

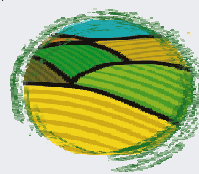
TRIUMPH OVER TRAGEDY

Second Edition

A Community Response to Managing Trauma in Times of Disaster and Terrorism



Edited by Garret D. Evans & Brenda A. Wiens



The National Rural Behavioral Health Center

NRBHC

at the University of Florida

College of Public Health and Health Professions
University of Florida Cooperative Extension - IFAS
Department of Clinical and Health Psychology
Department of Family, Youth and Community Sciences
Suwanee River Area Health Education Center

Supported through funding by the Center for Mental Health Services-
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A Community Response to Managing Trauma in Times of Disaster and Terrorism

Second Edition, 2004

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4 - Korean Airlines Crash, August 6, 1997; Department of Defense

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The creation of the Second Edition of the *Triumph Over Tragedy* manual has been an ambitious task that required the devotion of many authors, editorialists, and contributors. *Triumph Over Tragedy, Second Edition* represents a significant leap in disaster and terrorism education efforts at the National Rural Behavioral Health Center (NRBHC). While the writing and editing of a manual of such length and breadth can never be described as effortless, the contributions and support of those named below, as well as countless others, have made this project one of the most rewarding professional experiences in my career.

My most sincere thanks are offered to all of the co-authors listed on the title page. Our group of faculty, researchers, staff, and graduate students worked diligently to shape our ideas, and save me from the dangers of my penchant for grandiose planning, in order to provide what we hope is a useful and illustrative resource for those working in America's towns and cities on issues related to post-disaster stress.

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Garret Evans
Gainesville, FL
2004

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SECTION ONE

INTRODUCTION



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INTRODUCTION

What makes a disaster? By definition disasters are events that cause intense or immense destruction of property and human distress. That's an important distinction to make at the outset. We typically think of disasters primarily in terms of their physical impact – buildings damaged, reconstruction costs, and lives lost. On the other hand, sometimes we define disasters solely in terms of their personal costs. Layoffs, illness, a child suspended from school – these things are often labeled disasters by those who experience them. We interpret an event as disastrous based on the way that event affects us personally, as well as the way in which an event affects the community or nation in which we live. For the purposes of this manual, we will define disasters as those events that cause both physical damage and personal distress. We believe that a focus on post-disaster distress is central to the discussion of personal and community recovery. After all, the importance of a demolished home, damaged building, or loss of life is defined by the distress and grief that it creates.

In this manual, we provide an overview of psychological reactions to disaster from both an individual and community perspective. Our purpose is not to provide an all-inclusive academic overview, nor to provide specific training in psychotherapy for disaster victims. Instead, our goal is to provide training materials for community leaders and stakeholders who are involved in disaster planning and response in their communities. Many communities have experience handling natural or technological disasters and thus have some prior knowledge of human reactions to disaster. However, few communities have experience with terrorism, which is fundamentally a psychological weapon. The purpose of such events is to terrorize the population. Preparedness for terrorism and bioterrorism must include training in the psychological aspects of these types of disasters. Therefore, this manual includes topics ranging from the psychological reactions associated with more typical natural disasters to those reactions that might be seen following terrorist attacks.

Section Overview

The remainder of this manual is divided into six sections.

Section Two: Background

This section contains overviews of disaster statistics, features of natural, human-made, and terrorist disasters, the impact of disasters on



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Where to look for information relevant to the different phases of a disaster event:

- ⇒ Preparing for disasters:
Section Three
- ⇒ Immediate post-disaster recovery:
Sections Four & Five
- ⇒ Long-term recovery:
Section Six

emergency response personnel, and special issues for rural areas. The material is designed to provide an overview of disaster characteristics, as well as highlight important issues in the disaster literature.

Section Three: Helping Communities Prepare

This section discusses activities undertaken prior to a disaster that are intended to lessen the impact of a disaster event. These activities are commonly referred to as disaster preparedness. Mental health issues may not immediately come to mind when considering disaster preparedness. Nevertheless, consideration of mental health issues prior to a disaster event may help mitigate or lessen stressful reactions following disaster. For instance, mental health professionals can play a key role in community preparation by helping develop disaster referral lists, planning for psychological reactions, assisting in formulating public education campaigns, and assisting in plans for addressing the fear involved with terrorism and bioterrorism. Thus, section 3 includes discussions of disaster response plans, identifying community resources, and educating community members.

Section Four: Helping Communities in the Immediate Wake of a Disaster

This section discusses community responses to the immediate consequences of a disaster. The importance of addressing community psychological reactions during disaster response has been underscored in a number of major disasters, especially the September 11, 2001 terrorist attacks. Even if a community has fully prepared for disaster events, there will be a number of psychological issues to address in the response phase. Topics discussed in this section include understanding behavior in emergencies, managing information and working with the media, responding to psychological reactions during biological attacks, and handling unique situations including civil unrest and disasters involving criminal investigations.

Section Five: Helping Individual Community Members

This section focuses on individual psychological responses in the immediate wake of a disaster and how to assist people who are experiencing post-disaster stress. Topics covered include warning signs for post-disaster stress, stress management, secondary trauma, supporting community members, and referring an individual for further help. Additionally, for mental health professionals, we have included a review of psychological debriefing.

Section Six: Long-term Recovery

The final section discusses long-term psychological recovery for both individuals and the community. Although strong psychological reactions may be prominent in the immediate aftermath of disaster, long-term mental health issues often arise during the recovery phase. Faced with the new reality imposed by the disaster event, some individuals may struggle with depression or symptoms of Posttraumatic Stress Disorder (PTSD). This section describes the community in the post-disaster recovery period and addresses the role of long-term changes, such as economic and social impacts, in individual and community mental health over the long term. We also include materials on coping with loss and survivor's guilt, threats to belief systems, depression and anxiety, and PTSD.

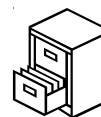
Section Seven: Appendix

Additional information, including resources, publications, and website lists, are included in the Appendix to aid in accessing further information on certain topics.

How to Use This Manual

This manual is constructed so that readers can use it as a comprehensive resource for pre- and post-disaster response education (reading the entire manual front-to-back) or as a resource kit for immediate community response (using individual sections of the manual as needed). We recognize that many readers will choose this latter approach and will find themselves jumping from one section to another for specific information regarding some question of post-disaster recovery. We have attempted to cross-reference related topics throughout the manual in order to guide readers who are hopping from one section to another. Readers will find there is some amount of overlap and repetition in the materials. This repetition occurs deliberately, as not all users will be accessing the manual in its entirety. We intend for these materials to be used for disaster preparation, training, and response, and readers of this manual are free to distribute these materials for those purposes, provided that materials are maintained in their original format with an accompanying citation.

Should you wish to speak with a staff member of the National Rural Behavioral Health Center regarding these materials, you are welcome to contact us using the contact information provided in the front of this manual or at www.nrbhc.org.



To help you locate related material in different sections of this manual, we will alert you when a topic is covered in more than one place by noting, “Please see [title of section] for further information.”

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SECTION TWO

BACKGROUND



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EPIDEMIOLOGY OF DISASTERS

A vast number of natural and human-made disasters are declared every year. A governor or the President can pronounce a “disaster declaration” at the state and/or federal levels, respectively. An incident is usually declared a “disaster” when the scope of the event is either so broad, or its effect so devastating, that a community or state cannot provide adequate resources for an immediate response and long-term recovery.

This section provides an overview of the occurrence, frequency, and costs of disasters. Disasters inflict economic, social, and psychological effects. Very severe disasters may be classified as catastrophes. One indication of the magnitude of a disaster is the amount of funding provided for recovery efforts. The following tables display the Federal Emergency Management Agency’s (FEMA) record of the FEMA costs of the ten costliest natural disasters and FEMA expenditures for 1990-1999.

Top 10 U.S. Natural Disasters Ranked by FEMA Relief Costs

Event	Year	FEMA Funding*
Northridge Earthquake	1994	\$6.981 billion
Hurricane Georges	1998	\$2.246 billion
Hurricane Andrew	1992	\$1.813 billion
Hurricane Hugo	1989	\$1.308 billion
Midwest Floods	1993	\$1.141 billion
Tropical Storm Allison	2001	\$1.180 billion
Hurricane Floyd	1999	\$1.066 billion
Loma Prieta Earthquake	1989	\$865.9 million
Red River Valley Floods	1997	\$740.1 million
Hurricane Fran	1996	\$621.8 million

FEMA Disaster Expenditures From 1990-1999

Year	Number of Disaster Declarations	FEMA Funding*
1990	38	\$434.1 million
1991	43	\$548.6 million
1992	45	\$2.793 billion
1993	32	\$1.877 billion
1994	36	\$8.221 billion
1995	32	\$1.592 billion
1996	75	\$2.429 billion
1997	44	\$1.914 billion
1998	65	\$4.193 billion
1999	50	\$1.395 billion
Total	460	\$25.397 billion

*Amount obligated from the President’s Disaster Relief Fund for FEMA’s assistance programs, hazard mitigation grants, federal mission assignments, contractual services and administrative costs. Dollars are not adjusted for inflation. Figures do not include funding provided by agencies other than FEMA. (Source: FEMA, http://www.fema.org/library/df_8.shtm; http://www.fema.org/library/df_6.shtm)



Tornadoes and hurricanes/tropical storms alone accounted for two-thirds of catastrophe losses between 1980-1999.

(Insurance Information Institute, 2003)

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The destruction of the World Trade Center was the most costly human-made disaster in U.S. history. Insurance losses from the 2001 World Trade Center attack could reach \$40 billion.

Insured losses from the following human-made disasters:

⇒ Los Angeles Riots, 1992: \$775 million

⇒ World Trade Center Bombing, 1993: \$510 million

⇒ Oklahoma City Bombing, 1995: \$125 million

(Insurance Information Institute, 2003)

Costs of Natural Disasters

The 1990-1999 decade will be used as an example to illustrate the economic costs of natural disasters in the United States. According to FEMA, 460 disasters (of all types) were declared in the 1990-1999 decade, more than any previous decade on record.¹ During the 1990's, FEMA spent:²

- More than \$25.4 billion on declared disasters and emergencies of all types.
- More than \$6.3 billion on temporary housing grants, home repairs, and other costs for individuals and families impacted by disasters.
- \$14.8 billion in on costs related to restoration and clean-up for disasters of all types.
- More than \$7.78 billion on hurricanes and typhoons (88 declarations).
- \$1.8 billion on Hurricane Andrew in 1992.
- More than \$7.3 billion on flooding. Among the most costly flooding events were the 1993 Midwest floods (\$1.17 billion) and the 1997 Red River Valley floods (\$730.8 million).
- \$1.72 billion on tornado-related disaster recovery (102 declarations).
- Nearly \$1 billion on winter storms (86 declarations).
- Nearly \$7 billion on the California Northridge earthquake in 1994.

The latter examples of hurricanes, flooding, tornadoes, winter storms, and earthquakes illustrate the significant economic costs of natural disasters.

Costs of Human-made Disasters

Likewise, human-made and technological disasters, including terrorism, have significant impacts. Some declared disasters and emergencies of the past decades include the 2003 loss of the Space Shuttle Columbia, the 2001 World Trade Center and Pentagon terrorist attacks and anthrax mail attacks, the 1998 Kansas grain elevator explosion, the 1996 Rhode Island water main break, the 1996 Puerto Rico gas leak explosion, the 1995 Oklahoma City Murrah Federal Building bombing, the 1993 World Trade Center explosion, the 1993 Waco, Texas fire (i.e., raid on the Branch Davidian compound), and airplane crashes.

Large-scale human-made disasters can result in significant economic and social impact. For example, the 2001 World Trade Center and Pentagon terrorist attacks resulted in approximately \$90 billion in total economic impact for New York City,³ as well as the loss of almost 3,000 lives.^{4,5} While not representative of all human-made disasters, this instance reveals the potential devastation from human-made accidents or attacks.

Personal Costs Associated with Disasters

In addition to economic impacts, disasters result in significant social and psychological costs. Many individuals will experience some type of disaster or traumatic event in their lifetime. One estimate suggests that 6-7% of Americans experience some type of traumatic event (ranging from natural disasters to accidents and crime) each year.⁶ With respect to natural disasters, estimates suggest that 13-30% of individuals are exposed to a natural disaster event in their lifetime, although there are few systematic studies of exposure.⁷ Statistics suggest that well over 2,000 disasters have occurred across the world since the beginning of the 20th century, with the majority occurring in developing regions of the world (statistics through 1988).⁸ Thus, disasters impact many individuals and communities.

Following disasters, common individual and community reactions may include: initial disbelief/denial, sadness over the loss of normalcy, and intense emotional reactions such as fear, depression, and anger. Positive reactions also occur, with agencies and citizens working together to help disaster victims and developing feelings of social solidarity.⁹ However, helpers eventually leave as a community rebuilds, and this can result in further strong emotions, as individual recovery may still be continuing. Studies of individuals and communities following disasters have looked at both immediate and longer-term emotional reactions following disaster events. A review of 36 disaster studies revealed that 7-40% of all people studied had some type of emotional or psychological reaction, with anxiety being the most common. This same review found a 17% increase in the prevalence of psychological disorders following a disaster event.¹⁰

The personal costs of human-made disasters may be particularly widespread. For example, in a nationwide study conducted after the September 11, 2001 terrorist attacks, 17% of people outside the New York City area reported symptoms of post-disaster stress two months following the event, with 5.8% continuing to report symptoms at six months.¹¹ In another post-September 11th study, 44% of a sample of U.S. adults reported at least one substantial stress symptom (related directly to the attack) in the week following September 11, with 90% reporting feeling at least one mild stress symptom.¹² In yet another study conducted 1-2 months after the attacks, 11.2% of people surveyed in New York City (who were in the city at the time of the attack) reported symptoms consistent with a probable diagnosis of PTSD. Symptom levels were associated with direct exposure to the attacks and amount of television viewing in the days following the attacks, such that greater exposure and increased television viewing were related to greater symptoms.¹³ In addition to post-disaster stress, increases in cigarette, alcohol, and marijuana use were reported 5-8 weeks following



Included in hurricane costs for the 1990's:

- 1998 - \$2.5 billion Hurricane Georges
- 1992 - \$1.8 billion Hurricane Andrew
- 1999 - \$725.7 million Hurricane Floyd
- 1996 - \$623.1 million Hurricane Fran
- 1995 - \$491.3 million Hurricane Marilyn

(FEMA, 2003)

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- ⇒ 6-7% of Americans experience some type of traumatic event every year.⁶
- ⇒ 13-30% of individuals are exposed to a natural disaster event in their lifetime.⁷
- ⇒ 7-40% of people studied following disasters show some kind of emotional distress.¹⁰

the attacks, and these increases were related to greater symptoms of PTSD (cigarettes and marijuana) and depression (all three substances).¹⁴

The Special Case of Posttraumatic Stress Disorder (PTSD)

Other studies have looked at the occurrence of Posttraumatic Stress Disorder (PTSD) symptoms following disaster. PTSD is one of the most severe and long-term stress reactions following a disaster. Rates of PTSD (meeting all symptom criteria) in adults following a disaster event have been as low as 2% and as high as 50% or greater depending on the study, with technological/human-made disasters appearing to result in higher rates.¹⁵

Estimates vary widely depending on whether (a) rates of individual symptoms are reported, (b) rates for people meeting all PTSD diagnostic criteria are reported, and (c) what methods were used to assess PTSD symptoms. Indeed, research findings regarding the mental health impact of disasters are inconsistent, in part due to differences in disciplinary orientations (i.e., how investigators approach the study) and research strategies utilized (e.g., interviews, surveys, etc.).¹⁶ These differences often make it difficult to compare findings across studies, as is the case for studies of PTSD.

Although some adults develop PTSD following disasters, they may be less likely to develop the disorder after a disaster as compared to experiencing other types of trauma, like crime.¹⁷ For example, a study conducted in Detroit revealed a 3.8% risk of developing PTSD following a natural disaster, as compared to a 9.2% overall risk of developing PTSD after any type of reported traumatic event.¹⁸

One exception to this may be human-made disasters, such as terrorism. Gidron reviewed six studies and suggested that approximately 28% of people may develop PTSD following terrorist attacks.¹⁹ For instance, six months following the Oklahoma City bombing, 34% of bombing victims who were interviewed reported symptoms meeting the diagnostic criteria for PTSD.²⁰ In a study conducted 5-8 months post-September 11, 2001, the overall PTSD rate for interviewed New Yorkers living south of 110th Street was 7.5%, while 20% of interviewed individuals living south of Canal Street (near the World Trade Center) met criteria for PTSD, thus illustrating the effect of more direct exposure to the event.²¹ Likewise, as of September 2003, approximately 19% of World Trade Center rescue workers evaluated through a federal program were diagnosed with PTSD.²² For more information on PTSD following disasters, please see “Posttraumatic Stress Disorder.”

With respect to children, estimates of PTSD following natural disasters range more widely than estimates for adults. Rates following human-made and terrorist disasters also range widely, as seen in the following studies:

- Symptoms consistent with a probable PTSD diagnosis were reported by 3 of 22 (14%) exposed children at three months following the 1993 World Trade Center bombing.²³
- Approximately 6% of children (living in a 5-mile radius of the toxic waste storage site) reported high levels of PTSD symptoms five years following the Fernald nuclear waste disaster.²⁴
- Approximately 37% of exposed children two years following the Buffalo Creek dam collapse met criteria for a probable PTSD diagnosis.²⁵
- Data collected six months post-September 11 suggested approximately 11% of public school students (grades 4-12) had probable PTSD. Children with the highest exposure to the event had double the rate of probable PTSD, while children with very low exposure had a rate of probable PTSD similar to that of children from nearby communities tested prior to September 11.²⁶

Rates of other disorders in children may also be higher following disasters. Initial data gathered six months following the 2001 World Trade Center attacks revealed elevated rates of eight disorders (PTSD, major depression, generalized anxiety, separation anxiety, panic, agoraphobia, conduct disorder, and alcohol use) for children in grades 4-12 as compared to pre-September 11 rates of disorder in children from nearby urban and suburban communities, with agoraphobia being the most prevalent disorder.^{27,28} Although rates of probable disorders were higher among New York City school children at 6 months post-September 11, only 16% of surveyed children reported receiving mental health services (34% of those with probable PTSD were receiving mental health services).²⁹

Discrepancies in rates of PTSD in children following disasters likely reflect differences in study methodologies, thus making it difficult to draw firm conclusions about how many children are likely to develop PTSD following a disaster event. Also, rates of PTSD prior to the disaster event usually are not known.³⁰ Finally, rates of PTSD after disaster events also vary depending on factors related to the specific disaster and the child. Several factors that have been found to be related to greater post-disaster PTSD symptoms in children are:



For children, some of the social and psychological costs of disasters include:³⁰

- Missed school days
- Academic difficulties
- Loss of peer interaction
- Greater exposure to stressors such as family conflict and death or injury of someone they know
- Parents may be distracted by the disaster and thus less able to recognize stress in their children

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PTSD Core Symptom Clusters (DSM-IV):

- ✓ **Re-experiencing cluster** - symptoms such as intrusive thoughts about the event, distress upon exposure to reminders of the event, and nightmares.
- ✓ **Avoidance cluster** - symptoms such as avoiding places that remind a person of the trauma, feeling detached, and difficulty recalling aspects of the event.
- ✓ **Increased Arousal cluster** - symptoms such as trouble sleeping and concentrating, being easily startled, and irritability.

- Immediate emotional response at the time of the disaster (greater subjective distress/negative emotion at time of disaster)^{31, 32}
- Proximity to the event (closer to the event)³³
- Having a pre-disaster anxiety disorder³⁴
- Experiencing the death of someone the child knows³⁵

To the extent that these factors are present or absent, rates of PTSD may differ.

Post-disaster Stress Varies

Clearly the numbers presented suggest that, depending on the disaster event, a range of individuals will experience significant symptoms of distress. Although mental health experts are not able to predict who will experience symptoms with 100% accuracy, there are a number of factors that may contribute to experiencing distress. For example, individuals who experience physical injury, fear of death, or property loss as a result of the disaster may have more distress symptoms.³⁶

Overall, severe psychological effects appear to be the greatest when:³⁷

- The disaster causes extreme and widespread property damage.
- The disaster results in serious long-term community economic problems.
- The disaster was deliberately caused by humans (terrorism).
- There are a high number of injuries and deaths, and many people feel their lives were threatened.

For most people, symptoms improve as time passes, with most symptoms peaking in the first year and then declining.³⁸ Even significant symptoms may resolve within a few weeks of the event. However, symptoms may remain for a substantial period of time, depending on the disaster situation. For example, many people living in the area of the Three Mile Island nuclear accident continued to experience symptoms for years after the event, especially feelings of anger.³⁹ Overall, no two disasters are quite the same, thus it is not surprising that psychological effects, and the duration of those effects, will differ. For further information on the psychological impacts of disasters please see, “Disaster Stress and Warning Signs.”

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Individuals who experience physical injury, fear of death, or property loss as a result of the disaster may have more distress symptoms.³⁶

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Differences in research studies may contribute to varying estimates of post-disaster stress and PTSD. Some of these differences include:

- Administering questionnaires versus structured interviews
- Amount of time that has passed since the disaster
- Whether prior trauma or psychiatric histories are known
- Goals of the study
- Type of disaster event studied
- Participation rates
- How participants are sampled and how they are invited to participate

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DEFINING DISASTERS

Defining disasters is not necessarily an easy task, as the mechanisms behind disaster events vary widely. Disasters can result from weather events, technological malfunctions, and even human intent. Some common threads linking all disaster events are: (a) the resulting threat to and possible loss of life, health, and property, (b) disruption of social order, and (c) human systems subjected to extraordinary demands.^{1,2} In general, disasters fall into one of two main categories: natural or human-made. The table below includes examples of natural and human-made disasters.

Examples of Natural and Human-made Disasters

Natural Disasters	Human-made Disasters
Earthquakes	Airplane/train/ship accidents
Volcanic eruptions	Factory explosions
Tornadoes	Nuclear power plant accidents
Hurricanes	Chemical/toxic waste dumps
Floods	Hazardous chemical spills
Tsunamis	Nightclub fires
Forest fires	Acts of mass violence
Drought	Terrorism
Ice storms/blizzards	Bioterrorism

The Interchange Between Nature and Technology

Natural and human-made disasters have a number of similarities but also differ in important ways. The distinction between natural and human-made events is not always clear-cut. A notable example was the 1972 Buffalo Creek dam collapse in West Virginia. It had been raining for several days when one morning the dam gave way, causing a flood of water and black sludge into the valley. In all, 125 people were killed and thousands were left homeless. In this event, natural (rain) and human-made (poor construction of the dam) factors combined to form a disaster of devastating proportions. In today's modern world there is often interplay between humans and nature with regards to disasters. In the case of hurricanes, widespread damage often occurs due to humans' desire to build on vulnerable coastline. The same is true of widespread building in flood plains.



The distinction between natural and human-made events is not always clear-cut. In today's modern world there is often interplay between humans and nature with regards to disasters.

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Earthquake Severity - Richter Scale:

Less than 3.5

Generally not felt, but recorded.

3.5-5.4

Often felt, but rarely causes damage.

Under 6.0

At most slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.

6.1-6.9

Can be destructive in areas up to about 100 kilometers across where people live.

7.0-7.9

Major earthquake. Can cause serious damage over larger areas.

8 or greater

Great earthquake. Can cause serious damage in areas several hundred kilometers across.

(From: <http://www.seismo.unr.edu/ftp/pub/louie/class/100/magnitude.html>)

Natural Disasters

The term “natural disaster” commonly refers to “Acts of God,” or environmental events over which man has no control.³ Striking examples of these disasters in U.S. history include Hurricane Andrew in Florida, the Loma Prieta Earthquake in California, and the Red River floods in the Midwest.

A lack of human control is a definitive characteristic of natural disasters. Although we can predict the occurrence of some natural events, we are unable to stop the course of nature. Nevertheless, human behaviors play a significant role. People may build homes in areas of high risk from hurricanes or floods, dams may fail after severe rainstorms, and buildings and structures may be unable to withstand earthquakes. Natural disasters are characterized by a number of features, some of which differ based on the type of natural event.⁴

Predictability

Through the progress of science and technology, humans have developed ways to predict natural events, such as the weather. Despite these abilities, we are able to predict some events better than others. Whereas earthquakes are relatively unpredictable, elaborate weather models can predict the development of a hurricane and closely monitor it prior to landfall. However, predictions may also be inaccurate and misleading. During the Red River floods in 1997, the Red River crested at higher levels than predicted, devastating Grand Forks and other towns in North Dakota and Minnesota. Likewise, hurricanes can strengthen quickly prior to landfall, resulting in greater devastation than initially predicted.

When predictions are inaccurate, individuals and communities may underestimate their risk. Such experiences may lead individuals to discount predictions and thwart preparedness and safety measures. People tend to underestimate their risk from natural hazards. Striking examples can be seen when people do not evacuate in the face of hurricane or flood warnings. Past survival experience is not necessarily a good predictor of future survival experience, as each storm or natural event is very different depending on its strength and the location of occurrence. Nonetheless, many people will choose to ignore warnings.⁵

Intensity

Natural disasters can inflict widespread damage and threaten lives and property. In 1992, Hurricane Andrew inflicted serious damage in

Southern Florida, especially in the Homestead area. More than 28,000 housing structures were destroyed, an additional 107,000 homes sustained major damage, and approximately 180,000 people were left homeless.⁶ Wind speeds during Hurricane Andrew were estimated to reach 165 mph in some locations, similar to what might be seen during an F3 category tornado.⁷ Other natural disasters can be similarly intense. Tornado wind speeds can reach 300 mph, droughts can continue for several years, and floods can devastate thousands of acres. Intense natural disasters result in significant economic damage. Until the September 11, 2001 terrorist attacks, Hurricane Andrew was the costliest U.S. disaster event.

Time of Onset, Warnings, and Signs of Danger

Some disasters occur suddenly (e.g., earthquakes, tornadoes), while others occur with some warning (e.g., hurricanes, droughts). A warning precedes most weather-related disasters, although the warning period may be very short in some cases. For earthquakes, there is typically no warning period. For many natural disasters there are often clear signs of danger: rain, smoke, high winds, and foreboding skies. These warnings allow for time to gather information, fortify property, save items of value, evacuate to safety, and prepare emotionally.

Duration

The duration of natural events can greatly differ. Tornadoes may pass by in minutes, whereas a hurricane may continue to cause dangerous conditions for hours (and the storm surge for days). In the case of earthquakes, aftershocks extend the duration of the event. After the 1994 Northridge earthquake in California, there were thousands of aftershocks, some up to 4.0-5.0 in magnitude,⁸ which caused further damage and increased anxiety among residents.

Low Point

The “low point” of a natural disaster is when the peak or worst part of the natural event has passed and recovery can begin. When a tornado strikes a town during a severe storm, a community can begin recovery efforts shortly after the storm passes. However, disasters with longer duration, such as droughts, typically have less clearly defined low points that occur later in the life cycle of the disaster.



Weather Terms:

Tropical Depression:
39 MPH winds

Tropical Storm:
39-73 MPH winds

Hurricane:
>74 MPH winds

Storm Surge:
Abnormal rise in water level caused by storm

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The Fujita Scale:

F0 - Gale tornado. 40-72 mph. Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.

F1 - Moderate tornado. 73-112 mph. The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.

F2 - Significant tornado. 113-157 mph. Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.

F3 - Severe tornado. 158-206 mph. Roof and some walls torn off well constructed houses; trains overturned; most trees uprooted.

F4 - Devastating tornado. 207-260 mph. Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.

Evacuation

During some natural events people are asked to shelter in their homes (e.g., in the case of tornadoes people are advised to go to their basement or an interior room without windows), while during others residents are advised to evacuate (e.g., in some cases of hurricanes, fires, floods, and volcanic eruptions). In response to Hurricane Floyd, approximately 2.6 million people evacuated coastal areas in Florida, Georgia, and the Carolinas to escape the storm, one of the largest evacuations in U.S. history.⁹ Evacuated individuals take shelter with friends and family or in community and Red Cross shelters. Oftentimes, families with fewer social or financial resources utilize community and Red Cross shelters while families with more resources utilize hotel, family, or friend sheltering arrangements. Evacuation itself may not be stressful, although multiple evacuations, protracted sheltering, and separation of family members may increase distress levels.¹⁰ Evacuation that leads to permanent relocation has been associated with increased distress following an earthquake in Italy and the Buffalo Creek dam collapse.¹¹

Scope of Effects

The extent of devastation varies depending on intensity, duration, location, and preparedness for a natural event. A strong, lengthy, and unpredicted tornado in a metropolitan area will have greater physical and financial devastation than a weaker, shorter, and predicted tornado in a farming country with fewer residents and property. However, even small-scale disasters can be particularly devastating in rural communities where the local economy is often dependent on open-field operations such as farming and ranching. Large disasters often place considerable stress on community resources, such as hospitals, fire/rescue, and police. In disasters where almost an entire community is destroyed, these community systems may not be operable.

Natural disasters can result in health and/or economic effects locally and nationally. International impacts are less common. Hurricane Andrew will be used as an example to illustrate possible effects.

Mental and physical health

- Community-wide – Area residents lost homes and businesses, resulting in temporary or permanent relocation. Some individuals were killed by falling debris when they returned to their damaged residences. Residents experienced significant distress when confronted with the losses inflicted by the storm.
- Nationally – Volunteers arrived from other parts of the state and country to assist in clean-up efforts and the provision of mental

health assistance to residents. These helpers in turn experienced stress as a result of their involvement in disaster recovery.

Economic impact

- Community-wide – Local businesses were severely damaged or destroyed. Some residents were without insurance to repair or replace their homes.
- Nationally – The federal government provided funds through FEMA to assist in disaster relief.

Recurrence

Notable examples of recurring natural disasters are hurricanes in Florida (peak month is September), earthquakes in California (random), and tornadoes in the Midwest (peak in spring). Residents of the Midwest can anticipate tornadoes to occur more frequently in the spring than other times of the year and raise their vigilance. In addition to yearly or seasonal recurrences, some natural disasters can strike multiple times in one season. During the 2002 Atlantic hurricane season, both Hurricane Isidore and Hurricane Lili passed over western Cuba within one month. Recurrence of natural disasters in a short period will obviously impede recovery efforts and prolong and expand physical and psychological devastation.

Human Influence, Control, and Ability to Prevent

Human influence and control are similar yet separate ideas. “Human influence” involves the degree to which human actions lead to the development of disaster situations or the possibility for disasters. “Human control” refers to the ability to affect these events once they begin to unfold. In the case of natural disasters, humans have some small degree of influence, in that decisions to change the course of rivers, soil erosion resulting from land misuse, and global warming can impact nature. Although humans likely have some degree of influence, individuals are unable to control the occurrence, strength, or location of natural events. People usually do not spend time thinking about how they could have stopped a tornado. However, after such an event they may second guess their choices to live in a certain area or be uninsured.

For some types of natural hazards, people may employ measures to prevent damages, such as attempts at flood control through the use of levees, dikes, and sandbagging. Even so, natural events cannot always be contained. In April 1997, the Red River crested at record highs (26 feet above flood stage) and could not be contained in Grand Forks, North Dakota, where 90% of the town was under water at one point during the flooding. Similarly,

Fujita Scale Continued:

F5 - Incredible tornado.
261-318 mph. Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel re-inforced concrete structures badly damaged.

F6 - Inconceivable tornado.
319-379 mph. These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produced by F4 and F5 wind that would surround the F6 winds. Missiles, such as cars and refrigerators would do serious secondary damage that could not be directly identified as F6 damage.

(From: <http://www.tornado-project.com/fscale/fscale.htm#fscale%20table>)

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Saffir Simpson Scale Categories for Hurricanes:

- 1 - 74-95 mph
Surge 4-5 ft
- 2 - 96-110 mph
Surge 6-8 ft
- 3 - 111-130 mph
Surge 9-12 ft
- 4 - 131-155 mph
Surge 13-18 ft
- 5 - >155 mph
Surge >18 ft

(From: http://wchs.csc.noaa.gov/hurricane_stats.htm)

numerous levees failed to contain the Mississippi River during the 1993 floods.

Blame and Anger

Some people may feel that natural disasters are punishments from God, while many people do not feel anyone is to blame. However, following natural disasters people may place blame on authorities or government officials for misguided or poor recovery plans. As such, people may feel anger towards officials if they do not feel their needs are met after a disaster.

Closure

In most cases, people are able to find closure (i.e., a sense of resolution or acceptance of the situation) following a natural disaster. Most people will rebuild their homes and return to work and other life routines. In some ways, closure after a natural disaster is made easier by the fact that no one was to blame for the event itself. There are however cases where closure may be affected, especially if insurance does not cover losses or if the disaster destroys a person's way of life (e.g., a cattle rancher's entire herd is destroyed).

Media Coverage

Particularly devastating natural disasters receive heavy media coverage, which typically tapers off within several days after the event or when other national or world events overshadow recovery efforts. Other natural disasters may receive more or less media coverage depending on the location, loss of life, and scope of devastation.

Disaster Characteristics Summary Table - Natural Disasters

<i>Characteristic</i>	<i>Natural</i>
Predictability	Usually
High Intensity	Variable-can be extreme
Sudden Onset	Variable
Warning	Variable
Danger Signs	Usually
Duration	Usually short
Clear Low Point	Almost always
Evacuation	Variable
Scope of Effects	Usually local
Recurrence	Usually-seasonal
Randomness	N/A
Human Influence	Rarely (floods, fire)
Human Control	None
Ability to Prevent	Rarely (floods, fire)
Blame	Rarely
Anger	Variable
Uncertainty	Rarely (drought)
Ambiguous Risk	N/A
Loss of Trust	Variable
Stereotyping	N/A
Desire for Revenge	Rarely
Closure	Usually
Media Coverage	Variable



Devastating effects of human-made disasters intensify as technology advances, becomes increasingly complex, and leads to greater human dependence.

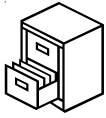
Human-made Disasters

In contrast to natural disasters, human-made disasters are the result of events within the realm of human control and influence. Examples include airplane crashes, nuclear power plant failures, toxic waste dumps, and major technological and industrial accidents. Terrorist events also fall under this category, although these events differ from other human-made disasters because terrorism involves deliberate attempts to harm humans. Terrorism and bioterrorism will thus be discussed in more detail in the next section. Devastating effects of human-made disasters intensify as technology advances, becomes increasingly complex, and leads to greater human dependence. The presence of nuclear power plants and facilities that manufacture dangerous chemicals invites the possibility of large-scale disasters should safety mechanisms fail.¹² Human-made disasters are characterized by many of the same features discussed above for natural disasters, although they have some unique qualities that may not be seen in the case of natural events.

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Historical examples of human-made disasters:

- Three Mile Island nuclear accident
- Chernobyl nuclear accident
- Space shuttle Challenger disaster
- Space shuttle Columbia disaster
- Los Angeles riots
- Buffalo Creek Dam collapse
- Love Canal
- TWA flight 800 crash
- Egypt Air flight 990 crash
- Bhopal, India chemical plant explosion
- Beverly Hills Supper Club fire
- Rhode Island nightclub fire
- Titanic sinking
- Times Beach, Missouri dioxin contamination
- Michigan PBB cattle feed contamination
- Kansas City Hyatt skywalk collapse

Predictability

Technological disasters are compounded by unpredictable faults in human-designed technology. Humans often expect technology to be “foolproof,” thus it is difficult to predict when failure will occur. No one predicted the Titanic disaster because the ship was supposed to be unsinkable. Even if there are known risks associated with a technology, a disaster may seem shocking because it occurs infrequently and is unexpected. For example, the loss of the space shuttle Columbia on February 1, 2003, was unexpected. Although space travel is highly risky, it may seem less risky given long, accident-free periods. Technological disasters rarely provide warnings such as with storms, fires, or floods. The lack of predictability of technological disasters makes them particularly dangerous in terms of their psychological impact on individuals and communities.

Intensity

With the level of technology that exists today, it is possible for technological failures to cause devastation that is magnitudes above the devastation possible from natural disasters: the failure of a dam, a nuclear accident, or the sinking of an oil tanker all can cause widespread destruction. In some cases visual devastation is absent (e.g., Three Mile Island), but widespread psychological devastation is nonetheless present.

Sudden Onset and Warning

Human-made and technological disasters usually occur suddenly with little or no warning. This compounds the lack of control because it is either highly difficult or impossible to stop the inevitable chain of events. Indeed, people may often be forced to watch as the disaster unfolds before them, feeling helpless. The space shuttle Challenger explosion occurred with no warning to those watching the liftoff, as the disaster unfolded in a time span of approximately 75 seconds from the time of liftoff.

Danger Signs

A human-made disaster may or may not have visible danger signs. For example, an airline crash results in visible wreckage, whereas a nuclear accident may have no visible effects (i.e., radiation cannot be seen). In the latter case, the only way to know a disaster really occurred and the scope of that disaster is through information presented by officials. If you lived near the nuclear power plant during the Three Mile Island accident and never watched TV, listened to the radio, read the paper, or talked with neighbors, it is possible you would never have known a disaster

occurred. Information from officials is often the first danger sign that a nuclear or toxic waste disaster has occurred.

Duration and Low Point

Some human-made disasters have no clear low point. This is especially the case for events such as nuclear power plant failures that result in radiation leakage and toxic waste dumps or releases. With such events, the possibility of damage extends well into the future (e.g., cancer, illnesses, unsuitability of drinking water or soil in an area). Examples of disasters with no clear low point are Three Mile Island, Chernobyl, and Love Canal.

Evacuation

Some human-made disasters result in the need to evacuate areas, especially in the case of radiation releases or toxic chemicals. In some cases, land may be sufficiently contaminated that individuals cannot return to their former homes. In the case of toxic waste dump discoveries (e.g., Love Canal), families may wish to leave but may find it extremely difficult to do so, as their homes suddenly lose value and they are not able to financially afford to leave the area.

Scope of Effects

Human-made and technological disasters differ in the range and type of effects. In some cases the effects go far beyond the initial disaster event. In the case of industrial or nuclear power plant disasters, the possibility for environmental contamination exists. In the days following the Chernobyl nuclear disaster, a cloud of radioactive material moved over the Scandinavian countries. Combined with the prevailing weather conditions at the time, the clouds led to radioactive fallout across this area. In today's high technology, interconnected global environment, it is increasingly likely that human-made disasters will affect people in multiple countries and perhaps even multiple continents.

Human-made disasters can include health and/or economic effects locally, nationally, and internationally. The 2003 space shuttle Columbia disaster will be used as an example to illustrate possible effects.

Mental and physical health

- Community-wide – Family members, friends, and co-workers grieved the loss of the astronauts.



Following human-made disasters involving contamination with toxic chemicals or radioactive waste, residents may want to move away from the area but are often unable to do so because their homes lose value due to the nature of the disaster. Thus, many residents may feel “trapped” in their homes. This situation adds to the stress level of these types of disasters.

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Following the September 11, 2001 terrorist attacks:

Amount of Federal Aid
New York received
within two months:
\$9.5 billion

Amount collected by
the September 11th
Fund: **\$501 million**

Percentage of funds
used for cash assistance
and services such as
grief counseling for
families of victims and
survivors: **89**

Quantity, in pounds, of
food and supplies
supplied by 11
September Fund at
Ground Zero: **4.3
million**

Percentage of those
living within a one mile
radius from the WTC
suffering from
Posttraumatic Stress
Disorder: **20**

(From: <http://www.observer.co.uk/Print/0,3858,4483780,00.html>)

- Nationally – Americans grieved the loss of the astronauts, and many questioned why the accident occurred and whether it could have been prevented.
- International – Israelis mourned the loss of the Israeli astronaut on board the shuttle, and the international community was reminded of the danger and risks involved in space travel.

Economic impact

- Community-wide – Local communities (in the area of the debris field) expended resources to help in the recovery effort.
- Nationally – Plans for future shuttle flights were halted while investigations were completed. NASA expended resources to complete an investigation of the accident. Suppliers of the shuttle program lost contracts as the investigation continued.
- Internationally – The suspension of shuttle flights impacted planned missions to the International Space Station.

Human Influence, Control, and Ability to Prevent

People influence all human-made disasters whether this influence is the result of flawed aircraft design, poor plant maintenance, operator error, or pure negligence. In fact, these disasters are only able to occur in so much as the technology exists for them to occur. For example, airplane crashes were not possible prior to the invention of flying machines. Recent airline disasters highlight the role of human influence, as many have been determined to be the result of inappropriate aircraft maintenance, potential design flaws, or pilot error. For instance, on January 8, 2003, an Air Midwest plane crashed right after takeoff. Within days of the crash it was initially speculated that the crash was likely due to a malfunction of the plane's elevator. In addition, ground crew had been concerned about the plane being very close to total cargo weight limits.

Following such disasters, industries usually announce steps to reduce the possibility of repeat failures, such as inspecting tail assemblies on that particular model of aircraft. In most cases of human-made disasters, humans have very little if any control over the cascade of events, and in many cases might not even be warned that this cascade of events is about to occur. Technological disasters are characterized by a loss of control in a previously controllable system. Thus, people attempt to affix blame and search for the cause of the disaster so that repeat disasters can hopefully be prevented in the future.

