

Public Archetypes in U.S. Counter-Bioterrorist Policy

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Abstract. ‘How will the public react to a biological attack?’ is a fundamental question underpinning US policy and practice in the realm of terrorism preparedness and response. This essay chronicles the major trends over the last decade or so in authorities’ operating assumptions about mass behaviors in the context of bioterrorism and other extreme events; such assumptions are driven in part by unquestioned common sense notions and by historic events and scholarly critiques that have catalyzed new ways of thinking. Accompanying this catalog of public archetypes is the discussion of the conceptual and empirical limits to each model, as well as recommended approaches. Admittedly cursory, this typology nonetheless helps to reveal that policy-makers, by adopting one notional public over another, are tacitly endorsing some forms of governance -that is, the relationship between the governed and the governing- over others. Decision-makers from the US and NATO member states thus may benefit from a self-conscious audit of the premises regarding mass behaviors that currently underwrite counter-terrorist policies and their implementation.

Keywords. Public archetype, counter-bio terror policy, self-reliant stockpilers, volunteers, survivors

1. Envisioning the Public in the Bioterrorist Context

1.1. Panicky Mob

Prior to 2001 when catastrophic terrorism was a serious but postulated danger, US officials frequently conceived public reactions to a biological event as part and parcel of the crisis: the ‘worried well’ who would pour into hospitals and hinder health care workers’ ability to treat ‘real’ victims. The perpetrator, the pathogen, and the public were all forces that seemed to demand containment by authorities [1]. Playing one-dimensional roles in hypothetical scenarios and tabletop exercises, members of the public usually surfaced as mass casualties or hysteria-driven mobs who would self-evacuate affected areas or resort to violence to gain access to scarce, potentially life saving antibiotics and vaccines [2]. Such typecasting arguably was seen as necessary to prepare planners and responders for the ‘worst case,’ and to devise contingency plans for managing the public so that the professionals could perform their respective missions.

According to extensive social research into disasters, however, people rarely fall apart and put themselves first [3, 4, 5, 6, 7]. This finding contradicts what people tend to say on surveys that ask them how they *think* they will behave when disaster hits. In reality, people may feel fearful, anxious and capable of doing just about anything to

protect their loved ones. They may be irritable with politicians and safety professionals and ignore their advice when it is irrelevant to their situation. But, contrary to the scary stories authorities tell each other, panic is the exception. Ordinary people emerge as innovative problem-solvers who are responsive to the needs of others around them.

Adaptive, pro-social responses have been documented by researchers over several decades in countless disasters, and these findings have been bolstered by reports of the reasoned and often altruistic responses of those directly affected in the 9/11 attacks and the July 7, 2005 London bombings [8, 9]. Moreover, regular people are not merely disaster victims who must rely on trained responders for protection. Studies show that the majority of people rescued are saved by non-professionals who happen to be in the immediate vicinity. Of the 50 people saved from the rubble of the 1989 Loma Prieta earthquake in California, 49 were rescued by a group of 8 Mexican construction workers who have long since been forgotten in the larger US cultural narrative of the heroic efforts by trained search-and-rescue professionals [10].

The overriding notion of the 'problem public' to be managed precludes careful consideration of, and planning for ways to solicit the cooperation of affected populations. Emphasis instead is on crowd control, not enhancing the people's ability to cope with a public health emergency. Unfortunately, this way of thinking continues to linger today: in the pandemic influenza context, for example, the medical director for the Department of Homeland Security has expressed concern over the potential for "insurrection" and the President in October of 2005 advocated military-enforced quarantines [11].

1.2. Anxious Audience

Prevailing approaches among decision-makers and professional responders toward the public have, however, shifted in great measure from an emphasis on containing disorder to communicating information in the bioterrorist context. The complex realities of the September 11th and anthrax letter attacks helped refine many authorities' understanding of the public not simply as a problem to be managed, but as a constituency to be served: anxious people understandably in need of good information about what the danger was and what to do about it.

