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Life under the "new normal": notes on the future of preparedness

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Introduction

Being prepared for emergencies is not a new concept. At every level of government there are contingency plans for natural disasters, accidental catastrophes, local events and personal emergencies of every conceivable manner. Organizations from the Red Cross to the Federal Emergency Management Agency to hospital emergency departments are in a constant state of readiness. Often, regionally specific plans are in place based on expectations of particular kinds of disasters: earthquakes in the West, hurricanes on the East Coast, tornados in the Midwest. In fact, long before 9/11, even terrorism had been on the minds of at least a handful of stalwart preparedness experts – mostly in the military and in special governmental agencies (Benjamin & Simon, 2002; Stern, 2003; Clarke, 2004).

Yet the attacks of 9/11 on New York City, Washington, DC, the downing of a hijacked passenger airliner in Pennsylvania and the many events that followed have radically changed our perceptions and expectations of what it means to be prepared for emergencies. The USA can be seen as undergoing a societal and political transformation of major proportions, similar in many ways to the Great Depression or the Japanese attack on Pearl Harbor, as two examples of transformational events of the last century.

And, as if to emphasize this transformation, the terrible events of 9/11 were followed by other tragedies, marking just the beginning of a series of traumatic experiences that have, collectively, affected the nation in a profound, multi-dimensional way. Hard on the heels of the 9/11 attacks, in the fall of and into the Winter 2001, we confronted the still unexplained anthrax attacks, followed by sniper shootings in the Washington, DC region, and then the prospect of needing to vaccinate the entire country against smallpox. Meanwhile, terrorist attacks continue to occur regularly across the globe, while suicide bombings remain dramatically frequent in the Mideast and have now spread to other areas such as Russia. Adding further to the stress, the USA is engaged in major military incursions in Afghanistan and Iraq, with continuing terrorist actions against troops and civilians.

Future terrorist attacks seem virtually inevitable. Attacks with unconventional weapons, such as biological or chemical agents, have been widely discussed. The prospect of bioterrorism, and other non-conventional means of attack, raises unprecedented levels of anxiety among people who believe such means might well be used indiscriminately against civilians. Clearly, the idea of terror is to create extreme levels of psychological stress (Susser *et al.*, 2002). The prospect of shadowy foreign nationals using deadly violence against civilians, with or without the so-called "weapons of mass destruction", produces precisely the kind of stress that makes individuals and communities vulnerable to the psychological consequences of terrorism, either actual or anticipated.

Through all of this, the nation is attempting to develop a massive new capacity to prevent, fight and respond to terrorism, of any type, on American soil or against US interests abroad. Internationally driven terrorism is now an irrefutable fact of life in the USA and the response to terrorism and the threat of terrorism will require both technical and psychological strategies.

On the technical side, there will be a full range of programs designed to coordinate better protection and prevention under the rubric of "homeland security". Where and how this goes will be discussed later. But the players on this field will be on relatively familiar ground. Members of the intelligence communities, military and academic experts, first responder systems, public sector agencies, and the like will have roles in presumably developing and engaging new technologies, creating better means of communications and ensuring that a properly trained disaster workforce is at the ready.

But, on the psychological and societal fronts we will need to face an entirely different set of challenges. It is in these matters that a new agenda, and perhaps a new lexicon, will emerge over the next few years. This is because the nation is confronting a series of realities that, collectively, represent a truly transformational development for the country at large, for its government and for all of its citizens.

There are actually few events in recent American history that provide lessons or a sociological roadmap with respect to how America responded to 9/11 and where it needs to go in the future. Even though smaller terrorist attacks have occurred in the USA in the past, including the bombing of the same World Trade Center Tower in 1993, and the bombing of the Murrah Federal Building in Oklahoma City in 1995, there is little to compare to the catastrophic impact that rocked the nation in 2001.

