

COMMUNITY ENGAGEMENT: LEADERSHIP TOOL FOR CATASTROPHIC HEALTH EVENTS

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Disasters and epidemics are immense and shocking disturbances that require the judgments and efforts of large numbers of people, not simply those who serve in an official capacity. This article reviews the Working Group on Community Engagement in Health Emergency Planning's recommendations to government decision makers on why and how to catalyze the civic infrastructure for an extreme health event. Community engagement—defined here as structured dialogue, joint problem solving, and collaborative action among formal authorities, citizens at-large, and local opinion leaders around a pressing public matter—can augment officials' abilities to govern in a crisis, improve application of communally held resources in a disaster or epidemic, and mitigate communitywide losses. The case of limited medical options in an influenza pandemic serves to demonstrate the civic infrastructure's preparedness, response, and recovery capabilities and to illustrate how community engagement can improve pandemic contingency planning.

DISASTERS AND EPIDEMICS are immense and shocking disturbances that necessitate the moral courage, judicious action, and practical innovations of large numbers of people, not just those who serve in an official capacity. The civic infrastructure—comprised of the public's collective wisdom and capability to solve problems; voluntary associations (both virtual and face-to-face) that arise from shared interests or a public good; and social service organizations that look out for the well-being of various groups—is essential to managing a mass health emergency. The civic infrastructure's capacities to help remedy an extreme event include the social circuitry to energize trust between authorities and publics, multiple communication channels to reach diverse populations, practical support for professional responders, self-organized solutions in seeming chaos, and a grounded commitment to recovery.

U.S. homeland security and health emergency policies, however, do not adequately reflect the civic infrastructure's proven contributions in catastrophes. Nor have most top

officials yet realized the potential value for local and national communities—and for themselves—of preparing knowledgeable, trained networks of constituents who can mobilize in a crisis. Instead, the prevailing assumption is that a panic-stricken public, blinded by self-preservation, will constitute a secondary disaster for authorities to manage.¹⁻⁴ Some emergency authorities also have mistakenly interpreted citizen-led interventions in past and present disasters as evidence of failure on the part of responders. In reality, government leaders, public health and safety professionals, and communities at-large have complementary and mutually supportive roles to play in mass emergencies.

The Working Group on Community Engagement in Health Emergency Planning thus offers a series of judgments and recommendations for governors, mayors, health and safety officers, community-based organization heads, and national decision makers on why and how to catalyze the civic infrastructure for an extreme health event. Community engagement—defined here as structured dialogue, joint problem-solving, and collaborative action among

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formal authorities, citizens at-large, and local opinion leaders around a pressing public matter—can augment officials' abilities to govern in a crisis and improve the application of communally held resources in a large-scale disaster or epidemic. Limited medical options in an influenza pandemic serve as a concrete case in this report to demonstrate the civic infrastructure's preparedness, response, and recovery capabilities, and to illustrate how community engagement can improve pandemic contingency planning.

CONSENSUS METHODS

The Working Group on Citizen Engagement in Health Emergency Planning is composed of decision makers at local and national levels of government; public health practitioners who have responded to high-profile events; heads of community-based partnerships for public health and disaster mitigation; and subject matter experts in civic engagement, community development, risk communication, public health preparedness, disaster management, health disparities, and infectious diseases. This report reflects the experience and professional judgment of working group members, as well as evidence obtained by the review of relevant literatures, including social and behavioral research into hazards, disasters, and epidemics; the theory and practice of public participation and deliberative democracy; and medical and public health management of extreme events, including pandemic influenza.

Working group members first convened on May 23, 2006, in Washington, DC, to take part in the bi-national summit, *Disease, Disaster, and Democracy: The Public's Stake in Health Emergency Planning*.^{*} There they discussed foundational concepts of community engagement, reviewed exemplary practices, and deliberated applications to pandemic flu.⁵ On July 19, 2006, the working group reconvened in Baltimore, MD, to agree on the group's objectives and to discuss the scope, main premises, and high-order recommendations for a consensus document. Following a period of formal evidence gathering, a draft report was prepared in accord with members' suggestions. On November 15, 2006, the working group reconvened in Baltimore to review and refine the document. Based on the meeting's outcomes and further literature review, a second draft was prepared and submitted to members for written comments and was sent out to peer reviewers. All working group members signed off on the third and final draft that addressed outside reviewers' comments.

^{*}Proceedings are posted at <http://www.upmc-biosecurity.org>.

WHY IS THE CIVIC INFRASTRUCTURE CRITICAL TO MANAGING A MASS HEALTH EMERGENCY?

Disasters and Epidemics Compel Citizen Judgment and Action

“What makes a disaster a disaster?” has been the subject of much debate in the social and behavioral sciences.^{6–11} This section relates those characteristics around which scholarly consensus has emerged, and which suggest the need for leaders' deliberate and thorough integration of community contributions to preparedness, response, and recovery. Comparative, scholarly review indicates that epidemics share these same broad attributes.^{12–16} Judged solely on the basis of material hazard, extreme events appear idiosyncratic—tornado, hurricane, earthquake, chemical explosion, oil spill, disease outbreak, and the like. In actuality, extreme events have recurrent social features:

Shock-producing damages

As captured in the Greek roots of the words “catastrophe” and “cataclysm,” a disaster is a violent overthrowing of the status quo—an event that dramatically ruptures everyday expectations about physical survival, the social order, and the meaning of life.^{6,8,17} Numerous human deaths, grotesque injuries, broken buildings, blazing fires, and/or deformed landscapes, along with the abrupt or dramatic interruption of everyday routines, erode people's basic sense of safety and the proper order of things. Members of technologically advanced societies may also feel betrayed by institutions and individuals charged with controlling risk.¹⁸

Response system overload

Emergency service and health professionals may be overcome by high-volume and/or geographically dispersed needs, or become functionally disabled because of damaged buildings, immobilized vehicles, disrupted supplies, and/or personnel injuries.^{17,19} In the days following Hurricane Katrina, New Orleans hospitals were without electricity or communications capabilities; doctors and nurses had no access to mechanical ventilators, dialysis machines, and other equipment needed to treat the critically ill patients who awaited evacuation.²⁰ Half of all SARS cases in Toronto in 2003 were among healthcare workers, and measures necessary to stop the spread of SARS interrupted care for other life-threatening conditions such as heart disease and cancer.²¹

Improvised solutions

Successful remedies and recovery for communitywide disasters are neither conceived nor implemented solely by

trained emergency personnel, nor are they confined to pre-authorized procedures.^{2,3,17,22–25} Family members, friends, coworkers, neighbors, and strangers who happen to be in the vicinity often carry out search and rescue activities and provide medical aid before police, fire, and other officials even arrive on the scene.^{6,7} In epidemics, volunteers have helped conduct mass vaccination campaigns, nurse home-bound patients, and meet the broad social needs of sick people and their families.^{26–28}

Disproportionate impacts

The chances for greater victimization during a disaster or epidemic are unevenly distributed in society, as are the opportunities for enhanced safety.^{6,7,9,11,13,16,17,28} Economic means, social class, ethnicity and race, gender, and social connectedness are factors that often determine the extent of harm.^{29,30} These aspects also play important roles in resilience to, and speedier recovery from, the crisis. The 1995 Chicago heat wave that killed more than 700 people in a week singled out the poor, the elderly, and the isolated.³¹ Often, the more ordinary social policy issues, such as access to health care, safe and affordable housing, and a living wage, make people more or less likely to be victimized by an extraordinary event like a disaster or epidemic. Thus, emergency management—a policy domain of seemingly specialized knowledge—cannot be neatly excised from broader community concerns.