Blame and Anger

Human-made disasters may be more psychologically harmful because they are unfamiliar, difficult to predict and control, and result from human factors.¹³ People may have thoughts such as, “this could have been prevented if people/government/industries were taking appropriate precautions.” Anger is commonly seen following such events and may be further provoked in cases of unknown or undisclosed causal factors. Accusations and blame may continue for years following these events. An excellent example is the crash of TWA flight 800 on July 17, 1996. Initial reports of the crash by the media included the possibility of a missile fired at the plane, as was suggested by some eyewitness reports. Later reports from the NTSB concluded that electrical arcing occurred in the center fuel tank. However, some families and individuals believe that the actual cause has remained hidden. This suspicion may lead to feelings of anger toward investigators or the potentially responsible parties.

Uncertainty and Ambiguous Risk

Following human-made disasters, there is often a period of uncertainty until clarifying information can be gathered and provided to the public, thus causing considerable frustration for communities and family members. This period of uncertainty and frustration prompts competing interpretations by experts and rumors that may last for years until the investigations conclude. This confusion was evident during the Three Mile Island nuclear accident. Initial reports of the damage and danger were inconsistent, with many experts weighing in with their opinions of the situation to fill time slots for the media. The presence of inconsistent information created an environment of confusion and doubt for nearby residents. In many cases investigations of the event may last for years and be revisited after decades, thus prolonging the period of uncertainty.

Following radioactive material, chemical, or toxic waste accidents, unclear or conflicting information can heighten fear, as citizens may feel powerless to determine their level of risk. It is often difficult to determine future health risks following these accidents, and rumors and ambiguous information are abundant.

Loss of Trust

Individuals may lose trust in government officials, industries, or technologies following human-made disasters because of missed warning signs, cover-ups, or insecurity about technologies. After the Three Mile Island and Chernobyl nuclear accidents, citizens protested the use of nuclear power and attempted to bar the reopening of damaged



Human-made disasters may be more psychologically harmful because they are unfamiliar, difficult to predict and control, and result from human factors.¹³

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Some key differences between natural and human-made disasters:

Blame

People rarely lay blame for natural disasters, but frequently attempt to affix blame for human-made disasters. The process of affixing blame impacts psychological recovery.

Control

Technology is seen as being under the control of humans, while natural forces are not. People often feel that human-made disasters could have been averted with proper measures, although it is clearly the case that human technology can never be foolproof.

Predictability

Human-made disasters are frequently characterized by sudden onset and lack of predictability. In contrast, some natural disasters have clear warning periods in which to prepare.

facilities. Once individuals lose trust in officials, industries, or technologies it may be difficult to recapture. Official government inquiries into these disasters may result in the revelation of missed warning signs or cover-ups. Such results often fuel further distrust of industries, governments, and technologies.

Stereotyping

Past experience shows us that individuals have fears of illness (especially cancer) and death from radiation or toxic substances. Following disasters involving substances like these, people may avoid affected individuals, communities, or goods produced by those communities. The effect of Mad Cow disease on the beef industry in England is an example. Planned or random outbreaks on a food supply would be devastating because of the stereotyping that would occur.

Possibility for Closure

For some of these events, evidence will eventually arise that suggests a chain of responsibility for the accident, thus leading to some closure. However, for other events the causes and responsibility may never be truly known. An excellent example of this is the Egypt Air aviation disaster over the Atlantic Ocean on October 31, 1999. Egypt Air flight 990 was headed from New York to Cairo. Approximately 30 minutes into the flight the plane began a steep dive towards the Atlantic, after which radio contact was lost. The plane crashed into the Atlantic, killing all 217 people aboard. Investigation of the cockpit voice recorder suggested a possible struggle and that a relief pilot was at the controls. The final report from the NTSB suggested that the relief pilot deliberately crashed the plane, although Egyptian officials still question this theory as these findings were based on the limited evidence that was available. This situation was compounded by disagreement between the United States and Egyptian governments. A scarcity of information regarding cause and responsibility may preclude full closure for many families. For many such events there may never be true closure, especially if investigations continue for years with little progress towards finding the cause of the disaster.

Media Coverage

As with natural disasters, particularly devastating human-made disasters receive heavy media coverage. In many cases, this coverage may involve numerous interpretations or speculation on the causes of the disaster, especially in cases where there is a high level of uncertainty and an effort to investigate and uncover who or what agencies/businesses were responsible.

With a human-made disaster, businesses and government agencies have a tendency to hold information closely due to threats of public attack and legal action.

Disaster Characteristics Summary Table - Human-made Disasters

<i>Characteristics</i>	<i>Human-made: Technological</i>	<i>Human-made: Chemical/Nuclear/ Toxic Waste</i>
Predictability	Rarely	Rarely
High Intensity	Variable-can be extreme	Variable
Sudden Onset	Almost always	Almost always-sudden notification
Warning	Variable	Variable-officials may know
Danger Signs	Variable	Variable-officials may know
Duration	Usually short	Potentially many years
Clear Low Point	Variable	Rarely
Evacuation	Variable	Variable
Scope of Effects	Local to global	Local to global
Recurrence	Possible	Possible
Randomness	N/A	N/A
Human Influence	Almost always	Almost always
Human Control	Variable	Variable
Ability to Prevent	Variable	Usually
Blame	Almost always	Almost always
Anger	Usually	Almost always
Uncertainty	Variable	Almost always
Ambiguous Risk	Variable	Almost always
Loss of Trust	Usually	Almost always
Stereotyping	Variable	Usually
Desire for Revenge	Variable	Variable
Closure	Variable-inquiries hinder	Difficult due to long clean-up
Media Coverage	Variable	Variable

Terrorism

Terrorism can come in many forms: car and truck bombs, chemical attacks, biological attacks, “dirty bombs” (i.e., conventional bombs containing radioactive material), suicide bombings, attacks that disrupt or damage infrastructure (e.g., power grids, computer systems, transportation systems), and even planes used as bombs to bring down buildings. Terrorist attacks result from the interaction of a wide range of social, political, ideological, and psychological forces and share most of the characteristics discussed above for other human-made disasters. These characteristics can be illustrated using the September 11, 2001 terrorist attacks in New York

Some key differences between natural and human-made disasters:

Possibility for closure

Following natural disasters, recovery usually begins immediately, with the main tasks usually involving rebuilding damaged structures and healing emotional losses. In the case of human-made disasters, there are often the additional tasks of amassing evidence and information, affixing blame, seeking reparations, or fighting for changes in technology and regulations.

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September 11, 2001
statistics from Time
Magazine website
(posted 9/1/2002):

- 60 police officers and 343 firefighters died
- 16 people escaped the south tower from above the floors where the plane hit
- 0 people escaped the north tower from above the floors where the plane hit
- 18 survivors were found after the towers collapsed
- \$4-6 billion expected to be the total government payout to victims' families
- 116,000 flags sold by Wal-Mart on 9/11/2001
- 6,400 flags sold by Wal-Mart on 9/11/2000
- 92 bomb threats called in to New York City police on 9/11/2001

and Washington, D.C. On that morning, terrorists hijacked four airplanes, crashing two into the World Trade Center towers and one into the Pentagon, with the fourth plane failing to reach its intended target. The damage was enormous, especially at the World Trade Center site where the towers collapsed. This attack occurred suddenly with no warning. Although air traffic control determined that several of the planes had been hijacked, they did not know where they were heading. Until all planes could be grounded, there was a high level of uncertainty with regards to whether there were more than four hijacked planes.

These attacks engendered intense anger in many Americans who could not understand why anyone would want to kill so many innocent people. The events of September 11, 2001 were followed by a long period of uncertainty regarding who perpetrated the attacks, how many survivors might or might not be found in the rubble of the World Trade Center, how the government would respond, whether there would be further attacks, and whether the government had any information that could have possibly warned of these attacks. Subsequent anthrax mail attacks in the months that followed only served to intensify feelings of anxiety in the country.

Although terrorism shares many characteristics with other human-made disasters, there are some unique factors involved in terrorism, especially with regard to human intent, feelings of anger, and randomness. In addition, most terrorist attacks have a political aim. Al Qaeda committed the September 11, 2001 attacks in part to encourage America to eliminate its presence in the Middle East. Palestinian militants commit suicide bombings in Israel in an attempt to change the Israeli government's policy towards a Palestinian state. Timothy McVeigh bombed the Murrah Federal Building to demonstrate his disagreement with the government's actions in Waco, Texas. Terrorists believe that through instilling fear in people they will get governments to make changes favorable to their cause.

Predictability

Terrorist attacks are designed to instill fear and anxiety. As such, terrorists do not act in a predictable fashion in order to defeat defenses against their attacks. Unpredictable attacks increase feelings of fear and anxiety, the primary goal of any act of terrorism.

Intensity

As seen on September 11, 2001, terrorist attacks can inflict severe damage in terms of death and physical destruction. Even more importantly, terrorist attacks are designed to have a powerful psychological impact. This psychological impact may be more severe

than the damage inflicted on lives and property. Terrorists take advantage of human fears of death by launching attacks that lead the target population to believe no one is safe.¹⁴

Sudden Onset and Warning

Terrorist attacks usually occur suddenly with no warning, thus individuals do not have a chance to protect themselves. In the case of a biological terrorist attack, an attack may be underway for days or even weeks before the danger is realized. In many past cases of toxic waste or chemical contamination (non-terrorism related), residents received no warning that such contamination was occurring and lived in the area for long periods of time before realizing the potential danger. Likewise, during the anthrax mail attacks in 2001, postal workers and citizens did not know there was any danger until several cases were diagnosed. Additionally, officials may withhold information in an attempt to preclude public panic and in hopes of readily fixing the problem. Thus, individuals usually learn there is something to be concerned about well after the period for earliest warning has passed.

Danger Signs

Biological, chemical, and radiological terrorist attacks are unique in that there may be little visible sign of an attack. Viruses cannot be seen. Some gases may be colorless and odorless. Radiation is likewise undetectable by humans. Because there are no visible explosions, crashes, or observable signs of danger, it is difficult to know the level of threat, thus raising the ambiguity of the situation. Information from officials is often the only danger sign available. Unfortunately, some residents may not put trust in this information, especially if they believe that similar information was withheld during past events.

Duration and Low Point

Terrorist attacks may be short in duration, but the psychological impact may endure for years. In the case of bioterrorism, many biological weapons have the potential for continuing effects over an unknown period of time. For smallpox, new cases could continue to occur for years, depending on the success of vaccination and quarantine programs. In the case of chemical or nuclear attacks, long-term health effects could continue well into the future (e.g., cancer). In fact, the worst effects may occur months or years following the initial recognition of the attack. Given these factors, a clear low point may be difficult to define for an affected community following a terrorist attack.

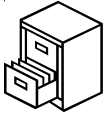


Terrorist attacks are designed to have a powerful psychological impact. This psychological impact may be more severe than the damage inflicted on lives and property.

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Historical examples of terrorist attacks:

- 1995 sarin gas attack on the Tokyo subway
- 1988 Pan Am bombing over Lockerbie, Scotland
- 1995 Oklahoma City Bombing
- 1993 World Trade Center Bombing
- 2001 World Trade Center and Pentagon attacks
- Suicide bombings in Israel
- 1985 Achille Lauro hijacking
- 1998 U.S. Embassy bombings in Kenya and Tanzania
- 2003 Residential compounds bombings in Riyadh, Saudi Arabia
- 2000 USS Cole bombing
- 2001 Khobar Towers bombing in Saudi Arabia
- 2002 Bali bombing
- 2001 U.S. anthrax mail attacks

Scope of Effects

Terrorism can have localized to potentially global ramifications. As with other human-made disasters, terrorist attacks can include health and/or economic effects locally, nationally, and internationally. In addition, terrorism has political ramifications and may even result in military action or war (e.g., Russian actions in Chechnya, Israeli occupations in the West Bank and Gaza Strip, and U.S. actions in Afghanistan). The September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon will be used here as an example to illustrate the range of effects.

Mental and physical health

- Community-wide – Families, friends, and co-workers grieved for those killed in the attacks. Disaster response personnel developed breathing problems after extended exposure to the disaster clean-up site in New York City.
- Nationally – American citizens grieved for the losses of fellow Americans and the loss of feelings of national security. Many felt anger and rage towards the perpetrators of the attacks.
- International – Citizens of the larger international community expressed emotional distress and outrage following the attacks.

Economic impact

- Community-wide – New York City endured both the economic burden of recovery, as well as the loss of tourist revenue.
- Nationally – Americans traveled less following the attacks, resulting in losses for airlines, tourism destinations, and other travel-related industries.
- Internationally – International tourism was also curtailed following the attacks, resulting in tourism losses for other countries.

Political impact

- Community-wide – Heightened security procedures were introduced in New York City and Washington, D.C., including vehicle inspections and closing of national monuments.
- Nationally – Enforcement of immigration standards was tightened. A national threat-level was established, and the Department of Homeland Security was created.
- Internationally – The U.S. government asked other governments to cooperate in efforts to curtail terrorist organizations and undertake military operations in Afghanistan.

Recurrence and Randomness

Although terrorists may specifically choose a certain site and time for an attack, this information is generally not available to the intended target. Thus, to individuals, it becomes a matter of being in the “wrong place at the wrong time.” The victims are usually random citizens that just happened to be in that location when the attack occurred (e.g., individuals on a plane that is hijacked). The idea that one could be the victim of a terrorist attack by being in the wrong place at the wrong time can produce considerable anxiety and fear in individuals, especially in countries that do not experience terrorism on a regular basis. During the Washington, D.C. area sniper shootings, citizens changed their routine behavioral habits due to fear that they could be the sniper’s next victim, as the victims were random citizens engaged in everyday activities. People drove out of their way to get gasoline, walked into service stations while pumping their gas, and stayed home more. The goal of terrorism is to instill fear, and recurrent attacks on random targets can produce considerable fear.

Human Influence and Control

Terrorist attacks are carried out deliberately with the goal of causing fear and terror in a population of people. Innocent people are intentionally targeted to instill greater fear. Because these attacks are deliberate, people may see terrorists as “evil” and may question the humanity of individuals that would carry out such acts of violence. The notion that terrorists are evil people was a common theme seen after the September 11, 2001 attacks, as many citizens, journalists, and government officials referred to the attacks as “acts of evil.” Terrorist attacks are an effective psychological weapon because they take away feelings of control and expose a community’s sense of vulnerability. Although countries can exercise their powers to limit terrorists, society is ultimately unable to control all forms of terrorism.

Ability to Prevent

While intelligence information is available and can avert much terrorism, it may be difficult to prevent all terrorist attacks. Terrorists may continue to persevere until they are successful in carrying out an attack. The deliberateness of terrorist attacks maximizes the surprise, thus limiting the effectiveness of efforts to anticipate, prepare for, and respond to an attack. While no single remedial step is likely to be effective in eliminating terrorism, a variety of peace-building actions (e.g., economic development programs in impoverished countries) may be useful in reducing the likelihood of future terrorist violence.



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Examples of biological, radiological, and chemical weapons:

Pathogens

- √ smallpox
- √ anthrax
- √ plague
- √ ebola virus
- √ botulism
- √ Q fever

Poisons

- √ ricin toxin
- √ epsilon toxin

Dirty bombs

- √ placing radioactive material in a conventional bomb

Chemicals

- √ sarin nerve gas
- √ chlorine gas
- √ VX nerve gas
- √ phosgene gas
- √ pesticides

Blame and Anger

Blame and anger are especially likely following terrorism due to the deliberate nature of these attacks. Terrorist attacks threaten an individual's belief in a safe and just world, and anger may result from the violation of this belief.¹⁵ Additionally, an affected community commonly defines a terrorist attack as a cowardly attempt at conducting low intensity warfare. Such perceptions typically fuel anger and raise the call for retribution through military actions against the attackers.

Uncertainty

Uncertainty reigns following a terrorist attack, as it may not initially be known who is to blame, if other attacks are planned, or what is the extent of damage. The uncertainty created by a terrorist attack undermines feelings of personal control, as these attacks violate fundamental beliefs that the world is a safe and just place.¹⁶ Uncertainty is especially likely in scenarios involving invisible threats, such as a smallpox or anthrax release. The public may often receive conflicting or unclear information from officials and the media. For example, following the anthrax mail attacks, many people were unsure whether there were risks involved in handling mail and how they could protect themselves. A lack of clear information is chiefly due to the difficulty of accurately assessing the extent of damage and the risks involved. After all, there are no destroyed buildings for people to see, just information from officials and media sources who themselves do not always have access to complete information. Because of the difficulty of determining specific location of release, risk factors, and other vital characteristics, there is likely to be heightened confusion following terrorist attacks involving biological and chemical weapons. The goal of terrorism is to instill fear, and the resulting confusion after a bioterrorist attack would increase public fear.¹⁷

Ambiguous Risk

In a bioterrorist attack, it may be difficult to know one's level of risk, especially if information regarding location and method of attack is unclear or unavailable. Also, it can be difficult to predict who will continue to have future health effects. Following the anthrax mail attacks of 2001, several individuals survived inhaled anthrax through the early use of antibiotic therapy. However, little was known about possible long-term health effects of surviving inhaled anthrax, as it is highly fatal if not treated early. News accounts in the year following the attacks portrayed unexplained health difficulties reported by survivors. These difficulties would have been difficult to predict in the beginning due to the scarcity of information on survivors of inhaled anthrax. Especially with more

novel biological weapons and newly bioengineered substances, immediate and future risks may be highly ambiguous.

Loss of Trust

As in the case of other human-made disasters, terrorist attacks can lead to loss of citizen trust in government officials and in those people in charge of citizen safety. A notable example occurred following September 11, 2001 when individuals lost trust in the airlines and airline security and were reluctant to fly. Likewise, some citizens and media sources criticized government officials after media reports surfaced that an FBI agent had recommended investigation of Middle Eastern men taking flight lessons prior to September 11.

Stereotyping

Terrorist attacks may result in an increase in stereotyping and hate crimes. Following terrorist attacks, citizens fear for their lives. This fear of death may lead to increased prejudice towards people who are different than oneself.¹⁸ In an attempt to gain some control, individuals may heighten their suspicion towards people whom are believed to have some association with the terrorists, however slight this association might be. Some individuals may advance their suspicion to the level of committing hate crimes. For instance, hate crimes against people of Muslim faith and Middle Eastern heritage increased following the September 11, 2001 terrorist attacks.¹⁹

Desire for Revenge

Following the September 11, 2001 attacks, the desire for revenge among many Americans was fierce. Although non-terrorist human-made disasters result in blame and anger, they usually do not result in retaliatory attacks. The desire for revenge is more intense in the case of deliberate human attacks. Non-terrorist human-made disasters more frequently result in lawsuits. Although legal actions are also pursued in response to some terrorist events, retaliatory attacks are additionally launched in many cases.

Closure

Closure may be hindered by criminal investigations, governmental inquiries, the presence of classified information not available to the public, and difficulty apprehending and bringing the perpetrators of the terrorist act to justice. Foreign relations and political issues often play a central role in the quest to bring terrorists to justice. Victims and families may never feel that justice was fully achieved as governments negotiate terms for surrender, extradition, trial, and punishment. With regards to



Terrorism and bioterrorism are fundamentally psychological weapons. These human-inflicted attacks are different from other human-made disasters because they are specifically designed to cause fear, panic, uncertainty, and ambiguity.

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The media wants to provide the public with as much information as possible, yet many of the facts are not yet known in the initial hours or days of a terrorist event.

terrorist attacks using biological, chemical, or nuclear materials, closure may be hampered by fears of unknown, long-term health effects (similar to fears seen following non-terrorist disasters involving chemicals, nuclear materials, or toxic waste).

Media Coverage

In the initial hours and days following the 1995 Oklahoma City bombing and the September 11, 2001 attacks there was constant media coverage. In situations like Oklahoma City, media outlets find themselves in a difficult position. The media wants to provide the public with as much information as possible, yet many of the facts are not yet known in the initial hours or days of an event. The push to bring the story to the public presents a risk for speculation before all facts are known. With the intense competition to be on top of the story, news outlets can be vulnerable to unsubstantiated reports, dubious witnesses, leaks, and multiple “expert” reports.²⁰

Disaster Characteristics Summary Table - Terrorism

<i>Characteristic</i>	<i>Terrorism</i>	<i>Bioterrorism</i>
Predictability	Rarely	Rarely
High Intensity	Variable-can be extreme	Variable
Sudden Onset	Almost always	Variable
Warning	Variable	Variable
Danger Signs	Rarely	Rarely
Duration	Usually short	Potentially many years
Clear Low Point	Usually	Rarely
Evacuation	Variable	Variable
Scope of Effects	Local to global	Local to global – could have farthest reach
Recurrence	Possible	Possible
Randomness	Almost always	Almost always
Human Influence	Always deliberate	Always deliberate
Human Control	Variable-diplomacy	Variable-diplomacy
Ability to Prevent	Variable-diplomacy	Variable-diplomacy
Blame	Almost always	Almost always
Anger	Almost always	Almost always
Uncertainty	Almost always	Almost always
Ambiguous Risk	Variable	Almost always
Loss of Trust	Almost always	Almost always
Stereotyping	Usually	Usually
Desire for Revenge	Usually	Usually
Closure	Variable-inquiries hinder	Variable-inquiries hinder
Media Coverage	Can be extensive	Can be extensive

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Although terrorist attacks using conventional weapons (bombs) share some features with attacks using unconventional weapons (biological or chemical agents), the latter are likely to result in heightened feelings of fear, uncertainty, and loss of control.

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The table on this page combines all the previous tables included in this section to allow for comparison across categories. Key differences between disasters can be seen towards the lower half of the table, where more “psychological” issues are compared. These issues include:

- Randomness
- Blame
- Anger
- Uncertainty
- Ambiguous risk
- Loss of trust
- Stereotyping
- Desire for revenge
- Closure

These differences are in part a reflection of the potential for a greater psychological toll following human-made and terrorist disasters.

Disaster Characteristics Summary Table – Comparing Different Types of Disasters

<i>Characteristic</i>	<i>Natural</i>	<i>Human-made: Technological</i>	<i>Human-made: Chemical/Nuclear/ Toxic Waste</i>	<i>Terrorism</i>	<i>Bioterrorism</i>
Predictability	Usually	Rarely	Rarely	Rarely	Rarely
Intensity	Variable - can be extreme	Variable - can be extreme	Variable	Variable - can be extreme	Variable
Sudden Onset	Variable	Almost always	Almost always - sudden notification	Almost always	Variable
Warning	Variable	Variable	Variable - officials may know	Variable	Variable
Danger Signs	Usually	Variable	Variable - officials may know	Rarely	Rarely
Duration	Usually short	Usually short	Potentially many years	Usually short	Potentially many years
Clear Low Point	Almost always	Variable	Rarely	Usually	Rarely
Evacuation	Variable	Variable	Variable	Variable	Variable
Scope of Effects	Usually local	Local to global	Local to global	Local to global	Local to global – could have farthest reach
Recurrence	Usually - seasonal	Possible	Possible	Possible	Possible
Randomness	N/A	N/A	N/A	Almost always	Almost always
Human Influence	Rarely (floods, fire)	Almost always	Almost always	Always deliberate	Always deliberate
Human Control	None	Variable	Variable	Variable - diplomacy	Variable - diplomacy
Ability to Prevent	Rarely (floods, fire)	Variable	Usually	Variable - diplomacy	Variable - diplomacy
Blame	Rarely	Almost always	Almost always	Almost always	Almost always
Anger	Variable	Usually	Almost always	Almost always	Almost always
Uncertainty	Rarely (drought)	Variable	Almost always	Almost always	Almost always
Ambiguous Risk	N/A	Variable	Almost always	Variable	Almost always
Loss of Trust	Variable	Usually	Almost always	Almost always	Almost always
Stereotyping	N/A	Variable	Usually	Usually	Usually
Desire for Revenge	Rarely	Variable	Variable	Usually	Usually
Closure	Usually	Variable - inquiries hinder	Difficult due to long clean-up	Variable - inquiries hinder	Variable - inquiries hinder
Media Coverage	Variable	Variable	Variable	Can be extensive	Can be extensive

PSYCHOLOGICAL IMPACT OF DISASTERS IN EMERGENCY RESPONSE PERSONNEL

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Disasters large and small require rescue and recovery efforts aimed towards saving lives and recovering remains. Most often this work is carried out by EMS, firefighters, police, and other trained personnel. In some cases, though, bystanders and others in the community may assist in these efforts because they are at the scene before rescue workers arrive or because of the sheer volume of the recovery effort. Individuals involved in emergency response have varying levels of training and experience for disaster recovery. Regardless of their level of training, emergency response personnel are vulnerable to the same stress responses experienced by victims and witnesses of the disaster. In some cases, these stress responses may continue for years after the event.¹

Estimates of the percentage of rescue workers who experience post-disaster stress responses vary based on the study and the particular disaster event, ranging between 9%-32%.² The percentage of workers reporting at least one post-trauma symptom is much higher. For example, a study of firefighters and paramedics found that 87% reported at least one post-trauma symptom related to an event that occurred during their work.³ These numbers may not be reflective of the true level of distress in the emergency worker population, as not all emergency personnel agree to participate in these studies. The table on the following page provides examples of findings from the literature.

There are several consistent themes across studies of people involved in disaster recovery and body handling.

- 1) Exposure to the dead, especially child victims, is a particularly stressful experience.^{4,5}
- 2) Rescue workers who “identify” with victims may experience more distress. Identifying with the victims occurs when rescue workers began to think, “what if this was my relative/my friend/myself,” or come into contact with personal effects (e.g., family photos in a wallet). In one study, 75% of those interviewed stated they had identified in some way with the deceased victims. Identifying with the deceased as “friends” (even though the victims were total strangers) was associated with higher rates of Posttraumatic Stress Disorder (PTSD) and other anxiety symptoms.⁶



“I was on the 78th floor and they [firefighters] were working their way up fast to the 90’s. They were going straight into hell and they were running there.”

Survivor of the WTC disaster David Frank

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Regardless of their level of job training, emergency response personnel are vulnerable to the same stress responses experienced by victims and witnesses of the disaster.

Research Findings on the Psychological Effects of Disaster Response

Researchers	Disaster Event	Main Findings
Taylor & Frazer, 1982	Mount Erebus aircrash in Antarctica	35% reported high stress after finishing the disaster work, 20% reported high stress at three months post-disaster
Miles, Demi, & Mostyn-Aker, 1984	Hyatt hotel skywalk collapse	60% of rescue workers interviewed sought help for distress; levels of distress varied widely
Durham, McCammon, & Allison, 1985	Apartment building explosion in Greenville, North Carolina	11% of on-scene rescue workers interviewed reported 8 out of 21 PTSD symptoms; 74% reported intrusive thoughts; on-scene workers were more likely to report PTSD symptoms than were hospital workers
McFarlane, 1988	Bushfire in Australia	13% of firefighters had PTSD 42 months post-event
Alexander & Wells, 1991	Recovering bodies after Piper Alpha oil rig explosion	No significant increase in depression or anxiety following the recovery work
Weiss, Marmar, Metzler, & Ronfeldt, 1995; Marmar, Weiss, Metzler, Ronfeldt, & Foreman, 1996	Loma Prieta earthquake I-880 freeway collapse	9% reported moderate to high distress levels; greater exposure and greater dissociation at the time of the event were associated with greater distress
North et al., 2002	Oklahoma City Bombing	13% of firefighters met symptom criteria for PTSD; 38% met criteria for any psychiatric diagnosis following the disaster

- 3) Rescue workers who experience the greatest exposure to recovery efforts often experience more distress.^{7,8} In a study of rescue workers who responded to the I-880 freeway collapse during the 1989 Loma Prieta earthquake, those who had higher levels of exposure and a tendency to dissociate (dissociation can include feeling disconnected from oneself or one's body, feeling like one is watching oneself from afar, or feeling that events taking place are not real) at the time of the event had higher levels of distress.^{9,10} In a similar study of firefighters who assisted in rescue and recovery efforts after the Oklahoma City bombing, those firefighters who spent more time at the site, and more time in the most dangerous part of the site, were more likely to have PTSD.¹¹ This is a particularly tough issue as response workers typically want to keep working at the site and resist being pulled out of their work. This pattern was frequently seen during the recovery efforts at the World Trade Center site.
- 4) Rescue workers with some previous experience may have less distress because they know what to expect.^{12,13} Workers usually anticipate the disaster work, which may increase stress levels. Anticipation involves thinking about what the work will be like and perhaps picturing what one might see at the recovery sight. Therefore, preparation and/or experience may lower stress involved with anticipating the work.¹⁴ Preparation can include stress-mitigation programs, which typically cover information in the following areas: (a) the nature of stress response, (b) a review of

emergency stress reactions, (c) a comparison of everyday stressors and disaster stressors, (d) recognizing signs and symptoms of stress, (e) coping strategies, and (f) provision of disaster stress information to spouses and significant others.¹⁵

- 5) Another factor to consider is an individual's level of psychological adjustment prior to a disaster event. Psychological adjustment includes any history of psychological disorders, history of trauma, or current non-disaster stressors (e.g., marital problems, conflict at work). The importance of pre-disaster adjustment is highlighted in a study of firefighters who assisted in recovery efforts following the 1995 Oklahoma City bombing.¹⁶ Of those firefighters that participated in the study, 13% met criteria for PTSD, which was lower than the rate for male bombing victims (23%). The rate of alcohol abuse was higher, with 25% of firefighters and 10% of male bombing victims reporting alcohol abuse. However, only 2% of alcohol abuse cases in the firemen were new cases after the bombing. That is, most firefighters with a diagnosable disorder after the bombing already had a diagnosable disorder before the bombing. This was especially the case for PTSD, as having PTSD prior to the bombing was associated with post-bombing PTSD. Thus, preexisting psychological disorders can be a significant risk factor for post-disaster distress and psychological disorders in rescue and recovery workers.¹⁷

As the above findings show, disaster workers are not immune to symptoms of distress. Although many of the above-mentioned factors are important, there are multiple factors related to post-exposure adjustment, and many rescue workers will not have major problems after the event.¹⁸ Clearly, training, preparation, and appropriate support during disaster events are all needed to help lessen the impact of engaging in such work. Stress education programs can be useful for preparing emergency response workers and may in some cases result in less post-recovery stress.¹⁹ These programs need to acknowledge the psychological toll of response work and include training and preparation for coping with the psychological effects of responding, especially for new emergency response workers. Also, response workers can be screened for a history of PTSD, depression, substance abuse, and other psychological disorders. Preparation and education are especially important given that some disaster workers may not seek post-disaster mental health services for fear of stigma, even if they are having difficulty returning to their regular job, using alcohol, and experiencing negative reactions from family members when they try to discuss their experiences.²⁰



Preparation and education are especially important given that some disaster workers may not seek post-disaster mental health services for fear of stigma, have difficulty returning to their regular job, use alcohol, and experience negative reactions from family members when they try to discuss their experiences.²⁰

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In rural areas, some rescue and response personnel (e.g., firefighters) may be volunteers. Due to their volunteer status, these individuals may have less training for disaster situations, especially situations involving hazardous materials or biological agents. Also, these individuals could be at a higher risk of post-disaster stress if they have not had prior experience responding to disasters.

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UNIQUE NEEDS OF RURAL AMERICA

Rural America represents a significant demographic in the United States, with approximately 80% of U.S. land classified as rural areas. Rural communities are found in all states, and nearly 60 million Americans (20%) live in these communities. Because of their remote locations and limited resources, rural communities have specific concerns that vary from urban communities when it comes to recovery from disasters.¹ Rural residents are more likely to experience economic hardship and poverty, have unmet healthcare needs, and lack insurance.² There are disproportionately high mortality rates relative to urban areas for selected diseases and population groups, such as higher infant mortality and higher rates of motor vehicle-related deaths. Rural residents generally receive less preventative health care and make fewer visits to health providers despite higher rates of chronic illness, disability, and poorer overall health status than their urban counterparts.³ Economic hardship and poorer health status can impede recovery from stressors such as disasters.

Meanwhile, the limited capacity of rural hospitals, shortages of health professionals, and lack of surge capacity seriously restrict the healthcare response capacity in rural communities.⁴ First, rural hospitals tend to be smaller and more generalized. Most offer limited emergency services or specialty services (e.g. pediatric specialties, psychiatry, psychology). Second, rural communities typically have a scarcity of health professionals available to meet healthcare needs. According to Stamm, there are 30-68 health providers for every 100,000 rural residents compared to 180 urban providers for every 100,000 urban residents.⁵ As a result of these shortages, there is a high risk of burnout and stress among the helping professions in rural areas due to a greater workload shared by fewer workers.

Access to mental health services is also severely limited for many rural residents due to limited numbers of mental health providers, lack of specialty services (e.g., child psychiatry, substance abuse treatment), the need to travel long distances to access care, inadequate insurance coverage for mental health, and rural social stigmas dissuading community members from seeking help for mental illness.^{6,7,8} Analyses by Holzer, Goldsmith, and Ciarlo indicate that the majority of mental health professionals (i.e., psychologists, social workers, psychiatrists, and child psychiatrists) are located in the most densely populated counties (greater than 100 people per square mile), with a sharp increase in the number of professionals when comparing counties with greater than 100 people per square mile to counties with fewer individuals. Less than 20% of the most rural counties (0-1.9 people per square mile) have mental health providers of any kind, and child psychiatrists are available in less than 10% of counties, with the



Physician training for bioterrorism is especially important in rural areas, as primary care doctors are often the sole provider of health care services for people in rural areas.

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Rural areas often lack the infrastructure necessary to respond to large disasters. Gaps in the rural infrastructure include:

- Fewer health-care professionals, especially in specialty areas
- Less money to train and outfit emergency workers for responding to biological hazards
- One HAZMAT team may be shared by a large geographic area
- Limited hospital capacity
- Long response times to remote areas
- Not all rural counties have health departments
- Fewer mental health professionals
- Emergency personnel may be volunteers

exception of counties with greater than 100 people per square mile.⁹ Although rates of mental health disorders are generally the same for rural versus urban residents,¹⁰ residents of rural areas are at a significant disadvantage in terms of access to mental health treatment. This disadvantage can be magnified following disasters and other community tragedies when need for services is greater.

Rural areas are particularly vulnerable to disaster events, especially rural areas that are remote and not equipped with the infrastructure necessary to respond to large disaster events.¹¹ The vulnerability of rural communities is also partly due to rural economic structures that rely heavily on open-field operations such as farming, mining, ranching, and ecotourism.¹² Rural economies are often characterized by a series of highly interlocked small family farms and businesses inhabiting one or two sectors of the national economy. This combination of a reliance on open-field operations and natural resources as the foundation for local economies, combined with the interdependence of local businesses, leaves rural communities highly vulnerable to the effects of a mid- to large-scale disaster.

Let's consider a hypothetical example. A massive flood, such as those along the Red and Mississippi Rivers in the 1990's, occurs across rural, riverside counties for several hundred miles. More densely populated cities and towns receive first priority in terms of efforts to reinforce dikes along the river. In fact, as was the case in the Mississippi flood, dikes are intentionally breached in rural communities in order to relieve pressure on dikes protecting more urban communities. Rural farms and small industries are flooded out, leading to massive losses in livestock and an entire season's worth of crops. Farm incomes tend to be limited and most losses are not covered by insurance. In fact, many family farm owners have taken out loans in order to purchase seed, feed, fertilizer, and pesticide for this season. The losses to these operations ripple over to supporting industries, such as local financial institutions, agricultural supply businesses, small trucking operations, and other industries that support agriculture. It quickly becomes apparent that the local economy is devastated by such an event. Compounding this problem, local governments and social services, already marginally supported by a limited local tax base, often face drastic cuts in operating budgets due to the loss in local revenue following a disaster.

Rural areas are additionally vulnerable to terrorism.^{13,14} A number of factors contribute to this vulnerability. First, national energy sites, nuclear sites, and hazardous materials manufacturers are often located in rural areas. Yet many rural areas face obstacles to responding effectively to crises involving these industries. For example, multiple rural communities spread out over a large distance may share one HAZMAT team. Second, rural areas comprise the source of most food distribution into major population areas, thus

localized agricultural terrorism could threaten significant portions of the country. Additionally, many cities get their water from remote rural reservoirs or watersheds that have limited supervision. There continues to be debate over the vulnerability of these water sources. Third, many power sources are located in rural areas providing the chance to disrupt the country's power grid. Finally, there are concerns that contaminants could be spread to cities by crop duster aircraft originating from rural airports.¹⁵

Many rural communities lack the resources and funding to prepare for terrorist attacks. Compounding this problem, most rural communities do not feel immediately threatened by a terrorist attack, resulting in less preparation.¹⁶ Furthermore, rural areas do not have the resources to protect such vast tracts of land. Preparedness is especially important for rural communities given the unique concerns stated above including economic hardship, limited healthcare response capacity, more severe disaster effects, inadequate preparation for disasters, and vulnerability to terrorism. Yet, fewer rural residents are prepared for disaster response, and there is an insufficient supply of resources and communication infrastructure.

For these reasons, rural communities are vulnerable to targeted economic or energy attacks. Although rural targets are not high profile targets like the World Trade Center, the Pentagon, or the Golden Gate Bridge, they are "soft targets," as they are less well-defended. Plus, attacks on agricultural goods or livestock could be carried out with less resistance. The result of such attacks would be severe economic impacts. For example, an attack of Mad Cow Disease could have severe impacts on the U.S. livestock industry, a major exporter of U.S. goods. Ramifications of such an attack would likely include a steep decrease in exports of affected goods, declining prices on the cattle market, and a gradual trickle-down effect in the economy.

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Rural terrorism threats:¹⁴

- Contamination of food or water supplies
- Spread of disease through livestock (e.g., hoof and mouth)
- Attacks on nuclear or chemical plants
- Spread of contaminants using crop duster aircraft

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SECTION THREE

HELPING COMMUNITIES

PREPARE

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INTRODUCTION

Community preparation for disasters is a key factor in community response when an event occurs, as poor preparation can slow response, lead to confusion about what the roles of different agencies are in the response, and possibly even increase total damage. Some of the factors that influence community preparation include overall community functioning, a community's previous disaster experience, and whether local leaders consider disaster preparedness to be a priority. Although preparedness is essential, it is not always the first priority in a community, especially when there are competing needs such as poverty, unemployment, and budget deficits. Nevertheless, disaster preparedness should be a priority for communities. The following factors are important for the disaster preparation process.

Resources and Local Emergency Organizations

Effective disaster preparation and response is dependent on the availability of local and state resources and well-trained local emergency organizations. While local emergency organizations play key roles in disaster preparation (e.g., planning for available hospital space, conducting emergency drills, developing communication plans, conducting specialized training for hazardous materials), they often lack the ability to carry out optimal preparations because of funding issues, understaffing, and scarcity of resources for specialized training.

Governmental Approaches to Hazard Management

Due to the large number of federal, state, regional, and local agencies involved in disaster response and preparation, coordination of planning can be difficult due to differing priorities and motivations. Confusion results from inconsistent policies and regulations outlining the responsibilities of various agencies in disaster preparation. Additionally, government and local policies often place an emphasis on the response phase instead of the preparedness and prevention phases of disaster. Thus, preparedness for disasters may be underemphasized in communities, especially in rural areas that lack funding to carry out preparedness measures.

Public Awareness and Preparedness

Public awareness of hazards and preparedness for hazards go hand in hand. Citizens who do not perceive themselves to be at risk for certain hazards likely will not prepare for those hazards. However, public awareness does not



Factors that influence community preparation include:

- Overall community functioning
- A community's previous disaster experience
- Whether local leaders consider disaster preparedness to be a priority
- Economic resources for preparedness measures

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How mental health professionals can get involved in pre-disaster planning:

- 1) Contact disaster planning groups in the community and find out how you can play a role
- 2) Provide assistance in developing disaster referral lists
- 3) Help local community leaders plan for psychological reactions to disasters
- 4) Assist in formulating public education campaigns
- 5) Help develop effective communication strategies

necessarily translate into public preparedness. One reason that citizens may choose not to prepare is that they do not believe there is a high probability of the hazard occurring and feel the effort required to prepare for a low probability event is too great. Additionally, people may lack information about potentially effective preparedness strategies.

People obtain knowledge of hazards from a variety of sources including:

- Folktales
- Media
- Government
- Scientific sources

Citizen knowledge about preparedness strategies is thus partly based on the information provided by these and other sources. Thus, accurate information about disaster preparedness needs to be provided by the government, media, and local officials.

Finally, studies suggest that income level and minority status are related to disaster preparedness, such that non-minorities and citizens with higher socioeconomic status tend to be better prepared for disasters as compared to low-income and minority households and neighborhoods. Thus, fewer economic resources may translate into poorer preparedness, thus resulting in greater losses in the case of a disaster.¹

Consideration of Mental Health Issues

Mental health issues may not immediately come to one's mind when considering community preparation for disasters. Nevertheless, consideration of mental health issues prior to a disaster event will help lessen stressful reactions following disaster. For instance, mental health professionals can play a key role in community preparation by getting involved with disaster planning groups in their community, helping develop disaster referral lists, planning for psychological reactions, assisting in formulating public education campaigns, and developing communication plans for addressing the fear involved with terrorism and bioterrorism.