There have been other such occurrences in US history where an unanticipated trauma caused a sudden, extraordinary disruption of business as usual, but these have been rare, especially in the last century. In the 19th century, the Civil War was wrenching for the nation, still in its infancy and prior to its first centennial celebration. But in the 20th century, one is drawn to the analogy between the attacks

on Pearl Harbor, drawing the USA into World War II, and the terrorism of 9/11, as perhaps the closest parallel. On December 6, 1941, Americans were certainly aware of the German aggression in Europe and a sense of a growing threat in Asia from Japan, a nation clearly preparing for an expanding war. Yet there was little public or political agreement around the possibility of American engagement on either front. Isolationism was a viable and popular perspective in response to substantial turmoil and military confrontation in other parts of the world. But the events of Pearl Harbor virtually stopped the arm-chair deliberation among Americans with respect to the nation's proper role in a world increasingly at war. That surprise attack had extraordinary and epochal consequences for America. In an immediate sense, war was declared by the USA against aggressors in Europe and Japan. The entire country became mobilized both in terms of military response and what amounted to a virtual upending of the national economy. Beyond the obvious, however, was a transformation of the country and its citizens from a heterogeneous, though internationally isolated, nation still recovering from the great economic depression of a decade or so earlier to a suddenly united, invigorated protagonist in one of the great wars in all of history. Clearly American society was fundamentally different, on many levels, in 2001 than it had been 60 years earlier. Yet there are striking similarities between the attack on Pearl Harbor and the terrorist assaults of 9/11. As in 1941, the attacks of 9/11 were a stunning and horrific surprise to Americans. Both were conceived and carried out by foreign nationals without clear provocation, against targets not generally thought to be particularly vulnerable. At the moment of the attacks, the country was, in both instances, in a relatively isolationist geopolitical frame of mind. Both instances disturbed long-standing complacency and galvanized the country. In addition, the elements of surprise and unpredictability were common to both Pearl Harbor and 9/11. Surprise, and the psychological stress it causes, is one of the most potent allies of the terrorist.

The future of preparedness: challenges and strategies

It is no surprise, then, that bioterrorism, and the other non-conventional means of attack, raises unprecedented levels of anxiety among people who believe such means might well be used indiscriminately against civilians. So the question of how prepared are we to respond to a bioterror attack, or to other types of unconventional attack, is a reasonable and urgent issue for the public. After all, in a post-9/11 world, none of this is out of the question as a future scenario of increased aggression against the USA.

Three years after 9/11, although some significant progress has been made, there is still no cohesive national plan for ensuring optimal preparedness in the USA. In the absence of a national domestic security and response plan, it is difficult to understand the goals or establish working benchmarks for accountability at the

level of the implementing agencies. The development of such a plan would be a crucial initial step in working towards a better-prepared nation. In order to establish an appropriate national blueprint there needs to be a realistic assessment of risk and vulnerabilities, new ways of organizing and coordinating critical intelligence and interdiction strategies, clear definitions of "functional preparedness", thorough analysis of estimated costs and appropriation of sufficient resources. Virtually none of this has yet happened to a sufficient degree.

We will consider below a number of the elements that we consider essential in developing our preparedness strategies.

Define "prepared" and establish preparedness benchmarks

One of the most difficult challenges will be defining what is meant by "prepared", especially for terrorism. There is no functional definition of "preparedness" that is consistent throughout government or that is universally accepted by departments of public health, first responders or healthcare systems around the nation. Should a community need the ability to respond to an intentionally poisoned water supply that creates 200 or 2000 very sick people in a short period of time? Should the definitive diagnosis and management protocols for such a calamity be developed by the local health department, a state agency or the federal government? Should hospitals in a community have the capacity to quarantine 10 patients or 100, or 10,000? Should the community be able to decontaminate people covered with radioactive dust at the rate of 6 an hour or 60? What equipment is needed and who needs to be trained? Should a major city be planning for terrorist scenarios with 100,000 casualties or 1 million? In addition, there is a need to understand and include the needs of special vulnerable populations, such as children (Redlener & Markenson, 2003).