History in the making

Watershed events like disasters and epidemics provoke political after-effects, transform social expectations and institutions, and create indelible personal memories.^{6,9,12,17} Historians surmise that the spread of the Black Death helped foster the rise of nation states, mercantile economies, and religious movements leading to the Reformation.¹² Galveston, Texas, which was successfully rebuilt after the 1900 storm that killed 8,000 and washed three-quarters of the town away, never recovered its prominence as one of the nation's wealthiest communities, and it was soon eclipsed by Houston, the state's oil hub and emerging port city.³² Hurricane Katrina created the largest internal diaspora of Americans since the Civil War, prompted rancorous government hearings and restructuring measures, and left viewers across the country and the world with lasting and graphic video images of human suffering.^{33,34}

Comprehending an immense tragedy and recovering a sense of security are, at once, highly personal and public affairs. Extreme events, then, are not simply physical phenomena that seismologists, meteorologists, epidemiologists, and other experts decode. Nor are they merely stress factors for architects, civil engineers, and medical administrators to design into buildings and healthcare systems. Extreme events transcend managerial issues for elected and appointed officials such as hazards to regulate, crises to ad-

minister, and professionals to command. All these aspects and actors are vital to sound policy. Yet, taken together, they still fail to represent the complete human experience of catastrophes and the societal resources that can be brought to bear on widespread tragedy. As the next sections suggest, leaders can help build community resilience to the psychic and material shocks of a disaster or epidemic by engaging the civic infrastructure.

Civic Infrastructure Has Key Capabilities to Remedy Major Crises

The civic infrastructure represents that dynamic assembly of interdependent people, voluntary associations, and social service organizations who can pool their collective wisdom, practical experience, specialized skills, social expectations, and material assets to work on behalf of constituent members and, in many cases, for a larger public good.* Though intangible, the interpersonal relations that constitute the civic infrastructure are no less critical for communities than physical infrastructure such as roadways, sewage and water systems, and computing networks. The civic infrastructure can perform valuable functions during the disaster cycle, as outlined below and illustrated concretely in Figure 1.

Two caveats are necessary for this argument at the outset. First, businesses are vital to a community's social fabric, but this report does not emphasize them to the same extent as the above-defined civic infrastructure. Business Executives for National Security, the Business Roundtable's Partnership for Disaster Response, and other national initiatives are successfully underway to mobilize private industry around extreme events. Civic-based networks, in comparison, do not yet have a similar mechanism to spotlight and enable their contributions in disasters and epidemics. Second, the roles that the working group delineates for the civic infrastructure in mass health emergencies are intended to complement and enhance government's capabilities and responsibilities, not replace them. The civic infrastructure requires strong institutions with which to partner.

Preparedness

Prior to an event, the civic infrastructure can serve as the circuitry to transmit educational and awareness-raising information, to energize social trust between authorities and communities at-large, and to coordinate the respective response and recovery roles of government, business, civic groups, and individuals. Allegheny County's (Pa) predominantly white emergency officials met with the local black community for the very first time at a disaster preparedness forum co-hosted by the Urban League of Pittsburgh and

*The working group offers an explicit definition, because the phrase "civic infrastructure" is subject to interpretation. Alternative terms and definitions exist elsewhere.^{35–37}

Figure 1. Civic Infrastructure Capacities to Remedy Disasters and Epidemics

Multifrequency communications network to reach dispersed and diverse populations

- “Live” since June ’05, Flu Wiki (www.fluwikie.com) is a virtual nonprofit that helps local communities prepare for and perhaps cope with a possible flu pandemic by tapping the skills, knowledge, and desire to learn of its diverse users and core moderator group.³⁸
- Salon Voices, an innovative nonprofit in Washington, DC, engages the hair salon culture of the African-American community and equips cosmetologists with information and internet connections to educate customers on HIV/AIDS, reproductive health, and parenting.³⁹

Social circuitry to energize trust between authorities and communities at-large

- CARD—Collaborating Agencies Responding to Disasters (Alameda County, Calif)—emerged after the Loma Prieta earthquake to train and unite service providers as a safety net for people with limited ability to address their own disaster-related needs: seniors, children, the disabled, the homeless, non-English speakers, and low-income families. CARD has subsequently developed an alternative curriculum, devoid of fear-based messages, emphasizing community building, leadership cultivation, and economic development strategies.⁴⁰
- St. Philip of Jesus Parish and the University of the Incarnate Word in San Antonio (Texas) team up nursing faculty and students with *promotoras de salud* (lay community health workers) to reach a nearby, wary, and underserved Hispanic population through health programs held at the church hall, neighborhood barbeques, and subsidized housing for the elderly.⁴¹

Collective wisdom to set policy priorities and inform values-laden health policy decisions

- In 2006, the Public Engagement Project on Community Control Measures for Pandemic Influenza held public deliberations, involving national stakeholder and regionally diverse citizens at-large, about which nonpharmaceutical measures should be implemented early on to slow flu’s spread, and about ways to mitigate the adverse economic and social effects of these interventions.⁴²
- As a requirement of the 1990 Ryan White Care Act, people personally affected by HIV/AIDS sit alongside government leaders, public health officials, and heads of community-based organizations to help set local spending priorities for federal funds: primary medical care, case management services, volunteer labor power, etc.⁴³

Local knowledge to improve feasibility, reliability, and acceptability of disaster plans

- Residents of Grand Bayou (La), a Cajun and Native American ocean-farming community, have partnered with state and local governments, business, the faith community, and university-based experts to tackle mounting coastal dangers; one such effort is hazard mapping that incorporates indigenous knowledge about historic environmental transformations.⁴⁴
- During the 1947 smallpox outbreak, NYC health officials vaccinated more than 6.3 million people in 4 weeks (more than 5 million in the first 2 weeks alone) using private physicians and volunteers from the Red Cross, teachers’ groups, women’s clubs, and civil defense groups; this partnership helped staff free clinics in 12 hospitals, 84 police precincts, and every public and parochial school.⁴⁵