Communications failures on the part of authorities during the serial tragedies of 2001 spurred recognition of the essential role of public outreach in managing the effects of a bioattack. Following the anthrax crisis, US federal health authorities thus identified "risk communication and health information dissemination" as 1 of 7 priority areas in their guidance and financial support to upgrade the ability of state and local health departments to respond to bioterrorism (almost \$3 billion in the period FY2001-04). Critical reflection on responses to the 2001 terrorist attacks spurred the release of many helpful analyses and guidebooks for officials regarding successful communications with the media and the larger public [12, 13, 14, 15]. Practitioner and policy-maker interest in public communication remains high: typically, 2 of the top 5 articles that are downloaded each month from the journal, *Biosecurity and Bioterrorism*, have a focus on communication [16].

As 2001 demonstrated, open and informative relationships among citizens, government, and public health and safety authorities are fundamental to the nation's ability to cope with unconventional terrorism. US leaders and professional responders should be lauded for embracing effective crisis and risk communications as remedies for a potentially anxious, skeptical, and/or resistant public. Powerful cultural and technological forces (e.g., computerization, media proliferation, the internet, e-mail), however, make it too easy

to think of social life merely in terms of information exchange. Authorities, thus, should be careful not to approach improved communications as the 'quick fix' for the more complex, underlying tensions that can precede and/or emerge during bioattacks or other health crises.

'Public communications,' 'risk communications,' and the like have unfortunately become code words with which to skirt the sociopolitical complexities associated with community responses to terrorist crises, especially those that involve bioweapons. When authorities say that they want better communication with the public, what they tend to mean is public 'buy in,' public compliance, and understanding -possibly even absoluton- when tough choices arise for officials such as how to distribute scarce resources in an emergency. When members of the public indicate that they want better communication from officials, what they are asking for is inclusion, consideration, and mutual respect as 'peer' decision-makers; expert guidance on which they can act; and proof that their needs have justly been considered by people in authority.

1.3. Self-Reliant Stockpilers

Interpreted as an anxious audience, citizens are expected to remain alert to uncertain and evolving events, awaiting instructions about what to do from officials who are adept at risk communication. A complement or alternate to this model is the self-reliant individual and his/her household [17, 18, 19, 20]. In this approach, members of the public ready themselves for disaster by preparing contingency plans for their families, including a communications strategy to keep each other informed of personal location and well-being. Officials also consider it prudent for members of the public to stockpile enough food, water, and other essentials to be self-sufficient until help arrives or the crisis resolves -72 hours being the general rule of thumb. Another recommended act of self-reliance is becoming familiar with the special challenges posed by unconventional terrorist attacks that involve chemical, radiological, nuclear or biological agents.

Reasonable arguments support the notion of a public equipped to make do on its own. Self-study of unconventional attacks may reduce the shock value of otherwise novel and insidious hazards such as radiological, chemical and biological weapons. Family plans for emergencies target a practical and meaningful solution to one of the most emotionally wrenching qualities of an extreme event -worry and uncertainty about the welfare of loved ones. Compiling an emergency kit that includes flashlight, radio, fresh batteries, non-perishable foods, maintenance medications, and other 'basics' is a do-able, human-scaled project that -depending upon the circumstances- can have real material value, but it also brings intangibles like personal safety and security into being. Lastly, from the perspective of disaster response professionals, every self-sufficient individual and household lightens the burden of having to protect an entire population, focusing limited resources on the most needy.

Family communication plans, emergency kits, and self-study of threat agents are sensible preparedness activities, but with notable limitations. Capable institutions and professionals -including those that make up the health care and public health systems- are still necessary to handle the needs of large numbers of people. In a bioattack, it certainly helps for private citizens to be informed and alert to specific symptoms, but if doctors and health authorities do not know the next best steps or have not jointly planned community-wide contingency plans, a community's well-being may still be in jeopardy. And, even if members of the public knows better, they may put off seeing a physician if they have no health insurance and are behind on the rent or the utility bill.

