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Understanding and Preparing for the Psychological Consequences of Terrorism

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INTRODUCTION

Two of the various definitions of *terrorism* that have been offered are as follows:

> The illegal use or threatened use of force or violence; an intent to coerce societies or governments by inducing fear in their populations; typically with ideological and political motives and justifications; an ''extrasocietal'' element, either ''outside'' society in the case of domestic terrorism or ''foreign'' in the case of international terrorism.[2]

> The purpose of terrorism is not the single act of wanton destruction, it is the reaction it seeks to provoke: economic collapse, the backlash, the hatred, the division, the elimination of tolerance, until societies cease to reconcile their differences and become defined by them.[3]

What these definitions have in common is recognition that, beyond the physical damage caused by the event itself, terrorism is intended to have a psychological effect. It targets the social capital of a nation—cohesion, values, and ability to function. Therefore, successful counterterrorism and national continuity depend on effective interventions to sustain the psychological, behavioral, and social functioning of the nation and its citizens. From the impact of an attack (e.g., destruction and death) and the consequences associated with the response (e.g., economic loss and disruption) to the impact of preparedness and counterterrorism themselves (e.g., behavioral and social ramifications of new security procedures), there is an urgent need for an understanding of the development of effective intervention and tools for assessing and predicting psychological, behavioral, and social responses and counterresponses.

The attacks of 9/11 and the persistent threat of future terrorism demonstrate the importance of preparing the nation to respond more effectively. The emotional consequences of terrorism (which can include acute and long-term distress, anxiety, grief, depression, anger, etc.) pose unique challenges for government officials charged with planning prevention and response, and they raise important questions regarding the ability of the public health system to understand and prepare for such events.

The federal government has undertaken unprecedented efforts to increase the nation's ability to respond to terrorism, including the establishment of the Department of Homeland Security (DHS), the passing of the PATRIOT Act, and (to address bioterrorism specifically) the investment of over $4 billion in the public health infrastructure. However, little national or local policy has focused on the importance of addressing psychology or mental health as part of these efforts.

This chapter describes the psychological consequences of terrorism and outlines strategies for dealing with them. This information should prove useful for policy makers attempting to develop state and local response strategies.

WHAT ARE WE WORRIED ABOUT?

Much has been written about the emotional, cognitive, somatic (biological), and behavioral responses that can be expected in the immediate aftermath of terrorism. Many of these studies have

focused on the incidence and prevalence of posttraumatic stress disorder (PTSD) and acute stress disorder, the impact on the use of health care services, and the impact on substance use (e.g., smoking and drinking). Many of the reactions that were identified after 9/11 (including increases in PTSD and the use of alcohol) have also been found, communitywide, after other large-scale traumas such as earthquakes, wildfires, and hurricanes. However, incidents of mass violence, such as shootings and terrorism, are intentional and are therefore the most psychologically disturbing type of disaster; thus their psychological consequences are frequently more severe.[4]

Beaton and Murphy's review of responses to terrorist events suggested that up to two-thirds of those directly affected (either as a victim or as a relative) are psychologically impaired to some degree.[5] They may experience a wide range of emotional and behavioral consequences that include PTSD, a psychiatric disorder characterized by persistent flashbacks or nightmares, extreme irritability or jumpiness, and emotional numbing or avoidance of reminders of the trauma. Others may develop other anxiety disorders, depression, and problems with substance use, as well as symptoms that do not meet the criteria for PTSD.[6]

The documented prevalence of such problems after specific events varies widely, perhaps because of differences in the populations involved, the nature of the events, and the methodologies used in the studies. Typically, the researchers have screened victims to identify symptoms of posttraumatic stress and to determine whether these symptoms meet the criteria for a clinical diagnosis of PTSD. For some victims, however, these symptoms may not initially meet the criteria; but if left untreated for some months after the first screening, they may become more severe.

WHO WILL MOST PROBABLY BE AFFECTED?

Individuals most likely to be affected, psychologically and behaviorally, by a terrorist event include those who were injured, those who were present or nearby, those (such as first responders) who were exposed to trauma as a result of their attempts to help victims, and those (such as vulnerable populations) who were already at risk of developing psychological symptoms. Also, terrorism may be more likely than other traumatic events to cause a psychological reaction in

individuals who were far from the attack but are nevertheless concerned about being in danger.

