

***WEAPONS OF MASS DESTRUCTION AND TERRORISM:  
MENTAL HEALTH CONSEQUENCES AND  
IMPLICATIONS FOR PLANNING AND TRAINING***

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Research on natural and human-caused disasters strongly suggests that the psychological reactions following human-caused disasters, such as terrorism, are more intense and more prolonged than psychological reactions following natural disasters.

Terrorism intends as its primary goal to terrify, to fill or to overpower with intense fear, to intimidate to achieve an end. We do not call terrorist events “bomb-ism” or “radiation-ism” or “poison-ism” or “disease-ism” or “murder-ism.” Terrorist phenomena derive their power from their ability to psychologically injure, manipulate, and control the behavior of individuals and populations.

Understanding the physical properties of weapons of mass destruction and how to respond to their physical effects is vital, but is not enough. In order to effectively understand, prevent, and respond to WMD/T events, we must understand the centrality of their psychological impact.

***Certain characteristics of disaster increase the magnitude and severity of psychological effects (Myers, 1985; Flynn, 1996). Terrorist events include the following of these psychologically dangerous event characteristics:***

- **Lack of warning.** Warning allows people to take psychological and physical protective action. A disaster that strikes without warning produces the maximum social and psychological disruption. In the United States, the general public is not aware of the risk of WMD/T and is in no way prepared for an attack.

- ❑ **Lack of familiarity with type of event**, types of agents involved, how to prepare, or how to respond can lead to community-wide feelings of helplessness, vulnerability, and disequilibrium.
- ❑ **Sudden contrast of scene, abrupt change in reality** makes the event all the more horrifying: a peaceful Spring day with people going to their jobs at the Federal Building, and then the horrifying scene as the smoke clears, the injured moan, and the sirens wail.
- ❑ **Serious threat to personal safety** and security is associated with immediate and long-term psychological symptoms for both citizens and responders.
- ❑ **Scope of destruction**: the more injuries, deaths, deaths of children, damages, and spheres of life impacted (home, work, school) the greater the intensity and duration of psychological impact. We know from experience (Tokyo, World Trade Center, OK City, US embassy bombings) that the scope of destruction is devastating. These stressors are particularly toxic for emergency personnel who are exposed to injuries, death and bodies in protracted and difficult rescue and recovery efforts (16 days in Oklahoma City).
- ❑ **Exposure to gruesome or grotesque situations** increases psychological risk for survivors, rescuers, and those involved with body recovery and identification. In some situations, this exposure is of long duration.
- ❑ **Intentional human causality** of the event results in complicated and intense emotions of anger, fear, and distrust of fellow human beings, and difficulty making meaning out of the event. The purposeful infliction of unspeakable pain, trauma, and despair is incomprehensible to survivors. The world of human relationships as we knew it is no longer benign and predictable.
- ❑ **Intensity of emotions and psychological reactions.** These events are beyond the life experience of most people and organizations. Most people are totally unprepared for the intensity of their emotions. Emotional reactions by survivors and responders will be sudden, intense, severe, and profound (Wee, 2001). Emotional reactions will affect decision-making and operations.

In the two weeks following the Oklahoma City bombing, I provided stress management services to federal and state personnel working out of the Disaster Field Office (DFO). Without exception, from top to bottom of the organizational chart, every worker I counseled told me “This disaster is completely different. It is more intense than any other I’ve worked.”

- **Degree of uncertainty:** those disasters with a high degree of uncertainty regarding recurrence, additional damages, outcome of rescue attempts, or potential future health effects are more psychologically traumatic than situations with more visible, immediate, and predictable outcomes.

Three Mile Island’s nuclear accident showed that the most significant long-term health effect was anxiety caused by the potential for long-term and unknown health effects. Experience with hazardous materials sites such as Times Beach and Love Canal reinforces this concern—people who fear for the future effect of exposure on their own health or on future generations are at significantly increased psychological risk.

- **Lack of control:** control is out of citizens’ hands, and is in hands of government and responders.
- **Deteriorated health status** due to illness or injury increases psychological risk. Survivors of terrorist events often face long-term medical care, pain, rehabilitation, multiple surgeries, loss of the ability to work, financial crisis, depression, and loss of dignity and self-esteem. Understanding the frequency and intensity of psychological damages is not difficult under these circumstances.
- **Disrupted social support systems:** Social support is known to be an essential curative factor in recovery from trauma. Terrorist events result in separation of loved ones due to contagion and quarantine; death of loved ones and friends; disruption of relationships and of supportive communities of neighborhoods, workplaces, and schools; loss of a sense of trust in humankind; and often a personal crisis of faith and spirituality.