References

¹World Health Organization & League of Red Cross and Red Crescent Societies. (1989). *Coping with natural disasters: The role of local health personnel and the community*. Geneva: World Health Organization.

DISASTER RESPONSE PLANS

Disaster response plans contain the information that community leaders use during times of disaster to organize and keep the community running, provide assistance and resources to those affected by the disaster, and to coordinate the various agencies involved in disaster response. Anticipating and planning for emergencies can lessen the extent of physical, structural, and social damage and disruption from disasters. Response plans need to clearly set out the responsibilities of different community organizations in the event of a disaster. Community stakeholders and citizens who are not directly involved in developing disaster response plans may wish to learn more about their particular community's response plan and whether they can provide unique contributions. To learn more about your community's response plan, contact your local public health system, county, or city council, or visit your community or county website if one is available.

The inclusion of psychological and mental health considerations in community disaster response plans is crucial, as disasters involve incredible stresses for individuals and communities. Below is a list of suggestions for how to incorporate psychological considerations into disaster response plans.

Educate Planners

Educate disaster response planners regarding the common human behavioral and emotional responses to disaster. Additionally, planners need to be educated about how to develop contingencies for less common behavioral responses (e.g., panic, looting) without assuming these will be the primary behaviors seen after most disasters.

Plan Warning Strategies

Plan effective warning strategies that motivate the public to act without unduly raising fears and anxieties. For example, choose trusted officials to deliver warnings that include specific instructions for how to reduce individual and family risk from the expected hazard. Please see, "Educating Community Members" for a discussion of factors that are important to consider when planning warnings.

Develop Referral Lists

Develop a referral list of local mental health professionals who can provide services in the aftermath of a disaster. Although the Red Cross will provide mental health professionals in the immediate wake of many disasters, a



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The U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration released, "Mental Health All-Hazards Disaster Planning Guidance" in 2003. This guide is designed to help state and local mental health leaders develop disaster response plans. The guide can be obtained at www.samhsa.gov, or by calling 1-800-789-2647 and asking for DHHS Publication Number SMA 3829.

referral list of local professionals is needed to handle long-term mental health needs.

Make Plans to Address Community Fears

Plan how to address community fears following acts of terrorism or bioterrorism. Strategies for addressing these fears are discussed later in this manual (Please see, "Unique Sources of Stress in the Face of Biological, Chemical, and Radiological Weapons"). Sample strategies include creating a rumor control hotline, developing mental health public education materials, and identifying local experts who can talk with the media about community fear in the immediate days after a disaster.

Design Public Information Programs

Plan strategies for information management. Mental health professionals can help design public education programs that educate citizens without unduly raising their level of fear. One strategy may include placing a local mental health professional on the community response planning team to consult on public health information plans.

IDENTIFYING COMMUNITY RESOURCES AND BUILDING PARTNERSHIPS

Coordinating and Cooperating

An effective disaster response will require the efforts of multiple agencies and organizations, as well as strong ties among local officials, public health officials, medical professionals, emergency response personnel, and mental health professionals. Clear, well-established partnerships between local, state, and federal agencies help coordinate resources for recovery efforts and eliminate duplicated efforts. In order to build effective, long-lasting partnerships, individuals and groups need to respect one another's interests in contributing and collaborate to build upon individual strengths.

Oftentimes disasters strike with little warning, and multiple groups converge on a community or area to aid in disaster relief. If these groups do not have preexisting relationships or agreements, conflicts can form over how to best provide services and who will be in charge of relief efforts. Offers of material items, monetary assistance, and volunteers often pour in faster than a community can arrange structures for organizing and distributing such assistance. Because the post-disaster period places many demands on local authorities and response agencies, they may not be able to organize and utilize all spontaneous volunteer resources effectively. Thus, if a community stakeholder or stakeholder group would like to be involved in post-disaster assistance, it is recommended that they work with community officials to set up these arrangements before disaster strikes. In this way, when a disaster occurs, interested stakeholders will be integrated into response efforts.

Identifying Needs

If community disaster planners perceive that they have resource deficits in certain areas, they may wish to search for those resources in their community or surrounding area in order to include those resources in disaster response plans. Identifying these resources prior to a disaster and clearly specifying their roles in the event of a future disaster response effort will help to avoid some of the chaos that can occur post-disaster. Potential resources include local religious organizations, local groups such as the Jaycees or Kiwanis, community mental health agencies, Cooperative Extension, and local volunteer groups.



The inclusion of psychological and mental health considerations in community disaster response plans is crucial, as disasters involve incredible stresses for individuals and communities.

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It is important to identify trusted, local community resources that can be utilized post-disaster, especially in rural and frontier areas. These resources may include:

- Churches and clergy members
- Cooperative Extension
- Organizations such as the Kiwanis or Jaycees
- Local business leaders
- Community mental health centers
- Community colleges
- Local farm bureau

- **Including mental health**

As stated previously, the inclusion of psychological and mental health considerations in community disaster response plans is crucial, as disasters involve incredible stresses for individuals and communities. Thus, it is useful to include mental health professionals in community disaster response plans. When including mental health professionals in response plans, it is important to identify a lead mental health agency and make sure that the roles and responsibilities of the participating agencies/professionals in disaster response are clearly defined.¹ Community leaders can contact the American Psychological Association, local Red Cross chapters, or the Substance Abuse and Mental Health Services Administration to identify mental health professionals with experience in disaster response. Contact information for these organizations is provided in the “Resources” section in the Appendix.

- **Including Cooperative Extension**

In addition to mental health professionals, Extension professionals are another important stakeholder group with an interest in disaster response. Extension professionals are closely linked with specific community segments (e.g., farmers/agricultural workers, schools). Because of these close linkages, some community segments feel more comfortable working with an Extension professional than with a mental health professional. For instance, rural farmers often are reluctant to share their difficulties with “outsiders.” Following natural (e.g., floods, tornadoes, or drought) or economic (e.g., the farm crisis of the 1980’s) disasters, farmers often feel more comfortable discussing concerns with Extension professionals in their area who understand the local rural value system and are seen as being part of the community. In a similar fashion, some individuals feel more comfortable discussing problems with a clergy member. Because some segments of the community have less trust for “outside helpers,” it is important to identify trusted, local community resources that can be utilized post-disaster to connect with these community segments, especially in rural and frontier areas.

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¹ Bowenkamp, C. (2000). Coordination of mental health and community agencies in disaster response. *International Journal of Emergency Mental Health*, 2, 159-165.

EDUCATING COMMUNITY MEMBERS

Recently, community leaders have been called upon to answer questions such as: “What is the probability of a bioterrorism event happening here,” “To which kinds of biological agents is the community prepared to respond,” and “What is the community doing to enhance its preparedness for terrorism?” In light of these concerns, community leaders must plan how they will disseminate emergency preparedness information to the public and how they will do so without unduly raising anxiety in the community. Educating and communicating with community members before, during, and after a disaster plays a significant role in community and individual citizen response to disaster events. Thus, community leaders must determine how to keep the public informed and prepared. The role of community leaders in educating the public includes:

- Increasing citizen familiarity with city and county emergency management plans.
- Informing citizens about local and state preparations for disasters and terrorism.
- Educating the community about threats from natural disasters, terrorism, or bioterrorism. Ideally, communities should place the most emphasis on educating citizens about the most probable disaster or emergency risks in their area.
- Enlisting the help of citizens as part of an early detection network. Ideally, citizens play a role in local early warning systems by reporting health concerns and suspicious behavior.
- Designing education and communication strategies that address the needs of special populations, such as minority groups, the elderly, non-English speakers, and parents.
- Educating citizens about the procedures to follow before, during, and after a disaster event and the reasons for those procedures. Ideally, information regarding procedures will be specific, as will the reasons for those procedures.
- Preparing citizens to respond effectively and remain calm as they respond. Such preparation efforts should include education regarding anxiety symptoms commonly experienced following a disaster event.

The goal of public education efforts is to increase desired citizen behavior and decrease undesired behavior in the event of emergencies. For example, goals of providing public education prior to potential incidents of bioterrorism include: 1) increasing citizen knowledge and acceptance of preventive measures, 2) increasing citizen responsiveness to official advice regarding precautionary behavior in the event of a terrorist attack, and 3)



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A number of organizations have designed educational materials for use before and after disasters, including:

- Centers for Disease Control (CDC, www.cdc.gov)
- Red Cross (www.redcross.org)
- Federal Emergency Management Agency (FEMA, www.fema.gov)
- Department of Homeland Security (www.dhs.gov/dhspublic/; www.ready.gov)
- Local and State Extension Agencies

increasing citizen compliance with official requests in times of actual biological emergency and decreasing the possibility of panic.¹

Factors to Consider When Designing Public Education Programs^{2,3,4}

- **Timing**

Consider carefully the timing of public education efforts. Generally speaking, it is preferable to educate citizens prior to a disaster rather than following a disaster. Consider whether there are competing educational efforts that might distract from the disaster education effort, significant local or national events that are holding the public's attention, or other factors that might compete for public attention. If this is the case, consider rescheduling educational efforts for an alternate time to maximize public attention. Alternately, disaster education efforts, especially with regards to terrorism and bioterrorism, could raise public fears unnecessarily if efforts are conducted while other fear-inducing information is present (e.g., the nation is under a "high" level of threat from terrorist attacks).

- **Frequency and consistency**

Educational efforts should be conducted with sufficient frequency to have an impact on the population, but not too frequently such that citizens become bored with the message. Information provided also should be consistent and specific, so as not to result in ambiguity. Consider the use of annual updates for the community that correspond with the declaration of a "Disaster Preparedness Month." Also, coordinating community education efforts with disaster response drills by local emergency services may help to focus community attention on preparedness issues without diluting the impact of the message.

- **Presenter**

Credible local leaders or agencies should lead public education efforts. Citizens will place more faith in information provided by sources they perceive as trustworthy.

- **Appeal to what citizens find important and relevant**

Educational messages need to be developed and targeted taking into account what is important for a given audience. People are more easily motivated to act if they believe those actions will protect people or things that are personally important (e.g., their children, homes, or businesses). Likewise, people are more likely to respond to educational information that is relevant to their daily personal life.

- Fear

Although fear can be a powerful motivator, developing educational messages that induce high levels of fear could lead to citizen avoidance and denial. Although educational efforts regarding hazards can raise public anxiety, specific information that emphasizes the ability of citizens to control their risks will lower anxiety and increase their investment in the educational message. In addition to these considerations, it is important to know what concerns citizens have so these can be addressed during education efforts (e.g., concerns regarding whether the local fire department is equipped to handle a hazardous materials emergency). This information can be gathered during community focus groups, surveys placed on a community's website, or questionnaires left at common community locations (e.g., churches, schools, places of business).

- Rarity

It is more difficult to motivate people to prepare for rare events, as people tend to deny the likelihood of rare events. While it is quite fortunate that disasters are relatively infrequent events, disaster educators must work to overcome the sense that, "this will never happen here," in the minds of residents.

- Specificity

Whenever possible, educational efforts should include specific information about the danger posed by certain hazards, what citizens can do to prepare, and how citizens should behave in the event of an actual disaster. Specificity increases a sense of control over the situation.

- Targeting

Educational efforts should be targeted towards different community groups (e.g., elderly, minority groups, parents), as these different groups will likely have different concerns in the event of an emergency situation.

Let us look at a hypothetical example of a community plan to educate citizens about what to do in case of a hazardous chemical release in the community (either accidental or malicious). Although this example is very simplistic, it will help to highlight the factors we have discussed.



Factors to consider when designing public education programs:

- Timing
- Frequency and consistency
- Presenter
- Appeal to what citizens find important and relevant
- Fear
- Rarity
- Specificity
- Targeting

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Educational materials and programs designed to help citizens prepare for natural hazards are common in many areas of the country. For instance, many communities in the Southeastern region of the country promote hurricane awareness and preparedness during hurricane season. Examples of educational materials used to prepare citizens for natural hazards include:

- Special segments on the evening news
- Newspaper articles and special inserts
- Inserts included in electric/energy bills
- Brochures available at local businesses
- Information posted on local and state websites

Community X has 5,000 residents and is located next to two chemical factories. Neither factory has a history of problems or accidental releases. In light of the events of September 11, 2001, the community decides to mount a preparedness campaign, as they feel the chemical factories are potential terrorist targets. Community leaders feel it is important to act quickly, so they begin the campaign as soon as they have materials ready, which is the first week of February, 2003. The campaign consists of leaflets distributed in residents' utility bills that detail specific actions the community will take in the case of a chemical accident, as well as actions citizens should take. The leaflets are followed by several 30-second television spots delivered by the Mayor, a lifetime, trusted member of the community, stressing the importance of preparation in order to protect residents. In these ads the Mayor states that September 11 has prompted the community to "prepare for the worst," hence the creation of an emergency plan and educational effort regarding a possible attack on local chemical plants. Residents living nearest the plants receive an additional mailer that gives further specific details about what nearby residents should do in case of a chemical release. All materials contain a phone number and website address should citizens want further information.

This community's approach had both strengths and weaknesses, which are summarized below.

STRENGTHS

- Messages were delivered by the Mayor, a trusted community leader, which would strengthen their impact.
- Mailed materials gave specific information about the community response plan, as well as recommended actions for citizens. Materials also indicated a place residents could look for further information.
- Residents living nearest to the chemical plants were targeted to receive more specific information about precautions to take in the event of a release.

WEAKNESSES

- Timing was a weakness, as the first week of February 2003 was filled with news of the space shuttle Columbia disaster. The Mayor's media spots would likely be given less attention in light of that national disaster.

- Frequency was a weakness, as there were only several television spots and a one-time mailing.
- It is not clear whether citizens would see these messages as being relevant to their daily lives, as there was no explanation why residents should prepare, other than the events of September 11, 2001. However, the message did state that preparations were intended to protect residents, thus appealing to personal safety.
- This campaign might have created more fear in the community, as the Mayor stated the community should, “prepare for the worst.”
- Since there have never been any chemical accidents in this community, residents may see the likelihood of a future accident as being a rare event, thus not seeing preparation as a priority.

The weaknesses in this campaign were likely due to a combination of bad timing, poor planning, and not understanding all of the factors that are important when planning an educational effort. As you will see below, many of these same factors are important when planning how to provide warnings of an impending disaster.

Factors to Consider When Providing Warnings of an Impending Disaster or Terrorist Attack^{5,6}

- **The warning has meaning**

Frequent warnings that are not followed by the warned event could reduce the impact of future warnings. In other words, repeated warnings can lose their substance if nothing bad ever happens. The folktale about the boy who cried wolf demonstrates this principle. When a warning is not followed by the warned event, people may begin to disregard the warnings. This factor is especially important to consider with regards to terrorism.

- **Anticipate behavior**

Structure warnings based on anticipated human behavior in the face of a warning. For instance, people will often try to locate or contact family members before following an evacuation order. Thus, evacuation orders should be given earlier if possible to allow people time to locate loved ones. Also, people usually seek out additional sources of information to verify warnings, thus warnings sent over multiple channels may decrease the tendency for people to seek verification.⁷



Tip: Learn From Past Disaster Experiences

When trying to design education or warning strategies, consider past community experiences with disaster events.

Look for strengths and weaknesses of previous strategies, and consider how citizen behavior may have been affected by the educational approaches used or warnings given.

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Factors to consider when providing warnings of an impending disaster or terrorist attack:

- Meaning
- Anticipate behavior
- Specificity and clarity
- Credibility of messenger and message
- Timing
- Fear
- Debriefing
- Consistency

- **Specificity and clarity**

Warnings that contain specific information about the potential danger, how that potential danger was assessed, and what specific behaviors citizens should engage in to reduce their risk are better than warnings that contain ambiguous information. Citizens feel increased control if given specific actions to take.

- **Credibility of messenger and message**

Warnings need to be delivered by credible sources and based on reliable information. Sources that are not considered trustworthy by citizens are less likely to be believed.

- **Timing**

Warnings that do not allow time for citizen response are likely to increase anxiety and decrease feelings of control. Clearly there are many circumstances where it is not possible to give citizens advance warning, but when possible, it is best to allow time for citizens to take recommended actions.

- **Fear**

Warnings that are overly alarming will unduly increase public fears, while warnings that do not arouse any concern or fear are less likely to be heeded. The goal of a warning is to motivate citizens to take some action, not to induce high levels of fear that immobilize people.

- **Debriefing**

If a threat situation changes (e.g., becomes greater or lesser), citizens should be informed of the change and the reason behind the change. Likewise, if the threat passes, it is good to alert citizens to the specific reasons why a danger is no longer present (if specific reasons are available).

- **Consistency**

Warnings should be consistent, especially when provided through multiple outlets and by multiple sources. In the case of the Three Mile Island nuclear accident, conflicting information existed about what citizens needed to do, thus resulting in citizens disregarding information and making decisions on their own. In this case, the message was not consistent across different sources. Warnings should also be consistent with recommended actions. For example, if a city issues a warning that a terrorist attack on the

downtown area is imminent for the following day (e.g., officials are 90% sure it will happen if they cannot locate the terrorists), then it would be conflicting to recommend that citizens go to work and about their daily business. In a situation where officials communicate a high and serious risk, recommended behaviors should be consistent with that level of risk. If recommended behaviors are not consistent, a reason for the inconsistency needs to be provided.

Let us consider another hypothetical example concerning the same Community X (5,000 residents and two chemical plants).

Three months after the education campaign in Community X, state officials are told of an imminent threat to chemical plants in the state, although no specific community is named. Officials believe an attack is highly likely within the next few days. The Mayor of Community X is notified of the information and decides to provide a warning to local residents. The Mayor presents a live message on both radio and television, informing residents that there is credible information of a threat to chemical plants in the state in the next few days. He stresses the need to prepare but be calm, as no specific community is targeted, and says, “It is always good to prepare in the face of credible threats, but at the same time please remember that we cannot live our lives in fear and we need to keep functioning as a community.” He asks citizens to continue their daily routines but notes that he requested the chemical plants to “run on minimal staff and increase security” for the remainder of the week. He also gives residents an “action plan,” which includes having an emergency supply kit, developing a plan to shelter in place at their homes or businesses, and checking with elderly neighbors to see if they need help preparing. Anticipating that residents will make a rush on local grocery stores for canned goods, the Mayor advises grocers to prepare for increased sales. Following the Mayor’s live message, the local television station airs an interview with the Governor, who recommends the same action plan (the Mayor had conferred with the Governor’s office prior to developing his message, thus both messages are consistent). Thankfully, an attack does not materialize and officials determine the immediate threat of an attack on chemical plants is over. The Mayor of Community X makes another televised statement indicating that officials have determined the threat has passed. He also stresses the importance of remaining prepared for any unforeseen future event.



In a situation where officials communicate a high and serious risk, recommended behaviors should be consistent with that level of risk.

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Opportunities for issuing warnings vary greatly for different types of disasters. Generally, warnings can be issued for many types of natural hazards, although some natural events are more predictable than others. For human-made disasters, there is typically little or no time to provide prior warnings due to the sudden nature of many of these events.

So how did Community X's warning strategy fare in comparison to their previous educational campaign?

STRENGTHS

- Although this warning was not followed by the warned event, it was provided because of information indicating a high likelihood of an attack. Thus the warning had some meaning. However, if the community was to give such warnings repeatedly in the face of even the smallest likelihood of an attack, the warnings could lose meaning if no events ever occurred.
- The Mayor took the step of anticipating a rush on grocery stores for food and supplies by advising the grocery stores to prepare.
- The Mayor gave residents a specific plan to follow, as well as specific information about the decision to provide a warning.
- The message was delivered by the Mayor, who is a trusted member of the community.
- The warning provided residents with some time to prepare (it may happen in the next several days as opposed to the next several hours).
- The Mayor consulted with the Governor's office so that his local message would be consistent with the state message.

WEAKNESSES

- Although the Mayor informed citizens that the threat had passed, he did not provide specific information about why officials thought there was no longer danger of an attack.
- The Mayor attempted to keep fears from rising by stating that no specific community was targeted. However, he asked chemical plants to run on limited staff and increase security, which sent the message that the danger may be higher than he was indicating.
- The Mayor's recommendation for chemical plants to run on limited staff was inconsistent with his request for residents to continue their normal routines.

Overall, the Mayor's approach to warning Community X contained more strengths than the previous educational campaign. The biggest weakness involved the inconsistency between the message to residents to continue normal routines and the message to chemical plants to work with minimal staff and increase security. If such an inconsistency appears necessary, officials should openly discuss the inconsistency and the reasons behind any differences in levels of precaution. Also, no specific information was given about why officials thought the warning had passed (e.g., there was new information or someone had been apprehended before they could attack).

Clearly the examples provided in this section are hypothetical and do not provide a high level of detail. However, they are meant to provide a broad illustration of some of the key features that should be considered when planning community educational strategies and warnings. Remember, citizen behavior will likely be influenced by the quality of any messages delivered, whether they are warnings, educational materials, or reports on community preparedness measures. For this reason, it is important to take into account how the factors discussed in this section will impact on the quality of pre-disaster messages to the public.

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SECTION FOUR

HELPING COMMUNITIES IN THE IMMEDIATE WAKE OF A DISASTER

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INTRODUCTION

In this section we cover several topic areas relevant to community response immediately following a disaster, including coordinating response efforts, information management, and issues relevant to disasters involving biological, chemical, and radiological weapons. Additionally, we briefly discuss some special circumstances that may occur following disasters: criminal investigations, civil unrest, and stereotyping of community members. It is important to remember that disasters do not just affect individuals. Disasters affect entire communities, as they threaten the normal, everyday way of life and community structure. In each of these topic areas we consider how disaster management decisions impact community reactions in the immediate aftermath of a crisis. In addition, we provide a number of strategies designed to minimize negative psychological reactions at a community level.



It is important to remember that disasters do not just affect individuals. Disasters affect entire communities, as they threaten the normal, everyday way of life and community structure.

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Following a disaster, a number of agencies and individuals converge on a community, wanting to offer their assistance if possible. The most striking example of this was September 11, 2001, when people traveled from across the country to help with recovery efforts in New York City. This convergence effect can result in problems, as local officials and lead relief organizations must determine how to manage these additional resources.

COORDINATING RESPONSE EFFORTS

Disasters that place lives and property at risk can dominate management time. In the immediate wake of a disaster, communities put their response plans in action and call on standing collaborative response agreements. The local fire department, police, and EMS are usually the first community responders to be contacted in disasters. If governmental assistance is requested, the Federal Emergency Management Agency (FEMA) assumes the role of lead agency in most major disaster events. Because a number of community agencies are involved in disaster response, it is important for interested community stakeholders to identify those agencies involved and how they can coordinate their services in the event of a disaster. As discussed in Section 3 (Helping Communities Prepare), it is beneficial to coordinate with agencies prior to the onset of a disaster if possible. In the immediate wake of a disaster, a number of agencies and volunteers converge on a community with a desire to help in response efforts. This convergence effect is seen in almost every large-scale disaster. In the case of September 11, 2001, volunteers from across the country traveled to New York City in hopes of helping in recovery efforts. This convergence effect can result in a number of difficulties including:

- Different agencies may duplicate response efforts when they could instead collaborate in providing services and potentially reach a wider audience more effectively.
- When multiple agencies that do not have pre-existing collaborative arrangements respond to a disaster event, questions frequently arise regarding who is in control. The resulting conflict can hinder response efforts.
- Poor communication and coordination can occur when multiple agencies and volunteers are involved that do not have prearranged communication plans.
- Different agencies and responders may have varying goals and priorities for response if they are not operating under the same disaster response plan.
- Managing large numbers of volunteers requires valuable management time.
- The number of volunteers may exceed the initial need.

Because of these potential difficulties, community stakeholders who have an interest in disaster response would benefit from networking with local and state disaster response officials prior to an event if possible. If a disaster has occurred and these arrangements have not been made, those interested in assisting should contact the lead disaster response agencies to find out how they can best become involved. Sometimes long-term assistance (starting

several weeks following the disaster) might be needed more than immediate assistance, as there are often more volunteers than are needed for the immediate response effort.¹ With regards to immediate mental health response, the lead agency is often the Red Cross. Also, most State Mental Health Agencies have existing disaster response plans for their specific state. Long-term mental health responses are often coordinated by the local public health system, community mental health centers, school districts, and coordinated networks of local mental health professionals.

Following a disaster, changes often occur in community organizations. Changes in community organizations can be both useful and stressful for a community in a time of crisis. Common patterns of community and organizational response after a disaster include:²

- **Community mobilization**
Individuals and community organizations come forward to help with immediate needs, such as saving lives, caring for the injured, and removing debris.
- **Community consensus**
There is typically high community consensus and less conflict immediately following a disaster, as the community pulls together to restore community functioning. However, this consensus does not extend to all aspects of disaster response or continue indefinitely. For instance, it is common for responding organizations to be unclear about their roles, which can lead to disputes.
- **Convergence**
Immediately following a disaster, individuals and agencies converge on the disaster site. Managing these additional resources can become problematic for local emergency officials.
- **Organizational adaptation and innovation**
Existing community organizations and groups adapt their structure and functioning to respond to the disaster event. Examples include schools and churches holding recovery drives, businesses donating employee time to help with clean-up efforts, and mental health agencies creating hotlines. New organizations may also develop to meet unmet needs. New organizations and organizational structures complicate disaster response coordination, as many of these new organizational forms lack clear responsibilities.

References

- ¹ Bowenkamp, C. (2000). Coordination of mental health and community agencies in disaster response. *International Journal of Emergency Mental Health*, 2, 159-165.
- ² Tierney, K. J. (1989). The social and community contexts of disaster. In R. Gist & B. Lubin (Eds.), *Psychosocial aspects of disaster* (pp. 11-39). New York: John Wiley & Sons.



Because a number of community agencies are involved in disaster response, it is important for interested community stakeholders to identify those agencies involved and how they can coordinate their services in the event of a disaster. It is beneficial to coordinate with these agencies prior to the onset of a disaster if possible.

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It is important not to overestimate the risk of panic during critical incidents, as panic rarely occurs after disasters. However, it is critical to consider situations that may provoke panic when preparing your response plan. Characteristics of an event that are more likely to induce panic include:

- Situations where the threat of harm is unclear.
- Situations where individuals have difficulty figuring out steps to reduce their personal threat of harm.
- Events that occur in confined spaces or in areas where escape is difficult.
- Situations where panic is modeled by a few individuals, especially formal and informal leaders of the group, and *social contagion* occurs.

(For more information please see, "Keeping the Lid On: Maintaining Calm and Preventing Panic in Times of Crisis")

INFORMATION MANAGEMENT

Communicating With Citizens in a Time of Crisis

The dissemination of accurate and timely information during and after an incident is perhaps one of the most important and difficult tasks faced by disaster response professionals. Success in crisis communications requires clear thinking, refined skills in public communications, and above all, a detailed plan. A successful crisis communications operation minimizes the immediate and long-term impact of the event and generates a sense of confidence and hopefulness among those impacted. Failure leads to heightened fears, risk of public panic, and lingering economic, physical, and psychological harm to the population. Thus, the stakes for successful communication are high. This section describes specific steps that response planners can take in formulating disaster communications that reduce the risk of panic and other negative psychological reactions in disaster and terrorism situations.

Pre-event Preparations: Preparing the Communications Plan

The first and most critical activity that a response team can undertake to reduce the risk of panic in critical incidents is the development of a clear, detailed communications plan. This plan describes the members of the response Communications Team, the relative expertise of these members, the chain of command among team members, and specific protocols for sharing information among team members and with the public. Consider the following steps in formulating your Communications Plan:

- **Step 1: Invite and Assemble Team Members**

It is important for most communities to invite a wide range of community experts and stakeholders to participate in developing a communications plan. Team members may include representatives from public health, emergency medical services, local government, the religious community, mental health experts, local educational institutions, and the media.

- **Step 2: Identify Local Experts**

It is critically important for the Communications Team to take time to identify local experts who can provide quality information to the public during and immediately after the crisis event. These experts can often

provide timely information through local media channels to promote quick evacuations and protective procedures for residents. In addition, crisis communication experts have learned that residents often prefer receiving updates and warnings from local officials with whom they have built trusted relationships. In times of crisis, local spokespersons can provide a calming influence as compared to state and federal officials who often have little connection to the community. It is imperative to identify these local experts so that they can quickly establish relationships with state and federal experts in an effort to coordinate communication and provide reassurance to the public through statements from familiar faces.

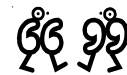
- **Step 3: Set the Communication Ground Rules**

The Communications Team needs to establish rules and protocols for communicating in a crisis situation. These rules should provide detailed information about which team members take the lead in discussing particular aspects of the event and recovery efforts with the media. It may be helpful for the Communications Team to answer the following questions to help identify communication responsibilities:

- ✓ What is the topic (e.g., fire risk, contamination, threats to public health, mental health, etc.)?
- ✓ Who is the designated expert?
- ✓ Who should they consult with before making public statements?
- ✓ Where will they make these statements?

- **Step 4: Identify the Communications Command Center**

More than likely, the Communications Command Center (often called the Joint Information Center) will be the place where most, if not all, public statements will be made. The Communications Team should identify a Communications Command Center that is large enough to house all of the necessary experts, as well as the large numbers of media and concerned citizens who will attend briefings. It is also important to conduct communications from the overarching Event Operations Center so that emergency and recovery officials can make public statements in a timely manner. Typical settings for a Communications Command Center may include: airport hangars, military installations, large school auditoriums, and other very large, centrally located facilities. It is generally inadvisable to attempt to set up Communications Command Centers in remotely located facilities or away from the Event Operations Center.



Crisis communication experts have learned that residents often prefer receiving updates and warnings from local officials with whom they have built trusted relationships. In times of crisis, local spokespersons can provide a calming influence as compared to state and federal officials who often have little connection to the community.

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Tips for effective rumor control:

- Address rumors openly.
- Establish a rumor control hotline specifically for questions related to the disaster event.
- Provide frequent updates regarding the known facts of an event.
- Provide communications in concert with other officials so that contradictory information can be minimized.
- Provide citizens with trusted resources (hotline number, community, state, and federal websites).

• Step 5: Establish Rumor Control Procedures

One constant in any critical incident is that rumors appear and spread rapidly. One of the most repeated pieces of advice from critical incident response professionals is that Communications Teams need to establish aggressive rumor control procedures prior to an event. Rumors are one of the most serious threats to community stability and recovery efforts. They induce unnecessary fear and panic and often create suspiciousness among residents regarding statements from authorities and the purpose of various recovery procedures. The most important thing that the Communications Team can do to prevent the spread of rumors is to create an information hotline that can be implemented immediately after a crisis event. Officials should also monitor this hotline continuously throughout response and recovery efforts.

In establishing plans for this hotline, team members should make sure to reserve a phone number that is used exclusively for the rumor control and information hotline. Simply diverting existing phone lines for hotline use will not be effective and will block the communication of more routine information that was typically sent to that number. This hotline needs to be established with adequate staffing plans, and telephones need to be pre-positioned so that the network can be set up immediately. A Communications Team member should be designated with the responsibility of monitoring the content of calls to the hotline in order to identify trends in reported rumors and provide surveillance for emerging threats and safety hazards developing in the community. Many rumor control hotlines also employ mental health professionals as part of the staff in order to handle calls concerning the spread of anxiety, panic, and other psychological disturbance.

• Step 6: Engage in Open Conversations With the Media

It is important to solicit media input on the Communications Plan and learn about their common practices and priorities for seeking information in a crisis situation. This dialogue will help sensitize the media to response and recovery procedures. These meetings can also help identify situations where conflicts can emerge among the mandates to report information quickly, accurately, and for the protection of the public. A natural tension between “getting it first” and “getting it right” can be lessened in a crisis situation if local communications experts and the media have taken the time to collaborate on the Communications Plan and share their perspectives in a candid manner.

It may also help to set up a series of ground rules regarding which local experts will share information on what topics and how often briefings

will occur (hourly briefings are often recommended while the event is unfolding and during initial recovery; daily or twice-daily briefings thereafter). Other tips for working with the media will be discussed later in this section.

- **Step 7: Establish Emergency Contact Procedures**

In this step, Communications Team members need to establish a protocol for quickly connecting with each other in the event of a disaster or terrorist attack. The simple creation of a “phone tree” (where one member calls successive members on the list until they establish contact with one of their colleagues and so on) that includes home and mobile phone numbers and e-mail addresses is usually sufficient.

- **Step 8: Update Plan Annually**

Communications Team members should meet annually to update the Communications Plan and contact information as needed. These meetings also provide an opportunity to reinforce the importance of sticking with the plan in the event that a crisis situation occurs.

During an Event: Initial Response

As with most high stress, high demand situations, success in implementing an effective communications strategy during a crisis event is largely dependent upon the time and energy that the Communications Team placed into developing a detailed Communications Plan. Let’s take a look at the priorities for communication as a critical event unfolds. The following procedures provide a general outline for steps to consider when carrying out a Communications Plan during the first hours of a crisis event.

- **Step 1: Activate Emergency Contact Procedures**

Activate the “phone tree” to contact all Communications Team members.

- **Step 2: Assemble Communications Team Members at the Command Center**

It is important to recognize that several local experts will have immediate responsibilities for responding to the crisis. Participation in the Communications Team may not be a high priority for them in the first moments of a crisis. However, it is important that available Communications Team members meet to establish the first phases of the Communications Plan. It is also vitally important that one member assume leadership for the team, at least during the initial phases of the event. Finally, assembled team



As with most high stress, high demand situations, success in implementing an effective communications strategy during a crisis event is largely dependent upon the time and energy placed into developing a detailed Communications Plan pre-disaster.

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During an Event: Initial Response

Step 1: Activate emergency contact procedures.

Step 2: Assemble Communications Team.

Step 3: Coordinate with state and federal authorities.

Step 4: Set the tone for communication.

Step 5: Disseminate timely information to the media.

Step 6: Conduct rumor control meetings with hotline staffers.

members should quickly review the Communications Plan and identify areas of expertise among the team members.

- **Step 3. Coordinate with State and Federal Authorities**

While team members are likely to feel pressure to quickly share information with the public, they must be prepared to coordinate communication efforts with state and federal authorities that will be descending on the community in short order. Again, we emphasize the importance of coordinated communication that presents information through local authorities when possible to maintain the advantages of having well-known and trusted spokespersons sharing information with the community.

- **Step 4: Set the Tone for Communication**

It is vitally important for designated spokespersons to take a moment or two throughout the course of the first day's events to remind themselves of the need for establishing a healthy tone for communication from the Command Center. Speakers should present information to the public that reinforces the notion that experts at the Command Center are operating in a calm and coordinated fashion. Their statements should:

- ✓ Reflect qualities of clear and decisive leadership.
- ✓ Avoid the presentation of any division of opinions among response experts at the Center.
- ✓ Promote the perception that response workers are making diligent and constant efforts to assess the situation and take protective and cautionary measures.

- **Step 5: Disseminate Timely Information to the Media**

The media is a response planner's best asset in the first moments of a crisis event. It is important for the Communications Team to begin disseminating timely information to the public through the media. Initial statements often focus on the following three priorities:

- ✓ Assessments of the risk for continued harm to the public.
- ✓ Evacuation and/or protection procedures.
- ✓ Initial plans for providing relief resources (shelters, food and water stations, healthcare facilities).

The next phase of communication, often starting 6-12 hours after the beginning of the event, will typically include statements regarding:

- ✓ Plans for establishing communications among displaced family members.
- ✓ Plans for sheltering displaced families past the first 24 hours of the event.
- ✓ Initial assessments of possible causes of the event.
- ✓ Gross estimations of damage.
- ✓ Establishment of a rumor control hotline and statements quelling any initial rumors that have surfaced.

- **Step 6: Conduct Rumor Control Meetings with Hotline Staffers**

It is important to monitor calls to the hotline and address rumors in the media as they surface. Some crisis response planners comment that they have concerns about addressing rumors publicly, believing that they will only serve to spread these rumors to other parts of the community. However, experience has shown that the best strategy is to deal with rumors aggressively, address them openly, and reassure the public that individuals in the Command Center are working hard to make sure that they are given accurate information in a timely manner. Conducting short pre-briefing and debriefing meetings with hotline staffers at the change of shifts is often an effective strategy for passing along information and monitoring rumors as they may spread.

During an Event: Intermediate Response

After the initial hours of a crisis, as the specifics of the disaster and response effort begin to take shape, it is important to start sharing descriptions of the event and rallying community support for taking part in the recovery plan. Consider these tips when formulating your Communications Plan for the 12-36 hours after the initial event.

- **Tip 1: Outline Present and Future Steps in Response Plan and Best Estimate of Timeline**

In this phase of the Communications Plan, it is important to make sure that spokespersons are beginning to dispense more detailed descriptions of the event and recovery efforts, and providing directions for the needs and continued safety of residents. Key information may include:

- ✓ Updates on rescue efforts.
- ✓ Initial assessments of damage and danger areas.
- ✓ Resources for coordinating communication among affected individuals (e.g., available phone lines, Internet sites, message boards, etc.).



During an Event: Intermediate Response

Tip 1: Outline response plan.

Tip 2: Provide a provisional timeline for further communications.

Tip 3: Recognize the tension between speed and accuracy.

Tip 4: Give citizens a mission.

Tip 5: Underscore that everyone's health and safety is a priority.

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The pressure to provide detailed information while the crisis event is still unfolding can sometimes lead to great tension between recovery agency spokespersons and the news media.

- ✓ Initial investigation of the incident.
- ✓ Initial estimates of the timeline for cleanup and safe return of residents to their homes and businesses.

- **Tip 2: Provide a Provisional Timeline for Further Press Conferences or Communications**

Spokespersons will find that they are often pressed to provide details or estimates of situations that require speculation and are full of uncertainties. It is important to recognize the public's desire for information is often highest in this phase of post-disaster recovery.

- **Tip 3: Recognize the Tension Between Speed and Accuracy**

The pressure to provide detailed information while the crisis event is still unfolding can sometimes lead to great tension between recovery agency spokespersons and the news media. Spokespersons should recognize that information is likely to spread very fast at this point. Twenty-four hour cable news has led to a very short news cycle. But, these advances in broadcasting allow spokespersons to get their best information out to help the public in the shortest order.

In his discussion of strategies for dealing with the media during terrorist events, Quigley points out that the media responds to two pressures when trying to cover a breaking news event, *speed* and *competition*.¹ That is, the press wants to report details of the event quickly, and they want to develop that information before other media outlets get the story.

Recovery spokespersons are also likely to feel pressure to get the story out fast, but they also feel pressure to make sure they get information out with perfect accuracy. This is not to say that the news media does not care about reporting stories accurately, quite to the contrary. However, they are more likely to be given some leeway in reporting quickly breaking stories if some statements prove incorrect. Recovery spokespersons, whose words can direct the behavior of thousands of individuals and save or create millions of dollars in damages or wasted response efforts, are given very little room to be wrong.

Quigley points out that spokespersons will likely not have the luxury of waiting for their information to be fully verified. He suggests that short news cycles and the pressure to get information out to the public means, "If you have an 80% solution in hand but wait for the 100% solution, you will never catch up with the news cycle" (p. 57).² This statement is not meant to rationalize guess-making and the dissemination of unproven rumors by spokespersons. Rather, it recognizes the likelihood that public information

personnel are likely to be placed in a host of situations where they have to make difficult choices between getting information to the public that they believe to be the best estimate at the time, or waiting until they know for sure that it is 100% accurate.

- **Tip 4: Give Citizens a Mission**

This tip is critically important when forming the content of the response and recovery message. After a disaster event, citizens often feel very vulnerable to forces that are outside of their control. Decades of psychological research have shown that this absence of “mastery” is a key ingredient for stress and anxiety in trying times. Effective recovery messages include suggestions for giving citizens a sense of “mission” in helping their community respond to this challenge. City, state, and federal officials were very effective at promoting this sense of “mission” after the World Trade Center and Pentagon attacks of 2001. Several political leaders stepped up to the podium time and time again and encouraged members of their respective communities to perform specific actions that would help with overall recovery efforts. Oftentimes, these actions do not need to be heroic or even extremely difficult. The important thing is that they give each affected resident the opportunity to participate in turning the situation around and regaining mastery over their lives. Some suggestions for promoting a sense of “mission” may include encouraging residents to:

- ✓ First check on their own safety and health and report injuries to health care authorities.
- ✓ Check on the safety and health of family, friends, and neighbors.
- ✓ Evacuate from dangerous areas and assist those who need help evacuating or seeking treatment for injuries.
- ✓ Monitor and report rumors to the rumor control hotline. Also, suggest to residents that they should help dispel rumors in their respective communities.
- ✓ Emphasize reports of peaceful and helpful responses by members in the community. This message will help quell fears of widespread panic, rioting, looting, and other criminal behavior.
- ✓ Assist with the coordination and implementation of recovery efforts (e.g., filling sandbags, conserving water, contributing electrical generators, giving blood, clearing small debris from roadways).
- ✓ Volunteer to assist in recovery and rebuilding efforts by offering special skills (e.g., construction, tree removal, health care services, mental health services, educational and childcare services).



Remember, in the absence of good information, or even in the absence of any information, people will make up their own information. And usually, their guesses are likely to be farther from the truth than your estimates.

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To encourage a sense of altruism among community members, it is often particularly helpful to have trusted community leaders appeal to the characteristics of the community that will be particularly adaptive in this situation. For example, Mayor Giuliani and Governor Pataki appealed to New Yorkers' sense of toughness and civic pride in encouraging them to pull together as a community and respond to the World Trade Center attacks.