Operational support for professional responders during crisis and recovery periods

- The Harris County (Texas) Citizens Corps helped manage 60,000 volunteers in setting up a “mini-city” at the Houston Astrodome to host 65,000 Katrina evacuees in 2005.⁵
- In the 1960s, the Junior Chamber of Commerce in cooperation with health departments launched “Sabin on Sunday,” a mass vaccination program that reached 80–90% of the target population—a critical step in eliminating polio in the U.S.⁵

Self-organized, innovative solutions when unforeseen needs arise

- After the emergency services leadership evacuated the area, a Plaquemines employee took charge by phoning around the south parish to locate people stranded by the Hurricane Katrina storm surge and to commandeer boats, keys, and gasoline for a search-and-rescue “Cajun Navy.”⁴⁴
- Responding to calls from the American Council of Education and the Association of American Universities, more than 1,000 U.S. colleges took in more than 18,500 students displaced from the 6 Louisiana colleges closed by Hurricane Katrina—with offers of reduced or free tuition.⁴⁶

“Rootedness” in place that personalizes communitywide recovery and amasses resilience

- Some Katrina-weary New Orleans residents were tentative about rebuilding because of the challenges of demolition, debris removal, and reconstruction; neighbors’ exchanges of labor, expertise, tools and equipment, shelter, and childcare have made rebuilding a physical possibility and conveyed social commitments to the future of their communities.²³

- Greater Seattle (Wash) residents, businesses, and emergency managers collaborated on “Disaster Saturday,” a preparedness and survival training on earthquakes for the public. By the time the 6.8 Nisqually earthquake hit in 2001, 1,000 people had taken the training, and at least 300 of them had retrofitted their homes, none of which were damaged in the quake.⁴⁷

Tax revenue base and in-kind contributions that help mitigate extreme event losses

- In a multi-day blitz, 29,000 Berkeley households received disaster readiness door hangers in 2006; Disaster Resistant Berkeley (a former Project Impact recipient) funded the campaign from a special preparedness city tax and used student volunteers from the University of California.⁴⁸
- “McReady OK!”—a private-public collaboration in the heart of Tornado Alley—has made free spring storm survival information available in every McDonald’s restaurant in Oklahoma, reaching upwards of 150,000 customers a day for an entire month each year since 2003.⁴⁹

the Healthy Black Family Project, a University of Pittsburgh health promotion and disease prevention project with 4,600 enrollees.⁵⁰

Community partners can collaborate with officials to test emergency planning assumptions for feasibility and fairness. The mass fatality planner for the Seattle/King County (Wash) health department garnered respect from a local Native American community by initiating a meeting with the tribe’s emergency manager about traditional mortuary practices and pandemic flu concerns.⁵¹ Public deliberations also can harness citizens’ collective wisdom and judgment to help identify trade-offs and set priorities for ethically complex policy decisions. Federal health authorities in Canada are presently convening a total of 10 citizen and stakeholder dialogues, including one among First Nations peoples, to obtain advice on the best strategy for distributing scarce antiviral drugs in the context of a flu pandemic—a value-laden issue with complex scientific and technical elements.⁵²

Response

The civic infrastructure constitutes a broadly distributed crisis communication network capable of transmitting time-sensitive information and self-protective advice. At the same time, authorities can glean eye-level updates on how the disaster is unfolding in diverse sectors. Officials who are well connected can even reach community members typically outside mainstream media or mistrustful of authorities. The Montgomery County (Md) health department is exploring the concept of “neighborhood support teams” with civic organizations and homeowners’ associations to foster mutual assistance among neighbors and to improve communications between county residents and officials during a health emergency.⁴³

Pre-positioned disaster volunteer networks such as the Citizen Corps and the Red Cross can support professional responders. Similarly, voluntary associations without an explicit disaster mission—faith communities, trade groups, neighborhood associations, fraternal organizations, student groups, and the like—can marshal their organizational structures and material assets to meet emergent needs. In September 2001,

the Independence Plaza North Tenants Association helped direct people running away from the collapsing World Trade Center towers (only blocks away); formed “urgent needs” teams to canvass homebound residents; and volunteered at local businesses to maintain resident access to food and medicine when paid employees could not get in.⁵³

Recovery

Residents of a community affected by a disaster have a personal investment in disaster recovery over the short and long terms. In addition, local civic networks can provide community and comfort in ways that government cannot. After sources of external aid have evaporated, local community networks and support systems remain to secure residents’ future well-being. Anticipating the termination of the 9/11 FEMA-funded crisis counseling programs, disaster mental health experts called for resources in locales affected by terrorism to equip existing community networks and support systems to provide solace over time.⁵⁴

If they are made cognizant of the communal benefits of disaster preparedness—either through personal tragedy, individual foresight, or public education—a populace can adopt communitywide mitigation measures. Grassroots-government collaborations in Tulsa, Oklahoma—a city threatened by floods and tornadoes—raised local awareness about the benefits of disaster mitigation. As a result, residents in this fiscally conservative community embraced bond issues and sales taxes in the interest of better floodplain management.⁵

WHAT ARE LEADERSHIP TECHNIQUES TO CATALYZE THE CIVIC INFRASTRUCTURE? HAVE THEY BEEN SUFFICIENTLY APPLIED FOR DISASTERS AND EPIDEMICS?

Citizen Involvement in Pressing Public Matters

Leaders have a range of techniques for mobilizing the civic infrastructure for disaster preparedness, response, and re-

covery ends.* Research and practical experience indicate that community engagement, which complements mass communications, may help leaders tackle some of the more intractable problems posed by extreme events:

Communication

Operating in a communications mode, an official or agency conveys information to members of the public in a one-way fashion, often with the intent of educating and informing the populace. Public feedback is not required or specifically sought. In the context of disasters and epidemics, this has largely taken the shape of pamphlets, press releases, public meetings, and websites like *ready.gov* and *pandemicflu.gov* that instruct citizens in how to prepare a family communication plan, gather an emergency supply kit, and recognize characteristic features (or health signs) of a specific hazard.^{59,60}

Consultation

A second kind of interaction occurs when leaders solicit opinions through surveys, polls, focus groups, and advisory panels. Again, the communication is one-way, from citizens to decision makers. The public's points of view, criticisms, and constructive advice may inform policy options and their implementation, but citizen input often comprises only one factor among many for a decision maker's consideration. Polling citizens' beliefs, attitudes, and behaviors in relation to disaster preparedness, as well as surveying their crisis communication needs, falls into this category. The Centers for Disease Control and Prevention, for example, convened focus groups as part of a national university-government collaboration to gather "data on the views and information needs of potential audiences" and then craft pre-event risk communication messages pertaining to chemical, biological, radiological, and nuclear agents.⁶¹