Since total preparedness is essentially not achievable, a better approach might be to seek a goal of "functionally and appropriately prepared". This is not simply an academic exercise. In the absence of a definition it is virtually impossible to set benchmarks, understand true costs or evaluate outcomes.

A personal analogy is useful. Paraphrasing an oft-stated response to the question of what does "prepared for a terrorist emergency" mean to an individual, the answer might be stated as "somewhere on the continuum between uninformed complacency and overt paranoia". For a larger system or society as a whole, the concept of functionally and appropriately prepared may be applied similarly. Does the nation need to prepare for *simultaneous* attacks with weaponized smallpox, explosions of "dirty" bombs in six metropolitan areas and several attacks on major infrastructure facilities? Does Chicago's health and public health systems need to plan for 500 or 5000 victims of a nerve gas attack? Or 50,000? There are no obviously correct answers for most of these questions. But a set of decisions needs to be

made in order to calculate the resources needed to reach whatever level of preparedness is determined to be appropriate.

Beyond the immediate necessity to define preparedness, there is a real need to establish appropriate benchmarks in many aspects of the planning process. Benchmarks establish a means of describing specific needs, developing cost models and enabling proper monitoring of programs and policies established as part of the preparedness agenda.

Hospital planning illustrates these points. Even with the availability of significant resources for emergency planning, institutions need to understand what they are aiming toward. These questions cannot be left up to local facilities or even entire communities to decide on their own, but require analysis and guidance from high-level planners who can synthesize information on threat assessment, availability of emergency resources from outside the community and other key factors. In the absence of large-scale strategic guidance in these matters, local communities, acute care facilities and public health agencies will have no way of establishing appropriate benchmarks, quantifying need demonstrating efficacy of established preparedness programs.

The potential scenarios are virtually limitless. The money and resources needed for planning are entirely dependent on the scenarios selected. Furthermore, it is impossible to test or plan for every possible scenario; therefore, the selection of scenarios must, by definition, represent choices about the most likely threats, or those for which planning would prove the most generally useful.

In the USA, the call for standardization was recently embodied in Homeland Security Presidential Directive (HSPD) December 8, 2003 (White House, 2003). In response to this directive, the Office of Domestic Preparedness in the Department of Homeland Security is planning to develop 15 standardized scenarios for drills and exercises, and to standardize drill evaluation criteria for all responders.

For public health and the healthcare response, there have also been some attempts toward more specific definition and benchmarks. In public health, the National Association of County and City Health Officials (NACCHO, 2004), which represents local health departments, recently began a program (in collaboration with Centers for Disease Control and Prevention (CDC) and academic partners) called "Public Health Ready" to help agencies define minimum standards of emergency preparedness. Criteria are based on having an adequate plan, providing appropriate training on emergency preparedness to staff, and then testing agency preparedness through drills and exercises. At the hospital level, federal bioterrorism funding to hospitals, implemented through the Health Resources and Services Administration (HRSA) has set certain benchmarks for hospitals receiving these funds. The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), the standard-setting organization for the USA, has also set increasing

standards for hospital emergency preparedness, beginning with having emergency plans and regular drills that also include the community. These are good starts, but obviously represent only the beginning. Preparedness is a process as much as it is a specific list of capabilities, and the endpoint still remains to be defined.

Manage the bureaucracy

Most look to the federal government for standards, but first the federal government must get its own house in order. There is no escaping the fact that the prevention of terrorism and the capacity to respond effectively to major disasters, human made or otherwise, in a society as large and complex as the USA is a monumental task, akin to mounting, and maintaining a credible and effective military. However, the current bureaucracies responsible for managing the process of preparedness, on all levels, are enormous and unwieldy. There are serious concerns regarding the lack of coordination, even among agencies of the same department. The principal preparedness and response functions fall to the US Department of Homeland Security, a newly formed entity that consolidates a number of federal agencies. Its workforce includes nearly 180,000 workers in some 23 different agencies. Yet important management and control questions need to be urgently addressed. Both the Congress and the White House will need to collaborate on the establishment of a properly funded, cohesive system for developing and implementing strategies. The system should expect minimization of redundancy and full accountability from all relevant agencies.