- **Tip 5: Underscore That Everyone's Health and Safety is a Priority**

As in the initial phase of the Communications Plan, the tone of these messages is critically important. In giving residents a sense of “mission” to pull them together and respond to the crisis, it is important to underline how this plan gives everyone in the community the best chance to increase their safety and reduce the impact of the disaster. It is important to reinforce that rescue and recovery plans are based on protecting the welfare of all individuals. You may find that this is a critically important component of your message.

One of the greatest dangers facing response planners in this phase of recovery is the tendency for some individuals to ignore directions because they fear decision makers are willing to sacrifice the health and safety of individuals or small groups in order to protect the greater community. Obviously, this becomes a primary concern when dealing with possible infections by biological agents, nuclear contamination, the imposition of food and water rations, or otherwise restricting basic services to affected parts of the community.

To encourage a sense of altruism among community members, it is often particularly helpful to have trusted community leaders appeal to the characteristics of the community that will be particularly adaptive in this situation. For example, as is noted in other sections of this curriculum, Mayor Giuliani and Governor Pataki appealed to New Yorkers' sense of toughness and civic pride in encouraging them to pull together as a community and respond to the World Trade Center attacks. Look for themes, common values, nationalistic and civic pride, and moments in history where the community has pulled together to triumph over challenges when considering efforts to rally affected citizens.

After an Event: Communications Debriefing

As the initial phases of the crisis subside and the community begins to orient towards solving the long-term challenges posed by the disaster, it is important for the Communications Team to review and amend strategies for crisis communications. In this phase, any pressures felt by the Communications Team will likely have less to do with disseminating accurate information in a very rapid manner. Instead, pressures arise from investigations and examinations of events that led up to the crisis and the overall efforts of the response and recovery agencies.

Some communications spokespersons report feeling bombarded by investigators and inquiries by media outlets and governmental agencies

over these issues. It is important for the Communications Team to have a plan in place for encouraging the spread of *success stories* related to the disaster response to remind members of the community of strategies that worked well during response and recovery efforts. It is helpful to promote this message by developing and maintaining healthy relations with the news media even if investigations are ongoing, contributing to the editorial page of local and national newspapers, and conducting internal inquiries of response agencies to assess failures *and successes* of the recovery operation.

In terms of the Communications Plan, post-event debriefings allow the team to review and amend the response and Communications Plan as necessary. This is the perfect time to consider the addition or subtraction of members to the Communications Team as needed. For example, Team members may find that is important to add members of the clergy or the local school district if they found themselves scrambling to answer questions related to faith or talking to children during the event.

Finally, the tone of communications in this phase of recovery should include a focus on descriptions of the community as courageous and adaptive. Spokespersons should highlight common values shared among community members that were expressed during the crisis. It is also important to recognize that many members of the community are grieving over the loss of family members or a way of life. At the same time, it is important to point out that the community is now moving toward creating a new future for itself - a future that all residents can work to create together.

References

^{1, 2} Quigley, C. (2001). Dual-edged sword: Dealing with the media before, during, and after a weapon of mass destruction event. *Military Medicine*, 166(Supplement 2), 56-58.



Important points to address in recovery phase communications:

- Highlight positive aspects of the event that showed community courage.
- Highlight common community values expressed during the crisis.
- Recognize grieving in the community.
- Point out that the community is moving forward and working together to create a new future.

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Fears that people will react harshly to a disaster event are common, and these concerns are often fanned by media questions and early reports searching for incidents that describe the human drama of an event, the destruction, the chaos. In reality, the reaction of the public in times of crisis is often more adaptive, and less problematic, than officials often fear.

Keeping the Lid On: Maintaining Calm and Preventing Panic in Times of Crisis

“This is a disaster.” It often doesn’t matter what just happened - a tornado, explosion, hurricane, or terrorist attack. Immediately people are forced to react to the unexpected. Very often, local leaders, emergency personnel, public health experts, and mental health professionals become concerned about how the public is going to handle the situation. “What is our first step here?” is a common question. “We have to keep the public from panicking” is a common answer. Fears that people will react harshly to a disaster event are common, and these concerns are often fanned by media questions and early reports searching for incidents that describe the human drama of an event, the destruction, the chaos.

In reality, the reaction of the public in times of crisis is often more adaptive, and less problematic, than officials often fear. A review of public reactions to disasters over the past several decades reveals that most individuals react in a very adaptive, very healthy fashion.¹ However, there are also several issues to consider when attempting to prevent and manage panic during and after a crisis.

Myths of Crisis Reactions

Mass Panic

Despite widespread concerns about mass panic during crisis events, research has revealed that occurrences of mass panic - “*excessive feeling of alarm or fear...leading to extravagant or injudicious efforts to secure safety*” (Oxford Dictionary as quoted in Clarke²) - are, in fact, quite rare. In his review of research conducted on public reaction to times of crisis, Clarke stated, “After five decades studying scores of disasters such as floods, earthquakes, and tornadoes, one of the strongest findings is that people rarely lose control.”³ Clarke details highly publicized reports of mass panic such as the 1977 Beverly Hills Supper Club fire in Southgate, Kentucky, where 165 people died in a fire that started at the main entrance. Even though fire and smoke eventually began pouring into the Club’s Cabaret Room, filled with 1200 patrons, accounts reveal that the individuals did not initially panic and begin pushing or assaulting each other to get to the two remaining exits. In fact, accounts suggest that some patrons may have not initially perceived the threat of the fire as being serious, and that this underestimation may have contributed to many of the deaths.

Reports of calm and collected exits from burning jetliners, as with the 1999 crash of American Airlines Flight 1420 in Little Rock, Arkansas, and the mostly calm descent and exit of thousands of people from the two World Trade Center attacks in 1993 and 2001, further suggest that most people will react calmly in times of crisis and attempt to behave in a manner that offers the best chance for survival for themselves and their colleagues.

Perhaps more than any other factor, the tendency of an individual to constantly evaluate an unfolding event in terms of the risks to their health and safety, as well as the well-being of others around them, is what defines most individual responses in times of crisis.

Irrationality

The tendency to behave in an adaptive, purposeful fashion, even when under incredible stress, seems to contradict the notion that those affected by disasters are vulnerable to behaving in a dangerous, unregulated, irrational fashion. Movies depicting people running in a crazed fashion along the decks of a sinking ship or away from a tornado are far from the actual truth. The reality is that, when faced with such circumstances, the vast majority of individuals choose to act in a thoughtful, decisive manner (e.g., looking for a life preserver or finding low ground or shelter from the wind). Our experiences with victims of weather-related crises such as Hurricane Andrew (1992), the Upper Midwest and Red River Floods (1997), and various tornado and severe storm events suggest that, even when a crisis unfolds quickly, the tendency to behave in an adaptive, goal-directed fashion holds. We have witnessed countless instances of people calmly organizing and prioritizing personal effects in the face of an immediate, emergency evacuation.

- **The benefits of training**

Training for, and experience with, crisis situations appears to further advance an individual's ability to respond to events in a calm, rational manner. The military emphasizes training in critical decision making in preparation for often-chaotic battlefield environments. Likewise, experience with disasters provides communities with "on-the-job" training in disaster preparation and recovery. For example, residents of the Caribbean, Gulf Coast, and Southeastern seaboard have become so accustomed to the threat of major hurricanes that most have developed a calm routine for preparing their families and property for possible evacuation and severe damage. The same could be said for residents of the West Coast in terms of their response to earthquakes. Experience and training appears to solidify a tendency for rational decision making in times of crisis by giving individuals an established set of procedures or decision steps that they can rely on when emotions and stress levels are running high.



Perhaps more than any other factor, the tendency of an individual to constantly evaluate an unfolding event in terms of the risks to their health and safety, as well as the well-being of others around them, is what defines most individual responses in times of crisis

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Factors that may influence the tendency of individuals to follow directions during a crisis:

- Degree to which a person perceives instructions to be helpful.
- Belief in the expertise of the communicator.
- Perceptions of the potential consequences for following or disobeying these directions.

Inability to Follow Directions

This myth, perhaps more than any other, creates lasting problems when implementing an organized response to a crisis situation. The fear that the masses will decide to make decisions on their own, that they will disregard the instructions of response and recovery personnel, leads many government and agency officials to question the type and amount of information that they should share with the public.

- **The case of Three Mile Island**

The classic example of this phenomenon occurred with the nuclear reactor accident at Three Mile Island (TMI). Local and federal officials were concerned about the public's reaction to a "mishap" at the TMI nuclear plant that had allowed radiation to leak from one of its reactors. That was March 28, 1979. Within a day, Pennsylvania Governor Richard Thornburg's office and the Nuclear Regulatory Commission were stating that the crisis had passed. However, by March 30th, reports started to filter out that a hydrogen bubble detected in the reactor core could explode and cause a meltdown of the reactor. The Nuclear Regulatory Commission attempted to defuse the situation with a carefully worded release that vaguely acknowledged the possibility of a meltdown, but in sum, seemed to deny it.⁴

In the end, it appears that conflicting and vague accounts of the situation at the TMI reactor were the result of confusion among the experts involved and the plain fact that they really did not know what was happening in the reactor and what the risk was to the public. In response, the official communication strategy seemed to be centered around containing public fear and panic until more information could be gathered. This seems like a reasonable and prudent strategy at first glance, but the reality is that the public learns to distrust information that is deemed to be vague or inconsistent. Especially when the "official account" seems to be consistent with the possibility that experts are trying to minimize fears about the risks to the public in order to protect against panic. This distrust can persist and create a residue of skepticism among the public, even as they later receive less controversial information.

- **Factors that increase adherence to directions**

Accounts of various crisis events suggest that individuals can generally receive accurate information about an event, follow directions as they are given, and act in an otherwise responsible way. Numerous accounts of successful evacuations of buildings and airliners, orderly responses to missile attacks in Israel during the Gulf War⁵ and the German "Blitz" on

London in World War II, and the observance of precautions among Americans after the Anthrax attacks in 2001 support this conclusion. However, the tendency of individuals to follow directions during a crisis event can be influenced by many factors including:

- The degree to which they perceive these instructions as being helpful.
- Their belief in the expertise of the communicator.
- Their perceptions of the potential consequences for following or disobeying these directions.

Consistent across each of these factors is the underlying theme of credibility. Namely, individuals will be more likely to follow the directions of experts and leaders if they perceive these communicators to be:

- Possessing accurate and detailed information of the situation.
- Fully aware of the potential dangers of the situation that they face.
- Genuinely concerned with protecting the safety of each of the affected individuals and their loved ones.

Lack of Altruism

Isolated stories of looting and self-serving behavior during and immediately after a crisis event often lead many to perceive individuals as likely to act in a self-serving manner in such times and even incapable of performing unselfish, heroic acts. In a review of research on individual reactions in times of disaster, Quarantelli points out that such antisocial behavior is, in fact, quite rare.⁶ Rather, the norm is better illustrated in the actions of victims of the crash of American Airlines Flight 1420. Many stopped to assist fellow passengers exit the aircraft by lifting passenger seats, pulling back metal bulkheads, and carrying victims to safety. All of this occurred despite the danger of fire engulfing the crash site, raising the risk that the plane's fuel tanks would explode. Similar behavior was observed in a host of disasters including the September 11, 2001 terrorist attack on the Pentagon, the 1995 bombing of the Murrah Federal Building in Oklahoma City, and the 1989 Loma Prieta Earthquake.

Highly publicized incidents of looting and other antisocial behavior do occur, but are relatively rare in comparison to the altruistic, often heroic, acts during and after a crisis. Further, Quarantelli points out that such mob behavior is most often conducted by those outside the affected community, by individuals who travel to the disaster site seemingly with a mind to take advantage of the situation.⁷ Even so, these individuals are typically far



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It is likely that the threat of being confined in the presence of danger heightens one's tendency for panic behavior if there is a perception that others will be competing for the same route to safety, and that there is insufficient time for all to escape.

outnumbered by members of the immediate and extended community who arrive in order to provide support and assistance to victims.

Characteristics of a Panic Situation

Despite the tendency to overestimate the risk of panic behavior in a crisis situation, there are many circumstances that increase the likelihood that affected individuals will behave in an erratic, irrational, or otherwise problematic fashion when confronted with a perceived threat to their safety. Panic events can be fueled by situations that offer both very clear threats to the safety of individuals and an ambiguity about how to best respond to that threat.

Confined Space

Feeling trapped in a confined space has long been known to be a trigger for panic behaviors. For example, researchers have discovered that as many as half of patients who undergo Magnetic Resonance Imaging (MRI) cannot complete the procedure due to panic attacks that set in as a result of being exposed to laying in a confined tunnel-like space during the exam.⁸ This effect can be heightened when a number of individuals are confined together, as in the case of the Beverly Hills Supper Club Fire described earlier. Feelings of panic began to simmer as individuals began to crowd around the two remaining viable exits and it became unclear whether all would be able to make it out alive. A similar instance occurred during a soccer game in Ghana in 2001. Police fired tear gas into a crowd of rioting fans, forcing their retreat to gated exits that had been locked. The resulting pandemonium prompted by feelings of being trapped in a confined and dangerous space resulted in the deaths of almost 200 individuals.⁹ It is likely that the threat of being confined in the presence of danger heightens one's tendency for panic behavior if there is a perception that others around them will be competing for the same route to safety, and that there is insufficient time for all to escape.

Unclear Threat/Unclear Solution

In the above instances, the threat to safety was clear and identifiable (i.e., a fire, tear gas). However, threats are not always so visible and so easily identified. The presence of an unseen or unclear threat can also increase the likelihood of a panic situation. Take the case of the sarin gas poisoning on a Tokyo subway on March 20, 1995. During rush hour that morning, members of a doomsday cult, the Aum Shinrikyo, punctured 11 containers of sarin gas on 5 trains converging on a major subway platform under the city. As the trains arrived within minutes of each other and opened their doors,

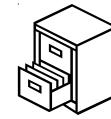
hundreds of sickened and frightened passengers rushed, stumbled, and fought their way out of the affected cars. As the invisible gas spread across the platform and up to the street level, hundreds of people began to cough uncontrollably, vomit, and in some cases, collapse. Twelve died and over 5,000 sought treatment as a result of this attack.

One of the interesting observations from this event is related to that last statistic (5,000 sought treatment). Only 1 in 5 of the individuals who went to local hospitals and clinics to seek treatment were actually casualties.¹⁰ Victims described being terrified by seeing other passengers become violently ill after inhaling the toxic vapors. However, these bystanders could not recognize the source of danger, as sarin gas is not visible. They simply witnessed the effects of the gas on others. This fear of the unknown, this inability to identify the source of the threat, seems to have led many to panic and assume the worst. The potential for panic behavior in the face of invisible chemical, nuclear, and biological threats is one aspect of mass destruction warfare that makes it potentially more effective than conventional warfare for producing panic.

Social Contagion

The impact of social contagion - defined as, “*the spread of affect or behaviour from one crowd participant to another; one person serves as the stimulus for the imitative actions of another*”¹¹ - can further elicit panic behavior in crisis situations. This effect is again likely to be heightened under conditions that present unclear threats and few cues for steps a person can take to decrease their risk of harm. Bartholomew and Wessely point out that social contagion effects are often manifested in the spread of psychogenic illness - that is, physical illness that is brought on from anxiety, stress, fear, or some other psychological distress.¹² However, the effects of social contagion are often more varied. When under high stress conditions where the threat to one's safety is unclear, many individuals will look to their peers for clues regarding their risk level and what actions they should take to protect themselves. If they observe others behaving calmly, rationally, and without observable fear or panic, they are more likely to behave in a similar manner. However, the effects of even a small percentage of peers who begin to behave in an agitated or panicky manner can be a powerful catalyst for the spread of fear and panic among the entire group.¹³

Social contagion introduces a whole new level of unpredictability when it comes to group behavior during a crisis. While it remains clear that most groups move together in an adaptive, rational, and mutually beneficial fashion during a crisis, there still exists the potential for one or two individuals to swing the group dramatically toward panic behavior. These individuals may possess poorer coping abilities under stress, may be viewed



Case Example: 1995 Tokyo Sarin Attack

Unclear Situation:

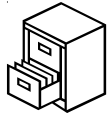
Bystanders saw people exit the subways coughing, vomiting, and in some cases collapsing. However, it was not clear where the threat was coming from, as the gas was not visible. This made it difficult for people to know how to protect themselves.

Outcome: For every 1 physical casualty, there were 4 more non-physical casualties who presented due to concerns about exposure.

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Case Example: 2002 Washington, D.C. Area Sniper Attacks

Randomness:

Individuals were shot carrying out everyday tasks (shopping, pumping gas), with no apparent common thread linking the victims or locations of the shootings.

Result: The random nature of the shootings was a prime contributor to fear in the D.C. area communities, as residents were unable to identify cues for their level of risk and the source of the danger.

as formal or informal leaders among group members, or simply have a much greater perception of the current threat as compared to their peers.

Special Considerations: Terrorism

There are several aspects of a terrorist attack that heighten the potential for panic. The very nature of a terrorist attack is to provoke terror, “*a state of intense fear or violence (as bombing) committed by groups in order to intimidate a population or government into granting their demands.*”¹⁴ Thus, terrorist attacks are, by design, more likely to spread fear, anxiety, and possibly panic among the populace as compared to natural or human-made accidental disasters. As mentioned earlier, crisis situations where the threat of harm is somewhat unclear, or where the threat is invisible or hard to identify, contribute to a greater chance for the spread of panic. Terrorist attacks that include biological or nuclear weapons are prime examples of such possibilities.

The case of the Washington, D.C. sniper attacks in 2002 is another form of terrorism that illustrates many of the fear-inducing characteristics of such events. In this case, a sniper or snipers hid in heavily wooded areas in and around the Washington suburbs and shot unsuspecting residents as they completed mundane daily activities such as pumping gas, walking from their car at a shopping center, or going to school. There seemed to be neither rhyme nor reason to these attacks, no common thread to link the victims or supply a motive for the shootings. The *random* nature of these shootings was a prime contributor to the fear instilled in the Washington, D.C. area. Residents became fearful of going to work, to school, or to the store. Many residents reported driving 50-100 miles in order to fill up their car’s gas tank after one victim was shot while pumping gas. The national news showed pictures of gas stations that placed large tarps and other coverings around their property to shield patrons from the sniper’s line of sight. All of this occurred despite public statements that made it clear that the chance of being killed in an automobile accident was much higher than the chance of being the victim of a sniper attack. The inability of residents to identify cues for their level of risk and the source of the danger seemed to elicit a level of fear that was disproportionate to the actual probability of being a victim. In response, individuals attempted to gain some control over their personal risk level for such attacks, despite the fact that such attempts were often inefficient and did not guarantee protection.

In addition, the D.C. area sniper attacks demonstrated that the unpredictable quality of the attacks, due to their *sudden* nature, engendered fear among citizens. Obviously, a terrorist attack by nature is going to be more effective if it comes with little warning. As was discussed earlier in, “Characteristics of a Panic Situation,” groups of people are more vulnerable to panic when they can find no clear way to reduce their risk of harm.

Sudden terror attacks promote fear among groups of people by striking with little warning and reducing perception that individuals can limit their risk for future attacks.

Terrorists attempt to promote fear in a population by serving notice that citizens are under attack. In this way, individuals affected by terrorist attacks differ from those who are victims of a natural disaster in terms of the sense of *purposefulness* of the event. Naturally occurring phenomena are typically interpreted as “once in a lifetime” events. Terrorist attacks typically insinuate that there are more to follow. Those directly affected, as well as those who are simply members of the affected community, may experience a heightened vulnerability for panic if they perceive themselves to be targets for unconventional warfare. It should be noted, however, that group panic is a relatively rare response in industrialized nations after a terrorist attack. To the contrary, communities in these well-developed nations often respond by rallying for community defense and resisting panic as a sign of nationalistic pride and cohesion. Similar responses may not always hold true for less developed or war-ravaged nations (as suggested by some of the experiences in places such as Somalia, Rwanda, and Bosnia) where the ability of the community to fend off further attack is in question.

The Role of the Media

Several sections in the *Triumph Over Tragedy* curriculum attempt to describe the interaction of media activity with the unfolding disaster event. Nowhere is this likely to be a more important issue than when describing the potential impacts of the media on public perceptions of a terrorist event and the risk for panic. The media controls much of the message that local officials and experts attempt to communicate to the general population. As was noted earlier in, “Myths of Crisis Reactions,” public officials often go to great lengths to present a calm and comforting message to the public in an effort to reduce the risk for panic. Professional journalists often report feeling a tension between promoting these efforts to reduce the risk of panic and uncovering the facts of the situation. Thus, public officials and members of the media often find themselves at odds after any disaster situation, especially those that involve a terrorist attack.

In American society, the press maintains a role of providing oversight investigation of government activity. Journalists often feel a responsibility to question officials about the preparedness of the community for such an attack and the likelihood that they can fend off further attacks. Members of the media are often left to question whether veiled or ambiguous responses by officials are truly efforts to reduce public anxiety or attempts to escape responsibility for allowing the attacks to occur. The natural tension that occurs between government and the press



During the D. C. area sniper attacks, the inability of residents to identify cues for their level of risk and the source of the danger seemed to elicit a level of fear that was disproportionate to the actual probability of being a victim.

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regarding the authenticity of information can lead to the spread of misinformation, mischaracterizations of threat levels, and a general feeling of suspiciousness that contributes to fear in the public.

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UNIQUE SOURCES OF STRESS IN THE FACE OF BIOLOGICAL, CHEMICAL, AND RADIOLOGICAL WEAPONS

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Weapons of mass destruction include chemical and biological agents, radiological and nuclear weapons, and explosives. These weapons are referred to by the acronym CBRNE (chemical, biological, radiological, nuclear, and high-yield explosives).¹ In the current section, we focus mainly on biological, chemical, and radiological (e.g., dirty-bombs) weapons. Although the term “weapons of mass destruction” implies that these kinds of weapons cause widespread physical devastation, many of these weapons would more accurately be called “weapons of mass disruption” for their significant psychological impact. These weapons would likely result in high levels of fear and uncertainty even if the physical impact from the weapon was minimal. As an example, a dirty-bomb may be relatively small, possibly resulting in little immediate physical damage to people. The bulk of the damage would lie in possible long-term health effects of any radioactive material released and the fear and uncertainty regarding exposure to those radioactive materials.

To date, our country has never experienced a large-scale attack using biological, chemical, or radiological weapons. Many experts have suggested that we have been extremely fortunate in this regard. However, events since September 11, 2001 require that we plan for a large-scale attack with biological or chemical weapons, even though we cannot entirely predict public reaction to such an attack. Fortunately, we can draw on examples of bioterrorist attacks in other countries (e.g., Tokyo subway sarin gas attack) and environmental accidents in our country and others (e.g., radioactive material releases from Three Mile Island and Chernobyl, toxic waste dumps such as Love Canal) to help us prepare for the possibility of biological or chemical attacks. Similar to nuclear accidents or cases of environmental contamination with hazardous chemicals, most biological or chemical agents would be undetectable by the public. The lack of physical cues regarding danger could lead to considerable levels of stress for many individuals. In fact, the psychological impact of such an attack would likely far outweigh the actual physical impact, as was the case following the 2001 anthrax mail attacks.

In the following sections we focus primarily on bioterrorism, as this potential threat has received a high level of attention with regards to preparedness measures. However, many of the concepts we discuss will apply to scenarios involving chemical or radiological agents as well, since these weapons share



The psychological impact of a biological, chemical, or radiological attack would likely far outweigh the actual physical impact, as was the case following the 2001 anthrax mail attacks.

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Unique sources of stress in the face of biological, chemical, or radiological weapons:

- ⇒ Lack of control over the unknown
- ⇒ Fear of illness
- ⇒ Quarantine
- ⇒ Risk perception and communication
- ⇒ Fear associated with intense media coverage

some similarities with biological weapons, namely few or no physical cues of the danger, unfamiliar risks, and difficulty determining the impact on one's personal health. In the absence of physical cues, individuals would need to rely on information from community leaders and governmental sources regarding the level of danger. However, past disasters reveal that information provided to the public may not always be highly accurate or easily understood. If individuals perceive information to be conflicting, confusing, or untrustworthy, their distress is likely to be compounded. In addition, even if accurate information is provided, it may not be possible for individuals to control their exposure to the threatening agent. Mothers of young children may be especially at risk for distress due to concerns for their children's health.² In the following sections we discuss in detail several unique sources of stress that would likely appear in the event of a bioterrorist attack: lack of control over the unknown, fear of illness, possible need for quarantine, communicating information about risk, and fear generated by intense media coverage.

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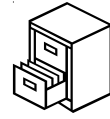
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Lack of Control Over the Unknown

One of the reasons that bioterrorism is so threatening is that it involves an inability to control the unknown. If you are exposed to a colorless, odorless, “invisible” biological agent without warning, you have no control over your exposure to that agent. In contrast, in the case of a fire, the source of danger can be seen, thus allowing some control for escape from the danger. Because invisible hazards have no outward warning signs, individuals often find out well after the fact that they have been exposed. By the time they find out that they have been exposed there is no longer time to avert danger. Although some forms of chemical terrorism may include noticeable warning signs such as distinct smells or eye irritation (e.g., sarin gas, chlorine gas), most forms of bioterrorism will come with no warning (e.g., anthrax, smallpox, and plague are “environmentally” invisible), thus it is impossible for an individual to know their exposure level and adequately protect themselves.¹ During the anthrax mail attacks of 2001, the victims were not aware of their exposure until they became ill. By the time it was discovered that postal workers might be in danger, exposure had already occurred. Although postal workers were given antibiotics, they could not be given guarantees against illness. Possible bioterrorist incidents would likely have a number of unique characteristics that would contribute to citizens feeling they have little control over the situation.

Lack of Quality Information

There may be a lack of information regarding where a biological agent was released or the type of agent used. In the case of a viral or bacterial agent, the first signs of an attack may not be present until days or weeks after the initial release due to prolonged incubation periods, thus making it more difficult to assess the initial point of release and determine who else may have been exposed. Even though biological monitoring systems are now in place in some cities to rapidly identify an attack, they are not in place everywhere a potential terrorist may choose as a target. Terrorists also may provide misinformation about the agents and locations of release in a deliberate attempt to heighten fear. In addition to these issues, there is always the possibility of conflicting information from different sources (e.g., two scientists with different opinions about the level of danger associated with a particular agent) or false information distributed over the Internet. Lack of quality information contributes to an ambiguous situation that is difficult to control.



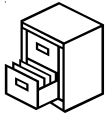
Case Example: Three Mile Island

Lack of quality information: Due to the confusion amongst experts handling the TMI situation, there were conflicting reports regarding the danger of the situation. This conflicting information led to many residents choosing to evacuate the area.

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Case Example: 14th Century Plague Outbreak in Europe

New and unfamiliar threats: As the 14th century plague outbreak worsened, sick individuals were sometimes deserted by family and physicians because the mechanisms of the disease were not understood.

Rumors

Rumors are highly likely following a bioterrorist event, as available information may be ambiguous and open to multiple interpretations. If rumors are not addressed quickly, citizens may not know what information to believe. They may make decisions based on incorrect information or begin to distrust government officials. With the presence of rumors and false information, it can be difficult to make decisions about how to protect yourself. Many public health officials now agree that the establishment of a 24-hour rumor control hotline is one of the first priorities in any bioterrorism response plan.

The Threat may be New and Unfamiliar

For known threats such as fires, individuals have learned skills to control their level of danger. We are taught to *stop, drop, and roll* to put out the fire. For an unknown threat like a newly engineered biological agent, people do not have knowledge of strategies to control their level of danger. In fact, if the biological agent has been recently engineered, scientists may not know much about its characteristics.

During the 14th century plague outbreak in Europe, people did not understand what the plague was, how it was transmitted, or how to protect people from the disease. In response to this unfamiliar threat, a number of theories were developed to explain the disease, even though none of these theories were able to help curb the spread of the plague. When the spread of disease worsened, family members deserted sick loved ones, doctors did not attend to the sick, and priests stopped giving the last rights.² This historical example provides a picture of how people in the 14th century responded to the new and unfamiliar threat with which they were faced.

The Threat may be Prolonged

In the case of a contagious agent, the threat may spread to geographically distant areas due to our highly mobile society. The rate at which cases increase may depend on the length of time to detect the agent, effectiveness of medical response, and capability to treat the disease in question. In the case of a “dirty bomb,” radioactive material may remain in the environment. During a prolonged threat, individuals may feel the need to maintain an increased level of vigilance, thus contributing to prolonged feelings of fear and distress.

Fear of Repeat Attacks and Hoaxes

There is always the possibility of repeat attacks in the same or different locations. Repeat attacks could add to the lack of control felt by citizens. In addition, there would likely be numerous hoaxes that capitalize on people's fear and anxiety. For example, many individuals received harmless white powders through the mail following the anthrax mail attacks of 2001. This contributed to a sense of lack of control, as it was difficult to distinguish between real threats and hoaxes.

The Impact of Fear on Behavior

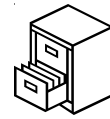
When citizens are faced with situations in which they have relatively little control over their exposure to danger, they may do whatever they can to gain back some sense of control. Gaining some sense of control over a perceived threat is a basic human motivation. Individuals will often seek some *perception* of control even when reason suggests that their perception may be unrealistic. Some examples might be:

- **Choosing to avoid people or places associated with the threat**

In some cases people may chose to avoid individuals who were infected with a biological agent and have recovered, cities where the initial attack occurred, or products made/grown in areas where an attack occurred. Evidence of such avoidance has been seen following natural disease outbreaks in humans (plague in India, 1994)³ and in livestock (Mad Cow Disease in England, 1995).⁴ Additionally, people may choose to avoid attending public events. Following the 2001 anthrax mail attacks, 11% of adults surveyed stated they or someone else in their home avoided attending a public event due to fears of anthrax.⁵

- **Choosing to leave an area**

Although total panic is unlikely, it is possible that people may attempt to evacuate an area in the case of a disease outbreak or radiological/chemical event. This phenomenon happened during the 1994 plague outbreak in Surat, India.⁶ It also occurred during the Three Mile Island accident, where 45 people evacuated for every 1 person actually asked to evacuate.⁷ Factors such as availability of treatment, perceived escape window in order to avoid infection/illness, or feeling that information provided by officials is untrustworthy, confusing, or contradictory may increase the likelihood of people leaving an area.^{8,9} Additionally, it is possible that individuals may not want to attend work or have their children attend school.



Case Example: 2001 Anthrax Mail Attacks

Fear of repeat attacks and hoaxes: Following the 2001 anthrax mail attacks, a number of individuals sent harmless powders through the mail labeled “anthrax.” These mailings led to heightened fear. In addition, people reported numerous “unidentified white powders” due to a concern that they might contain anthrax.

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A national survey conducted in November and December 2001 indicated that approximately 40% of those surveyed said they would take the anthrax vaccine if it was available despite the known side effects. In this same study, approximately 50% of those surveyed indicated they would take the smallpox vaccine if available despite the absence of an actual smallpox threat.¹¹

- **Obtaining medications, protective equipment, or vaccines**

Another possible response is hoarding medications or buying items felt to provide protection. Individuals may stock up on antibiotics if they have the opportunity to do so, as was seen during the anthrax mail attacks in 2001. However, when citizens stock up on medications it can result in insufficient supplies, unnecessary side effects when such medications are used as preventive measures, misuse due to the lack of physician oversight, and the development of resistant strains of bacteria from overuse of antibiotics.¹⁰ When a vaccine is available, people may seek out that vaccine even if there are known side effects and there is no official recommendation that they be vaccinated.

Public health departments fielded numerous questions about the anthrax vaccine during the 2001 anthrax mail attacks. A national survey conducted in November and December 2001 indicated that approximately 40% of those surveyed said they would take the anthrax vaccine if it was available despite the known side effects. Interestingly, in this same study approximately 50% of those surveyed indicated they would take the smallpox vaccine if available despite the absence of an actual smallpox threat.¹¹ Although these numbers do not reveal how many people would actually take the vaccines if they were made available, they do suggest a desire to gain some level of control despite possible side effects of vaccines.

People also may buy gas masks and other protective equipment in order to gain some control over the threat, even if objective evidence suggests much of this equipment will not lessen the risk of illness. For example, for gas masks to be effective, the mask must have the correct filter, be worn correctly, and be put on before a biological or chemical agent is released. Protective equipment is most effective when the risk of an attack is high and individuals could carry this equipment with them. Even if effective equipment was purchased, it is unlikely that it would be helpful to most individuals in the event of a surprise bioterrorist attack where little or no warning was provided.

Helping Citizens Feel in Control

Communities can take a number of steps to help citizens maintain a sense of control in the face of unknown threats.

- **Communication is key**

Communicating effectively with citizens before and after an event is extremely important. Before an event, government and health officials should educate citizens regarding the plans that are in place for

responding to a bioterrorism event. If citizens believe that a plan is in place and that the health system has the capacity and skills to respond effectively, public fears will likely be lessened in the event of an actual attack.¹² Following an event, the presence of a trusted spokesperson providing frequent, cohesive updates and specific information about how to protect oneself and one's family can help to calm citizen fears. Messages should boost public confidence that official organizations are in control of the situation. Also, good communication lines help to squash rumors before they become too difficult to control. Citizens want to hear that officials are taking specific actions to handle the threat, and they also want to know what they can do. Providing specific instructions to citizens help them to take action. Finally, providing consistent information is extremely important. Inconsistent information during the initial stages of an event will heighten public concern. Please see, "Communicating With Citizens in a Time of Crisis" for a more in-depth discussion of communicating with citizens after a critical event.

- **Educate citizens**

People feel more in control when they have relevant information and have available some strategies for controlling their level of risk. For example, if citizens are educated about the risk factors for spread of a contagious virus, they can take appropriate measures to reduce their risk (e.g., wash hands, avoid being around others who are sick). Recent research reveals that many people have poor information about possible bioterrorism risks, such as smallpox. As an example, 78% of respondents in one study believed there is an effective medical treatment for smallpox, when in fact there is no specific treatment.¹³ Public information campaigns could help increase knowledge about biological threats. Plans for distributing such information during the height of an emergency situation should be developed prior to a biological event.

- **Plan for citizen distress**

Planning for bioterrorism should include strategies for addressing citizen fear and anxiety. This planning might include consulting with mental health professionals, compiling a list of referral sources, and educating the public. Planning also might include considering possible public response to emergency plans. For instance, the intensity of the official response to an event may increase citizen anxiety (e.g., a large ambulance, police, and HAZMAT presence). Alternatively, citizens may voice their disagreement with medical plans that prioritize who would receive treatments that are in limited supply. It is unlikely that these response activities could, or should, be modified in order to limit public anxiety. Rather, it is important for



Strategies to help citizens feel in control:

- Communication with citizens
- Education
- Pre-disaster planning
- Target messages to citizen concerns
- Target communications to specific groups in the community
- Give citizens a mission

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Communications should be targeted to diverse community groups, some of which may include:

- Elderly citizens
- Minority groups
- Ethnic groups
- Citizens for whom English is not their primary language
- Parents of young children
- College students
- Citizens who are unable to read

response planners to recognize the impact of these activities on the mindset of their community and to have appropriate communication and support teams in place.

- **Use targeted communications**

Informative and instructive messages target specific citizen concerns. For example, in the aftermath of water contamination, citizens will want to know whether it is safe to drink their water, wash clothes, or take a bath. In order for communications with citizens to be most effective, these concerns need to be addressed. Learning about these concerns requires a two-way communication path, where community leaders and officials assess the concerns of their citizens and then tailor communications based on these concerns. In addition, communications from officials should be targeted to the needs of different citizen groups, such as the elderly, minority groups, or parents of young children, as different groups may have different interpretations of the situation or unique concerns.¹⁴

- **Give citizens a mission**

Promoting constructive behaviors in which citizens can engage is a helpful tool for restoring feelings of control to citizens. Such behaviors might involve checking on elderly neighbors, donating blood, or providing other assistance that might be needed in the community. Community organizations can also be enlisted to provide assistance to local officials.

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Fear of Illness

In the event of a bioterrorist attack, history shows that concerned community members often overwhelm medical resources. For example, after the 1995 sarin gas attack in Tokyo the number of individuals reporting symptoms not linked to sarin exposure outnumbered truly affected individuals by a ratio of 4:1.¹ Some authors feel that the number of individuals seeking care for symptoms not directly linked to a biological or chemical agent might exceed actual cases by a ratio of 5:1, or even 10:1, in the event of a large-scale attack involving a public release of an agent.² Thus, if 100 people presented at a hospital with symptoms directly linked to a biological agent, up to 1000 more people could present with symptoms who are in fact not ill.

It is possible that this ratio could be even higher when the characteristics of the event are even less clear. For example, in Goiania, Brazil, a container filled with radioactive material was stolen from an abandoned medical clinic and subsequently sold to a junk dealer who opened it and discovered a glowing material, which he passed around to friends and relatives. This resulted in the deaths of several individuals who had been in direct contact with the material. Following discovery of this event, citizens demanded screening, which resulted in officials offering medical screenings for all people who felt they may have been exposed. At the screenings, for every one person who was actually exposed to the radioactive material, another 500 people were screened who were concerned but not exposed.³ This example suggests that considerable anxiety can result from a relatively small, isolated event.

Feelings of anxiety arise from our strong fears of infection and death from contagious or life-threatening diseases. Anxiety combined with uncertainty of exposure will result in many people seeking medical assistance following a biological attack. A surge of individuals seeking medical care could overwhelm local health systems, especially in rural areas. Indeed, a report by the Office of Rural Health Policy on rural emergency preparedness noted that rural public health units were overwhelmed with individuals concerned about anthrax following the 2001 anthrax mail attacks.⁴ Likewise, citizens in urban areas demanded testing and treatment for anthrax exposure. Because of this demand, the Centers for Disease Control issued recommendations against widespread testing and treatment.⁵ In the Washington, D.C. area where some of the letters were delivered, 11% of those surveyed reported using health services due to the anthrax attacks (e.g., talking with physician, getting antibiotics, and consulting someone about fears/anxieties).⁶ Although this percentage may seem fairly low, it translates into a large number of people seeking medical care or advice. The



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Flu-like symptoms are commonly described symptoms for most biological exposures. Because flu-like symptoms are non-specific, health professionals are likely to be faced with difficulties in determining the cause of a person's symptoms.⁹ Causes could be anxiety, exposure to a biological agent, the common flu-virus, or another illness.

anthrax mail attacks also resulted in a surge in processing of “suspicious” environmental specimens (i.e., mostly involving unidentified white powders) that overwhelmed many laboratories, likely due to the heightened level of anxiety over possible anthrax exposure.⁷

Anxiety and fear also can be prevalent in the absence of an actual biological/chemical event. During the 1990 Persian Gulf war, Israel was under threat of missile attacks from Iraq, with the possibility that some of these missiles could be carrying unconventional weapons (e.g., nerve agents). The Israeli government provided citizens with gas masks, atropine injectors, and instructions on how to seal off a safe room in the home. Of the casualties reported by emergency rooms following actual missile attacks, 22% of patients presented with acute anxiety. Following missile attack alerts (which were not always followed by an actual missile landing in an inhabited area), the majority of casualties involved people presenting with acute anxiety or with symptoms of “false” atropine injections (i.e., injecting atropine when not necessary).⁸ Thus, fear and anxiety were present even though none of the missile attacks actually involved chemical or biological weapons.

Fear and anxiety can seriously complicate responses plans following a bioterrorist attack. Flu-like symptoms are commonly described symptoms for most biological exposures. Because flu-like symptoms are non-specific, health professionals are likely to be faced with difficulties in determining the cause of a person's symptoms.⁹ Causes could be anxiety, exposure to a biological agent, the common flu-virus, or another illness. In addition, healthy individuals commonly report headaches and fatigue.^{10, 11} Following a bioterrorist attack, individuals may attribute these everyday symptoms to the biological agent.¹² People may also begin to monitor themselves more closely for symptoms associated with the disease or agent in question. The combination of increased anxiety, ambiguous symptoms, and vigilance for symptoms will contribute to large numbers of citizens presenting to local physicians and hospitals. If citizens believe, correctly or incorrectly, that medical treatments or vaccines are in short supply for the biological agent, anxiety symptoms will likely be more intense.¹³

Compounding this problem, individuals who have been exposed to someone with flu-like symptoms at the time that a biological agent has been released may begin to experience symptoms themselves due to a phenomenon called “psychological conversion.” In these cases, anxiety brought on by fears of possible infection is “converted” into actual physical symptoms. Physical symptoms of anxiety overlap considerably with symptoms of illness (e.g., racing heart and chest pain, nausea, headaches, dizziness, agitation, hyperventilation).¹⁴ These individuals may become absolutely convinced that they are infected with a biological

agent even though they have only been exposed to someone who has complained of flu-like symptoms. As you can see, the effects of psychological conversion can quickly spread among a populace and contribute to the high rates of health care seeking behaviors by perfectly healthy individuals during a biological terrorism event. In some cases, health officials can counteract the process of psychological conversion by identifying the risk of exposure for the individual, discussing the low probability that they have actually been exposed, and educating the patient about the powerful connection between anxiety and symptoms under such conditions.