Direct and Indirect Victims

Studies conducted immediately after 9/11 found a range of emotional and behavioral reactions, both in the cities where the attacks occurred and across the country. For example, three to five days after 9/11, 44 percent of a national sample of Americans reported experiencing substantial emotional stress.[7] One to two months after 9/11, 8 percent of residents sampled in Manhattan reported symptoms consistent with PTSD, and 10 percent reported symptoms consistent with depression.[8] During this time frame, estimates of probable PTSD in areas close to the attack ranged from 3 percent in Washington, D.C., to 11 percent in the New York metropolitan area.[9] Subsequent surveys of the general public found a decrease in the prevalence of severe emotional distress,[10] but—at least in New York City—such surveys also found changes in health-related behaviors, such as a persistent increase in the use of cigarettes, alcohol, and marijuana[11] and an increase in missed doses and suboptimal doses of antiretroviral therapies among HIV-positive men.[12] Such behavioral changes can have a wide public health impact and as such need to be considered as well.

First Responders

First responders—traditionally thought of as the police, firefighters, and emergency medical technicians (EMTs)—care for both survivors and the dead and also face the possibility of having to enter a dangerous environment. Thus they may witness mass carnage and destruction, and their own health and well-being may be imperiled. Considerable attention has been given to emotional repercussions among first responders, particularly those who responded to the bombing of the Murrah Federal Building in Oklahoma City in 1995 or to the attack on the World Trade Center (WTC) on 9/11. Studies by North and Herman and their colleagues[13] suggest that the experience of responding to such events significantly increases the risk of symptoms of PTSD and other psychiatric sequelae.

Vulnerable Populations

Terrorism can have an especially profound effect on vulnerable populations such as children, racial and ethnic minorities, and those with an existing psychiatric illness. Individuals in a community who are exposed to a terrorist act experience a range of psychological reactions that affect how the incident is managed. At one end of the range are behaviors of normal people under abnormal circumstances, such as wanting to return to their families immediately, regardless of official advice or orders to stay in place. These normal reactions may either help or hinder efforts to contain a threatening agent; deliver medical care; and reduce the morbidity, mortality, and costs associated with the disaster. At the other end of the range are new behaviors or exacerbated habitual behaviors that are disruptive to the community, such as refusing to be evacuated.[14]

Children are a vulnerable population of particular interest. One study found that when children were more distressed, their parents spent more time talking with them.[15] It seems likely that these parents were trying to reassure the children, but in a situation where parents as well as children may feel threatened, we cannot draw a conclusion about the implications of this finding without more information about the actual conversations. Possibly, another factor, such as the parents' own distress, causes longer parent-child conversations about terrorism and also intensifies the psychological effect of terrorism on children. Another possibility is that the correlation is not between parent-child conversations and symptoms, but rather between conversations and reported symptoms. That is, perhaps parents who spend more time in such conversations become more aware of their children's mental state and therefore report more symptoms; in other words, the conversations serve as a means for parents to find out about the psychological impact of terrorism on their children. Still another possibility is that in some cases the conversations may heighten children's worries and psychological reactions, particularly if the parents warn the children to avoid public places, take precautions against anthrax, or the like.

In studies in Israel of children repeatedly exposed to terrorism, many children evidently felt insecure, were worried about safety, and were ready to expect the worst.[16] In research in the United States several months after 9/11, children commonly remained worried about being victims of terrorism.[17] Further research is

needed to determine whether such feelings might result from repeated warnings or threats of terrorism even when no actual events occur. Parents are likely to influence how children respond to terrorism, and there are few other types of traumatic events where the potential threat to both parent and child is comparable. Additional studies will contribute to an evidence base allowing better-informed recommendations to parents about how to help children cope with terrorism.

Several studies have investigated whether ethnicity and culture are predictive of psychological and behavioral reactions. Studies of residents of New York City after 9/11 found differences among populations in outcomes and in the utilization of services. In a large-scale epidemiologic study, one predictor of PTSD was Hispanic ethnicity.[18] Also, African-American and Hispanic respondents were less likely than white respondents to use services or take medications. The researchers attributed this disparity to various cultural factors, including valuing self-reliance, expressing emotions in certain ways, and having reservations about sharing emotions with others.