- **The duration of the event** and its aftermath is long, and in some cases, perhaps never-ending. Investigation of the crime, litigation and trials, sentencing and punishment of the perpetrator(s) take years. Healing of physical and psychological injuries is slow, painful, and tedious. Grief and bereavement are a lifelong process. Fear for the health of future generations transcends lifetimes.
- **Symbolism of the terrorist target:** a government office that is a symbol of power, stability, and control; a world trade center that is a symbol of international finance and influence; an embassy that is the symbol of the powers of state and international status. A key criterion in the selection of a terrorist target is its symbolic value. Terrorist events in public places give the profound symbolic message, “We can get you anywhere, at any time. If we are willing to kill your children, we will not hesitate to kill you. There is no one who can protect you.”
- **The entire community is affected.** The psychological sequelae include fear, distrust, anxiety, anger, and profound grief. Not only are crisis intervention and counseling services important, but also informative, factual, and anxiety-reducing public relations and public education efforts, targeting virtually the entire community (and nation). Parents, teachers, and child-care professionals need support and information about how to talk with children about the event. Psychosomatic symptoms are frequent and differential diagnosis and treatment of physical and psychological conditions will be essential. Public memorials and commemorations are necessary to help the community articulate and express its grief and to commemorate its losses.

The impact on the community is not all negative and traumatic. The support of the entire nation for Oklahoma City was evident in the heartfelt love demonstrated by letters, donations, and volunteers that poured into the city. Likewise, Oklahomans poured out their appreciation and support for those who came to help. Altruism, heroism, prayers, and caring abounded. Such events truly bring out the best in most human beings. One touching letter from an eighth grader is an example:

*Dear FEMA workers,*

*I am deeply moved by the work you are doing. You are doing stuff I could never dream of doing. Another thing is, how do you stay awake that long? There is one thing I really wanted to know; is there any kind of volunteer work I can do? I really want to help in some way. And another thing, if you ever need any supplies of some kind and I have the money, I will get it for you. Well, I gotta go. Remember if you need help you can contact me at (phone number).*

*Sincerely,  
(Name)  
8<sup>th</sup> Grade*

*P.S. I praise your dogs and what they are doing, too.*

Jon Hansen, Assistant Fire Chief of Oklahoma City Fire Department, shared these reflections: “During the 16 days of the rescue endeavor on the Murrah Building, the building ceased to be a symbol of horror and became a symbol of the power of good as being stronger than the power of evil.”

### ***Psychological Reactions to be Anticipated***

Immediate reactions:

- General public: shock, disbelief, disorientation, fear, grief, anger, need to locate and reunite with loved ones, desire to assist in rescue activities; “worried well” to severe, incapacitating psychological distress. Following the Tokyo subway attack with Sarin, 12 people died, 900 received medical treatment, and 9000 “worried well” presented themselves for assessment.
- Responders: shock, disbelief, fear, grief, anger; immediate need to respond to event; physical stress symptoms (increased pulse, respiration, blood pressure, etc); cognitive symptoms (memory, concentration, problem solving, making calculations, communication); identification with

victims; inability to rest; role-conflict re. needs of public versus needs of own family.

- **Issue:** Psychiatrists and psychiatric RNs will be key in assisting emergency medical staff in the mental status evaluations of persons who have been exposed to certain chemical or biological agents. Triage will be needed to differentiate those with psychiatric symptoms that are the result of anxiety vs. those with agent-induced psychiatric symptoms. Exposed or not, patients may present at ERs with symptoms of tension, rapid heartbeat, increased respiration, nausea, muscle and joint aches, tremors, and headache—all of which could be caused by either exposure or fear of exposure. Patients run the risk of either delay in important therapy or administration of unnecessary medications (e.g. atropine) unnecessarily, with potential serious side effects (DiGiovanni, 1999). How will medical professionals know the difference? Additional research is needed in these areas.