The response to any terrorist event requires coordinating many federal agencies. But, at the same time, emergency response is local and therefore requires local agencies to be prepared and to work together with these numerous federal partners. The blueprint for integrating response across agencies at the federal and local levels is the recently announced National Incident Management System (NIMS). While this is an essential first step, NIMS, like all plans, requires continual practice by those who must use it. If past experience is a guide, communications will remain a major challenge. The integration of response sectors is a particular issue, including integration of healthcare, emergency medical services ([AQ1]EMS) and public health, and their relationship to the "standard" regular first responders.

The proper interface between public health and other government agencies in the post-9/11 world is another fundamental, but unanswered, question. In the age of terrorism in America, we urgently need to define and clarify the dynamic relationship between national security and public health. In 2002, when the possibility of vaccinating large numbers of Americans against smallpox was first raised, experts in the health and public health communities were repeatedly asked if this was an appropriate decision. As the eradication of smallpox in the 1970s was truly

one of the great public health accomplishments of all time, so the return of smallpox as a viable possible consequence of an act of terrorism was an astonishing and disconcerting idea to contemplate. But the decision to develop a contingency plan to deal with a smallpox outbreak should not have been a matter of the "opinion" of public health experts. No legitimate expert in this field would ever consider such a notion *unless* smallpox was considered to be a clear threat. This was in fact a decision that had to be made based on information from the national security and intelligence communities, not public health. Public health experts would be integral in the *development and implementation* of a plan, but only if a serious threat of smallpox could be convincingly established.

Monitor dual use and trade-offs

Does a massive investment in preparedness, especially in the health and public health systems, simply shift resources and attention from the traditional or core agendas of these systems, or do innovations related to preparedness have secondary beneficial effects with respect to the capacity of the system to function more generally? Or perhaps both factors are operative in different situations and at different times. There is a case to be made, for instance, that enhancing surveillance for diseases induced by biological weapons can improve mechanisms for early identification of any infectious disease, including newly emerging naturally occurring infections like severe acute respiratory syndrome (SARS) and West Nile, or pandemic influenza (Morse, 2002). Indeed, there is an exact historical precedent. In 1950, during an earlier period of concern about bioterrorism, the CDC started the Epidemic Intelligence Service (EIS). The EIS was intended to provide investigative and public health capacity to respond in case of a bioterrorist attack (Langmuir & Andrews, 1952; Henderson, 1993). While it was never needed for this purpose (before the anthrax attacks in 2001), the EIS has provided expertise for responding to many natural disease outbreaks and has served as a major training mechanism for generations of epidemiologists and other public health experts.

On the other hand, there is considerable concern that "terror preparedness" is swallowing up resources that are needed to deal with the long-standing critical issues, which still require enormous attention, by public health officials. Problems like the spread of HIV/AIDS, control of drug-resistant tuberculosis or ensuring access to childhood immunizations for all children, among many other challenges, remain high priorities for the public health community.

There is evidence that resources for core programs have been eroding, especially as state budgets have come under greater economic pressure (Gursky, 2004; Turnock, 2004). This was particularly evident during the push to vaccinate health, first responder and public health workers against smallpox. Several health departments

reported the need to shift personnel, originally assigned to traditional pediatric vaccination or tuberculosis control activities, to the smallpox program (Gursky, 2004).

Over the next few years, it is imperative that non-governmental "watchdog" organizations monitor the consequences of identifying and investing preparedness resources. The potential for degrading vital, core public health and safety net programs is real. In addition, the sustainability of these public health funding increases remains a concern.