Heightened concern regarding physical symptoms may continue well past the initial terrorist incident, depending on the biological agent, chemical, or radiological material released. For example, individuals who know they were exposed to radiation or toxic chemicals may continue to have concerns over new physical symptoms for years, as they may believe new symptoms are a sign of cancer or some other problem caused by exposure to these “invisible” agents.¹⁵

Because many individuals will present for treatment due to anxiety about being ill, it will be important to include mental health professionals in response planning. Mental health professionals can play a key role by educating the public regarding anxiety following a bioterrorism attack, helping assess anxiety symptoms in individuals presenting for medical treatment, and providing emotional support for those concerned individuals that do not have symptoms attributable to the biological agent. Additional strategies for addressing anxiety following a bioterrorism event are listed below.

Develop Public Service Announcements and Educational Efforts

One reason that biological agents spark fear is because most individuals know very little about the symptoms, treatment, risk factors, and other characteristics of these agents. For example, when the public was first told about the existence of the AIDS virus, there was a considerable amount of fear associated with the disease, as people knew little about the new and unfamiliar disease, there was no cure and no effective treatments, and the ultimate outcome was early death. In addition, many people had incorrect information regarding how the virus was spread. Thus, it is important to provide the public with accurate information to increase their knowledge of the biological agent used in an attack.

Recent survey research suggests that many Americans have incorrect information about smallpox and smallpox vaccine. For instance, 78% of



Because many individuals will present for treatment due to anxiety about being ill, it will be important to include mental health professionals in response planning. Mental health professionals can:

- Help educate the public regarding anxiety.
- Help assess anxiety symptoms in individuals presenting for medical treatment.
- Provide emotional support for concerned individuals.

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Strategies for addressing fears of illness:

- Deliver public service announcements and education.
- Provide consistent and frequent communications.
- Establish an information hotline.
- Develop plans for handling anxiety symptoms at medical facilities.
- Attend to an individual's concerns.
- Provide training for health care professionals and first responders.

respondents believed there is a medical treatment for smallpox, when in fact there is no specific treatment, and only 42% thought that being vaccinated within several days of exposure would protect them from the disease, when in fact this does provide protection.¹⁶ These findings underline the importance of public education in reducing fear based on misconceptions. To be most effective, this education should precede any actual attack. It is also important to educate first responders and health care providers about normal stress responses and how symptoms of anxiety often overlap with physical symptoms caused by biological agents. Finally, government and health officials must inform citizens of existing plans for responding to a bioterrorist attack. If citizens believe that officials have a working plan and that the health system has the capacity, supplies (e.g., vaccines and medication), and skills needed to respond effectively, there may be less demand for immediate medical attention.¹⁷

Provide Frequent Updates and Establish an Information Hotline

Frequent, consistent, and accurate information updates by a trusted spokesperson will be important, as they provide an avenue for the public to gain more knowledge about the biological agent and official plans to handle the event. If the public perceives that officials are unprepared to handle the event or are withholding important information, anxiety will likely intensify. Frequent updates also allow for the opportunity to refute rumors quickly. In addition to frequent information updates, establishing an information hotline will provide the public with an accurate source for answers to their questions about seeking medical treatment. For example, a 24-hour information hotline was in place for two months following the 1999 West Nile virus outbreak in New York.¹⁸ Citizens can also be directed to reputable websites for information, such as websites maintained by the Centers for Disease Control (CDC) and the Office of Homeland Security.

Observe Possible Anxiety Symptoms Separate from the Treatment Area

Some professionals have suggested creating separate locations for: 1) treatment of patients actually affected by a biological or chemical agent, and 2) observation of patients with symptoms that are not clearly attributable to the agent.¹⁹ Having a separate observation area might facilitate distinguishing between those individuals with physical symptoms due to the biological agent and those with symptoms stemming from anxiety about the agent, as those patients presenting with anxiety symptoms would likely show symptom improvement while under observation. Mental health professionals and other trained personnel should be available to help reassure individuals that anxiety

symptoms are normal and provide appropriate support. Due care should be taken in utilizing an observation strategy, however, as some individuals could become angry if they feel they are being held but not treated.

Attend to an Individual's Concerns

Individuals presenting with symptoms that are not the result of the biological agent should be provided with appropriate support before they are sent home. Dismissing symptoms and telling people they have no reason to worry could actually result in an increase in perceived symptoms, as well as anger, for some individuals. Likewise, telling people they should see a psychiatrist or psychologist instead could also increase anger. Individuals may not trust that a “healthy but worried” diagnosis is accurate. Considering the dangers associated with returning to their home and family with the potential for spreading a deadly virus, some patients may resist attempts to dismiss them as not needing further observation or care. Still, in any moderate-scale event, first responders are likely to be overwhelmed with requests for screening and treatment and will often be unable or unwilling to spend more time with individuals they have diagnosed as experiencing anxiety. Appropriate supports (e.g., mental health professionals, clergy) should be available to reassure individuals that their concerns and anxieties are normal and help educate people about the links between feelings of anxiety and physical symptoms. These supports should be provided in a seamless manner with healthcare interventions, such that potential stigma or anger associated with being referred to a mental health professional can be reduced.

Provide Training to Health Care Professionals and First Responders

Specialized training on the following topics should be made available for health care professionals and first responders:

- The relationship between anxiety and physical symptoms.
- How to evaluate anxiety symptoms following a bioterrorist attack.
- How to talk with patients about the relationship between anxiety and physical symptoms.
- When to consult with or refer to a mental health professional.

These topics are an integral part of bioterrorism preparedness for any health care professional or first responder who may be involved in a response to an actual event. This includes primary care physicians, who are often the point of first contact when individuals have health care concerns. A recent study conducted in Israel found that 64% of surveyed individuals would seek treatment from their family physician in the case of an anthrax attack,



Frequent, consistent, and accurate information updates by a trusted spokesperson will be important, as they provide an avenue for the public to gain more knowledge about the biological agent and official plans to handle the event.

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Following a bioterrorist attack, many individuals will consult their primary care physician for information and evaluation, especially in rural areas where primary care physicians are often the main providers of healthcare services. Thus, it is essential to provide primary care physicians with training on the psychological impacts of bioterrorism.

whereas only 30% indicated they would seek treatment from a hospital emergency room.²⁰ Primary care physicians are especially likely to be the point of first contact for individuals in rural areas. Thus, it is important to provide training opportunities for both primary care and hospital-based health care professionals.

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Quarantine

Some bioterrorism incidents would require the use of isolation or quarantine procedures to reduce the spread of a biological agent. As the meaning of these two terms is often confused, we define both before discussing their relevance to a potential bioterrorism attack. *Isolation* involves separating individuals known to be infectious from healthy individuals. This may involve placing persons with illness in separate hospital rooms or wings to prevent the spread of infection. *Quarantine* refers to mandatory restriction of potentially exposed individuals to a designated area, which may include a hospital, sections or the whole of a city, or potentially larger regions such as a county. Quarantines have been used throughout history to curtail the spread of natural infectious disease outbreaks. Such procedures were utilized during the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak, with affected individuals and people living in some high-risk areas being asked to remain in their homes or apartment buildings. An example of quarantine in U.S. history involved restricting immigrants from disembarking ships during the Cholera epidemic of 1892. Ships carrying passengers from European countries with Cholera outbreaks were detained at New York harbors in an attempt to prevent the spread of the disease to New York City residents. Thus, quarantine is more restrictive than isolation and usually involves some sort of enforcement by officials.

Quarantine and isolation procedures are two of the many options considered in the event of a highly contagious biological agent with limited or no available treatment or vaccine. However, health and government officials would likely spend considerable time deliberating the legal issues involved in imposing mandatory quarantines and limiting civil rights. In addition, there are a number of possible drawbacks involved with imposing quarantines including increased risk of disease transmission among those quarantined, mistrust in government recommendations, stereotyping of quarantined individuals, and the possibility of citizens disobeying quarantine orders.¹ DiGiovanni and colleagues conducted a study where they gave people information about a simulated bioterrorist attack and asked how they would respond to rumors that residents could be quarantined.² A small percentage of individuals (6% of residents, 13% of spouses of first responders) indicated they would attempt to leave the area regardless of consequences. Although this was a simulation study, historical examples reveal that resistance to imposed quarantine has occurred in cases of natural disease outbreaks.

A historical example of quarantine will help to illustrate such drawbacks. During the fall of 1893, a smallpox outbreak occurred in Muncie, Indiana.³ Over the course of the outbreak, attempts to control the spread of disease



Quarantines have been utilized in the past to control the spread of communicable diseases including:

- Severe Acute Respiratory Syndrome (SARS)
- Cholera
- Smallpox
- Ebola virus
- Plague

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Strategies for promoting citizen cooperation in the event of quarantines:

- Maintain civil liberties.
- Give citizens a mission.
- Provide specific information about the decisions for using quarantine and the procedures that will be followed.
- Help citizens maintain social and financial supports.

included enacting a quarantine for the households where the initial cases were located, enacting a city-wide quarantine involving a restriction on holding public events (including school), encouraging citizens to be vaccinated, requiring citizens to obtain certificates of health to travel out of the city, and establishing smallpox hospitals to house all cases of the disease. When the epidemic was finally contained, officials admitted that household quarantine had actually led to the spread of the disease, both due to defiance of the quarantine (people leaving their homes) and healthy family members being exposed to the illness for prolonged periods of time. Not only did many citizens defy quarantine orders, they also refused vaccinations, lied about being vaccinated, refused removal of family members to the smallpox hospitals, and obtained fake documents to travel outside the city. Many citizens were initially distrustful of medical officials who claimed they had diagnosed cases of smallpox in the city. There were dissenting opinions from other physicians who claimed the cases were chickenpox, which appeared to fuel citizen mistrust and defiance. During the course of the outbreak, individuals from the infected areas of town were not welcomed in non-infected areas. In addition, neighboring towns established quarantines against citizens of Muncie and in some cases detained individuals who tried to enter, even if they had health certificates.

As this example illustrates, quarantines may only be effective to the extent that citizens follow official recommendations and orders. Strategies that may increase the likelihood of citizens following such recommendations are listed below.

Maintain Civil Liberties

Citizens who feel their civil liberties are being violated may be less likely to follow official recommendations or quarantine orders.⁴ Communities may benefit from developing strategies that would encourage voluntary citizen compliance, such as providing citizens with prompt responses to questions, providing easy access to vaccines and medication, developing methods to maintain commerce in the face of quarantine, asking for voluntary restrictions on group assemblies, or showing examples of prominent people in the community following the official recommendations. People may be more likely to comply with official requests if they see value in voluntarily complying, as opposed to being forced to comply. In the case of Muncie, Indiana, compliance with requests to bring ill loved ones to smallpox hospitals increased after a prominent member of the community voluntarily asked for her ill child to be taken to the hospital.⁵ Officials should attempt to make the decision-making process as transparent as possible when considering the possibility of enacting large scale quarantine procedures.⁶ Decisions

made in the absence of public scrutiny or input could lead to mistrust of government recommendations.

Give Citizens a Mission

For citizens that must remain under quarantine but are not ill, participating in constructive helping tasks may help provide a sense of control and purpose. For example, local officials could develop a list of tasks for which interested citizens could volunteer. As was seen following September 11, 2001, large numbers of people are often looking for ways to help in times of crisis. Allowing them to help in some way, even small ways such as donating needed supplies, helps them maintain some sense of control.

Provide Specific Information

As much as possible, provide people with specific information about the biological agent, its effects, and appropriate measures to decrease the spread of the agent if it is contagious. Specific behavioral instructions (e.g., wash hands for 30 seconds prior to eating) will be more useful than vague recommendations. The public will likely need considerable education and justification regarding a decision to impose quarantine, vaccinations, or other restrictive measures following a bioterrorism attack. However, most citizens will cooperate if given clear explanations of the necessity for certain measures, as was seen following the anthrax mail attacks in 2001. On the other hand, the use of force or threat of punishment to enact quarantines or other health measures will likely lessen cooperation and decrease public trust.⁷ Some evidence suggests that citizens desire to receive information about an outbreak from their local authorities and public health officials in addition to information reported by national authorities (i.e., CDC) and government officials.⁸

There are likely to be numerous rumors and inaccurate information in the public domain. These rumors will need to be aggressively addressed by a reputable source (e.g., local health officials, Surgeon General) to maintain public trust. One common mistake that public officials make is in their failure to publicly address rumors that they perceive are circulating amongst only a small group of citizens, or rumors they view as so ridiculous that no one really believes them. Officials may be concerned that they will somehow give credibility to such rumors by simply denying them in a public forum. However, the opposite is typically the case so long as the person addressing the public possesses accurate and detailed information to refute the rumors and is considered a trustworthy source. Once again, there will likely be heavy media coverage during such an event, thus increasing the need for frequent, consistent, and trustworthy messages from local officials to help prevent and quell rumors.



Quarantines may only be effective to the extent that citizens follow official recommendations and orders.

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Maintain Social and Financial Supports

In the event that quarantine procedures are enacted, individuals will likely experience distress as a result of separation from friends and family members. Individuals quarantined with SARS during the 2003 outbreak reported feelings of isolation and distress over being separated from loved ones.⁹ Such separation can contribute to losses in normal social support networks. Separation is particularly stressful for young children who might need to be quarantined in hospitals, or whose parent(s) might need to be quarantined. The stressful effects of quarantine would likely increase the longer these measures last. Thus, plans for bioterrorism response should include strategies to help maintain social supports. Telephone, computer, and videoconferencing are all ways to help separated family members stay connected.¹⁰ Support groups for family members of quarantined individuals may also be helpful. In cases where multiple family members are under quarantine, those family members should be allowed to stay together in the same location if possible. Fear of being separated from a loved one, or fear that the loved one will not receive appropriate care, could lead to defiance and frustration. Thus, it is important to help individuals remain connected in the event of a quarantine situation.

There is also concern about the financial impacts to families who experience lengthy quarantines. While it is likely that many communities will quickly establish financial and social supports for quarantined individuals, small, family-run businesses often cannot absorb the impacts of long absences from work, and the stresses associated with such concerns can be dramatic.

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Risk Perception and Communication

Many everyday risks become an accepted part of life, such as the risk of auto accidents or risks associated with eating fatty foods and smoking. Likewise, most people are aware that there are risks associated with technologies and industries. But to what degree do people understand the possible risks from bioterrorism? In the unfortunate event of a bioterrorist attack, how could information about risk be effectively communicated to the public? Why would it even be important to think about this issue?

We may not realize it, but knowledge or perceptions regarding risk influence behavior. For example, if we think it is highly likely that something bad will happen (plane crash), we may avoid certain behaviors (flying). Therefore, it is important to understand the relationship between risk perception (i.e., how dangerous we think a situation is) and behavior in situations involving disasters or emergencies where risk is an issue. A frequently cited example is the Three Mile Island nuclear accident in 1979. In the face of inconsistent and changing information from government officials, operators of the plant, and the media regarding the risks involved, over 140,000 people decided to evacuate the area, even though they were not advised to do so by authorities.¹ Understandably, humans tend to fear substances or diseases that are associated with death. Examples are radioactive material, toxic chemicals, cancer, and AIDS.

Yet many people do not fully understand the risks involved with certain substances (e.g., radioactive material) or how certain diseases are acquired or spread. Misperceptions regarding risk have an impact on people's behavior and decision-making when confronted with those risks. Imagine for a moment what might happen if large numbers of people decided on their own to evacuate a city following a bioterrorist attack. Although outright panic is highly unlikely, such an evacuation would likely lead to a number of problems including clogged roadways, difficulty tracking those who might have been exposed to the biological agent, or potential spread of the agent to other areas. Thus, it is important to think about the impact risk perception has on behavior and what can be done to effectively communicate risk information to the public in emergency situations.

The U.S. Department of Health and Human Services has developed an excellent resource for risk communication during emergencies entitled, "Communicating in a Crisis: Risk Communication Guidelines for Public Officials." Please see the Appendix for information on how to obtain a copy of this publication. Other resources exist as well. Our purpose here is not to recreate these resources, but instead to provide an overview of risk perception and communication and how these processes interact with the

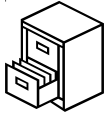


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Case Example: Three Mile Island

Issues:

- Inconsistencies in information and recommendations.
- Uncertainty leading to unnecessary evacuations.
- Citizens and media had a poor understanding of technical jargon and scientific language.

fear and anxiety present following events involving risks to human health and life.

Characteristics Associated With Higher Perceived Risk

Characteristic	Example
Severe consequences to life, health	Events with many fatalities – airplane crashes
Greater catastrophic potential, significant devastation in a short period	Bombings, explosions
Irreversible consequences	Birth defects
*Delayed health effects	Cancer
Greater or equal impact on future generations	Environmental contamination
*Impact on children	Birth defects, higher risk for cancer
Ability to identify with the victims	Happens to someone you know or can identify with versus statistics based on people you do not know
*Unfamiliar risks	Anthrax, dirty bombs, nerve gas
*Lack of understanding regarding the risks in question	Lack of understanding (on the part of citizens) regarding the risks from low level radioactive contamination in an area
*Greater scientific uncertainty	Risks that scientists disagree about, for example, whether low levels of radiation exposure from a dirty bomb would lead to health risks
*Risks involving fear and dread	Toxic waste sites, nuclear accidents
*Involuntary exposure to risk	Undisclosed toxic waste dumps
*Less personal control over the risk	Relying on airline security personnel to ensure safety when flying versus choosing a transportation method with personal control (driving)
*Lack of trust in government or institutions	Believing the government is covering up information about a toxic waste site that would explain health problems of area residents
Personal risk	People who lived in the Washington, D.C. area during the D.C. area sniper shootings
*Risk is caused by human factors	Terrorist or bioterrorist attacks
*Greater media coverage	Accidents and attacks that receive heavy media coverage, such as the anthrax mail attacks of 2001

(characteristics from Covello, 1989)²

*These dimensions are likely to have heightened importance during and after a bioterrorist attack.

What Risks Concern Citizens?

Disaster situations can involve a number of potential risks. For example, buildings may be unstable following earthquakes, there may be a risk of fire spreading to populated areas during widespread forest fires, or there may be the risk of explosions or illness following chemical spills. Risks involving harm to health or life, or the threat of harm, are likely to cause concern for many people. For instance, exposure to high levels of radiation may invoke fear because people are concerned about the potential for illness or death. Likewise, there has recently been fear regarding a new illness, SARS (Severe Acute Respiratory Syndrome). With regards to bioterrorism, many people were worried about potentially contracting anthrax through the mail in late 2001. Overall, people will be most concerned with risks that pose significant and severe threats to their health and life.

Factors Which Increase Worry and Anxiety

Worry and anxiety will likely increase if there is substantial uncertainty regarding whether people may be at risk. For example, if a dirty bomb (i.e., conventional bomb designed to explode and spread radioactive material) were to explode in a subway system, there would be considerable uncertainty regarding the long-term risk for individuals using the subway system. Likewise, the level of personal control over a risk will impact public response. Risks that are “ticking time bombs” (e.g., future possible risk of cancer) also may be particularly distressing, as may be risks that are more personally relevant (e.g., if you live a mile away from a nuclear accident versus 1,000 miles away).

The availability of knowledge is also important, as people often overestimate the occurrence of events that are more publicized and thus more available to memory.³ As an example, people tend to overestimate their chances of dying in an airplane crash versus dying in an auto accident, in part because airplane crashes receive significant media attention and auto accidents generally do not. This phenomenon is often referred to as the “availability heuristic.” Basically, people tend to overestimate the likelihood of an event if information about that event is easier to access or more prevalent. Thus, events that receive heavy media attention appear to happen more frequently than statistics would suggest. In the case of biological threats, a heavily publicized outbreak could lead to people overestimating their chance of illness or death from that threat. For instance, every year people die from the flu, but emerging diseases like SARS and West Nile virus, which affect fewer people, capture more media attention.

Another important factor is government/agency response to the event. If the response appears competent, fears may lessen, but a response that the

Case Example: Three Mile Island

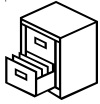
Strategies:

- Pre-plan a communication strategy for crisis events.
- Hold regularly scheduled press conferences.
- Funnel all media questions and press releases through a communications team to increase consistency of messages.
- Provide information in terms the public and media can understand.

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Case Example:
Goiania, Brazil
Accidental Radioactive
Material Release

Issues:

- Citizens demanded testing to determine if they were exposed to radioactive material.
- When officials announced screenings, 500 people showed up for every one person who actually screened positive for exposure.

public sees as inadequate is likely to raise fears. Citizens want to know that someone is in control of the situation. Likewise, the frequency of communications to the public about the event may also impact levels of distress.

How Informed is the Public?

Research shows that many people have inaccurate information about biological threats. In a recent study, a majority of survey respondents reported inaccurate beliefs about smallpox and the vaccine. For instance, 78% of respondents believed there is a medical treatment for smallpox, when in fact there is no specific treatment, and only 42% thought that being vaccinated within several days of exposure would protect them from the disease, when in fact this does provide protection.⁴ In the case of new and emerging bioterrorist threats, the public is likely to have less knowledge, and what knowledge they do have may prove to be incorrect in some cases.

Where Citizens Obtain Information About Risks

After initially hearing about a bioterrorist attack, most people will search out further information to verify what they have heard. Many people will look to the media first, as it has become common for media outlets to carry breaking news. The Internet is another source of information, although it can be difficult for people to decide which sites provide the most accurate and useful information. Thus, people will seek out and gather information from a variety of media and Internet sources, increasing the possibility for confusion due to conflicting information and the existence of rumors and false information. To aid citizens in their search for information, it can be useful to establish information hotlines where citizens can call for the most recent, accurate information.

People will also turn to family, friends, coworkers, or neighbors for information. In an ambiguous situation, people look to others around them to determine their level of risk. In other words, they ask, “what is my neighbor doing,” “what is my coworker doing,” or “what are my friends doing?” “Are they scared?” “Are they evacuating?” “Did they go see their doctor?” Social cues and modeling are key factors, as people often make decisions based on what other people are doing or saying. Modeling others’ behavior is one of the reasons that nightclub fires can be so deadly, as the first reaction is to follow the crowd towards one exit (which is usually the exit through which people entered the building) instead of breaking from the crowd and looking for other escape routes.

Factors That Build Public Trust

Trust is a key variable in risk communication, as information conveyed to the public is only useful if the public trusts and believes the information to be sound. Research has shown several factors to be related to public trust in cases involving environmental risks, including showing care and concern, commitment, competence, and honesty.⁵

In times of crisis, people will be more likely to trust and follow recommendations if:

- They perceive instructions as being helpful.
- They believe the communicator is an expert.
- They believe the potential consequences for disobeying official instructions are worse than the consequences for obeying instructions that might later turn out to be unnecessary or incorrect.

People will be more likely to trust crisis communicators if they believe:

- The communicator possesses accurate and detailed information of the situation.
- The communicator is fully aware of the potential dangers of the situation that they face.
- The communicator is genuinely concerned with protecting the safety of each of the affected individuals and their loved ones.

Goals of Risk Communication in Emergency Situations

The main goals of risk communication include:

- Lessen public anxiety, fear, and concern.
- Give specific instructions to the public regarding what precautions they should take, if any, or what they should do in the case of questions.
- Deliver clear, accurate information in a timely manner (e.g., regular briefings).
- Handle uncertainty in a straightforward manner. It is better to publicly recognize the uncertainties of the situation and describe your levels of confidence in information rather than stand firmly behind incomplete information or unsubstantiated facts.
- The overall goal is to influence the public's behavior. In other words, you are trying to convince people to take some specific action, stop doing something, or take no action at all depending on the situation.⁶

Case Example: Goinia, Brazil

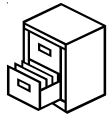
Strategies:

- Plans for addressing citizen fear and anxiety are an essential part of planning for bioterrorism or any event involving uncertainty or health risk.
- Develop a detailed plan for screening concerned citizens.
- Have a plan in place to provide reassurance for the “worried well.”

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**Case Example:
Anthrax Mail Attacks
2001**

Issues:

- Many people were unfamiliar with anthrax, how it could be contracted, and how it could be treated.
- People were asking their physicians for antibiotics, as they were concerned with being exposed to anthrax through the mail.
- A smaller number of people obtained gas masks, wore gloves when opening their mail, or took other steps to try and control their exposure to this “invisible” threat.

Strategies for Risk Communication

Communicating with the public about risks in an emergency situation is a delicate process, as official messages and actions will affect public response. There is no magic bullet for risk communication, as every emergency situation is different. However, there are some common strategies that can help improve risk communication following disaster, terrorist, or bioterrorist events.

Provide Knowledge

Provide citizens with knowledge before, during, and after emergency events. Accurate knowledge allows people to make more rational decisions regarding risks, whereas a lack of knowledge may be associated with increased fear.⁷ At times officials may wish to keep information from the public, fearing that citizens would be more afraid if they knew the truth.⁸ In reality, the opposite is true; if the public believes information is being hidden, fear may be worse than if all facts are revealed.

There is a caveat here, however, that involves the method in which information is presented. Research shows that risk perception varies based on the way risk information is presented. For example, if information is framed in terms of the percentage of people who will become ill or die as the result of a risk, the risk may be seen as more unacceptable than if the information is framed in terms of the percentage of people who will survive. This phenomenon is called the “framing effect.” Depending on how information is presented or “framed” to people (in this example, chances of dying versus chances of surviving), they may judge the risk differently.⁹

Assess and Correct Misconceptions

In order to understand how citizens are likely to react to risks, it is important to assess what knowledge they currently have and whether that knowledge is correct. It is also important to understand how the public views the risks (e.g., are they thinking about risks to self, family, environment, future generations, etc.) and what their attitude is towards a given situation (e.g., fear, anger). Equipped with this knowledge, you can tailor information based on the needs of your citizens.

Provide an Action Plan

When talking to the public about risks, it is important to provide people with specific steps they can take to reduce or minimize their risk if possible. An action plan gives people a sense that they can have some control over the risk. When providing an action plan, be as specific as possible in terms of

what people should do (e.g., where to evacuate, what self-protective equipment to use/not use, where to go for medical advice, or what to put in an emergency kit).

Address the Diversity of Opinion on Matters of Risk

Due to the inherent uncertainties involved in most risk situations, it can be difficult to convey information to the public. Estimates of risk may vary greatly depending on how those risks are calculated.¹⁰ This range of risk estimates often poses a problem for media outlets or others who are trying to provide the public with information. If experts differ in their assessment of risk, which source of information should be reported? The answer is ambiguous, which can lead to differences in information provided to the public through media and other sources. The media have a difficult job in emergencies involving risk information, as they are relying on experts for information, and these experts may have vastly different interpretations of the risk for a given situation. Additionally, experts may use scientific and technical terms that are unfamiliar to reporters. In many cases it may be necessary to gather information from a large number of sources to provide a complete assessment of risk, thus further complicating the job of reporters.¹¹

How should spokespersons handle this diversity of opinion? Media outlets pull for the dissenting opinion because it becomes the story. They see it as part of good investigative journalism. The best strategy is to sample a variety of opinions. Acknowledge some diversity of opinion but make your case that you have examined these opinions, and the data behind them, and have confidence in your estimates. Such a strategy reassures the public that you are sampling a variety of experts, looking at all the data, and are not trying to hide facts or opinions that you feel may be “unhealthy” for the public.

Address Stereotyping

In the event of a bioterrorist attack, people may attempt to avoid others who they believe have been exposed to the biological agent. This issue needs to be addressed with the public in order to prevent discrimination. Please see, “Protecting Vulnerable Citizens From Stereotyping and Discrimination” for further information.

Enhance Communication With Citizens

Below is a list of tips for enhancing communication with citizens in risk situations. As you will see, many of these tips overlap with tips for communicating with citizens following any number of emergencies. The key, as always, is to have open and honest communication lines with the public.

Case Example: Anthrax

Strategies:

- Develop educational materials. Ideally, these materials will be ready prior to an attack and will be available in different languages.
- Provide citizens with specific steps to take to reduce their risk of exposure.
- Provide training programs to help physicians recognize and address patient anxiety in the wake of bioterrorism.

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Strategies for risk communication:

- Provide knowledge.
- Assess and correct misconceptions.
- Provide citizens with an action plan.
- Address the diversity of expert opinions.
- Address stereotyping.
- Enhance communication with citizens.

Tips:

- Provide clear and consistent messages. It is especially helpful if identical messages come from multiple sources.
- Focus on the primary “take home” message that you want the audience to hear. Repeat it often, particularly at the end of a public communication.
- Decide who would be the best spokesperson for the message. This person may not be the same for every type of event, as the most trustworthy spokesperson may differ depending on the situation. In addition to trust, it is good to use a spokesperson who is seen as a leader in the community. The spokesperson should be knowledgeable about specifics, have good communication skills, and should be adept at handling tough questions.
- If time is available, have spokespersons rehearse public statements while others ask them difficult questions. This strategy helps the spokesperson become prepared for challenging questions and maintain a sense of calm and candor in front of the public.
- Target your messages to specific groups (e.g., elderly, parents, college students, etc.).
- Remember that in the event of an actual bioterrorist attack, citizens are likely to be experiencing varying levels of fear and anxiety. When people are experiencing these emotions, they may be less efficient at processing communications regarding risk. Therefore, the message must be simple and direct.
- Provide frequent information updates.
- Provide people with information about how risks were calculated (i.e., what were the assumptions behind the risk estimates, for example, “exposure to X amount of a chemical is considered safe”).¹²
- Actions and words should be consistent. If your message is that certain steps are being taken to reduce risk, the public will expect to see actions in these areas. If the public does not perceive that action is being taken, there will be more fear.¹³ For example, if you say that inspections are being enacted to ensure the safety of food following a terrorist attack on the food supply, people will want to

know the results of these inspections. If no inspections occur, fear and anger would likely increase.

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Clear, consistent, frequent, and trustworthy communications are very important during disasters involving health risks. Please consult the section entitled, "Communicating With Citizens in a Time of Crisis" for further information on developing communication plans and communicating with citizens during emergency situations.

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Aspects of intense media coverage that may increase anxiety:

- Speculation about the details of an event
- Coverage of panicky behavior
- Dramatic coverage
- Timing of coverage
- Amount and extent of coverage
- Repetition of coverage

Fear Associated With Intense Media Coverage

Following a bioterrorist event, providing accurate and useful information can help calm feelings of anxiety and promote behaviors that would lessen the potential spread of a biological agent (e.g., do not flee the area, stay indoors, wash hands frequently). Media outlets will be an important source of information and public education before, during, and after such an event. Conversely, media coverage could exacerbate feelings of anxiety. Indeed, terrorists rely on this phenomenon, as they prefer sensationalistic coverage that spreads fear. There are several aspects of media coverage that might increase feelings of anxiety in the event of a bioterrorist attack.

Speculation in the Absence of Good Information

Speculation about events is common in our information-hungry world. People want to know as much as they can about an event as fast as they can. The public often turns first to the media, especially televised media, to get this information. As such, immediately after an emergency event occurs or is detected there is often a rush to offer information regarding the causes of that emergency, even if many of the facts are not yet known. Consider the case of the Oklahoma City bombing in 1995. Initial news coverage featured speculation that the terrorists were of Middle Eastern origin, although later this turned out to be untrue. This speculation resulted in unnecessary stereotyping of Middle Easterners as terrorists. Imagine what could happen in the case of an emerging bioterrorist attack. Suppose terrorists released a biological agent that was not contagious, but early reports speculate that the agent released is contagious. This speculation would increase public anxiety and impact the public's behavior (e.g., some people may choose not to go to work or may overwhelm medical resources).

More Coverage of Panicky Behavior

Stories involving strong emotions are more engaging than stories of calm behavior. One yardstick citizens use to make choices is the behavior of others. If other people are taking some sort of precautionary measure, then they may consider it as well. An excellent example of this is the rush to stores for water and other supplies prior to a hurricane. Images of people lining up at gas stations to fill their tanks and snatching cases of water off grocery store shelves can raise the anxiety level of those who have not taken such precautions. Perhaps there is something they are missing, perhaps they should be stocking up as well. Pretty soon the stores are empty. It is possible that similar behavior could occur following a bioterrorist attack. If there is heavy news coverage of people deciding to evacuate an area, other citizens may feel increased anxiety and consider doing the same.

Dramatic Coverage

Media outlets compete for viewers, and they may look for dramatic aspects of a story to increase their audience or readership. However, these dramatic aspects can increase anxiety for some individuals. Dramatic aspects might include choice of words (e.g., “this killer disease,” “the only way to insure you will not die is to get vaccinated,” or “what every American needs to know”), choice of background music, or showing repeated pictures or footage of individuals killed or seriously ill with the biological agent. Additionally, reports often feature interviews with “experts” that increase the drama of the story. At times these experts may exaggerate the scope of a problem by discussing the “worst case scenario,” even if this scenario is highly unlikely. Discussing worst case scenarios may lead to more anxiety and fear than is necessary.¹

Timing

Media coverage may have different meanings for the public depending on the other news of the day. For instance, if a story on smallpox preparedness measures airs on the same day in which there is an increase in the nation’s security alert status, citizens may perceive a higher risk or feel more anxious regarding the possibility of a smallpox attack. Although public education and preparedness measures are very important, the timing of education efforts or news reports may influence the public’s interpretation of information.

Amount and Extent of Coverage

Continuous media coverage of a relatively localized event could lead to public fear in places that are far removed from the threat. Such was the case following the anthrax mail attacks of 2001. Although the attacks and subsequent illnesses were localized to only a few cities, people everywhere in the United States began to worry about handling their mail.² This phenomenon is the result of something psychologists refer to as the “availability heuristic.” Basically, people tend to overestimate the likelihood of an event if information about that event is easier to access or more prevalent. Take airplane travel as an example. Airline crashes often receive heavy media coverage, which can make it appear that airline travel is more dangerous than other forms of travel that receive less intense media coverage (e.g., automobile crashes). Likewise, extensive coverage of responders and healthcare professionals in protective gear also may raise fears. The mere presence of extensive media coverage could make the risk of danger appear higher than it actually is, as such coverage may make examples of the risk easier to remember.^{3,4}



Extensive media coverage may make some risks appear greater than they actually are, as was the case during the anthrax mail attacks in 2001. This phenomenon is the result of something psychologists refer to as the “availability heuristic.” Basically, people tend to overestimate the likelihood of an event if information about that event is easier to access or more prevalent.

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In the majority of cases, media outlets share the goal of getting the best information to the public in the most timely manner. In most disaster events, the media is an important resource for getting information to the public. Therefore, it is essential that community leaders and mental health professionals work with the media to improve the quality of the information relayed to the public, as well as to decrease the potential negative impact of dramatic disaster coverage.

Repetition of Coverage

During the 2001 anthrax mail attacks, there was considerable repetition in news coverage in the first several days, as there were relatively few new developments to report. This repetition naturally occurs in the reporting of major news events and was seen frequently following the September 11, 2001 attacks, as news outlets were attempting to provide extensive coverage. For some individuals, watching repeated coverage of a traumatic event results in increased anxiety and possibly even secondary trauma. Please see, “Secondary Trauma – Viewers/Readers of Media Accounts” for more information. During times of heavy news coverage, it is beneficial for individuals to take “news breaks” and limit their exposure to coverage they find personally disturbing.

Working With the Media to Reduce Public Fears

Reading over the factors mentioned above, it may seem that reporters and media outlets have divergent goals from community leaders in times of crisis. However, in the majority of cases, media outlets do share the goal of getting the best information to the public in the most timely manner. In most disaster events, the media is an important resource for getting information to the public. Therefore, it is essential that community leaders and mental health professionals work with the media to improve the quality of the information relayed to the public, as well as to decrease the potential negative impact of dramatic disaster coverage. Several strategies for working with the media include:

- Help educate members of the local media

Work with the media before and during bioterrorism events to educate reporters about common anxiety responses to biological agents. During any type of crisis situation, community leaders and other professionals can work with local media representatives to help provide them with appropriate information about mental health responses to trauma and stress management techniques.

- Develop strong media contacts

It will be easier to work with the media during times of crisis if community leaders and professionals have developed previous relationships with media outlets in their local area. Work to foster positive relationships with media contacts in your area by working together on projects during non-crisis times. Most importantly, remember not to blame the media. In most cases, reporters are trying to do the best possible job and gather accurate information. Reporters face time deadlines,

pressures to attract the most readers/viewers, and conflicting information sources.

- Include members of the media when developing crisis communication plans

It is important to solicit media input when developing crisis communication plans in a community. Collaborating with the media helps community leaders learn about common media practices and priorities in a disaster situation. In turn, community leaders can help members of the media understand local priorities for response and recovery. This process can lead to the identification of potential areas of conflict. Collaboration on a crisis communication plan provides the opportunity to identify and resolve such conflicts before a disaster occurs. Please see, “Communicating With Citizens in a Time of Crisis” for further information.

- Develop a list of local experts

Develop a list of experts in the community that can provide information to the media during different types of crises. It is important to make sure these individuals work together, as well as work with local leaders, to provide consistent messages to the media in times of crisis. Oftentimes communities will establish a Joint Information Center following a crisis to provide a location for media representatives, community officials, and experts to gather so that the information provided to the media is consistent and up-to-date.

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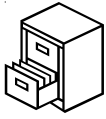
Strategies for working with the media:

- Educate members of the local media about psychological reactions to bioterrorism.
- Develop strong media contacts.
- Include members of the media when developing crisis communication plans.
- Develop a list of local experts.

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Case Example: 1995
Oklahoma City
Bombing

Closure can be difficult: Timothy McVeigh was sentenced to death and executed for his role in planning and executing the Oklahoma City bombing. Many individuals hoped his execution day would bring closure. However, some people were disappointed to learn that his execution did not bring the kind of closure they had desired.

ADDITIONAL CONSIDERATIONS

Disasters Involving Criminal Investigation

Individuals affected by disasters often search for someone to take responsibility for what happened. People believe they must assign blame to the guilty, and that the public, as well as those in power, accept and support this assignment of blame. When a criminal investigation delays the assignment of blame, individuals affected by the disaster may experience greater feelings of anxiety, depression, and anger while waiting for the completion of the investigation and possible legal proceedings.

One of the most memorable examples in recent U.S. history occurred on the day of Timothy McVeigh's execution. Timothy McVeigh was put to death on June 11, 2001 for his role in planning and executing the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City. On that day many family members reported that they had waited for this day to feel closure. However, after the execution, the family members and friends discussed their feelings and were disappointed to learn they did not feel relief. They talked about closure occurring only when they themselves die. According to a national news survey, most people believed the day of execution was just another step in their own personal recovery, yet not the final step.¹

The scenario following the Oklahoma City bombing is not unusual. When human-made disasters occur, victims, family members, and friends of the victims may believe they must witness retribution and place blame to experience closure. As the above example illustrates, closure is a long and complicated process and may not occur as many people expect. During the healing process, victims, family members, and friends of victims can greatly benefit from the social support of other members of the community, as well as from the assistance of mental health professionals. The community must also provide education about the facts of the disaster and the processes of grief and closure.

Strategies for Helping Communities During Lengthy Investigations

Supporting community members is very important during disasters involving criminal investigations. Below are some recommendations for supporting the community during these investigations.

- Encourage people to seek support

As with victims of other crimes, those exposed to disaster situations involving criminal investigations should seek out counseling and formal

support groups or informal support in family and friends. Community leaders can educate and inform individuals of the need for support services to facilitate healthy coping, as well as make public statements supporting the grieving families. To aid community members in locating sources of support, develop a list of local mental health professionals and support groups.

- **Make public statements supporting grieving families and recognizing their losses**

Public statements of support and acknowledgment can serve to strengthen a sense of community and provide support for community members. Community leaders should remind those affected by the event that justice might be a long process, despite rigorous efforts to find and punish those responsible. During this process community leaders can help families feel a sense of connectedness and give reminders that others recognize their losses are important. Community leaders should also acknowledge the positive and heroic qualities of those affected by the tragedy. Additionally, it is important to acknowledge public frustration with lengthy investigations.

- **Keep people informed of progress on investigations**

The public needs to be informed of progress on investigations, as well as be assured that resolution of these investigations is a priority. Just as it is important to keep citizens informed of pertinent information immediately post-disaster, it is important to maintain information flow with regards to long-term follow-up and investigations into the causes of a disaster.

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Human-made disasters, including terrorism, often involve investigations and legal proceedings. These investigations can complicate the grieving and healing process for individuals affected by the disaster.

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Conditions that could contribute to civil unrest:

- Political instability
- Social instability (racial tensions, poor economic conditions)
- Perceived injustice (true or rumored)
- Relative anonymity of individuals in the context of a group action
- Citizens feeling their needs are not being met
- Large scale tragedies such as catastrophic disasters, terrorism, or war

Civil Unrest

What is civil unrest? And where does it fit in a manual about disasters? The 2003 conflict in Iraq provided many examples of civil unrest: widespread looting, lawlessness, theft, and conflicts over food/water resources. Although the circumstances in Iraq were unique and preceded by war, social disturbances can and does occur following some instances of disaster. For instance, looting is sometimes seen after major natural disasters, with several examples including Hurricane Andrew and Hurricane Hugo. Also, civil disturbances may occur if there are short supplies of food and water. Civil unrest is a complex issue, and our intent is not to provide a detailed review of the phenomenon. Instead, our intent is to briefly discuss how civil unrest could be a problem after some disaster events, comment on the psychological issues involved, and suggest several strategies to lessen the likelihood of citizen unrest.