Community engagement

This third approach constitutes a two-way flow of information between authorities and community residents, where dialogue helps foster better understanding of a complex issue on all sides, and where the goal is to work together to conceive and implement a policy solution.† Community engagement presents an opportunity for collective learning as part of honest, respectful interaction among formal au-

thorities and diverse constituents, and for the iterative exchanges that are necessary to approach policy problems with ethical and cultural complexities. In this modality, leaders ideally seek out the counsel of community partners and share responsibility for making and executing policy decisions. In turn, these deliberative exchanges help citizens understand aspects of a problem that reach beyond their immediate circumstances, learn how to make appropriate demands on government (that is, act as a public), and identify what government may need from them to meet those requests.^{73,74}

Community engagement has yet to be seriously used for homeland security and public health preparedness. The next section suggests that this robust form of public involvement can help fill the present gaps in U.S. civic preparedness. By civic preparedness, the working group means those personal and/or public measures citizens adopt to mitigate communitywide problems of disasters and epidemics. To be addressed later are the compelling reasons for individual elected officials and their public health and safety advisors to embrace community engagement, as well as recommendations for its successful application.

Civic Preparedness Gaps for Epidemics and Disasters

As noted earlier, extreme events alter individual lives and reshape society at-large; thus, U.S. residents have direct and indirect stakes in policies to limit losses when large-scale crises occur. Review of a notional civic preparedness continuum in the U.S. reveals that, at the moment, individualized activity is the object of official interest and intervention more so than collective endeavors. Household readiness is the concept most prevalent in popular culture (if not in practice), followed by volunteering and direct problem-solving by nonprofits. Notably absent are structured and sustained opportunities for public deliberation about preparedness policy, implementation, and outcomes.

Stockpiled basements or resilient neighborhoods?

In recent years, U.S. residents have received much advice about individual and household preparedness.^{59,60} The ex-

*This analysis relies on Rowe and Frewer's (2005) characterization of public involvement activities (or "public engagement" in their parlance) in terms of the distinctive information flows that constitute communication, consultation, and participation.⁵⁵ Readers are referred to the original analysis for additional gradations within each of these categories. Alternative modeling of the public involvement continuum is also available.⁵⁶⁻⁵⁸

†A vast and scattered literature has emerged over several decades around the theory and practice of "involving members of the public in the agenda-setting, decision-making, and policy-forming ac-

tivities of organizations/institutions responsible for policy development."^{55(p253)} Interested disciplines include policy analysis, city planning, environmental health, risk communication, community health, political science, and communication theory.⁶²⁻⁷⁰ Adequate discussion of this nuanced analytic field is beyond this article's scope, as is a full overview of the practical techniques to achieve public involvement.^{55,56,71,72} The working group's goal, instead, is to make the context-driven case for why community engagement has potential value in policies related to catastrophic health events.

ment to which people have acted on this guidance is not what disaster planners and educators would hope.⁷⁵ The reasons for this are complex and include socioeconomic constraints on the ability to assemble emergency kits and family plans, psychological states of avoidance and hopelessness, and political skepticism in relation to authorities' requests of the populace.

Some people have moved beyond readiness as a private act like stockpiling to a public good by volunteering locally with nonprofits such as the Red Cross and Voluntary Organizations Active in Disaster (VOAD) or with the government-sponsored Citizens Corps, Medical Reserve Corps, and Community Emergency Response Teams.⁵ National and local nonprofit organizations are also taking steps in the interests of the publics they serve. For example, the National Organization on Disability, the American Association for Retired Persons, and the Red Cross recently joined the Department of Homeland Security in preparing brochures that provide seniors and disabled people preparedness tips directly relevant to their circumstances.⁷⁶ (See also Alameda County's [Calif] Collaborating Agencies Responding to Disasters in Figure 1.)

Disaster-conscious households and voluntary associations are significant achievements in civic preparedness, but key gaps remain. Some are a function of national programming and funding. The rhetoric surrounding citizen and community preparedness within homeland security policy discussions, for instance, is not matched by a commensurate level of funding, judging from a proxy index such as the inconsistent and decreasing operating budget for the Citizen Corps.⁵ In the health emergency context, federal authorities have provided significant funding and guidance to support the risk communication activities of state and local agencies.⁷⁷ This assistance is relevant only for the communication mode of public involvement (as defined above). Local and state authorities' lack of conviction about the sustainability of federal biodefense dollars, as well as procedural incentives to purchase materiel rather than hire personnel, inhibit most health agencies from creating positions essential to support community engagement.⁷⁷

Individual volunteerism or public deliberation?

Volunteering and equipping households to weather a disaster are both essential civic goods, and officials should continue to promote and support these efforts. Another point along the civic preparedness continuum, however, goes largely unrecognized by U.S. leaders and residents. That is the public-spirited obligation of citizens to wrestle with the sometimes difficult political tradeoffs related to societywide efforts to mitigate disasters and epidemics, as well as to respond and recover from them.

Complex reasons explain the lack of opportunities and demands for this aspect of civic preparedness. Elected offi-

cial may be reluctant to hold public conversations about the psychologically wrenching aspects of large-scale and/or long-duration tragedies, and emergency response and health professionals may hesitate to articulate out loud the limits to their professional tools and institutions to protect entire populations. Often eager to volunteer, Americans are comparatively less practiced with democracy's "pluralistic" and "agonistic" sides.⁶⁹ Civic engagement scholars note that the U.S. has a history of vigorous participation in voluntary associations where members mix with similar others for a common pursuit;^{78,79} far less frequent are exchanges on community matters among people with diverse backgrounds and opinions.⁸⁰⁻⁸³

Whatever the cause for this neglected aspect of civic preparedness, the situation is no longer sustainable. The Gulf Coast tragedies painfully called into question the collective resolve and capacity of Americans, in and out of government, to care adequately for one another in catastrophic circumstances.^{33,34} Community engagement is one intervention that leaders can take to help evolve all points along the civic preparedness continuum.

WHAT DO LEADERS GAIN FROM ENGAGING COMMUNITY PARTNERS IN PREPAREDNESS?