Individuals with preexisting psychological illnesses or mental health problems also appear to be at greater risk of experiencing psychological consequences of terrorism.[19] For example, in one study, prior depression or anxiety was associated with higher levels of posttraumatic stress symptoms after 9/11.[20]

Understanding—and mitigating—the likely consequences for vulnerable populations will be a critical component of counter-terrorist preparedness, planning, and response.

STRATEGIES FOR PREPAREDNESS AND RESPONSE

Although additional research on preparedness and response is still needed, the studies conducted so far have found that after terrorist events, community-oriented responses (such as those aimed at and based on existing community relationships) have been instrumental in managing psychological consequences. These studies examined responses in Oklahoma City in 1995[21] and in and around New York City and Washington, D.C., after 9/11.

Overall strategies for preparing the public and the appropriate resources to respond to large-scale traumatic events can be organized according to specific populations (e.g., victims, responders,

vulnerable groups) and according to phases of the event (pre-event, acute, postevent, long-term postevent). The strategies can be divided into two categories with distinct but overlapping goals: (1) to provide immediate psychological management to allow for effective public health and emergency response strategies (e.g., by mitigating or preventing psychological distress and fear, and by minimizing potential, unnecessary demands on the health care system); and (2) to reduce both short-term and long-term psychological morbidity.

Traditional responses to an emergency such as a disaster typically include deploying trained mental health specialists to the place or places directly affected; this deployment can include groups such as the American Red Cross and other mental health organizations. These responders then become available to offer crisis counseling and management, screen for mental health problems, provide psychological first aid, and provide supportive counseling to those in need who ask for help. There may also be funding from the Federal Emergency Management Agency (FEMA) to provide psychoeducational materials to the community and to ensure that counseling services are available throughout the recovery process. To repeat, these traditional strategies have usually been implemented by trained mental health professionals who are available to those requesting them. However, the strategies need to be adapted and applied to other populations that may not be included in the traditional emergency response system, particularly those that, during screening, are not identified as needing such services and those that may not feel comfortable about coming forward for help. In addition, more training regarding the types of consequences, and effective strategies for mitigating them, may be needed for the special provider groups who will play a critical role in responding to the various psychological needs that are likely to arise: mental health specialists, informal care providers, and other existing social support systems within the community.

WHAT WORKS? DEVELOPING AND EVALUATING INTERVENTIONS

The nation's ability to respond to the psychological consequences of terrorism depends in part on the availability of effective interventions. We need reliable tools and strategies for assessing

symptoms in different affected populations, and for distinguishing between individuals who are likely to recover and those who will require more intense interventions.[22] Once a population is identified as needing treatment, the efficacy of the available interventions needs to be understood. The needs of those who have been directly affected by an event may differ from the needs of those who were not directly affected. There is currently no universally applicable strategy. Experts in mental health following a disaster should design and evaluate clinical interventions such as psychotherapy, medication, and counseling to ensure the delivery of effective care at the right time and by the right persons.

In recent years, attention has been given to the effectiveness of psychological debriefings and ''critical incident stress'' debriefings. These techniques were developed to allow guided processing of a stressful event within a group of individuals having the same level of exposure to the event (such as a group of emergency responders after a fatal fire).[23] However, empirical research is inconclusive regarding the effectiveness of these interventions, and more work is needed to understand if, when, and for whom these models are appropriate and helpful. Early intervention strategies for individuals exposed to mass violence must be culturally relevant, sensitive to individual differences, and sensitive to the context in which members of specific groups (e.g., people with special needs, first responders, and minorities) have experienced the traumatic event. Based on evidence and application of best practice guidelines available, Ritchie, Friedman, Watson et al., (2004) outlined several key components for early mental health interventions following chemical, bacteriological, radiological (CBR) attacks.[24] These strategies involve prior planning and involve several key stakeholders.