Civil unrest is social in nature, that is, it can occur when there are conditions of societal or political instability (e.g., racial tensions, poor economic conditions, political upset), or when groups of people feel their needs are not being met, that some governmental injustice has been done (whether true or rumored), or that they can evade the law (i.e., a low or nonexistent law enforcement presence).¹ The relative anonymity of the group and the seeming absence of legal ramifications further contribute to behaviors in which a person may never otherwise engage.^{2,3} The Los Angeles riots of 1992 provide an example of this group behavior phenomenon. On April 29, 1992, a jury acquitted four Los Angeles police officers that were charged with using excessive force on Rodney King during a traffic stop. Prior to trial, a video was released to the media that contained footage of police beating Rodney King after he was pulled over for driving under the influence and evading police. As a result of this videotape, many members of the public assumed the police officers involved would be found guilty of excessive use of force. Shortly after the not-guilty verdicts were televised, rioting began in Los Angeles, and people began looting stores, damaging and setting fire to businesses, and attacking innocent people passing through the area. Police were initially unable to subdue the rioting, and National Guard troops were called in for assistance. Although civil unrest on this scale is highly unlikely following most disasters, the right mix of social conditions following a major catastrophe could possibly lead to civil disturbances.

As is the case with panic, civil unrest is a rare occurrence following a disaster, and the majority of people behave in helpful and altruistic ways towards one another.⁴ When looting occurs after natural disasters, looters are often from outside the affected area, and the primary targets

are unguarded or unwatched homes or businesses.⁵ However, with the exception of the Oklahoma City Bombing and September 11, 2001, our country is relatively untested with regards to large-scale terrorist or bioterrorist attacks. Although there was some looting following the September 11, 2001, attacks,⁶ there was not widespread panic or civil unrest.

It is possible to envision a scenario where multiple terrorist or bioterrorist attacks could lead to a loss of social order and citizens feeling unsafe and perceiving that the government might not be able to secure their safety. If citizens begin to feel their needs are not being met, that authorities cannot guarantee their safety, and that their actions will not be sanctioned by law enforcement, the possibility for civil unrest could increase. Recall that terrorism and bioterrorism are fundamentally psychological weapons. Terrorists plan attacks in the hopes that fear, panic, and civil unrest will result. Several possibilities where civil unrest could become a factor include:

- Disasters that render the usual law enforcement agencies unable to perform more traditional law enforcement functions.
- A bioterrorist attack involving a biological agent for which known treatments or vaccines are in limited supply, and the public perceives that the plan for distribution is unfair.
- Terrorist attacks that result in a disruption of the normal social order and overwhelm community response capabilities, thus leading citizens to perceive that their local authorities cannot keep them safe and are unable to meet response needs.
- The existence of widespread rumors following a catastrophe that cannot be corrected due to complete destruction of normal communication channels.

Strategies to Prevent and Address Civil Unrest

The best strategy against civil unrest is thorough planning and preparation for disaster response in a community. If citizens feel that their local or national authorities are equipped and ready to handle a range of disaster situations, and continue to feel that authorities are in control at the time of a disaster, they are more likely to follow recommendations from authorities and perceive that something is being done to ensure their safety. Other strategies include:

- **Show leadership**

Following September 11, 2001, New York Mayor Rudy Giuliani appealed to citizens for calm and continually stressed the actions being undertaken by



Strategies to prevent and address civil unrest:

- Show leadership.
- Get the message out early.
- Appeal for altruism.
- Dispel rumors.
- Have a two-way dialogue with citizens.
- Develop a communication plan.
- Maintain law enforcement presence.

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During times of crisis, it is very important to exhibit strong leadership and give citizens a mission to help their community and fellow community members.

the city, state, and national governments to keep citizens safe and address the tragedy. His leadership and management of the tragedy helped send the message that the city was equipped to control the situation, even though it was a tragedy larger in scope than the city could have imagined.

- **Get the message out early**

Prepare to get messages out to the public early and often before unrest might begin. These messages should emphasize the absence of civil disturbance and the expectation that none will appear. This message is important given that looting, violent protests, and other aggressive unrest are largely products of “social contagion,” the spread of unusual behavior among groups of people that would not be seen if individuals were acting alone. It is important to set the tone for the community that residents are pulling together to work toward recovery, protect each other, and sustain the values of the community.

- **Appeal for altruism**

Have trusted community leaders make appeals for altruism (i.e., selflessness and a concern for the welfare of others) and community cooperation, stressing that altruistic and helping behaviors are important for securing overall public safety and well-being, as well as individual safety and well-being. These messages should give citizens a mission to help others instead of participate in the violence. These messages could be difficult to communicate in catastrophic crisis situations, as individuals may be feeling extremely vulnerable, and the fear of danger to oneself may override the concern for the overall good. Also, damaged communication channels may call for alternate methods of reaching out to citizens.

- **Dispel rumors**

Dispel rumors as quickly as possible. Rumors will only serve to increase the likelihood of panic, feelings of injustice, and civil unrest. Please see, “Communicating With Citizens in a Time of Crisis” for further information.

- **Have a two-way dialogue with citizens**

Gather citizen input when constructing disaster response plans, such as plans for the distribution of medications/vaccines that could be in short supply. Inform citizens of these specific plans and the reasons behind these plans if at all possible. It is also important to inform citizens of general state and local disaster plans and response capabilities. Citizens are more likely to cooperate if they believe there is an effective plan that ensures their needs will be met in a disaster situation.

- **Develop a communication plan**

Develop a range of communication channels for reaching the public following a disaster. Have a plan in place for how you will communicate with citizens with regards to the fear and anxiety that is associated with terrorism and bioterrorism. Although panic is unlikely in most circumstances, fear, anxiety, and feelings of uncertainty are common experiences after a disaster or terrorist event. Please see, “Communicating With Citizens in a Time of Crisis” for more information.

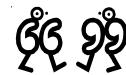
- **Maintain law enforcement presence**

Law enforcement should attempt to maintain a continuous presence near potential “hot spots” for civil unrest including retail areas, hospitals and medical clinics, and government offices.

Remember that civil unrest, like panic, is a rare occurrence following disaster. Thus, disaster plans that are designed under the assumption that these behaviors are frequent following disasters may result in misguided planning efforts.⁷ However, in the face of terrorism and bioterrorism, communities need to consider how their standard disaster plans might be affected by these less frequent behaviors, as normal behavioral responses after disasters may breakdown under extreme conditions.⁸

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Civil unrest, like panic, is a rare occurrence following disaster. Thus, disaster plans that are designed under the assumption that these behaviors are frequent following disasters may result in misguided planning efforts.⁷ However, in the face of terrorism and bioterrorism, communities need to consider how their standard disaster plans might be affected by these less frequent behaviors.

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Discrimination and avoidance of affected individuals has occurred following a number of events involving radioactive substances, including:

- ⇒ The accidental release of radioactive material from a medical device in Goiania, Brazil
- ⇒ The atomic bombs in Hiroshima and Nagasaki

In the case of radiological events, people may have misconceptions that once a person is exposed to radioactive materials, that person is then “contaminated” and can in turn contaminate others. Such misconceptions can lead to people avoiding or stereotyping those affected by the radiological event.

Protecting Vulnerable Citizens From Stereotyping and Discrimination

Disasters that involve exposure to chemicals, radiation, or biological agents heighten feelings of personal vulnerability due to potential health effects of exposure. If exposure to these agents is deliberately caused through an act of terrorism, fears may be even greater due to the intentionality of such attacks. When people are faced with such fears, the tendency to stereotype and reject people that resemble the object or source of that fear is greatly increased.¹ Stereotyping results from our perceptions of how some people fit into categories based on one or two characteristics they possess. That is, we “lump” individuals into a group because they share perhaps one common characteristic with a group we perceive as undesirable, threatening, or guilty of some act. For the individuals or groups who are targets, the effects of stereotyping can include stigmatization, depression, or loss of close friends and other social contacts.²

Stereotyping Based on Fear of Illness or Disease

When people are exposed to toxic chemicals or life-threatening diseases, fear often envelopes a community. Individuals especially fear exposure to substances they believe are linked to cancer, as they may believe any contact with the feared substance, no matter how small, is likely to lead to cancer and or death, even if these beliefs are not supported in science. Because of this strong belief, people want to avoid contact with chemicals believed to be cancer causing.³ Individuals exposed to radioactive material are often shunned and avoided for fear they might be contagious. For example, following accidental radioactive exposure in Brazil, a group of individuals were refused seats on airplanes and endured the rejection of their community.⁴ Similar incidents were recorded in Japan after the bombings of Hiroshima and Nagasaki. Following an event of chemical or radioactive exposure, the public often perceives a constant level of threat as many substances are “invisible,” that is, they cannot be detected by sight, smell, or touch. This continuing, invisible threat may result in individuals experiencing stigmatization.⁵

Today, people all over the world are concerned about biological warfare and exposure to biological agents such as smallpox. U.S. history can illustrate what might happen if community members contract such a communicable illness. In the Muncie, Indiana, smallpox outbreak in 1893, residents were strongly opposed to those living in the infected district entering other districts of the city, no matter how thoroughly the individuals were disinfected. This opposition was most likely related to fear of infection and misinformation about how the disease was spread.⁶

Stereotyping Based on Ethnic Identity and Faith

Larger groups of people perceived as sharing common characteristics may also experience stigmatization following an event like the terrorist attacks of September 11, 2001. Many innocent Arab-Americans endured vandalism to their businesses, name-calling, verbal and physical threats, and threats to their civil rights in the months following September 11.^{7,8} As an example, in December of 2001, an Arab-American Secret Service agent was barred from boarding his flight to President Bush's ranch in Crawford, Texas, despite having all the necessary documentation to fly with his coworkers.⁹

What can community leaders do to protect vulnerable citizens?

To help protect citizens from stereotyping it is very important for community leaders to:

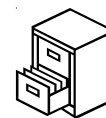
- **Educate the public and address their concerns**

Community leaders must aggressively educate the public about the real risks of the situation, whether it is a terrorist event, chemical spill, or nuclear accident. Fear of the unknown often evokes feelings of mistrust and betrayal in the community towards those in power. When those in power implement systematic plans for providing information about the real threats of a situation, they can calm feelings of mistrust. Please see, "Risk Perception and Communication," and "Communicating With Citizens in a Time of Crisis" for additional information.

- **Aggressively rebuke hate crimes and prejudice**

In the days following the terrorist attacks of September 11, 2001, President Bush and New York Mayor Rudy Giuliani publicly addressed issues of prejudice. They stressed the importance of tolerance of racial and religious differences, coupled with level-headed awareness of potential threats. These leaders made it clear that crimes against the innocent would not be tolerated. They also urged Americans to continue interacting with others without prejudice or hate.

Politicians and law enforcement personnel need to assertively address the possibility of discriminatory behavior and hate crimes, especially following a terrorism event. Public statements of national values of diversity, inclusiveness, and liberty are particularly critical at this time.¹⁰ Community leaders should encourage people to come forward and report incidents. Also, aggressive policies towards arresting and prosecuting perpetrators of hate crimes are highly recommended.



Case Examples: September 11, 2001 and the 1995 Oklahoma City Bombing

Following the 2001 terrorist attacks in New York City and Washington, D.C., some Arab-Americans reported experiencing vandalism to their businesses and verbal and physical threats. Arab-Americans also experienced stereotyping following the Oklahoma City bombing in 1995, as early reports suggested the possibility that the attack was carried out by men of Middle-Eastern descent.

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Strategies for protecting vulnerable citizens:

- Educate the public about the real risks of a situation and address their concerns.
- Aggressively rebuke hate crimes and prejudice.
- Promote positive interactions and social support.
- Encourage people to seek out support and help if they are experiencing prejudice.

- Promote positive interactions and social support

Leaders need to promote safe meetings for constructive group contact to reduce the likelihood of stereotyping.¹¹ For example, in the case of a chemical accident, constructive contact between chemical plant employees and community members would promote equality between the groups, as well as shared goals. Those affected by tragedy should also seek social support in their community. Social support may take the form of family/friend support, support groups, group therapy, or individual therapy.

What can an individual do if they are experiencing prejudice?

People who experience prejudice and discrimination after a disaster event may fear that others will reject or even persecute them. Often these individuals seek to be alone and isolate themselves from others to protect themselves and to hide their identity.¹² It is very important for these individuals to seek positive support in a safe environment and follow general stress management guidelines (Please see, “Stress Management for Adults”). Those who isolate themselves from social supports will likely experience greater distress.

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SECTION FIVE

HELPING INDIVIDUAL COMMUNITY MEMBERS



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INTRODUCTION

In this section we will discuss information designed to provide support to individual community members following a disaster or terrorism event. We begin by discussing common signs of post-disaster stress in adults and children. Our goal is to familiarize you with a number of emotions and behaviors you might encounter working with disaster victims. Next, we discuss the concept of secondary (vicarious) trauma, which refers to the trauma experienced by individuals who were not direct victims of the initial disaster event. These individuals might include rescue workers, family members of victims, fellow community members, people following media coverage of the event, or journalists. To aid you in your efforts to help disaster victims, we provide tips for talking with adults and children about their experiences and referring individuals for additional help from a mental health professional. Additionally, we discuss the importance of maintaining social support systems and the role of clergy members in helping individuals impacted by disaster. We end this section with a review of psychological debriefing. This review is designed for mental health professionals who wish to learn more about the issues involved with using psychological debriefing following disasters and trauma.

In Section Five you will notice variations in style between different subsections of material (some subsections are in second person, some in third person). These variations exist because some of these materials are written so that they can double as handouts/educational materials for individuals affected by a disaster. The following subsections can double as handouts:

- Disaster Stress and Warning Signs in Adults
- Disaster Stress and Warning Signs in Children
- Warning Signs for Suicide
- Stress Management for Adults
- Helping Children Manage Stress
- Coping With Anger After Terrorist Attacks
- Coping With Stress in Times of War
- Talking With Adults - 7 Supportive Communications
- Talking With Children About Disasters
- Talking With Children About Terrorism and War
- Referring Someone for Additional Help



No two individuals will respond in the same way to a disaster. In part, an individual's interpretation of the disaster will have an impact on their emotional response. Whereas one individual may feel like their life has been ripped away, another person might see the disaster as an opportunity for growth and change.

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Disasters often involve substantial losses, including the loss of life, property, jobs, and a “way of life.” A person’s way of life includes the normal everyday routines, community structures, and supports they have come to know over the course of many years.

DISASTER STRESS AND WARNING SIGNS

Following a disaster or terrorist event, it is normal for people to experience a range of emotional reactions. Individual responses can vary from extremely debilitating stress reactions to almost no symptoms at all. In most cases, even stress reactions that individuals find personally troubling are *normal reactions to abnormal situations*. While there is usually a general increase in distress symptoms following a disaster, most affected individuals do not develop a specific psychological disorder such as depression or Posttraumatic Stress Disorder (PTSD). For most people, post-disaster distress subsides within a relatively short period of time following the disaster. However, some individuals may have problems that persist for months or years following the disaster event. These longer-term, prolonged effects may be more likely following human-made disasters,¹ although particularly devastating natural disasters can also result in long-term symptoms for some individuals. Distinguishing normal grieving from a more serious stress reaction after a disaster is important, as some persistent symptoms may be the beginnings of more significant anxiety problems, depression, or behavior and social problems. Being able to recognize some of these normal reactions can help prevent misinterpretations of immediate symptoms as a sign of severe psychological problems. Although many individuals experience some immediate symptoms, prolonged distress symptoms well after a disaster has subsided may signal the need for additional help.

As you work with individuals affected by a disaster, it is important to recognize that reactions to a disaster are affected by a number of factors.

Disasters Involve Substantial Losses

Disasters often involve substantial losses, including the loss of life, property, jobs, and a “way of life.” The scope of such losses is illustrated in an interview conducted with a man following the destruction of his neighborhood by a deadly tornado. The tornado was one of a number of tornadoes spawned by a storm system across several southern states in 2002. As he stood in front of the remains of his home and neighborhood, he reported that both of his next-door neighbors had died in the storm. He had lived in the neighborhood for many years, and he talked about how close he had been to his neighbors. This man had lost close neighbors, his property, and his neighborhood. In addition, he lost his “way of life,” the normal everyday routines and supports he had come to know over the course of many years. This example is one of hundreds of such interviews conducted every year after major disasters. The losses experienced after disasters

naturally lead to difficulties for all involved. Grieving the loss of people, property, and a “way of life” is a normal process for people exposed to disasters.

Age Matters

Children and adults may have similar problems after a disaster; however, the way in which these problems are expressed can be quite different. While adults may show signs of distress through their emotions, children, especially younger children, often reveal distress through their behavior. Children may not understand the nature of the disaster, its causes, and the scope of its effects, leaving them confused and often scared. Because younger children may have difficulty expressing their emotions through language, they may act out their emotions by refusing to do chores or schoolwork, arguing, or withdrawing from family activities. Children also may show signs of post-disaster stress through their play or through wanting to talk about the disaster frequently.

Individual Interpretations Matter

An individual's interpretation of the disaster event may have an impact on their level of post-disaster symptoms. For example, individuals who experience intense feelings of personal danger, or danger to family members, while waiting out a tornado may experience more post-disaster stress. This phenomenon has been shown in studies with children after Hurricane Hugo, as well as the Oklahoma City Bombing.^{2,3} Thus, immediate emotional response to the event may play an important role in later symptom development. Immediate emotional response may differ depending on an individual's personal history, cognitive development, personality factors, and whether they have prior experience with disasters. Individuals who have experienced previous traumas or disaster events may interpret the present disaster differently. For example, when New York City experienced a major blackout in 2003, some people wondered if it could be another terrorist attack given the prior events of September 11, 2001. Similarly, the experience of almost simultaneous disasters (September 11, 2001 and the anthrax mail attacks) will affect individual interpretations and reactions.

Those Severely Impacted Often Experience More Distress

Individuals may experience higher levels of post-disaster stress if they are more severely impacted by the disaster personally (e.g., loss of home, loss of loved one, in the location of highest damage, needing to relocate, loss of resources), although this is not always the case.⁴ Being exposed to death can result in significant distress, as can feeling like one's own life has been



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Coping is an individual process. Some people may utilize “active” coping by becoming actively involved in disaster relief efforts, assisting neighbors, or raising money to aid disaster victims. Others may cope more “passively” by trying to think about things unrelated to the disaster, not talking about the event, or denying how much distress they feel. Yet another coping strategy may be to seek help from informal or formal sources of support (e.g., friends, family, mental health counselor, or clergy member).

threatened. However, individuals can still experience substantial distress even if they are not severely impacted by the disaster. For example, someone may experience high levels of stress merely by watching accounts of the disaster on television. This was prevalent following the September 11, 2001 terrorist attacks.

Another factor to consider is the severity of impact on the community as a whole. If a community has been severely impacted (e.g., community buildings are destroyed, community agencies are unable to operate, community leaders have been injured or killed), this may further contribute to post-disaster stress. Severe damage to the community affects the level of support the community can provide to citizens in the wake of a disaster.

Coping Strategies Can Affect Recovery

Individual coping strategies may lead to differing levels of distress. Some people may utilize “active” coping by becoming actively involved in disaster relief efforts, assisting neighbors, or raising money to aid disaster victims. Others may cope more “passively” by trying to think about things unrelated to the disaster, not talking about the event, or denying how much distress they feel. Yet another coping strategy may be to seek help from informal or formal sources of support (e.g., friends, family, mental health counselor, or clergy member). In some studies, active coping strategies were found to be associated with less distress.⁵ However, active coping strategies may be less useful if an individual has little ability to control the disaster situation. For example, when citizens learn of toxic waste or radioactive contamination accidents, they may be unable to participate in recovery efforts, sell their homes, or even move to other areas.

It is important to remember that, despite some research suggesting that active coping styles may offer some advantages for some victims, effective coping is an individual process. There is no “one size fits all” approach to coping with tragedy. Individuals can be educated about coping alternatives, and even benefit from some guidance if they are clearly having problems with coping. However, individuals can effectively cope with disasters in widely varying ways.

Mothers May Experience More Distress

In some cases mothers of young children may be at risk for higher levels of distress. Higher levels of distress for mothers of children under 18 (as compared to other adult study participants) have been found after accidents involving radiation exposure such as Three Mile Island and Chernobyl.⁶ This higher level of distress has been attributed to mothers’

concern for their children, especially concern for long-term health effects of exposure to radiation or toxic waste. Mothers also may be concerned about unborn offspring or future efforts to conceive when they become aware of environmental contamination with chemicals or radioactive materials.

Preexisting Emotional or Behavioral Problems are a Risk Factor

Children and adults with preexisting emotional issues (e.g., preexisting anxiety in children⁷) may be more at risk for symptoms of post-disaster stress. It is thought that this vulnerability is primarily due to the concern that these individuals may not have the coping skills needed to handle the added stress of the disaster event. Individuals with a history of emotional and behavioral problems should be closely monitored following a disaster.

Disasters, Like Individuals, are Unique

No two disasters are exactly alike. Disasters can differ on many dimensions, including location and areas affected, economic impacts, sudden or anticipated impact, and possibility for recurrence. Likewise, no two people are alike. Factors such as previous disaster experience, presence of other life stressors, and economic security may influence a person's response to disaster events. All of these factors may play a role in the way a person interprets a given disaster.

Disasters Have Secondary Effects

It is often the case that disasters result in secondary effects. Primary effects are damage caused directly by the disaster event, whereas secondary effects are problems that occur as a result of this primary damage. These secondary effects may increase the impact of the initial disaster and can range from living in temporary housing, having to permanently relocate, job loss, and economic hardship due to lack of appropriate insurance.

Individuals with fewer economic and social resources may need to utilize government or relief agency-funded temporary housing, while individuals with more resources may find other arrangements. Temporary housing can be a source of distress if families are clustered into one area (e.g., in temporary mobile home parks), have to move multiple times, or incur financial burdens as a result of the temporary housing arrangement.⁸ If families are never able to return to their original homes, they may lose key social supports in their old neighborhood and may lack control over choices of where to rebuild their homes.^{9,10} Job loss can be an additional stressor for



Secondary effects may increase the impact of the initial disaster. These secondary effects include: living in temporary housing, having to permanently relocate, job loss, and economic hardship due to lack of appropriate insurance.

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The emotional impact of a disaster may differ based on the post-disaster environment. Aspects of the post-disaster environment that may impact recovery include:

- Availability of social support
- Availability of financial support
- Community support for victims
- Having to relocate temporarily or make a permanent move
- For children, parental emotional functioning following the disaster

families who were financially disadvantaged prior to a disaster. All of these factors will play a role in an individual's or family's recovery process.

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Disaster Stress and Warning Signs in Adults

An adult's emotional reactions following a trauma can be quite varied and may range from very little distress to extremely debilitating stress reactions. Like any other trauma, a disaster can be a significant stressor and can lead to mental and emotional disruption for many individuals. This mental and emotional disruption is commonly referred to as post-disaster stress. Even post-disaster stress reactions that individuals find personally troubling are *normal reactions to abnormal situations*. Below is a list of potential symptoms you might encounter in your interactions with adults following a disaster or terrorism event.

Erratic Behavior

Some individuals engage in risky behaviors or even criminal activity in misdirected attempts to solve financial problems or deal with other matters. Anger may be especially likely following a terrorist attack or other human-made disaster. Irritability and rapid mood swings are also common, which often result in outbursts towards family, friends, and coworkers.

Changes in Mood

Nervousness, anxiety, depression, and other emotional reactions are common following a disaster. Feelings of guilt are also possible, especially if an individual lost a loved one in the disaster. Some people may wish they could have taken the place of their loved one or been there with them. Others may report increased crying spells or mood swings.

Increased Substance Use

Some adults abuse alcohol or other substances under such stressful situations. Substance abuse may in turn lead to further problems coping with the effects of the disaster at home and at work.

Physical Symptoms

Adults may report more physical symptoms (also referred to as “somatic complaints”) such as headaches, fatigue, and pains, and may request increased sick leave from work. Some of these physical symptoms may be related to increased anxiety. High levels of stress can weaken the immune system, which can in turn lead to increases in illness symptoms.



Like any other trauma, a disaster can be a significant stressor and can lead to mental and emotional disruption for many individuals. Even though individuals may find these reactions to be personally troubling, they are normal reactions under abnormal circumstances.

Note: Some material in this section was reproduced from Garret Evans and Sam Sears (1999), *Triumph Over Tragedy: A Community Response to Post-Disaster Stress*.

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Potential signs of disaster stress in adults:

- Erratic behavior
- Changes in mood
- Substance use
- Physical symptoms
- Recurrent thoughts
- Avoidance
- Shaken belief systems
- Strained relationships
- Cognitive problems
- Impaired work performance
- Changes in daily routines

Recurrent Thoughts

Adults may experience constant thoughts about the disaster and may find it difficult to think about anything other than the disaster. Some people may report flashbacks of the event, or feelings that they are reliving the event. Recurrent thoughts or flashbacks can interfere with concentration and work performance. Dreams and daydreams that include the event are also common.

Avoidance

Adults may want to avoid places or things that serve as reminders of the event. Such reminders bring back strong emotions experienced during the disaster. Common places that victims avoid include airplanes, bodies of water, cars, and tall buildings, depending on the nature of the disaster.

Shaken Belief Systems

Adults may begin to question their religious or spiritual beliefs following a disaster. They may question their assumptions about the safety of their community or country, or they may start to question their trust in government officials. Such questioning and soul-searching is common after a disaster as people search for meaning and resolution. For example, following terrorist attacks, people may question whether the world can actually be a safe place or wonder why people would commit such violent acts against innocent citizens. Or, after learning of a toxic waste disaster, citizens may question their faith in government and industry officials, especially if there is some concern that early information may have been held back from the public. Natural disasters may lead people to question why a supreme being would allow such devastation to occur, especially to those they view as being faithful.

Strained Relationships

Adults may withdraw from their families or friends when they are feeling distressed. Alternatively, they may not want to leave home for fear that something terrible will happen again, or they may feel shame over their emotional reactions. Many victims describe their self-isolation as a product of feeling helpless and without energy. Others indicate that they simply want to avoid troubling others with the burden of their distress. Some individuals may not want to leave their family members alone because they want to protect them from another possible disaster. Also, adults may experience increased marital stress as a result of trying to cope with disaster-related stressors.

Cognitive Problems

Individuals may have difficulty concentrating, paying attention, and remembering things. Concentration and focus may be impaired by recurrent thoughts of the disaster, fatigue, and worry concerning the future.

Impaired Work Performance

It is common to see poorer work performance and decreased productivity following a disaster. Occupational achievement may seem less important after suffering a tragedy. Cognitive problems such as impaired concentration, memory, and attention, combined with increased irritability and mood swings, take a toll on work performance and relationships.

Changes in Sleeping, Eating, and Daily Routines

Problems with sleeping, particularly difficulty in falling asleep or staying asleep, are common. Adults can have nightmares about the disaster. They may also experience daydreams that make them feel they are reliving the event in the middle of the day. Dramatic changes in appetite, especially a drop in appetite, are common.



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Potential signs of disaster stress in children:

- Behavior changes
- Emotional symptoms
- Nightmares
- Strained social relationships
- Difficulties at school
- Changes in routine
- Physical complaints

Note: Parts of this section were reproduced from Garret Evans and Sam Sears (1999), *Triumph Over Tragedy: A Community Response to Post-Disaster Stress*.

Disaster Stress and Warning Signs in Children

A child's level of emotional distress following a disaster may be influenced by many factors including proximity to the disaster event, reactions of adults in the child's environment, reactions of siblings and peers, and the child's personal understanding of the disaster event.¹ What follows is a list of potential signs of post-disaster stress in children. Please remember, it is important not to over-interpret common behavioral problems or changes in a child's mood as a clear sign that he or she is struggling with the disaster. Stress is a normal response to abnormal events and does not necessarily signal a more serious problem. A good rule of thumb is to look for changes in behavior, emotions, or social functioning that: (1) are quite different from how the child acted prior to the disaster, and (2) last for more than a few days or a week. Every child will show a different pattern of signs and symptoms of stress, so do not expect that they will show every sign listed below.

Behavior Changes

Young children in particular have difficulty understanding their feelings and talking about them following a disaster event. They are more likely to show their distress through their behavior, including aggressive behavior, arguing, increases in hyperactivity, or refusing to follow directions. Young children may also show signs of post-disaster distress through their play. Older children, especially adolescents, may engage in risk-taking behaviors. Changes in behavior and mood often signal that a child has concerns or is distressed.

Emotional Symptoms

Children may seem sad, withdrawn, nervous, or clingy, especially around situations that remind them of the disaster (e.g., storms, sirens). They may fear leaving their families or going to school, startle easily, or be more jumpy. They may have specific fears that the disaster will happen again. Additionally, some children may have feelings of guilt. Adolescents could have thoughts of suicide.

Nightmares

After a disaster, children may have nightmares about the event. Some nightmares are normal, but if they continue for a long period of time or cause the child to have significant problems sleeping, they may be a sign that there is something more serious going on. Some children may ask to sleep in their parents' room. If they do, consider letting them. But, put a time limit on

it, such as, “Okay, but just for tonight. Let’s see if we can sleep in our own beds tomorrow.” This way, you can help avoid the situation where your child becomes dependent on sleeping with you. You can always extend your plan later if needed.

Strained Social Relationships

It is important to recognize that disasters not only affect how children cope within themselves, but how they react within social settings. The trauma that one person experiences ripples across families and communities. These effects are magnified if the disaster affected many families in the community. Since a disaster can trigger tensions among family members and everyone in the community, it is not unusual for kids to argue more with adults and friends.

Difficulties at School

Emotional difficulties and poor behavior following a disaster can contribute to difficulties at school. Children may have trouble paying attention in class, holding their concentration, and following directions for assignments when they are under great stress.

Changes in Routine

Changes in a child’s daily routine may signal difficulty coping with the disaster. Changes in sleeping and eating habits are common signs of stress, anxiety, and possible depression. Wetting the bed can occur in times of great stress, even in children who have been toilet-trained for years.

Physical Complaints

Complaints of pain or illness are common among kids experiencing feelings of anxiety. Frequent reports of stomachaches and headaches that last for several weeks may be a sign that a child is having difficulty coming to terms with his or her feelings after a disaster.

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Following a disaster, parents, teachers, and other caregivers may be experiencing high levels of stress, which can cause them to be distracted and focus less on children’s functioning. Thus, children’s symptoms of distress may go unrecognized.

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Children of different ages may show different kinds of distress symptoms. The tables on the following pages list some common types of distress for children of different age groups. Although each table has one column devoted to symptoms that might indicate the need for a referral, please remember that *prolonged* or *severe* symptoms in the other columns may merit referral as well. Once again, you are looking for *prolonged changes in the child's behavior compared to their pre-disaster functioning*.

Preschool (Ages 1-5)		
Normal Development	Possible Stressful Reactions	Consider Referral
Thumb sucking, bedwetting	Uncontrollable crying	Excessive withdrawal
Lack of self-control, no sense of time, want to exhibit independence (2+)	Trembling with fright, immobile Running aimlessly	Does not respond to special attention
Fear of the dark or animals, night terrors	Excessive clinging, fear of being left alone	
Clinging to parents	Suddenly begins to act like a much younger child	
Curious, explorative	Marked sensitivity to loud noises or weather	
Loss of bladder/bowel control	Confusion, irritability, eating problems	
Speech difficulties		
Changes in appetite		

Middle Childhood (Ages 5-11)		
Normal Development	Possible Stressful Reactions	Consider Referral
Irritability	Suddenly begins to act like a much younger child	Absolutely will not separate from parents
Whining	Sleep problems	Sudden bedwetting problems that last over two months
Aggression, question authority, try new behaviors for "fit"	Headaches, nausea, visual or hearing problems	Consistently on edge, seems afraid of the world, can't be calmed
Overt competition with siblings for parents' attention	Irrational fears	Sudden bouts of crying over more than a 3 to 4 week period
School avoidance	Refusal to go to school, distractibility, fighting	Refusal to go to school, distractibility, and/or fighting lasts for more than two weeks
Nightmares, fear of the dark	Poor school performance	
Clinging	Weather fears	
Withdrawal from peers, loss of interest or concentration	Excessive withdrawal, doesn't want to talk or be around anyone	

Early Adolescence (Ages 11-14)		
Normal Development	Possible Stressful Reactions	Consider Referral
Sleep disturbance	Withdrawal, isolation	Disoriented, has memory gaps
Appetite disturbance	Depression, sadness, suicidal ideation	Severely depressed or withdrawn
Rebellion in the home, refusal to do chores	Aggressive behaviors	Severe oppositional behavior and disobedience
	Depression	Unable to care for self (eat, drink, bathe)
	Physical problems (aches and pains)	Suicidal statements
		Substance abuse

Adolescence (Ages 14-18)		
Normal Development	Possible Stressful Reactions	Consider Referral
Poor concentration	Confusion	Severely depressed or withdrawn, deep or unshakable sadness
Occasional headaches or tension, physical complaints	Withdrawal or isolation	Severe oppositional behavior and disobedience
Begin to identify with peers, need for alone time, may isolate self from family on occasion	Antisocial behavior (stealing, aggression, acting out)	Hallucinates, afraid will hurt self or others
Agitation, apathy, irresponsible behavior	Withdrawal into heavy sleep, night frights	Cannot make simple decisions
	Sadness	Excessively preoccupied with one thought
	Changes in appetite	Suicidal statements
	Fatigue	Substance abuse
	Suddenly nervous, easily startled	

All tables were adapted from *Stress and Coping With Disaster: A Handbook Compiled Following the Midwest Flood of 1993 for Extension Professionals*, compiled by Marty Baker and Ami O'Neill.



The following are common warning signs that a person may be contemplating suicide. Please be aware that some of these symptoms overlap with common symptoms of post-disaster stress and do not necessarily indicate that a person is suicidal.

- Statements about death and suicide
- Reading material about death and suicide
- Statements of hopelessness or helplessness (e.g., “I don’t know if I can go on,” “I just don’t know if things will ever get better”)
- Disruption of sleep patterns
- Increased alcohol or prescription drug use
- Failure to take care of oneself or follow medical orders
- Stockpiling medications
- Sudden interest in firearms
- Social withdrawal or elaborated goodbyes
- Rush to complete or revise a will
- Suddenly giving away mementos or cherished items
- Sudden drastic change in behavior
- Extreme sadness
- Crying spells
- Overt threats of suicide

Warning Signs of Suicide

Following a disaster, some people feel that their situation is hopeless, that things will never get better. Others feel helpless, that there is nothing that can be done to improve their efforts to cope with the situation. This sense of hopelessness and helplessness can be very dangerous and may lead to suicidal thoughts for some individuals. Although research findings do not suggest a rise in suicide rates following natural disasters,^{1,2} there is evidence of increases in suicide rates following economic disasters such as the farm crisis of the 1980’s.^{3,4}

People may be especially likely to feel helpless following an event they have little or no control over, such as a disaster involving toxic chemicals, radioactive materials, or a biological agent.⁵ For example, following discovery of a toxic waste dump, individuals may not be able to sell their homes and move because of significant decreases in the value of property in affected areas. Also, individuals may not know how to protect themselves and their families from the physical effects of these disasters, especially if authorities provide them with little or conflicting information. Additionally, many decisions about the event may be handled by governmental agencies so that individuals directly impacted may feel they have little control over the situation (e.g., government may or may not decide to buy out homes of people in the affected areas).

Research has identified several consistent risk factors for completed suicide.⁶ These risk factors include:

- Age (adolescents and older adult males have higher completed suicide rates)
- A diagnosis of Major Depressive Disorder or other psychiatric disorder
- Alcohol/substance abuse
- Family history of suicide
- Past history of suicide attempts

Please be aware that these risk factors may also be present in people who do not attempt or commit suicide, as it is not possible to predict with complete accuracy whether a person will attempt suicide. Instead, the above factors indicate groups that have a higher risk for committing suicide.

If you suspect that an adult or child may be having suicidal thoughts, you can speak with that individual about your concern if you feel comfortable doing so. If you choose to speak with this person, you can follow the guidelines discussed in the section, “Talking With Adults - Seven

Supportive Communications.” You also can refer the individual to a mental health professional. Sometimes people may be afraid to talk with someone who is suicidal and fear their conversation with that person may be detrimental. It is almost never the case that a person can be “talked into” committing suicide by a person just trying to help. However, if you have any concerns about talking with an individual, you can always consult with or refer them to a mental health professional.

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If you have any concerns about talking with an individual, you can always consult with or refer them to a mental health professional.

*Note: Parts of this section were reproduced with minor edits from Garret Evans and Sam Sears (1999), *Triumph Over Tragedy: A Community Response to Post-Disaster Stress*.*

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Stress management strategies for adults include:

- Seek support
- Maintaining routines
- Engaging in physical activity
- Limiting media exposure
- Seeking trusted sources of information
- Avoiding substance use
- Taking care of yourself
- Participating in recovery efforts
- Exercising patience with yourself and others
- Seeking extra help

Stress Management for Adults

Practicing good stress management following a disaster can help lessen feelings of distress. There is not one single magic bullet for reducing stress, but there are a number of things a person can do to feel better.

Seek Support

Reaching out to other people for support can be a good source of stress relief because it allows you to talk with other people about your experience. Seek out people you trust, and spend time with family and friends. When seeking out support, remember that your friends and family also may be experiencing feelings of distress associated with the disaster. Because of this, some of your normal sources of support may not be able to provide the help you need. If this is the case, seek out additional sources of support.

Maintain Routines

Try to stick with your normal routine if possible. Routines can help provide a sense of normalcy, as well as help you maintain normal social contacts at school, work, or other places you would usually go on a daily basis. Following through on your regular routine can also help you take your mind off of things, even for just a little while. Distracting oneself from thoughts about the disaster is a critical component for successful coping for many individuals. If you are not able to attend your regular activities due to the disaster event, try to maintain as many of your home routines as possible (e.g., mealtimes, family time, etc.) and engage in hobbies or activities that you enjoy.

Engage in Physical Activity

Engaging in physical activity can be a great stress reliever for many people. Taking a walk, going for a run, or playing basketball are all good examples of physical activities that can reduce stress. Some individuals may prefer to engage in activities such as cleaning the garage, working in the yard, or assisting in physical activities that help rebuild the community (e.g., cleaning up debris from the storm). This way you are not only managing your stress, but you are starting to reduce the sources of your stress, the problems that the disaster created.

Limit Exposure to Media Coverage of the Event

Some people find that watching excess media coverage of an event can result in increased feelings of distress. Following the September 11, 2001

terrorist attacks, people who watched large amounts of media coverage reported a variety of distress symptoms, including symptoms of anxiety.^{1,2} It is normal to want to stay updated on the events surrounding the disaster. However, you may be able to lessen your feelings of distress by limiting the amount of time you spend watching or listening to media coverage of the event.

Seek Trusted Sources of Information

During any disaster event, but especially during disasters involving chemicals or biological agents you are not familiar with, seek out accurate sources of information. These sources may include materials from the Centers for Disease Control, information provided by your local government officials, or information provided by your family doctor. By educating yourself you can help provide some feelings of control over the situation. As is the case with media exposure, spending excessive amounts of time seeking out information could potentially increase feelings of distress for some individuals. When seeking information, you should be aware that there will probably be more sources of misinformation than sources of accurate information. For example, many Internet sites contain inaccurate information. It can be difficult to determine what information is correct. Searching sites maintained by local, state, or federal governmental agencies will likely provide the most accurate information in times of emergency.

Avoid Using Substances

Individuals should avoid the use of drugs or alcohol to cope with feelings of distress. Substances only provide a temporary “numbing” for feelings of distress and can lead to additional problems. Frequently, the use of substances as a coping mechanism can lead to difficulties in family relationships, job performance, and recovery from the disaster.

Take Care of Yourself

Taking care of yourself is very important because you will be better equipped to cope with the stressors following a disaster event. Taking care of yourself means eating healthy foods, getting plenty of rest, taking some time to relax each day, and knowing your personal limits. You also may find it helpful to learn relaxation techniques, meditation, or yoga. Many people would like to help their families and friends following a disaster. However, you will be less helpful to others if you are tired and stressed.

Consider Participating in Recovery Efforts

Helping others can be a great source of stress relief for some people. You can



Many people would like to help their families and friends following a disaster. However, you will be less helpful to others if you are tired and stressed.

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It is normal to experience feelings of distress following a disaster event. However, if these feelings persist for more than a month, and if they seem to interfere with your daily activities (e.g., work, school, family responsibilities), you may benefit from seeking additional help.

Where to go for help:

- Family and friends
- Support groups
- Pastor or clergy member
- Community mental health center and local mental health professionals
- Family physician

help by volunteering in recovery efforts, such as cleaning up disaster debris, delivering food to families who are struggling following the disaster, or raising disaster recovery funds. You may want to provide a source of support for friends, family members, and neighbors by listening to their experiences. However, it is common for people involved in disaster recovery efforts to feel “burned out” from time to time. It is important to recognize your own limits and seek adequate time and support for yourself if you wish to help others. Participating in recovery efforts is not suited for everyone; you may find this increases your stress. If so, do not be afraid to decrease your participation.