Leaders who embrace, finance, implement, and continuously improve ways for the public to participate actively in disaster policymaking and implementation can anticipate both immediate and long-term rewards, such as the following:

Greater Ability to Govern and Maintain Trust during a Crisis

Decision makers who proactively solicit community partners *prior to* a crisis may be better equipped to govern effectively during an actual event: first, by commanding greater public confidence in their decisions, and second, by exercising better judgments in the context of uncertainty and evolving circumstances. Political scientific research suggests that Americans care about policy outcomes *as well as* the policymaking process; they want decision making to be a balance between elected officials and ordinary people.⁸⁴ Many now feel as if office holders dominate the current process. Such dissatisfaction can erode public approval of government and perhaps inspire some to disregard obligations to comply with official requests.⁸⁴ "Affected parties," argues one political scientist, "will participate in policy management, one way or the other . . . in the courtroom, in the legislative hearing room, in the streets, or through processes of analysis and deliberation that involves stakeholders fairly and equitably."⁷⁴

Counter-intuitively, involving citizens more directly in disaster and epidemic policy setting up front confers addi-

tional power on leaders rather than siphoning it away (Figure 2). Community engagement equips leaders to face the complex and ever-shifting realities of an extreme event. Having invested in collaborative approaches, a leader can legitimately claim when difficult circumstances arise that, “I have consulted the people, the science, and the experts, and we are pursuing the following path for these reasons.” More inclusive planning can help avert public skepticism toward reasonable government interventions, because it equips leaders with knowledge of community values, desires, and material circumstances in advance. This prior knowledge frees leaders to react more swiftly mid-disaster, when timely counsel of community advisors may be difficult to obtain.

More Citizen Responders to Ease Burdens on Health and Safety Agencies

Community engagement helps relieve burdens on health and safety agencies by enabling more members of the public to assume the role of responder rather than victim. Supported by the civic infrastructure, decision makers can more effectively target limited government resources. In extreme events, circumstances quickly exceed the normal functional capacity of personnel who specialize in disaster situations.^{7,17,19} Leaders can tap the civic infrastructure to support agencies during response and recovery by way of pre-event protocols for volunteer integration and partnerships with community-based organizations that can mobilize their own networks. These organizations may reach some populations more easily and effectively than official channels or the mass media. This informal communications “grid” can circulate information from citizens to leaders about specific communities’ needs and from leaders to citizens about what government assistance is possible. Such exchanges can help keep expectations realistic on both sides.

Fiscal Savings through Reduced Disaster-related Losses and Expenditures

Through tighter coupling with the civic infrastructure, decision makers can recoup treasury savings through reduced losses to society, fewer hazard-related expenditures, and fu-

ture tax revenues.⁸⁵ Political leaders, as well as health and safety authorities, confront the ever-present reality of never having enough money to do what needs to be done; trade-offs are a constant factor even with ample budgets. Community partnerships can obtain response and recovery capabilities that government does not have or cannot sustain alone. A more effective, efficient, and rapid response can, in turn, help minimize disaster-related losses, including property damage, human death and injuries, and business interruption. Assessing the 2005 hurricane season, the Business Roundtable’s Partnership for Disaster Response Task Force concluded that there were insufficient government receptors to accept the donations and logistical support that companies offered, and it has advised businesses to collaborate pro-actively with government disaster planning.⁸⁶

Leaders must nonetheless guard against over-reliance on the civic infrastructure for design and execution of disaster policies. Authorities who expect community-based partners to shoulder inappropriate preparedness, response, and recovery tasks can fail in their duty to exercise core government responsibilities and, at the same time, extract the oftentimes scarce resources of community-based groups.^{87–90} Recent policy debates about the application of communitywide disease control measures in a pandemic, such as voluntary quarantine of household contacts of flu patients, for instance, have raised the possibility of using Meals-on-Wheels to deliver food to the homebound.⁴² Such tremendous responsibilities may exceed the capacity of this highly valuable but financially threadbare and operationally overstretched program.

Emergency Plans that Are Feasible Because They Reflect Community Values, Economic Realities, and Collective Judgment

Leaders who consciously integrate community partners into health emergency planning can expect more robust contingency plans. Inclusive planning offers the possibility of fusing different kinds of knowledge. Citizens’ integrative and experiential knowledge complements the specialized competence of crisis managers, health officers, and other authorities.⁹¹ People outside the traditional establishment help raise the in-

Figure 2. Common Misconceptions—What Community Engagement Is Not

- Leaders giving up power
- A substitute for robust government
- A “rubber stamp” for predetermined policies
- Another platform for voices already well represented in policy decisions
- A perfect solution
- Appropriate to every policy context and/or decision
- A formulaic technique applied uniformly regardless of circumstance

telligence quotient of planning because their imaginations are not necessarily constrained by legalistic, bureaucratic, scientific, and other limited views of disaster and epidemic management.^{73,91} A review of 239 published cases of environmental decision making that involved publics found that the majority of cases contained evidence of stakeholders “improving decisions over the status quo” and “adding new information, ideas, and analysis.”⁹²

Public participation in emergency planning provides ready access to “citizens’ wisdom”—lessons distilled from the life experiences of many and diverse people—on how best to tackle serious, unforeseen events. Community partners can query plans: Do they reflect community sensibilities and priorities? Are they going to work logistically? Do they meet the needs of all people or leave certain groups out? How can we remedy that? A recent evaluation of the incident command system (ICS) and the National Incident Management System suggests that “ICS is only a partial solution to the question of how to organize the societal response in the aftermath of disasters,” and that the larger goals, objectives, and priorities of disaster-related endeavors ought to be subject to “the instruments of democratic society.”⁹³

Constituents Who Are Savvy About, and Interested in the Success of, Public Health, Public Safety, and Emergency Management Agencies

Extreme event loss reduction, as one political scientist puts it, is a “policy without a public.”⁹⁴ Despite the collective benefits of thoughtful disaster and epidemic policies, no widely distributed and articulate constituency clamors for their support—a counter-intuitive finding in the currently crisis-minded U.S. environment. High-impact, low-probability events do not typically register as top political priorities for most people because of their infrequency and because of more ordinary concerns that press for immediate attention. Regretfully, it often takes a dreadful event to awaken people to the need for sound decisions and robust government programs in this arena.⁹⁵ Leaders who cultivate a constituency that is directly invested in disaster-related policies and agencies—rather than a “quiescent public”⁹¹—may discover additional degrees of freedom and support, as well as more revenue for meaningful government interventions (see Berkeley (Calif) and Oklahoma examples, Figure 1).

WHAT ARE THE KEY PRINCIPLES AND INGREDIENTS FOR SUCCESSFUL COMMUNITY ENGAGEMENT?

Leaders can derive substantial benefits—such as ethical clarity, logistical feasibility, communication support, social acceptability, material resources, and political legitimacy—

by engaging community partners in disaster and health emergency policymaking. Below is a set of guiding working group principles and actions to help leaders succeed at community engagement (see Figure 3). Not intended as an exhaustive manual on methods, this section instead highlights principles of consequence for government executives upon which many theorists and practitioners agree. Excellent resources exist elsewhere regarding more mechanical details of designing and executing participatory projects.^{56,71,72,96}

Commit the Administration to Community Engagement

Elected officials and agency heads who embrace community engagement as a valuable governance tool are essential for success. First, the extent to which policy decisions (and their implementation) actually incorporate citizen input depends on authorities granting community stakeholders genuine opportunities to affect outcomes. Community input detached from real decision-making authority represents only an “empty ritual” of “participation in participation.”⁵⁸ Second, a well-positioned organizational champion is needed to shepherd community engagement through conceptualization, application, and assessment and to help minimize any interorganizational impediments.