Long-term reactions (public and responders):

- Grief and bereavement; psychosomatic symptoms; stress-induced physical illness; post-traumatic stress disorder; anxiety disorders; phobias; panic disorders; obsessive-compulsive disorder; substance abuse; domestic violence; divorce; work disability and Workers' Compensation cases; major depression; suicide.
- **Note:** There is a void in terms of well-planned and funded **long-term** disaster mental health services. The FEMA/CMHS Crisis Counseling program limits the use of FEMA funds to individuals with short-term needs. Local and state resources do not have the capacity to handle the long-term mental health needs of victims of catastrophic, mass-casualty disasters. Additional resources are needed in this area. Six years following the Oklahoma City bombing, the American Red Cross is still funding counseling services for over 50 clients (D.V. Hampton, personal communication, August 16, 2001).

***Psychological Impact, Oklahoma City Federal Building Bombing***  
(Oklahoma Department of Mental Health and Substance Abuse Services, 1998; U.S. Department of Justice, Office for Victims of Crime, 2000)

Statistics on the event:

- ❑ 168 dead, including 19 children
- ❑ 853 injured
- ❑ 30 children orphaned
- ❑ 219 children lost one parent
- ❑ 1,500 people within the injury perimeter
  - ❑ Over 16,744 people work or reside in the area impacted by the bomb
  - ❑ 7,000 without a workplace
  - ❑ 800 buildings received damage ranging from major structural damage to broken windows.
- ❑ Nine structures, including the Federal Building, suffered partial collapse (FEMA, 1995 and Oklahoma City Public Works Department, 1995).
- ❑ Following the bombing, the Federal Building and 29 other damaged structures were demolished (Oklahoma City Fire Department, 1995).
- ❑ 80% of the schools within the Oklahoma City School District had children who had immediate family members injured or killed in the bombing.
- ❑ An estimated 387,000 people knew someone who was killed or injured
- ❑ An estimated 190,000 people went to funerals

Statistics on responders:

- ❑ 1 nurse responder died
- ❑ 85 injured
- ❑ 12,984 rescue workers and volunteers assisted
- ❑ 2/3 reported handling bodies or body parts
- ❑ 1/3 felt they were in much or extreme danger
- ❑ ½ spent close to the majority of their time at the bomb site for 10 days
- ❑ Long-term effects on police and fire:
  - ❑ Family violence increased in both police and fire departments (Today Show, November 24, 1998)

- Police Department: 25-30% increase in divorce rate (Today Show, November 24, 1998)
- Fire Department: 300% increase in divorce rate (Today Show, November 24, 1998)
- 5 suicides among all rescue workers
- 65% Project Heartland Crisis Counseling staff tested positive for PTSD while working in the project (Wee and Myers, 2001)
- 77% Project Heartland Crisis Counseling staff tested at moderate to extremely high risk for burnout while working on the project (Wee & Myers, 2001)

#### Project Heartland's Crisis Counseling Regular Services Grant

- Funded at \$4,092,909, and was allotted three time extensions.
- Served 8,898 individuals in counseling, support groups, or crisis intervention services (53 mental health contacts per death)
- Additional services to 186,000 people
  - Contacts by outreach workers offering educational materials and information on services
  - Debriefing sessions as part of workplace groups
  - Education seminars on topics such as grief or traumatic stress
  - Trial-related supportive services

#### ***CODE-C: Roles for mental health agencies and professionals***

Mental health and behavioral science professionals have major roles to play in all aspects of planning and response to WMD/T incidents. The roles of mental health professionals can be described by the acronym "CODE-C."

#### **CONSULTATION**

- Consultation, collaboration, and planning among all mental health resources whose skills and services would be needed in the event of a WMD/T event (local, state, federal, government, private, and nonprofit) to ensure adequate and appropriate mental health response.
- Consultation to WMD/T response planners about the nature and number of psychological casualties to be expected.

Experience with past events indicates that there may be from 4 to 20 psychological victims for every physical victim in a mass casualty situation.