Address bioethical and legal ramifications of preparedness

As we confront terrorism, protecting the public without eroding civil liberties and our core democratic values remains an important issue in general. Virtually every aspect of large-scale preparedness planning can evoke critical issues of ethical or legal concern. The USA PATRIOT Act of 2002, giving broad, new investigatory powers to domestic law enforcement officials seeking to identify or detain potential terrorists, has become a major source of concern to legal professionals and civil liberties advocates. Serious questions have been raised regarding privacy of citizens, due process and other matters central to American values, and protected by fundamental principles of the US Constitution and Bill of Rights.

For example, in planning for managing bioterrorist attacks, governmental agencies, law enforcement and public health experts are considering responses including forced evacuation and quarantine. There is a need for systematic examination of the legal and civil liberties implications of such measures. In fact, public health law in general, as well as the relationships among public health, police and military jurisdictions in these matters, is extremely unclear. Principles and governing laws and regulations vary widely among states. Clarifying the implications of these matters with respect to large-scale preparedness planning is an essential near-term objective (Gostin *et al.*, 2002). In many states the process of rewriting public health law is already in process.

Ensure future workforce

Competent and well-prepared personnel are key to any agency's successful preparedness efforts. At least one major recent report reviewed the status of the public health workforce and noted the prospect of severe shortages in the workforce as the current pool aged and retired (Institute of Medicine, 2003). It was predicted that half of the current public health workforce would be lost by attrition within the next decade. Grave concerns were raised about the capacity of the pipeline to ensure appropriate workers to fill needed slots for public health, whether for preparedness

or traditional public health. Clearly, an important agenda for public health training and educational institutions would be consideration of efforts to expand and diversify existing programs.

In addition, it is likely that new programs will need to be developed. The development of the EIS over 50 years ago, and of Project Public Health Ready in the last few years, have already been mentioned. In the last 5 years, the CDC also established a network of Centers for Public Health Preparedness to involve academe in helping to train the public health workforce as well as to help replenish the pipeline (Morse, 2003).

National deliberation of short-term and alternative solutions would need to include the possibility of training public health workers at the undergraduate level, as well as graduate programs as is currently the case (Institute of Medicine, 2003). In a similar vein, certificate programs and rapid transition of individuals in related professions to fulfill particular public health preparedness functions would have to be considered. Such efforts would require buy-in and support from the federal government in order to ensure sufficient support.

Engage local communities in emergency preparedness planning

In general, we have a long way to go with community preparedness, and in engaging the community as an essential partner in all preparedness efforts. Clearly, community resilience is an important goal of preparedness. The response to 9/11 and other tragedies shows that, in fact, there is a surprising amount of resilience in most communities. However, with the exception of a few, minimally funded efforts, such as the Community Emergency Response Program ([AQ2]CERT), there have been few efforts to really engage citizens and local communities in the process of emergency readiness. To date the entire process has been essentially "top down". Government issues terror alert warnings. Officials advise citizens to "be vigilant" and make plans to accommodate a need to evacuate an area or "shelter in place". But, general cynicism about the government's ability to respond effectively in the event of a bioterror attack and a decreasing level of confidence in the health and public health system's capacity to provide care in the aftermath of such an event has resulted in little actual cooperation or participation in emergency planning on the part of everyday citizens.

The color-coded alert system has been unhelpful in the absence of explanation or direction regarding what people need to do in response to a change in the level of concern. At the same time, journalists and officials have not fully come to grips with what messages ought to be communicated to the public around terrorism and emergency readiness. In large part, this is due to substantial absence of clarity on this subject from government, lack of publicly trusted, consistent communicators and a general sense that the media has not gotten a clear sense of its own mission during this time of continuing crisis in America.