Assess the Civic Infrastructure; Build on Prior Foundations; Pour New Ones If Needed

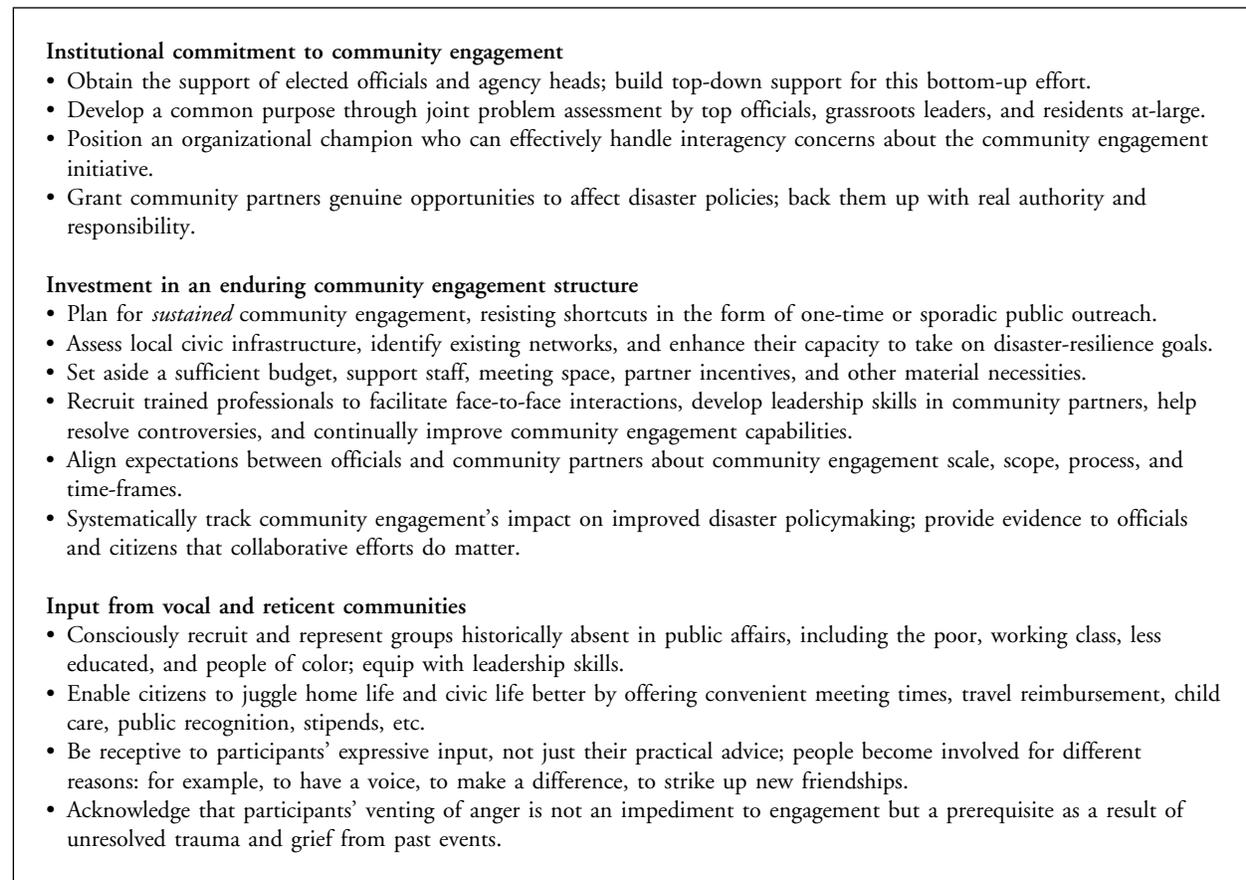
Leaders must first assess the civic infrastructure in their communities and then enhance the capacity of existing networks to take on disaster-resilience goals by offering seed money, practical incentives, and/or public recognition. Community engagement in disaster issues is more likely to succeed when laid on some prior structure. The Healthy Black Family Project, a health promotion project of the University of Pittsburgh’s public health school, successfully integrated disaster preparedness into outreach work among community members who had already come together around issues of personal importance.⁵⁰

Emergency officials often assume that if they have made contact with the Red Cross, VOADS, and other disaster-oriented nonprofits, then they have “dealt with” the community. In fact, interacting with these organizations is necessary but not sufficient. True community engagement in disaster and epidemic policymaking will require officials to expand the range of organizational partners. Community-based organizations require their own continuity plans, and this can be the motivating tool for them to work with disaster-related agencies.

Work with Community Partners to Define Top Issues

A common sense of purpose provides the impetus for collaboration among top officials, organization heads, and

Figure 3. Top Principles and Actions to Help Leaders Succeed at Community Engagement



community partners. This group ambition emerges from joint assessment and deliberation of the policy problem for which community contributions are sought, as well as mutual understanding of who can best contribute what. Official and citizen participants also require evidence that their respective efforts matter. Public participants deserve feedback on how their contributions have influenced the policymaking process as well as a decision’s ultimate outcomes. Decision makers, in turn, become more invested when group deliberations are designed to produce something that they can enact constructively and stake joint claim to in the public arena.

Allocate Sufficient Resources to Sustain Community Engagement

Like any other public enterprise, community engagement requires adequate resources to succeed, including a reasonable operating budget, trained professional staff (including capabilities for program logistics, recruitment, analysis, and evaluation), ample meeting space, and participant reimbursement. Leaders who are earnest about public involvement provide for it and get concrete commitments through sustained and sufficient funding.

Engagement initiatives take time and effort. Like its physical counterparts, a disaster-resilient civic infrastructure requires regular maintenance, occasional refitting, and the laying of new lines when community demographics shift. Dedicated staff positions and trained experts who can facilitate face-to-face interactions, support joint fact-finding, help resolve controversies, and enable partners with leadership training are key program investments. Even though much of community engagement is built on volunteerism and individual public service, citizen participants cannot be expected to bear the direct costs associated with involvement, such as lost work time and child care expenses.