Public self-reliance is not an equal opportunity policy, as a review of present US pandemic flu plans suggests [21]. The recommendation, for instance, that citizens keep “supplies of materials at home, as recommended by authorities, to support essential needs of the household for several days if necessary” and to stay home for up-to-10 “snow days” ignores economic realities in the US. Many poor and working class Americans can barely get by on a day-to-day basis, let alone stockpile their larder for what is, for most, a theoretical danger. In addition, asking hourly employees to miss 10 days of work as part of a flu furlough creates a real fiscal crisis for their households.

1.4. Assembled Volunteers

American residents are on the receiving end of much thoughtful advice about individual and household preparedness for a variety of hazards, as noted previously. The extent to which citizens have acted on this advice, however, is not what disaster planners and educators would hope. Some Americans have moved beyond disaster preparedness, however, as a private act like stockpiling to a public good by volunteering their time in a variety of national and local programs. Government sponsored programs include the Citizens Corps and its constituent volunteer programs such as the Medical Reserve Corps and the Community Emergency Response Teams [22]. Non-governmental programs include the Red Cross and Voluntary Organizations Active in Disaster.

Community-oriented groups are also acting on behalf of the public good for disasters. The National Organization on Disability, the American Association for Retired Persons, and the Red Cross recently joined the DHS in preparing brochures that provide seniors and disabled persons preparedness tips directly relevant to their circumstances [23]. Collaborating Agencies Responding to Disasters (CARD) emerged in the aftermath of the Loma Prieta earthquake and the Oakland Hills firestorm as the publicly-minded mechanism to train, unite, and coordinate Alameda County service providers as a safety net for people with little or no ability to address their own preparedness, response and recovery needs such as seniors, children, the disabled, the homeless, non-English speakers, and low income families [24].

‘Disaster-ready’ households and voluntary associations are significant achievements in terms of civic engagement in a pressing public policy issue. But important gaps remain. First, notions of citizen and community preparedness play an important rhetorical role in homeland security. Yet, their symbolic significance is not matched by a commensurate level of public funding, judging from a proxy index such the inconsistent and diminishing operating budget for the Citizen Corps [22]. More importantly, the prevailing emphasis on equipping individual households (i.e., the private sphere) to weather a disaster and on volunteering in the event of a disaster -both absolutely essential goods- helps make it easier for citizens to rescind on another kind of public-spirited obligation: paying closer attention to the politics of disasters, a characteristically uncomfortable position for most US residents.

1.5. Resilient Survivors

The image of resilient individuals and communities has recently emerged to counter officials’ lingering expectations of mass psychopathology and anti-social behaviors following an unconventional terrorist attack. Social and behavioral research into disaster and trauma-related phenomena call into question those public policies that fail

both to recognize and to nurture the public's adaptive responses to extreme events. Many psychological researchers agree that resilience, and not psychopathology, is the likely community outcome following a traumatic event -including an act of terrorism [25, 26], and have issued a call for further understanding into community cohesion and post-traumatic growth [27]. Sociologists studying a range of disaster situations, including terrorist attacks, have similarly chronicled the creative problem-solving, voluntarism, and adaptive behaviors of people in extreme circumstances [2, 3, 8].

Resilience -a concept used in disparate fields from materials science and engineering to psychology and sociology- denotes both strength and flexibility, and represents the capacity to "bounce back" after some kind of shock to the system [28, 29]. Present interest in resilience among mental health professionals is part of a larger disciplinary shift away from a singular focus on psychopathology and mental disorders, to broader emphasis on psychological well-being and its contributing factors. Both the sociological and psychology literature on recovery from terrorist attacks (and other extreme events) note the presence of strong social bonds and 'caring communities' as protective factors that permit individuals and groups to cope better with jarring, tragic circumstances [30]. Other contributing factors include opportunities to exercise personal and collective efficacy; broad understanding of structure, roles and responsibilities; resources including physical capital and human resources; support, nurturance and broad interest in the needs of community members; critical reflection and skill building; and communication [29].