Be Understanding of Yourself and Others

Remember that others around you may be feeling distressed. It is normal for people to be more irritable in the initial period following a disaster. Keep this in mind when you are interacting with others. You may need to exercise more patience than usual with coworkers, family members, or children. Provide them with opportunities to talk about their experiences and encourage them to take extra time for themselves. You also may need to have more patience with yourself. Do not be too hard on yourself if it takes you longer to recover from the disaster than others. Disaster recovery is an individual process and will not be the same for any two people. If you are feeling strained, try to avoid taking on extra responsibilities.

Seek Extra Help

It is normal to experience feelings of distress following a disaster event. However, if these feelings persist for more than a month, and if they seem to interfere with your daily activities (e.g., work, school, family responsibilities), you may benefit from seeking additional help. You may wish to seek additional help from a clergy member, mental health professional, or your doctor. All of these individuals can help refer you to an appropriate source of help. Other sources of help might include support groups at work or in the community. Most people are surprised when they hear about how many of their fellow community members participate in support groups or otherwise seek help after a disaster. They should not be. Most disasters are big events that have significant impacts on many people. Coming together is an important part of rebuilding a community. Remember, you need to help and support yourself to be able to help and support others around you.

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Helping Children Manage Stress

There are a number of strategies you can use after a disaster event to help children manage their distress.

Maintain Normal Routines

First and foremost, it is a good idea to maintain as much of a normal routine as possible for your child. Routines help children feel safe and secure. They also provide a sense of normalcy. If your child is not able to attend school due to the disaster, attempt to maintain as much of the child's routine as possible, such as keeping mealtimes and bedtimes the same.

Limit Children's Exposure to Media Coverage and Talk with Your Child About the Event

You also can help children by reducing or eliminating their exposure to media coverage of the event and providing a safe environment in which children can express their feelings about the disaster. Your child may want to talk about, or "act out" through play, their feelings about the disaster. This should be encouraged because it will allow the child to cope with the disaster experience in a way that is more comfortable. More tips for talking with children about disaster events and the images they see on television can be found in the sections, "Talking with Children About Disasters," and "Talking with Children about Terrorism and War."

Promote Positive Helping Behavior

Some children may want to help in disaster preparation or recovery efforts. Allowing children to help in age appropriate ways can give them a sense of importance and control. For example, it may help them feel better to deliver a box of food to a family who lost their home, make cards for people affected by the disaster, or do other small acts of kindness. Try to focus your child towards positive behaviors that will help others as opposed to feelings of anger and blame. This shows your child how they can work with others to gain some control over the situation. It often helps children to build a sense that the community is "fighting back" after the disaster.

Monitor Your Personal Level of Distress

Children often become more distressed when they see adults who are distressed, so it is important for parents to be aware of their behavior around their children. Using personal stress management may help lessen your child's distress. Talk to your child about how you are managing stress in



Stress management strategies for children include:

- Maintain routines
- Limit media exposure
- Promote helping behavior
- Monitor parental stress
- Provide support and affection
- Seek extra help
- Address grief reactions

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Although it is normal for children to show signs of distress following a disaster, prolonged behavioral or emotional problems that are clearly different from the child's normal behavior are a sign that the child may need further help.

your life. Provide a positive example for your child and show them that they can take steps to control their stress level.

Provide Support and Affection for Your Child

Young children may be afraid to be left alone after a disaster, so you may want to reduce your absences away from your child immediately after the event. You also may need to comfort your child more at night, as young children may be more scared than usual. Additionally, it is important to show your child affection, as this helps them feel safe. In times of extreme stress, you need to be patient and supportive, as children may show their distress through an increase in disruptive behavior.

Seek Extra Help if Your Child Displays Prolonged Stress Reactions

Although it is normal for children to show signs of distress following a disaster, prolonged behavioral or emotional problems that are clearly different from the child's normal behavior are a sign that the child may need further help. You may wish to seek appropriate referrals from your family doctor, child's school guidance counselor, local clergy member, or a mental health professional.

Helping Your Child Handle Grief

In addition to addressing signs of post-disaster stress, you also may need to address emotional reactions to death if the child has lost someone they know in the disaster. Children may have a different understanding of death than adults, so you will want to pay particular attention to these differences if you are talking with a child who has lost a friend, family member, or acquaintance to the disaster. Young children (ages 5 and younger) may not understand the finality of death and may believe the individual will return. They may be afraid that they will suddenly die with no warning. They may also fear that everyone they love and depend on will die suddenly and soon. As children develop through the elementary-school years, they begin to have a better understanding of death, although they often have different notions about dying when compared to adults. As children reach adolescence their conceptions of death are similar to those of adults, although they tend to see themselves as relatively invulnerable to death.

Adults may be afraid to discuss death with children, as they may feel the child will not understand, will be distressed, or that the conversation will be too painful. This fear is normal. Below are some general guidelines for talking with children about death following a disaster.

General guidelines for helping children cope with death:^{1,2}

- Provide information on a level the child can understand.
- Be truthful.
- Assure children that the distress they see in others is normal. Let them know it is okay to be sad.
- Allow children to ask questions.
- Accept a child's feelings about death.
- Keep children involved in normal activities.
- Try to avoid euphemistic explanations for death (e.g., death is similar to sleeping).
- Find out what a child already knows about death.
- Remember that talking to a child about death does not guarantee that the child will immediately develop a mature, adult understanding of death.
- Ages 0-5 – Do not try to explain too much but instead focus on reassuring the child that everyone is safe now. Answer questions truthfully using simple language.
- Ages 6-12 – Answer questions truthfully and talk with the child to help clear up their misconceptions.
- Ages 13 and up – You will need to talk more thoroughly with adolescents. Adolescents may begin to question the meaning of life.
- Seek outside help if you feel your child needs further assistance coping with a death.

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For further guidance on helping children cope with death, visit the following two links on the Hospice website:

⇒ www.hospicenet.org/html/child.html

⇒ www.hospicenet.org/html/talking.html

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Anger is a common response following human-made disaster events. It is normal to feel angry when your safety or your family's safety is threatened.

Coping with Anger After Terrorist Attacks

Anger is a common response following human-made disaster events. It is normal to feel angry when one's safety or family's safety is threatened. In the case of terrorism or bioterrorism, individuals may feel intense anger towards the terrorists, as well as people they associate with the terrorists (e.g., individuals of a certain country, race, or religion). These feelings may lead to some individuals lashing out at these people. After September 11, 2001, hate crimes directed towards Muslims and people of Middle Eastern ethnicity rose dramatically.¹ In addition to feeling anger towards those seen as responsible for the disaster, it also is likely that people will feel anger towards government officials, community leaders, and health care professionals. People may feel anger because they believe officials are providing misinformation, withholding treatments or compensation, or making arbitrary decisions without public input.

People who are extremely angry may lash out at family, friends, or coworkers. They may seem extremely irritable, and others may find themselves wanting to avoid interacting with these people for fear they will lash out. People who are angry show many of the same signs of distress discussed earlier in, "Disaster Stress and Warning Signs in Adults."

Tips for Coping With Angry Feelings

- Turn angry feelings into healthy behaviors

Remember that it is normal for many people to be angry and to feel a lack of control during these kinds of situations. However, it is not healthy for them to act on this anger and hurt others. Try to help others find something constructive to do with their angry energy, such as organizing a local citizen group, helping in community disaster response efforts, or corresponding with local government officials.

- Encourage tolerance

Encourage tolerance of other groups and remember that terrorists are not representative of all people with certain ethnic backgrounds. Promoting distrust and hatred towards others will only serve to increase angry feelings. People often feel angry because they believe they have been unfairly targeted. However, these thoughts will not turn back the clock and change what happened. Try to help others focus on changing the future.

- **Practice stress management**

In the sections, “Stress Management for Adults,” and “Helping Children Manage Stress,” we discussed stress management strategies for adults and children. These stress management strategies are also helpful for decreasing angry feelings. Bottling up angry feelings will only lead to further anger and higher levels of stress.

- **Seek help**

If angry feelings persist and are interfering with work, relationships, and other life activities, it may be time for individuals to seek extra help. Seeking help for anger can be very difficult for some people, as they may believe they are admitting they have a problem by seeking help. Indeed, most people who are angry believe the person they feel anger towards is the real person with the problem, and not themselves. However, continuing to feel angry is not likely to change the situation. Remember, intense feelings of anger are normal following an abnormal event like a terrorist attack. When these feelings interfere with a person’s life, anger is no longer healthy. Seeking help is a healthy decision, for both the individual and for those around them.

- **Avoid alcohol and other substances**

Alcohol and drugs often increase the intensity of emotions in those who are already angry. Also, these substances can lower a person’s inhibitions and cause them to act impulsively, and they may end up doing something they will regret later. If you are concerned about someone harboring angry feelings about a disaster event, encourage them to avoid alcohol and drugs for at least awhile. Talk to them about the importance of using clear judgment and a strong mental focus as you work together to recover from the event.

- **Promote constructive group activity**

Sometimes angry individuals gather together in quickly organized community groups that are bound by common belief systems. Many times, these groups come together to perform marvelous acts to help a community get reorganized. However, in the case of a terrorist attack or human-made disaster, some groups gather together to blame certain segments of the community, ethnic groups, government officials, or others. Encourage friends and neighbors to find constructive groups to join. Talk openly in your community about the pitfalls of using anger as the sole rallying point for a community group or organization.



Tips for coping with angry feelings:

- Turn angry feelings into healthy behaviors
- Encourage tolerance
- Practice stress management
- Seek help
- Avoid alcohol and other substances
- Promote constructive group activity
- Express anger constructively

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For more tips on coping with anger, please visit:

- ⇒ <http://helping.apa.org/daily/anger.html>
- ⇒ http://www.ncptsd.org/facts/specific/fs_anger.html

- Express anger constructively

Anger is an important and useful emotion. It can lead a person or group of people to make a commitment to pursue a worthy cause. However, anger can also be a destructive force that leads people to blame, persecute, and even attack others in their community that they view as being part of the problem. Again, it is important to talk about feelings of anger openly in a community after a disaster. Comments at city and county government meetings, letters to the editor of a local paper, and even peaceful demonstrations can be a way for a person to act on their angry feelings in a constructive, non-aggressive way. These activities also help people to clarify their message in a way that will likely be more effective in creating change than using violence or intimidation tactics.

References

¹ Associated Press. (2002, November 25). *FBI: Hate crimes targeting Muslims, Middle Easterners surged in 2001*. Retrieved November 25, 2002, from <http://www.cnn.com>

Coping With Stress in Times of War

In the years immediately following the September 11, 2001 terrorist attacks, the United States entered armed conflicts against Afghanistan and Iraq. As the fight against terrorism is likely to continue for several years, it is possible that other armed conflicts could occur. Although many of the stresses associated with a country going to war are similar to stresses that result from disaster events, there are some unique characteristics to consider. Although war is a comprehensive topic in and of itself, we mention it here because the armed conflicts over the past few years have raised citizen's anxieties about further terrorist attacks happening in our country.

Common Sources of Stress During Wartime Deployment

Adults serving in the military, reserves, and emergency associations are deployed to the area of conflict during times of war. Stressors associated with deployment include:

- **Separation**

Individuals may be leaving behind families and friends. This can be stressful for the spouses, children, and families, as well as for the person being deployed.

- **Difficult communication**

Friends and family have difficulty communicating with deployed loved ones given the concealment of destinations and military operations for strategic reasons and the long distances between them. Those who are deployed may be forbidden to contact loved ones in order to maintain operational security, while friends and families at home may not know how or where to contact those who are deployed.

- **New responsibilities**

New demands and responsibilities may arise from these situations. For instance, a parent who either cared for the family and home or worked may be required to both work and care for the family while the spouse is deployed and unable to carry out their usual responsibilities at home.

- **Uncertainty and fear**

Families and friends experience uncertainty regarding length of deployment, location of deployment, and when or if the service person will



Although recent armed conflicts have taken place outside of the United States, such conflicts can still lead to considerable anxiety for many individuals. For some people, they may be anxious because they have friends or family members in the armed services or living abroad. For others, the recent conflicts have raised anxieties about further terrorist attacks happening in this country.

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Please visit the following websites for more information on building resilience skills:

⇒ <http://helping.apa.org/resilience/>

⇒ http://www.helping.apa.org/resilience/kids_pt.html

⇒ <http://helping.apa.org/resilience/war.html>

return. War coverage may be frightening for family members. However, many loved ones of deployed service members report feeling compelled to watch 24-hour news channels in hopes of discovering some knowledge of their loved one or their unit. These family members report feeling exhausted and stressed out by all of this news watching. Uncertainty regarding the well-being of a loved one can be frustrating and stressful, especially in circumstances of Prisoners Of War and Missing In Action. Those who are fighting in the area of conflict may also be concerned for the well-being of family and friends at home.

- **Confusion**

Adults and children are likely to be confused by the events of war. For example, children may be confused about the countries or people involved in the war, such as confusing Afghanistan and Iraq. Also, children may connect unrelated events.¹ For instance, they may believe that the 2003 blackout in the northeast was related to the September 11, 2001 terrorist attacks. It is also common for children to be confused about where military actions are taking place.

- **Contrasting attitudes**

In our country, rallies in support and in protest of wars occur simultaneously. In fact, it is not uncommon for people in the same family to have contrasting attitudes towards a war.² With these contrasting attitudes comes a mix of information that can lead to confusion about what to believe, especially for children. Those with loved ones who have been deployed to the conflict may interpret peace rallies as undermining support for their loved ones and complicating the military operation.

Coping with Stress in a Time of War

Each person has a unique way of dealing with stressful situations, including war. Some individuals are less affected by stress, while others experience significant emotional and physical reactions. Earlier we discussed strategies for stress management following a disaster or terrorism event (Please see, “Stress Management for Adults,” and “Helping Children Manage Stress”). In addition to practicing stress management strategies, the American Psychological Association has suggested that adults and children build skills of *resilience* to help cope with wartime stress, as well as other traumatic stressors.³ Resilience is, “an ability to recover from or adjust easily to misfortune or change.”⁴ This ability to adjust to stressful circumstances is a psychological tool that can help people cope with anxiety and fear in stressful circumstances. Below are a few of the tips suggested by the American Psychological Association for becoming more resilient.^{5,6}

Because there is some overlap between stress management strategies and strategies for improving resilience, we focus here on strategies that were not discussed earlier in the section, “Stress Management for Adults.” Please visit the American Psychological Association’s Help Center website (<http://helping.apa.org/>) to access the complete materials on resiliency in a time of war.

- **Have a plan**

Develop an emergency plan for your family so you will be prepared for unexpected events and know how to reconnect with family members in the event of an emergency. You may also wish to develop a neighborhood emergency plan with your neighbors. The Red Cross has information on making family emergency plans on their website and at their local offices. This information can also be found at <http://www.ready.gov/>. Established emergency plans are important because they increase feelings of control over unexpected events.

- **Prepare a security kit**

Include items in your emergency kit that bring you comfort and security. Examples include books you or your children like to read or family pictures.

- **Remember positive times of strength**

Recall past times when you have coped successfully with stressful situations. You can often use similar strategies to cope successfully with current stressors. Plus, recalling these successful coping efforts can increase positive feelings about your ability to cope in difficult times.

- **Keep things in perspective**

It can be easy to focus all your thoughts on the war or other negative events in the world. However, it is important to step back and take a long-term perspective, as well as remember that there are many positive events happening in the world.

- **Maintain a hopeful outlook**

Think about the positive aspects of your life, as this can help you maintain a positive frame of mind. Try to balance your thoughts about the war with positive thoughts and memories.



Please visit the following websites for further information about making a family emergency plan:

⇒ www.redcross.org

⇒ www.ready.gov

⇒ www.fema.gov/rrr/prep2.shtm

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Contact your local community mental health center, public health office, or public school system to see if support groups have been organized in your area.

- **Share differences in opinions**

Talk about your thoughts and fears with your friends and family. Express your opinions while respecting the opinions of others. These conversations can help you realize you are not alone in your thoughts and feelings. Be aware that some individuals may express hatred for other groups of people they view as the enemy, either in an armed conflict or expressing differing opinions. Remind yourself and others that respecting diversity of opinion is a cornerstone of American political values. It is also a helpful frame of mind for reducing stress when confronted with opinions that differ from your own.

- **Express yourself without talking**

Sometimes it may be too difficult to discuss disturbing emotions associated with war. In these cases, participating in hobbies or creative activities may help you express your emotions, manage stress, and even divert your attention for a while. Activities such as writing in a journal, exercising or dancing, music, or painting and creating art are great strategies.

- **Create a no-war zone**

Find a place that you can go to spend some time away from thoughts and images of war. You may also require more time away from others who are also experiencing wartime stresses.

Additional Resources

The strategies listed above do not work for everyone. If you continue to feel distressed after trying stress management and resilience strategies, you may want to consider utilizing additional resources such as those listed below.

- **Books and the Internet**

Some people may find it helpful to read about other's experiences with war, as this could suggest other coping strategies.⁷ On the Internet you may find online support groups or additional resources, although you should always be aware that not all information on the Internet is accurate.

- **Support groups**

Support groups are often helpful because they allow individuals struggling with stressful circumstances to share their experiences and learn they are not alone in experiencing difficulty. Contact your local community mental

health center, public health office, or public school system to see if support groups have been organized in your area.

- **Seek outside assistance**

People who find themselves unable to successfully cope with the stresses of war on their own may benefit from speaking with a clergy member, mental health professional, or other trusted individual.

- **Tips for talking with children about war**

Please see the sections, “Taking With Children About Disasters,” and “Talking With Children About Terrorism and War” for information on discussing war and traumatic events with children.

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Individuals with family members or friends in the armed services or living abroad may experience a range of emotions during a war, including anxiety, frustration, and depression. If you feel you are having difficulty coping with the stresses of war, you may benefit from speaking with a clergy member, mental health professional, or other trusted individual.

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Individuals that may experience secondary trauma following a disaster include:

- Rescue and recovery workers (e.g., firefighters, EMS, police, other emergency personnel)
- Family members of victims
- Journalists
- People following media coverage of an event in the newspaper, on the TV, or on the Internet
- Mental health professionals providing services to disaster victims

SECONDARY (VICARIOUS) TRAUMA

Research suggests that secondary exposure to trauma can lead to increases in distress and emotional symptoms. *Secondary* (also referred to as “vicarious”) trauma refers to the trauma experienced by individuals not directly affected by the initial disaster event. These people might include rescue workers, family members of victims, fellow community members, people following media coverage of the event, journalists, or mental health professionals involved in therapy with disaster victims. Although such individuals may not experience the disaster directly, they may still experience symptoms of distress similar to those seen with direct victims. Rescue workers may be especially likely to experience symptoms due to the nature of their work. It is important not to discount a person’s symptoms simply because they were not directly impacted by a disaster. Disasters are often shared by entire communities, sometimes even entire countries, so there can be many people who experience secondary trauma.

It is difficult to estimate how many people will experience secondary trauma following an event, partly due to the fact that the issue has only recently received systematic study.¹ With regards to front-line emergency workers, the estimates of the number experiencing elevated distress levels vary based on the study and the particular disaster event, ranging between 9%-32%.² These numbers may not be reflective of the true level of distress in the emergency worker population, as not all emergency personnel agree to participate in these studies. Please see, “Psychological Impact of Disasters in Emergency Response Personnel” for a table summarizing examples of findings from the literature.

With regards to mental health professionals working with victims of trauma, one estimate suggests that about 20% of helpers (those who assist disaster and trauma victims long after the initial event) will seek counseling themselves.³ In a study of counselors in the field of trauma, 14% reported symptom levels similar to those seen in clients with PTSD.⁴ In addition to distress symptoms, mental health professionals may experience increases in work-related stress. For example, following the September 11, 2001 terrorist attacks, 57% of responding psychologists reported increased work-related stress approximately 3-4 months after the attacks. Those psychologists whose practice was closer to Ground Zero reported higher levels of work-related stress compared to those further from the disaster site.⁵ Please see the following table summarizing examples of findings on disaster mental health work from the literature.

Secondary Trauma in Mental Health Professionals

Researchers	Disaster Event	Main Findings
Hodgkinson & Shepherd, 1994	Piper Alpha oil rig explosion Clapham rail crash-Britain	60% of disaster social workers reported significant mental health symptoms 4-9 months post-event
Wee & Myers, 1997	Northridge earthquake	60.5% of surveyed disaster mental health workers reported some degree of severity for stress disorder at 9 months post-event
Wee & Myers, 2002	Oklahoma City Bombing	64.7% reported some degree of severity for stress disorder; 20% reported symptoms consistent with moderate to severe PTSD
Eidelson, D'Alessio, & Eidelson, 2003	2001 World Trade Center	57% reported increased work-related stress 3-4 months after the attacks, work-related stress was higher for those working closer to Ground Zero

In the sections that follow we discuss the concept of secondary trauma with respect to media viewers, rescue and recovery workers, and mental health professionals involved in treating disaster victims. For each of these groups we discuss factors that may contribute to secondary trauma, as well as tips for supporting those individuals.

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It is important not to discount a person's symptoms simply because they were not directly impacted by a disaster. Disasters are often shared by entire communities, sometimes even entire countries, so there can be many people who experience secondary trauma.

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Although the people on the other side of the television, computer screen, or phone line were not present at the disaster sites, scores of Americans were deeply affected by the events of September 11, 2001 and experienced considerable symptoms of distress.

Viewers or Readers of Media Accounts

We live in a global community with 24-hour access to news on the radio, television, and the Internet. Due to the high availability of media coverage, people around the country and around the globe are often able to witness disasters unfolding in real time. Media coverage of disasters provides citizens with an “operative reality” of the unfolding crisis.¹ For example, on September 11, 2001, many Americans who were far away from New York City witnessed the collapse of the World Trade Center buildings as they occurred. Although these television images could not necessarily convey the full horror of being at the World Trade Center at that moment in time, they were nonetheless extremely distressing for many who watched them. Likewise, cellular phones made it possible for people on the hijacked airplanes to speak to people on the ground about the unfolding events in the air. Although the people on the other side of the television, computer screen, or phone line were not present at the disaster sites, scores of Americans were deeply affected by the events that day and experienced considerable symptoms of distress.

Studies suggest that media exposure to disasters and other traumatic events is associated with increased symptoms of anxiety and distress for both adults^{2, 3} and children.^{4, 5, 6} For children exposed to media coverage of September 11th, children who had seen media footage of death and injury had greater posttraumatic stress symptoms than children who had not seen such media footage.⁷

Why is media coverage of disasters associated with distress? There are several characteristics of media coverage that seem to heighten feelings of anxiety and distress.

Uncertainty

Media coverage commences very quickly, often before all of the facts are known. Thus, early coverage often includes speculation about the causes of an event and will be incomplete. The uncertainty associated with this early coverage may be distressing for some people. For instance, on September 11, 2001, it was unclear at first how many airplanes were hijacked and what places might be potential targets as the day unfolded. In the minutes and hours after any disaster event, even after facts start to surface, conflicting reports from several sources may further viewer frustration and distress because viewers do not know what information is accurate. In addition, media may at times unknowingly contribute to the spread of rumors during a disaster situation, which could further increase uncertainty.⁸

Vivid Coverage

News cameras broadcast images of death and destruction that can be extremely anxiety provoking. Consider again the example of September 11, 2001. Images of people jumping from the World Trade Center were broadcast, as were continuous images of the towers collapsing. Similarly, coverage of the 1995 bombing of the Murrah Federal Building in Oklahoma City and the May 2003 series of tornadoes that devastated areas in the Midwest showed vivid depictions of destruction and grieving families. Media outlets compete for viewers, and there is often a temptation to look for the most dramatic aspects of a story to make it more interesting to the public. However, these dramatic aspects could increase anxiety for some individuals.

Amount and Extent of Coverage

In a sense, people are forced to relive a tragedy every time disaster images are rebroadcast. Repeated images serve as a reminder of the painful emotions associated with an event. Additionally, continuous media coverage of a relatively localized event could lead to public fear in places that are far removed from the threat. Such was the case following the 2001 anthrax mail attacks. Although the attacks and subsequent illnesses were localized to only a few cities, people across the United States began to worry about handling their mail.⁹ The mere presence of extensive media coverage could make the risk of danger appear higher than it actually is, as such coverage may make examples of the risk easier to remember.¹⁰ In other cases, extensive coverage could decrease anxiety if this coverage provides answers to questions that people have been asking.¹¹

Increased Knowledge of Risks

Everyday when we turn on the television or search the Internet we become aware of new threats to our well-being. Media coverage of disasters increases our awareness of the fragility of life. In a world where terrorism, bioterrorism, and other serious disasters are increasingly likely, exposure to media coverage may heighten anxiety about possible future attacks.

Coping With Extensive Media Coverage

Because exposure to media coverage of an event can be distressing, it is often a good idea for adults to limit their daily exposure to news coverage of events. While it may be healthy to wish to stay informed of unfolding events, it is not healthy to watch nonstop news coverage to the extent that it interferes with daily life. Adults who continue to experience distress after cutting down their media viewing may benefit from stress management



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It is important to talk with children about what they see in the newspaper, on the television news, and on the Internet. We discuss strategies for talking with children about media images of disaster in the sections entitled, “Talking With Children About Disasters,” and “Talking With Children About Terrorism and War.” For further information on talking with children about the news, a helpful website is:

⇒ www.talkingwithkids.org/television/twk-news.html

techniques. Please see, “Stress Management for Adults” for further information. Adults also should limit their children’s exposure to news coverage of events, especially for young children who may have difficulty comprehending the meaning of events seen on TV. We discuss strategies for talking with children about media images of disaster in the sections entitled, “Talking With Children About Disasters,” and “Talking With Children About Terrorism and War.”

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Risks to Rescue and Recovery Workers

Although in most cases rescuers are not actually at the scene of a disaster when it first occurs, they are directly exposed to victims of the disaster. In many cases they are also exposed to personal danger, as the rescue scene may involve hazards. For example, dangerous rescue scenes are frequently seen following earthquakes, as many buildings and structures may be unstable. Following the 1989 Loma Prieta earthquake in the San Francisco Bay area, rescue workers faced dangerous conditions trying to rescue people trapped underneath the I-880 freeway collapse. Several injuries occurred as rescuers worked feverishly to try to locate and free victims pinned under rubble. In some cases it also is possible that as a result of the primary disaster, some secondary traumatic event may occur following the arrival of rescue responders. This occurred during the World Trade Center attack on September 11, 2001. Although rescue workers were not on site for the initial impact of the first plane, they were on site when the second plane hit and when the towers collapsed. Rescue workers may be especially likely to experience post-disaster stress due to a number of factors.

- **Exposure to death and injury**

Rescuers are often exposed to grisly scenes of human death and injury. In some disasters, bodies may not be intact or could be badly disfigured. Exposure to child victims can be particularly distressing to rescue workers. In some situations rescue workers face the possibility of trauma from the death or injury of fellow rescue workers, thus compounding the distress associated with disaster work. Again, September 11, 2001 is the most vivid example, as many firefighters and police lost their lives during the rescue efforts.

- **Exposure to hazards and long work hours**

Workers may be exposed to multiple hazards such as falling debris, unknown chemicals or environmental toxins released during the disaster, fire, smoke, or unstable structures. They may be exposed to poor weather conditions such as extreme heat or cold, rain, or snow. Rescue workers often spend long hours on a rescue site and may get little sleep or rest. Immediately following the September 11, 2001 attacks, many rescue workers talked about spending 10-20 hour shifts at Ground Zero, often getting only a few hours of sleep per day.



Disaster rescue and recovery workers are exposed to a number of physical and emotional hazards including:

- Encountering deceased victims, some of whom may be badly disfigured
- Encountering child victims
- Poor conditions at the recovery scene
- Long work hours
- Finding victims' personal belongings

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Signs of post-disaster stress in rescue and recovery workers:

- Erratic behavior
- Changes in mood
- Difficulty concentrating
- Intrusive reexperiencing and avoidance
- Difficulty performing the disaster recovery assignment
- Risk-taking during the recovery efforts
- Refusing to take breaks
- Substance abuse
- Marital or relationship problems following the disaster assignment
- Leaving an assignment early

- **Emotionally challenging work**

Searching for survivors presents significant emotional challenges, even before the rescue work begins. Rescuers may experience feelings of anxiety before they arrive at a disaster scene, as they anticipate the possibility of casualties and the search process ahead. Many rescuers may hold out hope of finding survivors but not find any. In scenes of mass destruction, rescuers often describe a roller coaster of emotions as they hear rumors of a victim being found alive or a rescue dog “alerting” on a pile of rubble. As in the case of the World Trade Center rescue scene, these hopes were dashed as the rumors proved to be untrue and rescue dogs failed to recover living victims. Rescuers may be confronted with child victims or victims of mass violence, which can be particularly difficult to handle. Additionally, they may come in contact with personal effects, such as family pictures in victims’ wallets. In smaller communities the rescue personnel may actually personally know some of the people for whom they are searching.

- **Avoiding help**

Rescue personnel may be reluctant to seek out mental health services during or following disaster work due to fears they will be seen as weak and unable to perform the duties of their job. Some personnel may fear losing their job if they seek help. While many organizations support mental health services for their personnel (e.g., police and fire departments), fears over being stigmatized for utilizing these services often remain. Additionally, in the case of the Oklahoma City bombing, rescue workers later indicated that they were afraid to utilize mental health services because they were concerned that their supervisors would pull them out of duty for rest and recuperation. For many rescue workers, the desire to stay on the job is intense, especially early on in the recovery operation when hopes are high that surviving victims can be found.

Recognizing Post-disaster Stress in Rescue and Recovery Workers

Signs of post-disaster distress for rescue and recovery workers are similar to the warning signs discussed earlier for adults (Please see, “Disaster Stress and Warning Signs in Adults”). It is also common to see symptoms of intrusive reexperiencing and avoidance.¹ Additional signs of distress include: difficulty performing the disaster recovery assignment, taking risks in the recovery effort (e.g., not following safety procedures), not following chain of command, refusing to take breaks from the disaster scene, alcohol abuse, marital discord, or leaving a job. Symptoms may be compounded if the rescue worker was personally affected by the disaster (e.g., their own home was destroyed) and if the worker has to choose between helping in the community or helping their own family.²

In many cases of disaster, community members or surviving individuals at the scene become involved in initial rescue efforts. Their assistance in the rescue effort may continue even after the arrival of formal rescue personnel. As is the case for formal rescue personnel, these individuals are at risk for post-disaster stress due to their contact with injured or deceased disaster victims. These people are similarly exposed to many of the other hazards that exist for formal rescue personnel. Research has shown that, in general, disaster workers with previous disaster experience report less distress, thus, these non-professional rescue workers may be especially vulnerable if this is their first rescue experience.^{3,4} Logically, it would seem that repeated exposure to disasters through rescue work would result in cumulative symptoms. However, this conclusion has not been definitively supported by research.⁵

Helping Rescue and Recovery Workers

Because of the considerable stress associated with disaster recovery efforts, it is important to provide emotional and physical assistance to rescue workers. Support may include limiting hours at the disaster site, rotating work assignments, providing avenues for talking about the experience, getting frequent breaks and proper rest, and working together in small teams. The stress management techniques described earlier for adults can be utilized (Please see, “Stress Management for Adults”). Pre-disaster training also has been found to help decrease distress symptoms as part of disaster work. Pre-disaster training should include education on the physical and psychological impact of trauma, as well as specific stress management techniques.⁶ The presence of support for disaster workers is critical given that workers may not be able to share their experiences with their families or other normal social supports back at home, either because they do not want to share the information or because they believe it will make their families and friends uncomfortable.

The following list provides strategies for helping disaster workers prior to, during, and after an event.⁷

Interventions before exposure to disaster work:

- Conduct a stress audit in the workplace to determine preexisting levels of stress.
- Train and educate personnel regarding the psychological effects of disaster work.
- Develop clear policies to be followed when responding to disasters.
- Arrange for mental health referral sources.



The presence of support for disaster workers is critical given that workers may not be able to share their experiences with their families or other normal social supports back at home, either because they do not want to share the information or because they believe it will make their families and friends uncomfortable.

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Psychological debriefings are frequently conducted with rescue and recovery workers following disasters. One of the commonly used types of psychological debriefing is referred to as, "Critical Incident Stress Debriefing." We discuss psychological debriefing in more detail later in this manual. Please see, "Psychological Debriefing" for more information.

Interventions during disaster work:

- Provide workers with an orientation to the disaster site.
- Allow workers periods of rest and time off the site.
- Provide on-scene support by way of supervisors, colleagues, and counselors.
- Hold demobilizations (workers are presented with information about psychological reactions to disaster work and stress management techniques) when shifts are over.

Interventions following disaster work:

- Provide workers with the opportunity to attend psychological debriefing sessions if they so choose. There are several models of psychological debriefing used with emergency workers. We discuss psychological debriefing in more detail later in this manual. Please see, "Psychological Debriefing" for more information.
- Make the option for individual counseling available for those workers who are interested.

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Risks to Mental Health Professionals Working With Disaster Victims

Mental health professionals are at risk of trauma by virtue of the therapeutic relationship between therapist and client. Disaster victims recount their stories to therapists, thereby exposing the therapist to trauma, although indirectly. The distress experienced by therapists as a result of their work has been referred to by a number of terms including: burnout, secondary victimization, vicarious trauma, and compassion fatigue. Compassion fatigue and burnout refer to the emotional exhaustion that therapists may experience when working with clients who have experienced trauma.¹ Secondary and vicarious trauma are terms that refer to a process whereby the therapist experiences many of the same symptoms as the victim, including possibly symptoms of Posttraumatic Stress Disorder (PTSD).

Disaster mental health workers are susceptible to both compassion fatigue and secondary traumatization. In fact, the percentage of disaster mental health workers reporting significant symptoms is higher in many cases than the percentage of rescue and recovery workers reporting significant symptoms.² During disaster work, compassion fatigue can be a significant problem. Of those therapists surveyed who worked with victims of the Oklahoma City bombing, 23.5% were in the moderate-risk group, 29.4% were in the high-risk group, and 20.6% were in the extremely high-risk group for compassion fatigue.³

Disaster mental health workers may experience many of the same symptoms discussed earlier for adult disaster victims (Please see, “Disaster Stress and Warning Signs in Adults”). The concept of Secondary Traumatic Stress Disorder (STSD) is used to define a syndrome of symptoms experienced by helpers that is essentially similar to PTSD symptoms experienced by people directly exposed to an event.⁴ If secondary traumatic stress is not addressed, mental health professionals may be at risk for many of the same problems seen in rescue and recovery workers including emotional problems, substance abuse, and leaving their jobs. In addition to the stressors associated with helping disaster victims, mental health professionals also may struggle with their own losses if they were personally affected by an event (e.g., damage to home, loss of a loved one, or threat to personal safety). For example, psychologists providing services after the September 11, 2001 attacks reported increased work-related stress in addition to struggling with their own personal reactions to the event.⁵

Some mental health professionals may be at higher risk than others, although there are mixed findings regarding risk factors. For instance, therapists with a personal history of trauma may be at higher risk for



Many therapists experience mixed emotions when working with victims of trauma and disaster. Although therapists may report feelings of satisfaction as a result of helping others, they may also feel frustrated that there are often limits to the help they can provide.

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A number of terms have been used in the literature to describe the potential negative effects of providing support to victims of traumatic events. These terms include:

- Burnout
- Secondary traumatization
- Secondary Traumatic Stress Disorder
- Secondary survivor
- Vicarious traumatization
- Compassion fatigue

distress, but research does not definitively support this conclusion.⁶ Other possible risk factors include the level of empathy of which a therapist is capable (i.e., those who are capable of stronger empathy may be at higher risk because clients may express more distress), unresolved previous trauma, and treating children's trauma.⁷

In addition to symptoms of posttraumatic stress and compassion fatigue, disaster mental health professionals report additional reactions to working with disaster victims, including:

- **Feeling underutilized**

When mental health professionals initially arrive at a disaster scene, there may not be a lot of immediate work due to the initial chaos. This initial period of waiting can lead to feelings of being unneeded.

- **Disillusionment**

Therapists may feel that they cannot do enough to help those people affected by a disaster or that victims are being done some injustice by the system. When therapists are faced with the red tape their clients must often go through to get disaster assistance, they may become frustrated and angry.

- **Dissonance**

Therapists may feel dissonance between their personal experience as a helper and the experiences of the victims whom they are helping. For example, the disaster mental health worker may be provided accommodations in a nice hotel at the disaster site while victims are staying in a Red Cross shelter.

- **Struggling with belief systems**

Conducting therapy with disaster and trauma victims can lead therapists to question their belief systems.⁸ In addition, therapists often feel more personal vulnerability after working with disaster victims.

- **Working too much**

Some disaster mental health workers may attempt to work more hours than usual to attend to disaster victims, thus resulting in fatigue and neglect of personal well-being.

- Satisfaction

Despite the potential stressors involved with disaster work, many therapists report feelings of satisfaction as a result of helping others overcome trauma.

Helping Mental Health Professionals

Helping disaster mental health workers involves many of the same strategies discussed earlier for rescue and recovery workers (Please see, “Risks to Rescue and Recovery Workers”). The following list provides strategies for each phase of disaster work: before, during, and post:⁹

Interventions before exposure to disaster work:

- Have a well-designed disaster mental health program.
- Select staff for different roles before a disaster event occurs. Select a pre-designated team that draws on strengths of different staff members.
- Conduct routine assessments of therapist stress and compassion fatigue so that those at highest risk are not given high-risk assignments.
- Provide support for new therapists.
- Provide specialized training to therapists who will be working in disaster assignments.
- Provide education on compassion fatigue and self-care.
- Give an orientation to the specific disaster assignment.

Interventions during disaster work:

- Brief therapists on any changes throughout the assignment.
- Provide on-scene supervision.
- Assess therapist functioning regularly throughout the assignment.
- Rotate therapists between high, medium, and low stress assignments.
- Limit work hours and provide breaks.
- Provide in-depth training on different topics as needed (e.g., PTSD treatment).
- Provide access to personal psychotherapy for therapists.
- Conduct defusings and debriefings.
- Utilize teamwork to provide support within the organization.

Interventions following disaster work:

- Plan ahead for how the disaster mental health program will end and then prepare staff in advance.



Working long hours is a common problem encountered with disaster work. Because there are many people to help, therapists may try to fit more work hours into the day, thus neglecting the need for personal time to rest and recover. Working long hours may result in fatigue, irritability, and poorer work performance.

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Routine assessments of therapist stress and compassion fatigue can help determine if therapists need further support or therapeutic intervention. For further information on measures designed to assess compassion fatigue, please see:

⇒ www.isu.edu/~bhstamm/tests.htm

⇒ Stamm, B. H. (2002) - See references on this page for full citation.

- Engage in program closure activities. Some examples are: write closing reports, debrief staff, and develop resource lists for clients who will continue to need help.
- Provide a final debriefing for staff.
- Follow-up with therapists after the assignment is over to monitor for symptoms of compassion fatigue or secondary traumatic stress.
- Provide recognition to staff.

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SUPPORTING COMMUNITY MEMBERS

Supporting community members following a disaster event can involve providing food and shelter, assisting victims in completing forms and navigating sources of disaster compensation, rebuilding damaged homes and businesses, and providing emotional and social support. Here we focus on some ways to provide emotional and social support through the conversations you have with individuals affected by the disaster. Specifically, we provide some pointers for talking with adults and children. With regards to children, we also give some suggestions for approaching the topics of terrorism and war, as many adults may feel uncomfortable or unsure of how to talk with children about these issues. In addition to suggestions for communicating with those affected by a disaster, we explore the role of faith and religious institutions in the immediate wake of a disaster. Finally, we touch on the importance of supporting community social structures and maintaining community continuity following a disaster or terrorism event.

We are not attempting to train you to do formal psychotherapy with disaster victims. Instead our objective is to provide you with some useful guidelines for talking with and supporting individuals you may encounter in your work following a disaster. Oftentimes disaster victims do not feel comfortable speaking with mental health professionals whom they have never met. Our experience tells us that this phenomenon is especially true in rural communities. Victims may feel more comfortable speaking with known individuals from the community, such as their coworkers, neighbors, Extension workers, or pastors. Thus, our goal is to help people in these social support networks learn basic skills for talking with disaster victims.



Oftentimes disaster victims do not feel comfortable speaking with mental health professionals whom they have never met. Our experience tells us that this phenomenon is especially true in rural communities. Victims may feel more comfortable speaking with known individuals from the community, such as their coworkers, neighbors, Extension workers, or pastors.

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Talking with someone about how he or she is coping with a traumatic event is not always easy. Many of us seem to think to ourselves, “Is this any of my business? What will they do? What should I say?” In most cases, the right thing to do is say less and listen more.

Note: This section was reproduced with minor edits from Garret Evans and Sam Sears (1999), *Triumph Over Tragedy: A Community Response to Managing Post-Disaster Stress*.

Talking with Adults: 7 Supportive Communications

Talking with someone about how he or she is coping with a traumatic event is not always easy. Many of us seem to think to ourselves, “Is this any of my business? What will they do? What should I say?” In most cases, the right thing to do is say less and listen more. Still, we recognize that many of us who come in contact with disaster victims want to say the right thing. And many of us are worried about saying the “wrong thing.” The truth is, there are really very few wrong things to say. Just being with someone and listening to his or her thoughts and feelings - really listening - signals that you really care about him or her. It is unlikely that someone will react strongly to something that you might say when he or she knows that you are just trying to help.