Example: radiological incident in Brazil (Warwick, April 2001):

- 250 people actually exposed to radioactive substance
  - 5000 people were unexposed but developed psychosomatic symptoms of nausea and skin rashes mimicking symptoms of radiation exposure
  - 125,000 people requested screening for exposure—500 to 1 ratio of patients screened to patients exposed; the cause of the screening requests was anxiety.
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- Advice to planners, managers, administrators, incident commanders, and others in position of power and decision-making regarding psychological impacts of WMD/T events and response activities (e.g., body recovery, identification, death notification, quarantine, decontamination, and transportation of the injured to distant treatment locations).
  - Consultation and collaboration with public health and medical authorities on issues of differential diagnosis of physical and psychological symptoms, and appropriate treatment of both.
  - Consultation and collaboration with spiritual care professionals to ensure that both psychological and spiritual needs of citizens and responders are addressed.
  - Situation evaluation and advice to decision-makers, managers, supervisors, and line workers regarding psychological stress and stress management for responders in the course of incident response and recovery.
  - Consultation with leaders and the media regarding public information and risk communication in order to prevent widespread anxiety and fear.

## **OUTREACH**

- ❑ Providing an appropriate array of mental health resources and services to victims and their families, responders, disaster managers, and community leaders at all stages of the event and its aftermath.
- ❑ Providing services that are sensitive and appropriate to the needs of various cultural groups, and, to the extent possible, providing services in community-based settings.

## **DEBRIEFING AND DEFUSING**

- ❑ Providing a comprehensive array of critical incident stress management (CISM) interventions to assist citizens and responders to cope with stress and the psychological impact of the event, aimed at reducing long-term, severe post-traumatic stress reactions.

## **EDUCATION**

- ❑ Providing training to responders and to community agencies, institutions, and caregivers on the psychological aspects of the event and mental health resources.
- ❑ Developing public information and education strategies and materials (using the print and electronic media, public speaking, etc.) on psychological aspects of recovery, coping with stress, and mental health resources.
- ❑ Providing education and training to all levels of responders on effective stress management strategies and mental health resources.

## **CRISIS COUNSELING**

- ❑ Crisis intervention, individual, and group counseling services to citizens and responders to assess and treat the immediate and long-term psychological effects of the event.

## *Summary*

In summary, the behavioral health/psychological consequences of a WMD/T event may well be the most widespread, long lasting, and expensive consequences (Warwick, 2001).

Planners of WMD/T response measures must take the following steps to ensure preparedness for the psychological consequences of terrorist events:

- Include psychological casualties in calculations about expected numbers of victims.
- Develop effective strategies for communication with the public during and after the event to minimize negative psychological impact to the public.
- Develop effective stress management and psychological care interventions for citizens and responders, including long-term mental health care when needed.
- Include the psychological aspects of WMD/T events in all aspects of training and preparedness for personnel.

I recently conducted a review of a Compendium of Weapons of Mass Destruction courses on WMD/T sponsored by a wide variety of federal departments, posted on the FEMA website. Sponsoring agencies included DOD, DOE, DOJ, FBI, DHHS, FEMA, EMI, NFA, EPA, and DOT. Of the course agendas and course objectives I reviewed for 90 courses, only four courses, or 4.4%, included psychological, critical incident stress, or stress management topics (FEMA, 2000).

- Identify and involve local, state, and national resources having expertise and responsibilities in disaster mental health and behavioral sciences, specifically WMD/T. Some resources include:
  - American Red Cross, Disaster Mental Health Services
  - U.S. Department of Health and Human Services (DHHS)

- Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Mental Health Services (CMHS)
- U.S. Public Health Service
- National Disaster Medical System (NDMS)
- Federal Emergency Management Agency (FEMA) Crisis Counseling Program
- Department of Veterans' Affairs
  - Medical Centers
  - National Center for Post-Traumatic Stress Disorder
- Department of Justice (DOJ)
  - FBI Behavioral Sciences
  - Office for Victims of Crime (OVC)
- Department of Defense (DOD) Medical Centers
- Uniformed Services University of Health Sciences
- State and local mental health departments
- University psychology departments, medical centers, and mental health departments
- American Psychological Association Disaster Response Network
- American Psychiatric Association
- International Critical Incident Stress Foundation (ICISF)
  - State and local Critical Incident Stress Management (CISM) teams
- Green Cross
- Spiritual care organizations and professionals

Viktor Frankl, a psychiatrist who survived the holocaust and wrote Man's Search for Meaning, said "What is to give light must endure burning." As disaster planners and responders, we attempt to "bring light" (or recovery and healing) to the darkness of events such as terrorism. Mental health and spiritual support services can add greatly to this team effort, providing succor to both victims and responders.

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