Reframing the public from a panic-stricken mob to a band of hearty survivors is a positive development and more realistic in terms of the empirical record. Two cautions are worth making, however. First, *in extremis*, the resilience model may unwittingly support a public policy of government non-interference. If people and communities more-or-less rebound from large-scale tragedy, the thinking could go, perhaps officials need not concern themselves with actively cultivating supportive mechanisms. As some leading disaster experts have recently warned: "The suggestion of psychological resilience and recovery does not obviate the need to develop mental health prevention strategies and support systems as part of the infrastructure of preparedness" [26]. Second, a policy focus on generalized resilience could obscure the vulnerabilities of specific individuals and groups of people. As numerous studies have documented, disasters are not equal opportunity events; the most vulnerable members of society often bear the brunt of damages, whether lost lives or livelihoods [3, 31, 32].

2. Reframing Policy Discussions about Bioterror and the Public: The Partner Model

Currently, circulating notions about the public in the bioterrorist context range from the helpless and hysterical to the hearty and humanitarian-minded. Various implicit and explicit roles are also imagined for government: riot control, credible communication, volunteer mobilization, and *laissez faire*. The following section considers a final kind of public-namely, a full partner with government in preparedness, response, and recovery-around which the Center for Biosecurity of the University of Pittsburgh Medical Center has convened two Working Groups to help reframe bioterror policy discussions.

2.1. Governance Dilemmas

In 2003-2004, the *Working Group on 'Governance Dilemmas' in Bioterrorism Response* met to distill public communications guidance for mayors, governors, health officers and other top US officials [33]. Governing successfully during large, fast-moving, lethal epidemics, the Working Group maintained, requires a dynamic collaboration among members of a community and the community's leaders. In their deliberations, the members recognized that the increasing emphasis upon communications was a positive development within biodefense. Still needed, however, was more robust discussion among leaders, and between authorities and communities-at-large, about what an optimal societal response to a biological attack looks like.

Whether so-called natural or deliberate in origin, a large outbreak poses unique 'governance dilemmas.' Leaders and their communities must tend to immediate life-and-death matters such as caring for the sick, must ward off socially corrosive effects like ostracism of the afflicted, and must stem dramatic economic effects for victims and affected locales alike. Conflicts of interest, priority, and purpose can emerge in pursuit of these goals. The Working Group prepared a set of analytic templates for decision-makers faced with these difficult situations to prepare them to safeguard the public's trust and cooperation during a response to an infectious disease threat.

2.1.1. What Defines Successful Response to an Epidemic or Biological Attack?

Five strategic goals distinguish an effective response in the 21st century. An informed and involved public, along with guidance and material support from respected leaders, can help achieve these aims:

- Limit death and suffering through proper preventive, curative, and supportive care; tend to the greater vulnerability of children, the frail elderly, and the physically compromised.
- Defend civil liberties by using the least restrictive interventions to contain an infectious agent that causes communicable disease.
- Preserve economic stability, managing the financial blow to victims as well as the near- and long-term losses of hard-hit industries, cities, and neighborhoods.
- Discourage scapegoating, hate crimes, and the stigmatization of specific people or places as 'contaminated' or unhealthy.
- Bolster the ability of individuals and the larger community to rebound from unpredictable and traumatic events; provide mental health support to those who need it.

2.1.2. What Competing Goals May Arise in an Epidemic, and How Might They Be Averted?

Large-scale outbreaks are complex events that provoke fear and contradictory impulses. Because an epidemic's impact—illness, death, lost livelihood, disrupted commerce—is troubling to consider, leaders and the larger public may deny that a problem exists, or intervene too quickly without regard to the negative effects of their actions. Once acknowledged, an epidemic exerts immense political and social

pressure for swift, decisive, visible response, more so in the case of a deliberate epidemic. Apparent and sometimes genuine conflicts among strategic goals can arise. The most common dilemmas facing past leaders have been balancing disease control imperatives with those of individual liberty, economic stability, and stigma prevention (Table 1).