Consciously Reach Out to Groups Absent from the Policymaking Table

The people who are most likely to take an active role in public affairs are well educated, financially secure, and politically confident (i.e., they hold a strong sense of personal political efficacy).^{74,97} Unless leaders make explicit plans to overcome this trend, community engagement in disaster and health emergency matters may inadvertently exclude the perspectives of the poor, the working class, the less educated, and people of color. Moreover, the outcome of such processes

may be skewed against their interests.^{74,98} Rather than involving an unrepresentative and ad hoc “public” in participation processes, leaders may want to join forces with trusted representatives who can act on behalf of disenfranchised groups and/or with organizations that have strong roots in a community. Historically, marginalized people have often relied on local institutions such as congregations, block associations, and unions to address their concerns.⁷⁴

Plan Engagement with Care from the Outset; Do Not Act at the Last Minute

Like other public undertakings—roadway repairs, economic development, neighborhood policing—successful community engagement requires careful planning, proper budgeting, realistic schedules, and shared expectations about project scale, scope, and process. Last-minute, poorly organized attempts to involve the public, however well intentioned, are likely to prove frustrating for citizens and sponsors alike, and their output not of desirable quality. Careful attention to process is essential. Conversations that are characteristically civil, fair-minded, and oriented to problem solving are rarely spontaneous.⁷⁰ “Fully public democratic conversation takes place,” one communication theorist contends, “in settings where talk is bound to be uncomfortable. . . . Such talk is threatening enough to require formal or informal rules of engagement.”⁹⁹

Listen to Groups with Unresolved Trauma and Grief from Past Events

Leaders who collaborate with community partners should recognize that emotion—alongside dispassionate reason—is a legitimate input to policymaking, for two reasons. First, “[c]itizens think with a complex and ever-changing array of tools: information and reason, to be sure, but also emotion, solidarity, taste, aesthetics, friendship, empathy, and animosity, to name a few.”^{73(p7)} Genuine participation incorporates peoples’ expressive as well as instrumental input, thus allowing them to feel that they have a “voice” and can “make a difference.”⁷³

Second, engaging disempowered groups may catalyze unresolved trauma and grief from past events. Anger may be a common vehicle to convey a sense of abandonment by government and/or sorrow and shame at not being able to change one’s own circumstances. The venting of this anger is a requisite for successful engagement, not an impediment. Both during and following Hurricane Katrina, people across the country saw the tremendous devastation experienced by poor people of color in Louisiana and Mississippi, and many became angered by their plights. In this post-Katrina environment, resentment and skepticism still linger in communities far beyond the storm’s geographical swath. Therefore, effective community engage-

ment in disaster policymaking should anticipate and incorporate provisions for emotional venting and political reconciliation.

HOW CAN PANDEMIC FLU PLANNING BENEFIT FROM COMMUNITY ENGAGEMENT?

The government preparations now being made for pandemic flu should rely on community engagement in health disaster policymaking.^{5,100} The civic infrastructure can help set policy priorities, inform value-laden policy decisions, cement trust between authorities and the public, confirm the feasibility of emergency plans, function as a crisis communications network, and provide operational support during crisis and recovery periods. This section illustrates these capabilities concretely through the dilemmas associated with limited medical options in the event of a moderate-to-severe pandemic flu, accompanied by an outline of how community engagement can help address them.* Collaborative problem solving in the pandemic flu context has already been piloted in the form of public deliberations among citizens at-large and national stakeholders about the best, early use of limited vaccine¹⁰¹ and about potential community-wide control measures to slow flu’s spread.⁴²

Containing the Spread of Contagious Disease in a Community

In light of anticipated shortages of vaccines and antivirals to protect against influenza, health authorities have expressed serious interest in a range of nonpharmaceutical disease containment strategies.^{102,103} Proposed measures include: isolation of sick people in hospital or at home, large-scale or home quarantine of people believed to have been exposed, travel restrictions, prohibition of social gatherings, and school closures. Theoretically, limiting people’s exposure to infection may slow the epidemic and thus modulate acute demands on healthcare institutions as well as buy time for society until a vaccine or other countermeasure becomes available. Inconclusive science surrounding the effectiveness of proposed measures, the potential for adverse social consequences, and the substantial logistics to sustain large-scale interventions all suggest that containment decisions may benefit from greater community input prior to an actual event.

*The situations presented are meant only to be illustrative and do not exhaust all possible utilities of community engagement in pandemic flu policymaking (for example, citizens could take on societal continuity functions such as trash collection). In the working group’s estimation, these three dilemmas represent situations that are so socially and operationally complex, and politically charged, as to warrant being top priorities for community engagement in pandemic planning.

Weigh risks and benefits

Various combinations of the above disease controls have been used in previous pandemics of influenza and other diseases. Evidence of their effectiveness is ambiguous: (1) there are no scientific studies of these measures in the setting of pandemic flu; (2) historical investigations of their efficacy are limited in number, and it is unclear how the past translates to the present context; (3) today's mathematical modeling of their utility is contingent on assumptions and has not considered issues of public compliance, political support, and logistical burdens.¹⁰⁴ In light of the scientific uncertainty, some leaders may consider implementing nonpharmaceutical containment measures on the grounds that they might help and cannot hurt. Social, economic, and political realities govern any measure's effectiveness as well as its capacity to harm a community inadvertently.^{105–107} Weighing risks and anticipated benefits, thus, will require input from groups and individuals outside the health sector.

Identify and fairly distribute adverse effects

Closing schools is an example of how, without thorough planning, a well-intentioned containment strategy could produce serious social effects. Closures might be recommended for as long as a pandemic persists in a single community (perhaps 8 weeks) or as long as a pandemic persists in the country (possibly 8 months).¹⁰² The rationale for school closures is to diminish student contact and retard spread, and for closures to be successful, other sites where children gather (e.g., daycare centers, malls) would also have to shut down. As a result, many working parents would need to stay home. Given that some 59 million Americans do not have paid leave time,¹⁰⁸ closing schools may produce severe hardships for hourly workers. In a national survey, 25% of respondents reported that they would face "serious financial problems" if they had to miss work for 7–10 days; of those respondents, 56% make less than \$25,000 per year.¹⁰⁹ Also, a significant proportion of children in lower-income families rely on school programs for basic nutrition; in 2005, 29.5 million children were fed through the National School Lunch Program and 9.3 million through the School Breakfast Program.¹¹⁰

Extend governments' abilities to implement

Even if a community notionally adopted large-scale containment, like school closures or at-home quarantine of the exposed, leaders still have to marshal sufficient resources for actual implementation. Attempting to control the 2003 SARS outbreaks in which there were fewer than 500 cases, Canadian health officials had to manage a home quarantine of nearly 30,000 individuals in Toronto.¹⁰⁶ The Canadian program's impact was not clear, but the public health resources needed to execute this policy were immense; it was necessary to persuade each family of the measure's rationale, inform

them how to comply, and arrange to provide food and other support services. The civic infrastructure can extend existing public resources by helping spread infection control messages, particularly among populations with limited access to and/or mistrust of government; delivering meals, medicines, support, and care to homebound individuals; and enabling essential service workers to report to work.