In a 2003 Marist survey commissioned by the National Center for Disaster Preparedness of the Columbia University Mailman School of Public Health and the Children's Health Fund, Americans were found to be very concerned about the possibility of new terrorism, yet many lacked confidence in government or the public health system's ability to respond effectively. In a follow-up poll conducted in July 2004, public confidence had declined even further (National Center for Disaster Preparedness and Children's Health Fund, 2004). While 76% of Americans remain concerned about terrorism, only 53% expressed confidence in the government's ability to protect local areas, contrasted with 62% a year earlier. Even more disconcerting was the finding that more than 63% of Americans had not made their own basic emergency plans, and only 21% (in the July 2004 poll) considered themselves familiar with their own community's terrorism response plan. In fact, in the August 2003 survey, 90% of Americans said they would not cooperate with official directives to evacuate an area considered to be under attack. This dramatic level of potential dissent in the time of an emergency was due to frequently expressed concerns about the whereabouts and safety of family members and loved ones. In other words, if parents are unsure about what's happening with their children in a major emergency, they will not leave an area, even if ordered to do so.

All of these suggest that individuals, and their communities, remain disconnected from the planning process. Work needs to begin immediately to ensure that families take appropriate steps to improve their abilities to survive in an emergency. Citizens also need to be more engaged in working on community-based emergency plans. Research with respect to enhancing individual engagement as well as defining appropriate roles for volunteer programs, local institutions such as schools, neighborhood organizations, faith-based communities and the like will all be the near-term goals in national preparedness.

However, there is still no established methodology for developing community resilience or even for measuring it. Risk communications for pre-event messaging remain among the key strategies, but there is little consistency in either the messages or how they are presented. It is likely that different ethnic communities will have different trusted sources and preferred methods of receiving information. One strategy could be identifying community leaders who are perceived as trusted information sources in their communities, and understanding how risk information can be presented to them for maximum clarity and usefulness.

However, this is only meaningful if consensus can be developed on what communities should be doing to prepare for major emergencies. Both risk communications and community preparedness activities remain an evolving area. In the USA, there is a long history of preparedness, including intensive efforts during the Cold War. Many Americans of a certain age remember "duck and cover" drills and other activities that, in retrospect, seem naïve and uninformed, an attempt to show

that something was being done. It is possible that the experiences of these Cold War activities have hampered our willingness to develop new civil defense measures and to examine more constructive ways to engage the community in laying the foundations for its own psychological defense against terror.

Efforts to engage the public are in nascent stages in the USA. Programs such as "Ready.gov" or, in New York City, "NYC Aware", are encouraging starts, but only first steps. A number of other countries, such as Britain, Israel, Sri Lanka and Colombia, have had to confront terrorist activities for a number of years, and comparisons might be instructive. There is much to be said for demystifying preparedness and providing individuals with tools to increase resiliency. In Israel, for example, basic emergency preparedness lessons are presented as part of the school curriculum beginning as early as age 6, so that children have had some time to become familiar with basic preparedness concepts and to practice them. The lessons at school also encourage discussion of these questions at home, making family discussions easier and ensuring that parents are also confronting these questions along with their children (Boaz Tadmor, personal communication, 2003).

Improve understanding of the psychological and behavioral ramifications of terrorism

The chapters in this volume survey the state of our understanding of the psychological response to terrorism and other exigent events. It is clear that much has been learned. At the same time, many questions remain. What are the best interventions post-event? How do we recognize those in most immediate need, or those who may be most susceptible, other than those with pre-existing psychopathology? (North *et al.*, this volume). What sorts of pre-event messages are the most useful for preparing the community?

One unmet need is a paradigm for integrating mental health intervention into our preparedness and response activities. For example, some hospitals in Israel assign teams of mental health professionals in the emergency department during major disasters. Other teams of mental health professionals are also assigned specifically to work with victims' families, and are trained to address their concerns.

There will also be a need to train response professionals to be competent in mental health issues. There are two obvious components of mental health involved in this. First, responders must be sensitive to mental health issues among those they encounter during the response. They must be able to calm fears among members of the affected community and must be able to triage quickly and refer those who need immediate counseling. Secondly, and just as importantly, they must be trained to recognize when they are showing signs of stress themselves and get appropriate relief. Even today, there is widespread recognition that responders may

be particularly vulnerable, but uncertainty remains about the best way to prevent stress in responders (North *et al*., this volume).