Table 1. Recommendations for handling potential conflicts between strategic response goals

<p>Stop disease that spreads person-to-person while upholding individual freedoms</p>	<p>Make response plans public before a crisis occurs; a well-informed population is more likely to cooperate with advice for reducing the spread of disease.</p>
	<p>Sketch out the ‘big picture’; make concrete the fact that personal actions can affect the safety of others -for example, remind people that staying home from work or keeping children out of school when they are ill protects others from getting sick.</p>
	<p>Use disease controls that respect ideals of autonomy, self-determination, and equality -public cooperation limits illness and death; public resistance does not.</p>
	<p>Provide goods and services that help people comply with health orders -for example, set up vaccination clinics in locations accessible to people without cars.</p>
	<p>Restrict civil liberties, if necessary, <i>only</i> in a transparent and equitable way.</p>
<p>Protect the economy while using disease controls that disrupt commerce</p>	<p>Be mindful of the goal of long-term financial recovery when controlling disease; do not react based solely on the desire to avert short-term economic loss.</p>
	<p>Recognize public trust as precious ‘capital’ that grows the economy -for example, if people see their health as your top priority, confidence in your efforts to safeguard the economy will follow.</p>
	<p>Account for the less visible and more scattered monetary impacts when making epidemic control decisions (e.g., costs of victims’ healthcare; economic toll of stigma).</p>
<p>Restore social bonds when people feel at the mercy of a mysterious disease</p>	<p>Express empathy for people’s fears about getting sick from others; follow up with meaningful medical details that allow people to gauge personal risk accurately.</p>
	<p>Demonstrate compassion toward victims of disease; explain to the community-at-large the social costs of avoiding people out of fear, rather than out of actual danger.</p>
	<p>Direct law enforcement to deal appropriately with hate crimes in the event prevention fails.</p>
	<p>Coordinate volunteers, relief groups, and civic organizations in humanitarian response, with extra focus on assisting the most vulnerable -for example, children, the frail elderly, and disabled people of all ages.</p>

2.1.3. What Situations Splinter the Social Trust Necessary to Cope with Health Crises, and How Might They Be Defused?

Mutual confidence and obligation among decision-makers, citizens and their leaders, and community members are the basis for achieving any and all strategic goals. Breaches of social trust, however, are a common predicament for leaders during outbreaks and are likely to arise during a bioattack (Table 2). Conditions that confound social trust involve preconceptions about ‘the government,’ ‘the public,’ or ‘the media’; the social and economic fault lines that are exacerbated by disease and dread of it; and questions about the morally defensible use of communal resources in times of crisis.

