependent equipment to sustain life. These individuals require the support of trained medical professionals.
Independence – Individuals requiring support to be independent in daily activities may lose this support during an emergency or a disaster. Such support may include consumable medical supplies (diapers, formula, bandages, ostomy supplies, etc.), durable medical equipment (wheelchairs, walkers, scooters, etc.), service animals, and/or attendants or caregivers. Supplying needed support to these individuals will enable them to maintain their pre-disaster level of independence.
Supervision – Before, during, and after an emergency individuals may lose the support of caregivers, family, or friends or may be unable to cope in a new environment (particularly if they have dementia, Alzheimer's disease, or psychiatric conditions such as schizophrenia or intense anxiety). If separated from their caregivers, young children may be unable to identify themselves; and when in danger, they may lack the cognitive ability to assess the situation and react appropriately.
Transportation – Individuals who cannot drive or who do not have a vehicle may require transportation support for successful evacuation. This support may include accessible vehicles (e.g., lift-equipped or vehicles suitable for transporting individuals who use oxygen) or information about how and where to access mass transportation during an evacuation.