Conclusions

These are some of the key issues needing careful attention as the nation continues the process of preparedness for disasters and terrorism. We are moving at a level of urgency unprecedented in a modern society. But will the resources for preparedness be distributed equitably throughout our communities? Will already underserved populations see disparities in this arena, as is already the case with traditional health and other services? Who will monitor this potential area of concern? And, perhaps most important, can such efforts be made sustainable?

As society ponders how far we can go in efforts to prevent or respond to terrorism, there are difficult challenges to be faced. Can we do what is prudent and appropriate, without infringing on cherished values or legal rights that are the hallmarks of our society? We all hope so, but only time will tell.

REFERENCES

Benjamin, D. & Simon, S. (2002). *The Age of Sacred Terror*. New York: Random House.

Clarke, R.A. (2004). *Against All Enemies*. New York: Free Press.

Gostin, L.O., Sapsin, J.W., Teret, S.P., Burris, S., Mair, J.S., Hodge Jr., J.G. & Vernick, J.S. (2002). The Model State Emergency Health Powers Act: planning for and response to bioterrorism and naturally occurring infectious diseases. *Journal of the American Medical Association*, **288**, 622–628.

Gursky, E. (2004). *Progress and Peril: Bioterrorism Preparedness Dollars and Public Health*. New York: The Century Foundation. (Also available on the Century Foundation web site, at: http://www.tcf.org/Publications/HomelandSecurity/Gursky_Progress_Peril.pdf).

Henderson, D.A. (1993). Surveillance systems and intergovernmental cooperation. In *Emerging Viruses*, ed. S.S. Morse. New York: Oxford University Press.

Institute of Medicine (2003). *Who Will Keep the Public Healthy?* Washington, DC: National Academy Press.

Langmuir, A.D. & Andrews, J.M. (1952). Biological warfare defense. 2: The Epidemic Intelligence Service of the Communicable Disease Center. *American Journal of Public Health*, **42**, 235–238.

Morse, S.S. (2002). The vigilance defense. *Scientific American*, **287**(4), 88–89.

Morse, S.S. (2003). Building academic–practice partnerships: the Center for Public Health preparedness at the Columbia University Mailman School of Public Health, before and after 9/11. *Journal of Public Health Management and Practice*, **9**, 427–432.

NACCHO (2004). Project Public Health Ready. Available from NACCHO web site at: http://www.naccho.org/project83.cfm. Accessed September 2004.

National Center for Disaster Preparedness and Children's Health Fund (2004). Marist Institute for Public Opinion Poll, July 2004. Available from NCDP web site at http://www.mailman.hs.columbia.edu/news/ncdp-chf-survey.html. Accessed September 1, 2004.

North, C.S., Pfefferbaum, B. & Hong, B. (this volume). Historical perspective and future directions in research on psychiatric consequences of terrorism and other disasters. In 9/11*: Mental Health in the Wake of a Terrorist Attacks*, eds. Y. Neria, R. Gross & R. Marshall. Cambridge, UK: Cambridge University Press.

Redlener, I. & Markenson, D. (2003). Disaster and terrorism preparedness: what pediatricians need to know. *Advances in Pediatrics*, **50**, 1–37.

Stern, J. (2003). *Terror in the Name of God*. New York: Harper Collins.

Susser, E.S., Herman, D.B. & Aaron, B. (2002). Combating the terror of terrorism. *Scientific American*, **287**(2), 70–77.

Turnock, B.J. (2004). *Public Health Preparedness at a Price: Illinois*. New York: The Century Foundation. (Also available on the Century Foundation web site, at: http://www.tcf.org/Publications/HomelandSecurity/Turnock_Public_Health.pdf).

White House (2003). Homeland Security Presidential Directive 8 (hspd-8). Available at http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html. Accessed September 2004.

Author Queries

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