Table 2. Principles and actions for addressing social trust predicaments

<p>Prevent unproductive fear, denial, or skepticism on the part of the public when delivering crisis updates</p>	<p>Share what you know. Do not withhold information because you think people will panic. Creative coping is the norm; panic is the exception.</p>
	<p>Hold press briefings early and often to reach the public. Answering questions is not a distraction from managing the crisis; it <i>is</i> managing the crisis.</p>
	<p>Confirm that local health agencies and medical facilities are prepared to handle an onslaught of questions from concerned individuals, in person and by phone.</p>
	<p>Convey basic health facts clearly and quickly so that people have peace of mind that they are safe or so that they seek out care, if need be; similarly, brief healthcare and emergency workers so they have a realistic understanding about job safety.</p>
	<p>View rumors as a normal sign of people’s need to make sense of vague or disturbing events. Refine your outreach efforts; the current ones may not be working.</p>
<p>Earn confidence in the use of scarce resources despite existing social and economic gaps</p>	<p>Account for income disparities in response plans; anticipate the need for free or low-cost prevention and treatment.</p>
	<p>Make planning transparent so that the public sees that access to life-saving resources is based on medical need and not on wealth or favored status.</p>
	<p>Be open about eligibility criteria for goods and services, especially when tough choices arise unexpectedly -for example, which botulism attack victims will receive the limited antitoxin that exists.</p>
	<p>Show thorough preparations to protect vulnerable populations like children and the frail elderly, thus bolstering <i>everyone’s</i> sense of security.</p>
<p>Maintain credibility when decisions must be made before all the facts are in</p>	<p>Advise the community at the outset if crisis conditions are evolving or could be prolonged.</p>
	<p>Offer more detail rather than less, even when the unknowns outnumber what is known; resist the urge to reassure for reassurance sake alone.</p>
	<p>Be frank about any uncertainty regarding “facts”; describe plans to fill in knowledge gaps.</p>
	<p>Vary your means of reaching the public. Mix high-tech outreach (internet, cable, network, print, radio, cell phone, automated hotlines) with contact through grassroots leaders.</p>

2.2. Community Engagement

During the second half of 2006, the *Working Group on Citizen Engagement in Health Emergency Planning* convened around how to secure the active role of citizens and civil society institutions alongside response professionals, private enterprise, and government agencies in preparing for, responding to, and recovering from an extreme health event. The civic infrastructure-that vibrant whole comprised of citizens’ collective wisdom and capacity to problem-solve and innovate; voluntary associations (both virtual and face-to-face) that arise from shared interests and/or a public good; and non-governmental organizations that look out for the well-being of various groups -is essential to managing a mass health emergency and other large-scale disasters, yet policy and practice rarely articulate well with this critical resource.

The civic infrastructure -rather than the lone citizen, individual household, or undifferentiated masses- provides a very specific target for leaders to incorporate into disaster policy-making and implementation. In the pre-event period, it can help set policy priorities, inform value-laden policy decisions, and function as a ‘multi-

frequency' communications network that can reach dispersed and diverse populations. In addition, it can provide operational and tactical support during the crisis and recovery periods. Leaders have a range of techniques through which to mobilize elements of the civic infrastructure in (and for) disasters. Public participation methods are the most under-utilized despite indicators from research and practical experience that this tactic, in contrast to mass communications, may help leaders tackle some of the more intractable problems posed by extreme events.

Leaders typically rely upon three broad approaches when seeking to involve the citizenry in a pressing issue of public importance [34]¹. Operating in a 'communication' mode, an official or agency conveys information to members of the public in one-way fashion, often with the intent of educating and informing the populace. Public feedback is not required or specifically sought out. Alternately, leaders may assume a 'consultation' posture, soliciting opinions through surveys, polls, focus groups, and advisory panels. The public's opinions, criticisms, and constructive advice comprise only one factor among others for a policy maker's consideration. In contrast, 'engagement,' the third approach, constitutes a two-way flow of information between authorities and citizens, where dialogue helps foster a more nuanced understanding of a complex issue, and where the goal is to work together to conceive and implement a policy solution.

In this modality, leaders expressly seek out the counsel of citizens and consciously share decision-making power, to more or less degrees, depending upon the context. Citizens, in turn, draw upon and exercise collective power through open deliberation. Ideally, these conversations help them to glean views of a problem that reach beyond their immediate circumstances and to learn how to make appropriate demands upon government (that is, act as a public) and what government may need from them to meet those requests [38]. This last and most robust form of public involvement has yet to be incorporated into public health preparedness. It is nonetheless very promising in terms of developing socially acceptable approaches to the distribution of scarce, life-saving medical resources and practically feasible strategies to care for large numbers of sick people when the health care system is inundated.