Caring for Large Numbers of Sick People when Hospitals Are Overburdened

In a severe influenza pandemic, healthcare demands will be greater than the capacity of local hospitals and health professionals to treat flu patients and maintain other essential medical services according to modern expectations.^{5,111} Hospitals will not be able to operate effectively in the face of labor shortages that result from workers falling ill, having to care for sick family, and/or being concerned about bringing home contagion. Hospitals may facilitate transmission of the flu virus within their walls, due to infected patients converging on them. Healthcare facilities may run out of even basic supplies because of patient demands, just-in-time inventories, and interrupted delivery chains. Based on the HHS planning assumption of a 1918-like pandemic and CDC's *Flu Surge* software, local hospitals can expect to have only 1 mechanical respirator for every 2 flu patients, and only 1 bed for every 4 to 5 flu patients who need them at the peak of the crisis.⁵ Community engagement may improve a community's ability to address both the ethical and operational challenges associated with mass casualty care in a pandemic.

Deciding who gets access to limited hospital care

Scientific, ethical, and legal frameworks regarding the allocation of limited healthcare resources and alterations in standards of care under epidemic circumstances will affect citizens greatly and should be considered collectively within a community.^{111,112} At the peak of the pandemic, hospitals will need to cancel elective surgeries and discharge the least ill to recover elsewhere. Today's so-called "elective" procedures, however, include cancer surgeries, angioplasties, and aneurysm surgeries without which many patients may die. Will psychiatric patients be sent home to make room for flu patients? Clinicians will have the ultimate responsibility for making quick triage decisions, but a well-thought-out and publicly vetted set of guidelines will help reflect the community's priorities and obtain residents' acceptance in a crisis. For example, without a socially and legally acceptable framework for degradation of care to guide them, some Gulf Coast doctors stranded without food and water in 100-degree heat for days are alleged to have euthanized pa-

tients that they thought might not survive the Katrina-related ordeal.¹¹³

Plan alternative care sites and home care for nonhospitalized patients

Efforts to prevent overwhelmed hospitals in a flu pandemic will likely include alternative sites of medical care and public appeals to those patients who are not critically ill to remain at home. Because citizens, civic groups, and service organizations know their local communities well, they should have a forum to engage with hospitals, public health agencies, and emergency management to identify (during and in advance of a pandemic) where alternative care facilities are best placed in the community, as well as to identify and mobilize the volunteer workforce willing to staff these sites. Communitywide mass casualty planning can work toward developing neighborhood support mechanisms so that people who are at home sick during the pandemic have food, medicines, child care, emotional support, and the like. Public officials can link with the civic infrastructure to design and implement a communications strategy to help convince people to stay away from hospitals if they are not critically ill.

Handling the Dead with Dignity in the Face of Mass Fatalities

Large numbers of deaths in a short period of time—as would be expected during a severe flu pandemic—can exceed the functional capacity of the present-day U.S. fatality management system, challenge everyday notions about what constitutes decent funerary practices, and cause traumatic grief that leads to complicated mourning among survivors. According to the National Funeral Directors Association, on average 2.4 million Americans die each year; in a 1918-like pandemic, HHS estimates that an *additional* 1.9 million people could die from influenza.¹¹⁴ Community-level mechanisms to cope with such tragic circumstances can benefit greatly from residents' counsel and assistance in relation to the practical, cultural, religious, and psychological dimensions of death.

Aid the traditional workforce who deal with the dead

At the same time of acute demand for their services, morticians, funeral directors, medical examiners, coroners, cemetery owners and operators, and others in the death and funeral industry may be personally affected by the flu and unavailable to work because of sickness, death, caring for sick loved ones, or concern about contagion. Transportation vehicles and storage space for human remains are likely to be in short supply. These factors will contribute to significant delays in burying the dead. Prior to a pandemic,

community partners can weigh in on what constitutes dignified and socially acceptable approaches to identifying, transporting, storing, processing, and finally interring (when possible) human remains in these circumstances. During the crisis itself, volunteers can augment the professional workforce, and private businesses and nonprofit organizations may be able to donate appropriate vehicles and storage space.

Devise emergency procedures mindful of diverse beliefs and practices

The U.S. population holds many diverse cultural traditions, religious meanings, and personal expectations surrounding corpse preparation and funeral services.¹¹⁵ Most people view death and caring for the deceased as deeply personal and meaningful, and they draw on their distinct beliefs and practices to help them to cope with, understand, and process grief.^{116,117} Prior to the emergency, public health officials, hospital administrators, and professionals from the death and funeral industry can meet with spiritual and cultural leaders in a community to discuss and plan for how bodies can be identified, transported, stored, buried, and commemorated in a dignified and culturally acceptable manner as well as what support to extend to survivors.

Populate a support network to help people cope with major loss

Large numbers of the dead in a community at one time present difficulties for both personal and collective bereavement. The need for spiritual and emotional support may be extensive because of the scale of the event and may outstrip the capabilities of trained professionals, and the mourning process may be more complicated because of the traumatic nature of the event. The civic infrastructure can be an important resource through the grieving process. Individuals and community groups, for example, can help plan, set up, and maintain a Family Assistance Center—a centralized location (whether virtual or in person) that provides grief and trauma counseling, spiritual and emotional guidance, peer-to-peer support, updates to reduce uncertainty and confusion, and practical assistance in making funeral arrangements.¹¹⁸

CONCLUSION

The civic infrastructure constitutes a critical management resource for leaders during catastrophic health events—phenomena that characteristically demand deliberate and thorough integration of citizen contributions. In the pre-event period, the civic infrastructure can help set policy priorities, inform value-laden policy decisions, render emergency planning fair and feasible, foster trust between authorities and

diverse social groups, and set realistic expectations about communitywide capabilities to address unforeseen events. During the crisis period, the civic infrastructure can function as a multifrequency crisis communication network, provide support to professional responders, and enable more community members to respond rather than be victimized. As the crisis ebbs, the civic infrastructure can embody a grounded commitment to long-term recovery and to future public measures to enhance resilience.

Current U.S. disaster and health emergency policies—at all levels of government—do not adequately reflect the civic infrastructure's proven contributions in disasters and epidemics, nor realize the even greater potential of consciously standing up, collaborating with, and regenerating knowledgeable, trained networks of constituents who can mobilize in a crisis. Civic preparedness may play an important rhetorical role in present policy discussions, but this is not matched by a commensurate level of public funding, nor is it accompanied by sound practical guidance on how to achieve such an end. In addition, the "end" of civic preparedness itself has been narrowly construed as private acts of stockpiling and disaster-ready households. The structures for amassing the collective good of voluntarism are presently weak, and those for applying a community's judgment are nonexistent.

The working group has argued that community engagement is essential to policymaking for disasters and mass health emergencies, and it has recommended how U.S. leaders at all levels can improve their ability to govern in a crisis and mitigate communitywide losses by embracing this approach. Preparations for pandemic flu present a timely, concrete opportunity for decision makers to realize the benefits of problem-solving alongside community partners.

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