WHO CAN RESPOND?
Mental Health Specialists

After communitywide disasters, including terrorism, individuals with training in mental health (e.g., licensed social workers, psychologists, and psychiatrists) have often played an important role in the immediate response. These specialists can provide psychoeducation and emotional support (such as the techniques

grouped under the term ''psychological first aid'') and crisis counseling to people who have been directly affected by the event. People who have actually participated in such activities and in coordinating the broader response to the disaster have identified at least three areas for improvement.

First, in some cases, many local specialists in mental health and specialists from outside the area may descend on the scene of a disaster, potentially putting themselves at risk and hampering the activities of other responders. Second, many mental health specialists are not trained in, or are not even familiar with, psychological first aid or currently agreed-on best practices for working with victims in the immediate aftermath of a disaster. Third, experts in mental health in the context of disasters generally agree that many traditional interventions (e.g., psychoanalysis) are inappropriate following a terrorist event or a large-scale disaster.[25]

Accordingly, efforts are now under way in many communities (such as some in Connecticut and Massachusetts), and in the mental health field more broadly, to train individuals to respond to a disaster. One example is the American Red Cross Disaster Mental Health training program. Efforts are also being made to develop plans to restrict access to a disaster site to those individuals, identified in advance, who have expertise in ''disaster mental health response.''

Informal Care Providers and Community Organizations

In a terrorist attack, informal care providers (such as teachers, supervisors, and faith-based organizations) can be instrumental in providing information and support to victims and their families, and in helping to manage the psychological consequences of the event.

Schools will be in a unique position to provide grief counseling, reassure students about their safety, and monitor students with severe stress reactions.[26]

Work sites also provide an opportunity for individuals to express their concerns and receive information following an incident.[27] If response strategies include isolating employees or quarantining buildings, employers will need to understand their role in implementing a public health response, as well as in managing the psychological consequences of the event and the response.

The clergy were cited as one of the most frequently sought sources of help in surveys conducted after 9/11. They represent another important source of informal care and support. Response planners should consider how churches and other religious organizations can work together to manage the psychological consequences of terrorism.

HOW CAN WE ENSURE THAT THE RESPONDERS ARE READY?

More work is needed to prepare community-level care providers to respond to the psychological consequences of terrorism. For instance, little is known about what education and training the providers will need for responding to psychological consequences, and little is known about the skills involved.

The participation of those familiar with psychological and psychiatric issues will be critical to all phases of planning for preparedness at the local and state level. In the planning phases, such individuals can help devise appropriate strategies for communicating about risk; can help develop educational materials that are sensitive to risk perception and to emotional and cognitive responses and processing; and can help train and educate emergency response personnel with regard to detecting and treating traumatic reactions.

During the acute management phase of a terrorist event, trained mental health professionals can be part of the response team to help diagnose neuropsychiatric complications associated with some biological or chemical agents, and to distinguish between psychosomatic symptoms and organic symptoms. Over the longer term, they can provide appropriate and effective interventions for victims who have been directly affected and for others who are experiencing psychological distress, including members of the general population.

A few specific issues having to do with mental health specialists require further consideration by federal, state, and local preparedness planners: workforce size and training requirements for disaster response and terrorism specifically; the "surge capacity" of the mental health treatment system for handling psychological casualties; and effective interventions to address the needs of diverse affected populations.

CONCLUSION

Uncertainty and lack of information about the specific or unique psychological effects of terrorism may complicate the task of state officials who must develop mental health plans as part of overall preparedness. Also, the way response plans are implemented and communicated might generate or mitigate fear and anxiety in a particular population. Clearly, understanding how to manage the psychological consequences of terrorism is critical to developing and implementing realistic, appropriate response strategies.

The emergency response system, including the public health system, must be prepared for a terrorist attack and have strategies in place to minimize its psychological consequences. Initial preparation should include collaborating and coordinating with a variety of agencies involved in homeland security (emergency responders, hospitals, public health officials, etc.) to ensure the inclusion of individuals who understand and can respond to the psychological aspects of terrorism: emergency responders, health care providers, including mental health professionals, and other health care personnel. An effective communication system will be essential in order to apply recommendations for responding to and mitigating public uncertainty and distress. State and local health departments should consider developing a three-prong approach to planning, similar to that used by FEMA: education, preparedness, and action. Finally, strategies for preparedness need to address the mental health consequences of a terrorist attack as well as the issues of physical health.

N O T E S

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