3. Conclusion

The panic-stricken mob, on-edge audience, self-sufficient stockpiler, committed volunteer, resilient survivor, and preparedness partner are the prevalent conceptualizations of the public in the bioterror context that have circulated in the US over the past decade or so. Some of the frameworks have empirical evidence from the social and behavioral sciences to back them up, while others (namely, the helpless and hysterical masses) exist only in fantasy despite their emphasis in some policy-making circles. Decision-makers from the US and NATO member states may benefit from a self-conscious audit of the premises regarding mass behaviors that currently underwrite counter-terrorist policies and their implementation. In addition, they should consciously explore the promising partnership model.

¹ This analysis relies upon Rowe and Frewer's (2005) characterization of public involvement activities in terms of the distinctive information flows that constitute communication, consultation and participation [34]. 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 [35, 36, 37].

References

- [1] M. Schoch-Spana, Bioterrorism: US public health and a secular apocalypse. *Anthropology Today* **20/5** (2004), 8-13.
- [2] M. Schoch-Spana, Educating, informing, and mobilizing the public. In B.S. Levy, V.W. Sidel, editors. *Terrorism and public health*. New York: Oxford University Press; 2003. p 118-135.
- [3] Committee on Disaster Research in the Social Sciences, *Facing hazards and disasters: Understanding human dimensions*. Washington, D.C.: The National Academies Press; 2006.
- [4] R.R. Dynes, K.J. Tierney, editors, *Disasters, collective behavior and social organization*. Newark: University of Delaware Press; 1994.
- [5] L. Clarke, Panic: Myth or reality? *Contexts* **1/3** (2002), 21-26.
- [6] E.L. Quarantelli, The sociology of panic. In N.J. Smelser, P.B. Baltes, editors. *International encyclopedia of the social and behavioral sciences*. New York: Pergamon Press; 2001. p 11020-11030.
- [7] H.W. Fischer, *Response to disaster: Fact versus fiction and its perpetuation*. Lanham: University Press of America; 1994.
- [8] B. Sheppard, G.J. Rubin, J.K. Wardman, S. Wessely, Terrorism and dispelling the myth of a panic prone public. *Journal of Public Health Policy* **27** (2006), 219-245.
- [9] T. Glass, M. Schoch-Spana, Bioterrorism and the people: How to vaccinate a city against panic. *Clinical Infectious Diseases* **34** (2002), 217-223.
- [10] T. Glass, Citizens' information needs in responding to disaster. Workshop remarks. Computer Science and Telecommunications Board of the NAS/National Research Council, Washington, D.C. (2005, July 19).
- [11] Bush suggests military-enforced quarantines for avian flu, CIDRAP NEWS (2005, October 4). [Online] Available from: URL: <http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/oct0405bush.html> [2006, August 10]
- [12] US Department of Health and Human Services. *Communicating in a crisis: Risk communication Guidelines for Public Officials*. Washington, D.C.: Department of Health and Human Services; 2002.
- [13] B. Fischhoff, Assessing and communicating the risks of terrorism. In A.H. Teich, S.D. Nelson, S.J. Lita, editors. *Science and technology in a vulnerable world*. Washington, D.C.: American Association for the Advancement of Science; 2002. p 51-64.
- [14] N. Ethiel, editor, *Terrorism: Informing the public*. Chicago: McCormick Tribune Foundation; 2002.
- [15] Centers for Disease Control and Prevention. *Crisis and emergency risk communication*. Atlanta: CDC; 2002.
- [16] F. Jackie, managing editor, *Biosecurity and bioterrorism*. [Personal Communication]
- [17] American Red Cross, *Be prepared: American Red Cross preparedness information*. [Online] Available from: URL: http://www.redcross.org/services/disaster/0,1082,0_500_,00.html [2006, October 15]
- [18] A.J. Dory, *Civil security: Americans and the challenge of Homeland Security*. Washington, D.C.: Center for Strategic and International Studies; 2003, September.
- [19] US Department of Homeland Security, Ready: Prepare, plan, stay informed. [Online] Available from: URL: <http://www.ready.gov/> [2006, October 15]
- [20] L.E. Davis, T. LaTourrette, D.E. Mosher, et al., *Individual preparedness and response to chemical, radiological, nuclear, and biological terrorist attacks*. Santa Monica: RAND Public Safety and Justice; 2003.
- [21] US Department of Health and Human Services, *HHS Pandemic Influenza Plan* (2005, November). [Online] Available from: URL: <http://www.hhs.gov/pandemicflu/plan/pdf/HHSPandemicInfluenzaPlan.pdf> [2006, July 18]
- [22] M. Schoch-Spana, D. Chamberlain, C. Franco, et al., Disease, disaster, and democracy: The public's stake in health emergency planning. *Biosecurity & Bioterrorism* **4/3** (2006), 313-319.
- [23] American Association for Retired Persons. *AARP offers tips to help older Americans prepare for emergencies*. News release (2006, September 6). [Online] Available from: URL: http://www.aarp.org/research/press-center/presscurrentnews/preparing_for_emergencies.html [2006, October 17]
- [24] Collaborating Agencies Responding to Disasters. [Online] Available from: URL: <http://www.firstvictims.org/whowere.html> [2006, October 17]
- [25] J. Hamblen, L.B. Slone, *What are the traumatic stress effects of terrorism? A National Center for PTSD fact sheet*. [Online] Available from: URL: http://www.ncptsd.va.gov/facts/disasters/fs_terrorism.html [2006, November 20]
- [26] B. Pfefferbaum, R.L. Pfefferbaum, E.H. Christiansen, et al., Comparing stress responses to terrorism in residents of two communities over time. *Brief Treatment and Crisis Intervention* **6/2** (2006), 137-143.
- [27] A.S. Butler, A.M. Panzer, L.R. Goldfrank, editors. *Preparing for the psychological consequences of terrorism: A public health strategy*. Washington, D.C.: The National Academies Press; 2003.
- [28] M. Bruneau, S.E. Chang, R.T. Eguchi, et al., A framework to quantitatively assess and enhance the seismic resilience of communities. *Earthquake Spectra* **19/4** (2003), 733-753.

- [29] F.H. Norris, B. Pfefferbuam, Community resilience. Presentation at the Annual Research Symposium of the National Consortium for the Study of Terrorism and Responses to Terrorism. University of Maryland, College Park (2006, June 28).
- [30] S. Steury, S. Spencer, G.W. Parkinson, The social context of recovery. *Psychiatry* **67/2** (2004), 158-163.
- [31] A. Fothergill, E. Maestas, J.D. Darlington, Race, ethnicity and disasters in the United States: A review of the literature. *Disasters* **23/2** (1999), 156-173.
- [32] A. Fothergill, L.A. Peek, Poverty and disaster in the United States: A review of recent sociological findings. *Natural Hazards* **32/1** (2004), 89-110.
- [33] The Working Group on 'Governance Dilemmas' in Bioterrorism Response, Leading during bioattacks and epidemics with the public's trust and help. *Biosecurity and Bioterrorism* **2/1** (2004), 25-40.
- [34] G. Rowe, L.J. Frewer, A typology of public engagement mechanisms. *Science, Technology, & Human Values* **30/2** (2005), 251-290.
- [35] Health Canada, Corporate Consultation Secretariat, Health Policy and Communications Branch, *Health Canada policy toolkit for public involvement in decision making*. Ottawa: Minister of Public Works and Government Services Canada; 2000.
- [36] S.R. Arnstein, A ladder of citizen participation. *Journal of American Institute of Planners* **35** (1969), 216-224.
- [37] T. Webler, The craft and theory of public participation: A dialectical process. *Journal of Risk Research* **2/1** (1999), 55-71.
- [38] A.J. Perrin, *Citizen speak: The democratic imagination in American life*. Chicago: Chicago University Press; 2006.