As we have seen, emotions can run high after a disaster. It is rare, but sometimes a disaster victim will transfer the anger, frustration, or fear over what has just happened to the people who are trying their best to help. This transfer of emotions is something that you need to realize and be prepared for as you commit to helping your friends, neighbors, and fellow community members. So, while just listening is one of the most important things that you can do to help someone, we have some specific techniques that we suggest you use to help victims.

Supportive Communication

We have prepared some useful messages that we have used to assist disaster victims. They reflect the kind of empathy and caring that can provide some comfort and assist others in coping with major changes. These messages can convey support and comfort to a victim and are meant to be used as a list of key points that you may or may not choose to use when talking with someone affected by a disaster. *Supportive communication* techniques are derived from research in psychotherapy that shows these elements are critical to helping a person deal with high levels of psychological distress. Remember, the vast majority of disaster victims do not need highly trained individuals to assist them in coping with the psychological effects of the event if they get support from those around them, from people like you.

The concepts and purpose of supportive communication are NOT intended to be professional psychotherapy. What it should be is a style of communicating that helps those around us to know that we are empathic - that we understand their feelings and their efforts - in order to help them adjust to the high levels of stress surrounding a disaster. Not everyone that you may talk with will receive enough help from supportive communication

to prevent the need for additional specialized care. Sometimes, more formal psychological help is needed.

Below is a list of important concepts of supportive communication. We have broken them down into “7 Things to Say to a Person Who Has Experienced a Disaster:”

- 1) Empathy - “How are you holding up?”
- 2) Normalization - “You are having a normal reaction to abnormal events and situations.”
- 3) Recognition of efforts to cope - “Everyone copes in his or her own way.”
- 4) Self-care - “Make sure you are doing things to keep yourself healthy.”
- 5) Tolerance for change - “You will find a new normal after all this is over.”
- 6) Instilling hope - “You have made it through some tough times, and you will make it through this, too.”
- 7) Accepting help - “It is okay to take some help when you need it.”

Remember that any conversation with a disaster victim doesn’t have to include every element described here. Furthermore, there is no firm order to these elements. The concept behind the “Seven Things to Say...” is that effective communications that help people affected by disaster do two things: 1) sort through the emotions and experiences related to the disaster, and 2) organize their response into a plan that helps them recover as efficiently as possible.

Empathy: Sharing Someone’s Pain

“How are you holding up?”

This question can be a difficult one for some people to ask. You are not always sure that the disaster victim is going to be very accepting of it. You may say to yourself, “Maybe he wants to be left alone on this? Is this really any of my business?” Actually, it is. When you ask a supportive question, you are showing that you recognize that it is very difficult to cope with the effects of a disaster. You need to understand that a supportive question often opens the door for someone to “tell his or her story.” That is very important. Having victims tell their story from their own perspective is the active ingredient in any type of supportive communication. Research in psychotherapy has shown that empathy is an important factor in healing.



Supportive Communication I: Empathy

⇒ Allow the person to tell their story and ask how they are coping. Allowing people to tell their story from their own perspective is an important ingredient in supportive communication.

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Supportive Communication 2: Normalization

⇒ Communicate that symptoms of distress are normal following a disaster.

Supportive Communication 3: Recognition of Efforts to Cope

⇒ Help people understand that everyone copes with stress differently and that there is no “one right way” to cope with a disaster.

Supportive Communication 4: Self-care

⇒ Communicate to individuals that they need to take care of themselves in order to be able to help others.

Normalization: Seeing Reactions as Normal

“You are having a normal reaction to some abnormal events and experiences.”

This may be the most important phrase to remember when speaking with disaster victims. Victims often have the impression that the feelings they are experiencing make them seem “crazy” to others. This concern is why disaster victims need help and support from non-professionals. Victims may be so worried about their unique experiences that they fear telling a doctor due to worry about being treated like they have a severe emotional problem, which usually is not the case. Not everyone is comfortable talking with psychologists or psychiatrists. The training that mental health professionals go through to learn to assist victims often makes it less likely that some people will use them. Many people fear that a stigma will be attached to them for talking with a mental health professional. We recognize that non-professionals can play an important role by simply reassuring most victims that they are responding normally in some extremely abnormal events. This message is more powerful coming from you. Victims are likely to accept your view that they are okay and to see no reason to panic about the way they are coping.

Recognition of Efforts to Cope: Recognizing Differences in Style

“Everyone copes in his or her own way.”

Almost everyone copes with stress in a different way from everyone else. There is no “one right way” to cope with a disaster. A popular theory is that when individuals are under stress they exaggerate their typical coping patterns. The distrustful get paranoid, the perfectionists get more perfect, the anxious get flustered, the moody get more unpredictable and so on. Respecting everyone’s efforts to cope as long as they are not going to harm themselves or others makes good sense, especially in the short run.

Self-care: Finding Time to Take Care of Yourself

“Make sure you are doing things to keep yourself healthy.”

Ask if the person is doing things to keep himself/herself healthy. The message that folks have to take care of themselves first is important to get across, especially to parents or caregivers who have many responsibilities for other people. This principle is the same as when you take a trip on an airplane. The flight attendant always instructs you that, if an emergency occurs and the oxygen masks drop out of the ceiling, parents should put their masks on first and then help their children. Why? Because you are no

good to anyone if you are passed out on the floor. It is the same principle here. We do not like to admit that we all have our limits. Our minds and bodies need to be maintained, just like a car engine, to keep working properly. We are not bottomless pits of energy and strength. There are a variety of things that we can do to renew our energy, including regular exercise, good diet, recreation, time alone, muscle relaxation, and meditation. These are all staples of any good stress management program.

Tolerance for Change: People Will Find a New Normal

“You will find a new normal after all this is over.”

Disasters demand a tremendous amount of tolerance for change. It is important to encourage a disaster victim to recognize that things have indeed changed but that he or she will find a “new normal” after the shock of initial change passes. Accepting these changes and beginning to look away from what was and to what will be is a critical step in the recovery process. It is also one of the hardest steps. It is like grieving the loss of a loved one, and it takes time. There is no time limit for how long it should take someone to begin making this step toward the future. It is important to recognize that everyone must move at his or her own pace.

Instilling Hope: There Will be Better Days Ahead

“You have made it through some tough times in your life, and you will make it through this, too.”

Most people responding to the experience of a disaster have coped with some type of loss or event that was difficult for them in the past - a time when they became afraid that they would never be happy again, that things would never be as good as before. While almost all of us have had experiences that made us feel hopeless, almost all of us have been proven wrong. Things inevitably get better. By reminding disaster victims that they are new to disaster but are experienced in coping with significant challenges, you will help to reassure them that they have the ability to cope with the event and see another good day in the future.

The search for hope and a return to normalcy is a recurrent theme in the thoughts of disaster victims. They will seek any kind of forecast for the future, anything that seems like a road map that can describe their life ahead as a way to regain a sense of control over their lives. Not knowing what tomorrow will be like can be one of the most stressful aspects of recovering from a disaster. By acknowledging their uncertainty about the specifics of their future through the expression of confidence in their



Supportive Communication 5: Tolerance for Change

⇒ Communicate that the person will be able to make steps towards the future and find a “new normal.”

Supportive Communication 6: Instilling Hope

⇒ Express optimism that a person will be able to cope effectively with the impact of the disaster, just as they have coped effectively with past challenges.

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Supportive Communication 7: Accepting Help

⇒ Reassure people that asking for or receiving help is a positive step towards recovery after a disaster event.

prospects for a bright tomorrow, you help victims begin the task of looking forward to a new normal.

Accepting Help: It is Okay to Seek Extra Help

“It is okay to take some help when you need it.”

People often find that the experience of receiving help instead of giving it is stressful. A statement like the one above can reassure victims that temporarily receiving help is okay and that the volunteers providing assistance truly want to help. Just like in the first step - opening the door to talking about how someone is coping with a disaster - this step often requires that you muster some courage. Sometimes it is easier to get people to talk about their kids, their spouse, relatives, or anyone else in their life than it is to get them to talk about themselves. So, it is a good idea to talk about others as a way to energize the person to focus on these psychological issues. Sometimes it is easier for us to look for some help if we are doing it for someone else instead of ourselves. For more information on referring someone for further help, please see, “Referring Someone for Additional Help.”

Talking With Children About Disasters

The principles of supportive communication apply very similarly to children as to adults, but there are a few key exceptions. When talking with children, you want to pay attention to a child's developmental level. We have provided some general tips below for different age levels.

Children Under Age 5

Children under age 5 are probably going to lack much of the insight and many of the verbal skills necessary to understand the consequences of the disaster and how it is impacting them emotionally. Young children may also have difficulty understanding the finality of death or that images of the event on television are actually from the same event as opposed to multiple events. For young children especially, parents might want to focus on maintaining their own emotional control while keeping their children active and in a structured routine as a way of promoting their recovery.

Children Ages 5-10

Children between the ages of 5 to 10 often need more discussion of the event and how it has affected them. Answer any and all questions that children have about the impacts of the disaster. Reassure children that things will work out fine in the end but be careful not to lie or blatantly minimize what has happened. Focus on the positive aspects of the recovery and how much help is available. Finally, make sure that you address any rumors or fears that they may be getting from their friends.

Children Ages 11 and Older

Children ages 11 and older are likely to need more in-depth discussion. Most of them can fully understand that the disaster means a big change in many people's lives. Unfortunately, they have even less control than adults do over events during the recovery effort. This lack of control can lead to a great deal of stress and a real need for constant communication from their parents and others. We suggest that you use the "7 Supportive Communications" described earlier in this section as your guide (Please see, "Talking With Adults: 7 Supportive Communications"). However, if you are their caregiver or parent, remember that your child is not your confidant. Avoid conversations in which you vent many of your fears or frustrations. Your child can do little to help impact these situations, and you probably will just upset them even more.



For young children especially, parents might want to focus on maintaining their own emotional control while keeping their children active and in a structured routine as a way of promoting their recovery.

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After a disaster, children may start to doubt the power of adults (parents, teachers, other caregivers) to protect them. This may especially be likely following human-caused violence, such as terrorism or a school shooting. Thus, children may ask questions about whether adults can keep them safe or who they can trust.

(Nader & Mello, 2002)

General Tips for Talking With Children

- **Create a safe environment**

Create a safe environment for children to express their concerns. This strategy applies to any stressful situation you may be discussing with your child. Creating a safe environment means being nonjudgmental and allowing children to be upset and express their feelings. Disasters, terrorism, war, school violence, and the like are all upsetting topics. It can help to communicate to your child that it is okay to express their feelings regarding these issues.

- **Allow children to explain their understanding of events**

Pay special attention to the child's interpretation of the disaster. You may find that they have some incorrect information that you will need to correct. Children may hear incorrect information from other children or on television that causes them to be distressed. For example, a child who is not able to return to school right away due to disaster damage may incorrectly believe that children from school were hurt in the disaster, thus leading to feelings of distress. In order to best help children you need to know their understanding of the facts surrounding the disaster.

- **Allow children to ask questions**

Children often have numerous questions about the disaster, especially if they sense their parents are upset. Do your best to accurately answer your child's questions. If you are not able to answer their questions, you can use the opportunity to look for answers with your child. It is also okay to let children know that you do not have all the answers.

- **Remain open to conversations with your child**

Let your child know that they can talk with you anytime, as your child may have further questions later. Every child's response to disaster will differ - some children will want to talk a lot, and others will have very few questions. Allow your child to talk with you so they will know it is okay to tell others how they are feeling. Try not to minimize your child's feelings (e.g., try to avoid statements such as, "you should not be this sad").

- **Use play and books to help children talk about difficult topics**

Consider using play, books, art, or other activities when talking with your child. This may be especially useful with younger children, as younger children have less developed verbal communication skills. Children of all

ages may be able to express ideas through art that they cannot put into words, and reading books may make topics less threatening.

Seeking Additional Assistance

During times of stress, children look to their parents and other adults for help coping. If you feel overwhelmed when talking with your child about distressing topics, your child is likely to recognize your stress. If you find it is too difficult to talk with your child, seek assistance from other adults who your child relates well to, such as a grandparent or teacher. If talking with your child does not seem to decrease their stress, and your child is having significant trouble at home or school, then it may be helpful to speak with your physician, a clergy member, school guidance counselor, or a mental health professional for additional help and advice. Seek advice whenever you feel it may be helpful.

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Two workbooks are available that were designed to help adults talk with children about the 2001 terrorist attacks, as well as current fears of terrorism and war. Copies of these workbooks can be obtained from the following websites:

- ⇒ “Helping America Cope”
www.7-dippity.com/other/op_freedownloads.html
- ⇒ “Helping Children Cope With the Challenges of War and Terrorism”
www.7-dippity.com/other/op_hcc.html

These workbooks were developed by Annette La Greca, Scott Sevin, and Elaine Sevin.

Talking With Children About Terrorism and War

Parents and adults wonder if they should protect children from the stark reality of war and terrorism or explore the topic with them. Parents may also wonder how to advocate non-violent problem-solving while simultaneously trying to explain terrorism and war.¹ Other common questions include: “How much information is appropriate to provide,” “Should adults share their personal beliefs,” and “How do adults help children if adults are confused or troubled?” Do not worry about having all the answers, as it is not possible to have the perfect answer to all questions a child may ask. The most important consideration is spending time with children and providing an open environment in which they can feel safe discussing their thoughts and feelings.

The basic rules of thumb for talking with children about terrorist events and war include the information presented in the section titled, “Talking With Children About Disasters.” In addition to those tips, adults should consider addressing the following issues when talking with their child about terrorism and war.

Children Will Have Different Reactions

Children of different ages and personalities will react differently to the topics of terrorism and war. Some children will appear to be unaffected by coverage of these events, while others will experience distress. For children who appear to be unaffected, especially younger children, it is not helpful to force the child to talk. Children whose family members or friends are involved in a war through the military, or who live in the area of conflict, may experience more distress because of their direct relationship to people involved in the war.² Likewise, children who know someone affected by a terrorist attack will be more directly impacted. In the latter two cases, you may wish to seek additional guidance from a professional if your child is having difficulty coping.

Avoid Bias in Your Conversations

Be careful not to promote stereotypes of other groups and instead focus on promoting tolerance and acceptance of differences. Emphasize the fact that most people are good. Both children and adults may have difficulty understanding why someone would want to deliberately hurt innocent people, but you should be careful not to promote anger in your child towards certain groups. It may help to talk with your child about how Americans and other people around the world act to help others following terrorist attacks. You and your child could get involved with helping others as well. Also,

discussing America's history as the "melting pot" of various cultures can help your child appreciate the importance of diversity and tolerance as national ideals. Support children's caring attitudes towards children in other countries.³

When discussing war, be careful about using terms like "the enemy" to describe the country or people that are the target of conflict. It may be helpful to frame the discussion in terms of "bad actions" rather than "bad people," such that children learn that people choose their behaviors.⁴ This strategy helps prevent children from forming prejudicial attitudes toward other groups. After all, history teaches us that yesterday's enemies often become tomorrow's friends.

Give Your Child Appropriate Assurance

Assure your children you will try to keep them safe and that the chances of them being harmed are very, very small. However, do not promise them you can keep bad things from happening in the world. Emphasize that adults are doing what they can to keep people in our country safe. Talk with them about safety measures you can implement at home (e.g., a family plan of how to locate one another should a disaster event occur).

It is important to reassure your children that military actions are not taking place in the United States. However, do not ignore the terrible aspects of war and terrorism, especially when talking with middle and high school-aged children. They are likely to see and hear accounts of death, destruction, and atrocities associated with these events. Take a proactive stance toward preparing your child for such revelations and helping them cope with these difficult experiences of growing up in a world with war and terrorism.

Do not Avoid Speaking to Your Child

Do not avoid talking with your child about difficult issues such as terrorism, as that will send a message to your child that it is not okay to talk about these topics. If you feel you are not able to talk with your child, perhaps a relative or teacher can talk with your child. Avoiding the topic will not make it go away and may actually increase your child's anxiety, as they might interpret your silence as fear on your part. Although adults may feel scared and unsure about how to talk with children about terrorism, wars, and other violent events, these conversations can serve as important opportunities to teach your child peaceful values.



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The following websites offer tips for talking with children about war and news coverage of war:

- ⇒ www.aboutourkids.org/articles/war.html
- ⇒ www.familyeducation.com/article/0,1120,1-4412,00.html
- ⇒ www.talkingwithkids.org/television/twk-news.html
- ⇒ www.nasponline.org/neat/children_war.html
- ⇒ www.nydic.org/resource_crises.cfm
- ⇒ www.house.gov/rothman/war_parents_guide.htm

Be Open to Your Child's Expression of Feelings

Terrorist events can be difficult for young children to understand. They may feel more comfortable expressing their feelings through play. Use non-directive, open play as an opportunity to allow children to direct the conversation. However children express their feelings, be open to these expressions.

Be Honest

Give children honest answers to their questions at a level appropriate for their understanding. If you are not sure about something, let them know that. If your child asks if you are afraid, be honest. You can say things like, "Yes, Mom is afraid sometimes too, but I know our President and other people are working as hard as they can to keep us all safe."

Talk About Alternatives to Violence

When discussing terrorism and war, find ways to talk about possible alternatives to military action, as well as what governments and citizens of the world can do to prevent violence and conflicts.⁵ Remember, this is an excellent opportunity to discuss problem-solving strategies with your child.

Set Limits on Media Exposure

For young children especially, it is important to limit their exposure to media coverage of violent events such as war and terrorism. However, you cannot shield your child from all exposure, and your child may even ask to watch news of an event. A good rule of thumb is to watch television coverage with your child so that you can answer their questions and be aware of what they are watching. Make sure your child is engaging in other age-appropriate, enjoyable activities and not spending all their time watching news coverage.

Discussing War

War has some unique elements. Like terrorism, war undermines our feelings of security. Thus, it is important for adults to speak with their children about this topic to increase their feelings of security. Yet many parents have not spoken with their children about war. In a study conducted after September 11, 2001, approximately 25% of parents reported never talking to their children about war, while over 40% of children reported that their parents had not talked with them about the war.⁶

The topic of war can be confusing and difficult for adults and children alike. Children will react differently to discussions of war, so pay attention to your child's individual reactions and requests for information.⁷ Children might not understand that Afghanistan is halfway around the world. They may wonder if scenes of death and destruction that they glimpse on television have happened, or soon will be happening, down the street from their home. Other children may view the situation as not affecting them directly, and they may be more concerned about their own life, which is fairly common in preschool and elementary school-aged children. While younger children may not have a full understanding of the events taking place or may appear to be unaffected, older children and adolescents may be grappling with the diverse opinions of parents, teachers, coaches, and other adults they know and respect. It is thus important to remain open to discussions of war with your child. When discussing war, parents should explain their personal views while encouraging their children to express their own personal views, even if these differ from those held by parents.

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^{3, 4, 5, 6} Myers-Walls, J. (2003, February). *When war is in the news*. Retrieved May 2, 2003, from <http://www.ces.purdue.edu/terrorism//>

⁷ Rothman, S. (2002). (See reference 2)



Some children may want to learn more about the countries involved in a conflict or terrorist attacks. Helping your child learn about another country's culture and heritage is a good opportunity to talk with you child about tolerance and diversity.

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To locate a mental health professional in your area, you can use one of the following resources:

- ⇒ Contact your local community mental health center.
- ⇒ Call the American Psychological Association at 1-800-964-2000 for a referral to a psychologist in your area.
- ⇒ Contact your insurance provider for a list of providers in your area.
- ⇒ Visit the National Association of Social Workers' website (www.naswdc.org).
- ⇒ Contact your area United Way or Red Cross chapters for a referral.
- ⇒ For children, you can speak with your child's school guidance counselor.

Referring Someone for Additional Help

Talking with and helping those in distress sometimes can uncover such significant distress that the helper/listener feels a need to refer someone for additional help, generally from a professional. A suggestion for additional help is rarely brought about by concern that someone is experiencing severe mental or emotional problems. Rather, it is often a simple acknowledgement that this person has experienced something that most people could not recover from by just simply "getting over it." That is why a referral is needed to continue the disaster adjustment efforts. Often, referral is best approached as part of additional "stress management" strategies related to the changes and losses following a disaster. We suggest that you keep in mind another simple principal when you consider referring someone for additional help: the acronym AID.

Ask if the individual wants additional help. This respects his or her efforts to cope and allows the person to maintain some level of control.

Identify convenient referral sources. Although it may seem challenging to a non-health professional to determine who to refer someone to, it often is rather easy due to the availability of services by any number of agencies that respond to disasters such as the Red Cross, religious organizations, and other social groups. We also suggest that you simply identify licensed mental health professionals who have said that they are willing to help people deal with disaster recovery. With a little effort, at least a few professionals who can assist can be identified.

Deal with stigma and reluctance to seek help. Fear of the stigma that may be attached to getting mental health services is a major reason people do not seek those services. It is important to frankly address such concerns and to reassure the individual that seeking temporary assistance in managing extraordinary stress is a healthy decision.

Some people may be reluctant to accept help. In some cases, it is easier for someone to accept help for their spouse or children, so you may try suggesting that they seek services for others in the family as a way to introduce them to a helping agency. Strong community norms regarding recovery and use of coping strategies can develop following disasters, especially in smaller communities.¹ Some individuals may feel more comfortable seeking services with local helpers, such as clergy, who might then serve as a gateway to further referral. Information about post-disaster mental health services is usually available through the Red Cross and other relief agencies. Also, local mental health professionals often make their services available to individuals coping with a disaster. Groups such as the

American Psychological Association, American Psychiatric Association, and the National Association of Social Workers have referral systems to help people locate mental health professionals in their area.

It is possible that a person may be reluctant to seek help because they are not sure what to expect. They may have visions of therapy that consist of lying on a couch and telling a therapist about their childhood. It may help to reassure that individual that the therapist will be working with them to develop effective coping strategies and healthy methods for handling post-disaster stress. There are a number of effective treatments for symptoms of anxiety and depression, two common reactions following a disaster. Some of these treatments are referred to as cognitive-behavioral interventions. This term refers to the focus of treatment on a person's thoughts and behaviors surrounding an event or emotional state. The therapist works with an individual to develop healthier thoughts and behaviors to improve a person's emotions. In many cases these treatments are as effective as medications and often produce longer-term improvements in symptoms. Please see, "Treatment for Long-term Reactions to Trauma" for more information on therapy.

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Often, referral is best approached as part of additional "stress management" strategies related to the changes and losses following a disaster.

Note: Parts of this section were reproduced with minor edits from Garret Evans and Sam Sears (1999), *Triumph Over Tragedy: A Community Response to Managing Post-Disaster Stress*.

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Rather than just congregation members, clergy are oftentimes called upon to deliver services to people unfamiliar to the cleric, and those who the cleric will not see again.

Importance of Faith and Community Religious Institutions

During any sort of disaster or emergency, members of the clergy are likely to assume, or be called upon to assume, various roles in the disaster relief and management process. Roles might involve providing services with which members of the clergy are comfortable, such as emotional and spiritual support, but may also include general disaster relief to their congregation and the community at large.

Who They Serve

The smaller a community is, the more likely it will be that clergy will need to assume more roles of a general nature. Larger communities will be more likely to have greater access to specialized services (such as sufficient first-responders and rebuilding staff), so clergy are more likely to function in their more specialized role. It is also more likely for clergy to remain in emergency and disaster relief for longer periods of time when they reside in rural communities compared with their urban counterparts, likely because they need to continue assisting with repair and rebuilding efforts.

In addition to more practical tasks associated with disaster relief, one primary expectation is that clergy will provide community members with counseling and spiritual support in times of disaster. Although clergy frequently provide this type of service to members of their congregation, the large-scale tragedy associated with disaster generally necessitates a heavy load of spiritual and psychological need. Rather than just congregation members, clergy are oftentimes called upon to deliver services to people unfamiliar to the cleric, and those who the cleric will not see again.

Those clergy who are trained in crisis counseling may be called upon to provide individual or group intervention to victims, witnesses, and responders of a disaster or trauma. They also may be asked for referrals to various professionals or local agencies. Familiarity with community resources will be crucial in order to be able to provide accurate and appropriate referrals. Important sources for referral may include providers of medical treatment, mental health treatment, support groups, financial resources, state relief agencies, and legal consultation.

Roles of the Clergy During a Disaster

Certainly times of crisis and disaster are bound to be confusing for all citizens. In the midst of chaos, people tend to express a desire to help,

possibly seeking a need to establish a sense of mastery and control in an otherwise uncontrollable event. The desire to help is likely even stronger for those in the helping professions. As people in a service-oriented profession, the clergy are often called upon or may wish to volunteer to help out at disaster sites. This type of service may include general assistance, providing spiritual comfort, or just being present to offer supplemental emotional support. Additionally, they will likely provide enhanced services to members of their congregation if appropriate. These efforts may include intensive counseling, adding additional church services, organizing vigils, rallying congregation members to action, and helping to provide for the physical needs of congregation members. Finally, members of the clergy may be called upon to work with the larger community, providing leadership to interfaith events, granting interviews to the media, and organizing community support projects (such as fundraising, volunteer efforts, etc.).

Reactions the Clergy Might Expect

People react very differently under circumstances of great stress (Please see “Disaster Stress and Warning Signs in Adults” for further information). In addition to standard mental, emotional, and behavioral issues, clergy are apt to come across reactions specific to their profession. During times of trauma or disaster, people may attribute events to “the will of God,” or even view bad events as a sort of punishment. Other people might express anger at God, and view events as an example of the unfairness of God’s work. In some instances people might even behave in a hostile way toward clergy members, who serve in the roles of “ambassadors” of God. Finally, some people may be unable to reconcile the realities of the disaster with their view of the world and belief system, causing a crisis of faith. Although these types of reactions are commonplace, without resolution these issues can impede progress in working through the emotional trauma. If people are unable to resolve the inconsistency between events and beliefs in a healthy way, they may linger in a state of confusion, anger, and fear, thus finding it difficult to concentrate and generally perform daily activities.

For example, a continuing fear of the “wrath of God” may lead to side-effects associated with severe anxiety (e.g., nightmares, high blood pressure), and may lead people to behave in ways that are not productive (e.g., superstitious behavior, activities done to “appease” God). Furthermore, for those who were previously religious, the crisis could lead to a sense of loneliness and isolation, which could be further compounded by no longer attending religious groups and activities.



A perception of unity among clerics enhances a feeling of unity among community members, so banding together during times of crisis can be particularly powerful and healing to communities. Some clerics are involved in interfaith activities regularly, and may feel more prepared for these tasks than others.

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Tips for clergy speaking with the media:

- ✓ Consult with others in the profession before granting an interview.
- ✓ Pay attention to wording and language used in the interview to avoid offending others.
- ✓ Statements should be consistent with agency and professional policies.
- ✓ If possible, prepare a statement or obtain interview questions ahead of time.
- ✓ If unsure, it is okay to say so.
- ✓ It is always okay to decline to comment.

Special Roles Of Clergy

As ambassadors of their faith, clergy may be called upon to take on special roles during times of disaster and crisis. Some of these roles might be familiar to particular clerics, while others might have limited or no experience in conducting such work.

- **Working with the media**

One special role that clergy might be called upon to perform is providing interaction with the media and press. Some clergy members interact with the media and press on a regular basis, but for those who do not, being called upon to do so may be a challenging and intimidating experience. For these clergy it is important to consult with others in the profession, including supervisors and others who have more experience with the media, before granting interviews.

In a professional role, one's opinions may be viewed not just as opinions, but also as a representation of an agency or profession. In the case of clerics, as with all professionals, the language and wording of interview responses can provide an effective presentation of appropriate and relevant issues, but also has the potential to lead to misunderstanding, hostility toward the cleric and/or church, as well as professional or even legal fall-out due to poorly phrased responses. If a person does not have prior experience interacting with the media, it is best to proceed cautiously.

Preparing a statement or obtaining interview questions ahead of time allows for consultation with colleagues, friends, and church leaders prior to release of information to the media/press, which minimizes the likelihood of inadvertently releasing false or poorly phrased information (e.g., information that could easily be misinterpreted, inadvertently offensive phrasing, opinions, or information that contrasts with church policy). If unsure of what to say or uncomfortable with the information requested, it is always possible to decline comment.

- **Interfaith activities**

Another special role that clergy may perform during periods of crisis or terrorism is to join with clerical members of other faiths for various endeavors. These activities include interfaith prayer sessions, interfaith statements of support/disagreement, or a general joining of congregations to perform service tasks. A perception of unity among clerics enhances a feeling of unity among community members, so banding together during times of crisis can be particularly powerful and healing to communities. Some clerics are involved in interfaith activities regularly, and may feel more

prepared for these tasks than others. An important issue to keep in mind is that this is an opportunity to emphasize similarities among groups, and to provide the message that the community is working together.

- **Community leadership**

Finally, clergy may be particularly helpful as leaders of their congregations during times of disaster. A member of the clergy is an ideal person to spread helpful messages, such as passing on information, calling for volunteers, providing messages of faith, comfort, patience and/or ethical behavior. For example, sermons can be used to encourage positive social behavior among congregation members.

Considerations for Clergy

As with any provider of services during a disaster, members of the clergy should be mindful of the common pressure to perform activities outside their specific training and education. Great needs and demands may be placed upon members of the clergy during times of disaster, and like disaster workers they are vulnerable to burn-out. Long hours of tending to spiritual need, particularly to large volumes of strangers, can be extremely taxing. Efforts should be made to encourage members of the clergy to recognize their own emotional and physical limitations, and emphasize that their own physical, emotional and spiritual well-being will need attention in order for them to successfully continue their work.

Nearly every religious denomination provides at least some degree of information about disaster work to clerical trainees. However, most programs do not provide extensive training in this topic area. In order to obtain more specialized training, clergy may seek training in disaster counseling, Red Cross Disaster training, or other privately sponsored disaster-related trainings. Very few agencies provide specialized training in disaster services, and even fewer provide specialized training experiences that target members of the clergy. One of the few agencies to provide specialized disaster training to members of the clergy is Church World Services (<http://www.cwserp.org/training/>). In addition to providing online information, this agency also conducts seminars and classes on disaster training for all clerical denominations. Please see the Appendix for a listing of religious relief organization websites and websites providing information helpful to clergy involved in disaster relief.



One of the agencies that provides specialized disaster training to members of the clergy is Church World Services Their website is:

⇒ <http://www.cwserp.org/training/>

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Following disasters, outside helpers may experience “resistance” from individuals whom they are trying to help. Community members may resist the help of outsiders in an attempt to maintain privacy and may feel that outside helpers cannot truly understand what they are going through because these people were not present during the disaster. At the individual level, this resistance has been called a “trauma membrane.” Helpers may also encounter a trauma membrane (or “trauma bubble”) around the community as a whole, especially following tragedies in rural communities. Thus, it is important to look for local sources of support (churches, Extension offices, schools) in a community when attempting to assist residents.

(Korol et al., 2002; Lindy et al., 1981)

Maintaining Community Social Networks and Continuity

Disasters affect not just individuals but entire communities, and sometimes even entire nations. Because of their widespread impact, disasters often disrupt social networks in a community. For instance, if a tornado destroys a place of business it also disrupts the normal social interactions among employees of that business. The September 11, 2001 terrorist attacks resulted in numerous disrupted social systems, including the New York Stock Exchange, businesses housed in the World Trade Center, the New York City police and fire departments, schools, and scores of families.

Sometimes families may have to relocate following a disaster, thus leaving behind ties with neighbors and potentially even relatives in the area. This can be particularly difficult for elderly individuals who have lived in the same community for many years. Permanent relocation has been associated with increased distress in previous disasters.¹ In the case of a chemical or biological disaster event that affects a particular community, friends and relatives living outside the area may be afraid to visit. Past examples include Love Canal and Three Mile Island. In cases of large-scale disaster, usual sources of social support (family, friends, neighbors) may be experiencing significant stress and loss as well, thus reducing their ability to provide support to others.

Disruptions in social networks can be particularly troubling for a community, as social networks play an important role in post-disaster recovery. Social networks are often a person's primary safety net in times of stress and trauma, with family, friends, and coworkers serving as primary helping and coping resources. When disasters disrupt these social networks, individuals may have to seek out alternative sources of support, as well as cope with losses in that network.

Disasters also disrupt community continuity - the occurrence of usual community routines or rituals. Community routines provide citizens with a sense of normalcy, stability, and comfort. The disruption of these normal community routines by disasters can contribute to greater distress in a community.

Given the importance of community social networks and continuity, individuals and communities should make an effort to maintain social networks and community routines as much as possible following a disaster. Some excellent examples of past efforts in this area include the Red River Floods and the 2001 World Trade Center attacks. During the 1997 Red River Floods in the Midwest, the Grand Forks Herald newspaper made use

of school facilities to continue publishing a version of the newspaper for residents still in the area. The presence of the daily newspaper helped maintain a sense of continuity in the community during the disaster. Following the 2001 World Trade Center attacks, New York City Mayor Rudy Giuliani encouraged city residents to continue their normal activities as much as possible. In addition, many businesses that had been housed in the World Trade Center set up help centers for employees and families of the affected businesses. These examples highlight several strategies for maintaining community social networks and continuity, which are discussed in more detail below.

Encourage Citizens to Maintain Normal Business and Routines

Community spokespersons (e.g., mayor, other community leaders) can help maintain continuity by encouraging individuals to continue attending work (as long as their place of employment is still open) and going about their normal business as much as possible, provided that it is safe to do so. Return to normal community routines promotes a sense of familiarity that is helpful in post-disaster recovery.

Provide Alternative Sources of Support

Guiding affected citizens to alternative sources of social support is particularly important when there has been disruption of support networks. Alternative sources of support may include the Red Cross, local mental health providers, local churches, informal support groups, or services arranged by individual businesses affected by the disaster.

Maintain Familiar Elements in a Community

Familiar community elements might include the community newspaper, television station, scheduled community-wide events (e.g., concerts, festivals), or local areas of recreation and congregation (e.g., parks). When possible, maintaining these familiar elements provides a feeling that the community continues to exist and will be able to cope with the tragedy. Organizing local volunteers to assist in re-establishing these community supports is often a good idea. After a large scale disaster, many residents, as well as those outside the affected community, want to participate in recovery efforts. However, often the number of volunteers exceeds the need for immediate and direct recovery efforts. Consider organizing these surplus volunteers to assist in community support activities.



During the 1997 Red River Floods in the Midwest, the Grand Forks Herald newspaper made use of school facilities to continue publishing a version of the newspaper for residents still in the area. The Grand Forks Herald won the 1998 Pulitzer Prize for Meritorious Public Service for these efforts.

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Many residents in New York City commented that Mayor Giuliani's multiple press conferences in the hours and days after the attacks were helpful not only in communicating recent information, but also in reassuring residents that recovery efforts were underway and well-organized.

Keep People Connected

Following disasters, family members and friends may be separated or lose contact, especially if there was the need for immediate evacuation of an area. After the 2001 World Trade Center attacks, a center was created to help people locate family and friends who were in the WTC at the time of the attacks. Communities also can educate their citizens on the importance of family disaster plans that include procedures for locating and meeting up with family members following a disaster event.

Keep People Informed

Communities can provide citizens with frequent information updates on official community responses to the disaster. Such updates help convey a feeling that community officials are maintaining control. Former New York Mayor Rudy Giuliani's leadership following the 2001 World Trade Center attacks is an example. Many residents in New York City commented that Mayor Giuliani's multiple press conferences in the hours and days after the attacks were helpful not only in communicating recent information, but also in reassuring residents that recovery efforts were underway and well-organized.

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PSYCHOLOGICAL DEBRIEFING: A REVIEW FOR MENTAL HEALTH EXPERTS

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Psychological debriefing is a form of early intervention used after disasters or trauma. It was originally developed during World Wars I and II to help soldiers deal with the stress of combat; commanders “debriefed” their troops following a significant battle. The belief was that these sessions gave troops a chance to share their combat stories, thus improving morale and preparing soldiers for further combat.¹ More recently, a form of psychological debriefing referred to as Critical Incident Stress Debriefing (CISD) has been developed. The original intent of CISD was to help emergency response personnel cope with the aftermath of “critical incidents.” Such incidents may include natural and human-made disasters, as well as road accidents or homicides. Since its development, use of CISD has spread nationally and internationally to include individuals other than emergency workers. It is now widely used in programs such as disaster counseling projects and the American Red Cross disaster mental health training program.² A form of CISD was used in the aftermath of the terrorist attacks on the World Trade Center on September 11, 2001.

Format of CISD

Today, CISD is the most popular form of psychological debriefing and will be the focus of this review. The format of CISD is a loosely structured, facilitator-led, group intervention with educational components that is held within days of the incident and typically lasts 3–4 hours. The goals of CISD are to: 1) educate participants about stress reactions and ways of coping with them, emphasizing that such reactions are normal and to be expected; 2) encourage emotional processing of the trauma; and 3) provide information regarding available resources should participants desire further intervention.³ The group is typically conducted in a series of seven stages:

- **Introduction** - The facilitator explains what is going to happen, answers questions, and emphasizes confidentiality of what is said during the intervention.
- **Fact Phase** - Participants are asked to describe what happened.
- **Thought Phase** - Participants describe their thoughts during the event.
- **Reaction Phase** - Participants’ discuss their emotional responses during the event, as well as their current emotional responses. The facilitator emphasizes the normality of such experiences.
- **Symptoms Phase** - Typical stress reactions are discussed.



Goals of CISD:³

- ⇒ Educate participants about stress reactions and coping strategies.
- ⇒ Encourage emotional processing of the trauma.
- ⇒ Provide information regarding available resources should participants desire further intervention.

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Some problems with CIRD research:

- Providing one group with treatment and the other with some type of placebo may be ethically questionable following a disaster.
- If groups are provided different treatments, it can be a challenge to create groups that are equivalent on all important variables.
- Random assignment can be difficult.
- The post-disaster environment may be chaotic, making it difficult to go in quickly and do research with little planning time.
- Some individuals may refuse to participate in research and they could differ in some important way.

- **Teaching Phase** - The facilitator clarifies any misunderstandings about stress reactions and stress management strategies.
- **Re-Entry Phase** - The debriefing team summarizes the session and discusses where to go for further referrals.

Research Findings

Despite its popularity, there is mixed empirical support from research studies regarding whether CIRD actually works. That is, there is controversy over the scientific evidence that CIRD leads to a reduction in stress symptoms compared to no intervention. Although anecdotal accounts and uncontrolled studies (i.e., studies without a control group that does not receive CIRD) have suggested that CIRD is effective,⁴ several other studies have found that CIRD is not effective and in fact may be harmful in some instances.^{5,6} A key problem with this research is that it is very difficult to conduct a randomized, controlled trial of CIRD. Ideally, such a study would randomly assign individuals who were exposed to a trauma to receive either CIRD or some placebo intervention. However, it is difficult to devise a placebo intervention that involves some contact with others who were exposed to the trauma but doesn't involve any of the possible "active" ingredients of CIRD. For example, one study of firefighters compared those given psychological debriefing two weeks after a hotel fire with those who simply talked informally with their colleagues.⁷ Although the group who received the intervention reported that it was helpful and increased their self-confidence, their scores on a standard measure of stress symptoms did not differ from the other group.

Another problem with this research is that it is difficult to ensure that the people in the two groups are equivalent in important respects. Some of the important factors that might impact a person's risk for developing future trauma-related problems include: severity of exposure to the trauma, amount of loss due to the trauma, prior trauma history, prior history of emotional problems, and demographics (age, sex, educational level, etc.). Ideally, the group that receives CIRD and the group that receives the placebo (or no intervention) should be equivalent on such factors in order to truly compare the two groups. Such factors are particularly difficult to control during a major natural or human-caused disaster. For example, one study conducted with British soldiers returning from United Nations peacekeeping duties in the former Yugoslavia found some small benefits following administration of CIRD.⁸ However, these soldiers were not randomly assigned to either receive CIRD or no intervention due to operational restrictions. Moreover, only 52% of participants completed the one-year follow-up assessment. Most importantly, the group that did not get CIRD was significantly more distressed (i.e., reported more anxiety,

depression, and PTSD-like symptoms) at baseline than the CISM group. Despite this, there were few differences between the groups at follow-up, suggesting that even without CISM, the no intervention group improved. The only noteworthy finding was a reduction in self-reported alcohol use in those who received CISM.

The studies that have used randomized, controlled methodologies have not shown strong benefits from CISM. For instance, one study of over 100 road traffic accident victims did assign people randomly to receive psychological debriefing or no intervention, and the two groups were equivalent on important variables such as demographics, previous psychological history, and factors related to the accident.⁹ This study found the group that received psychological debriefing had worse outcomes three years later in terms of stress-related symptoms, travel anxiety, pain, physical problems, overall functioning, and financial problems, when compared with individuals not receiving the intervention.

On the other hand, Everly and Boyle combined the results of five studies on CISM, and concluded that CISM is an effective crisis intervention.¹⁰ These studies were conducted with a variety of emergency workers, adult victims of disaster, and police personnel. In all but one study, participants who received CISM were compared to a control group, although it is not known whether participants were randomly assigned to groups, nor what constituted the control group (i.e., no intervention or some kind of placebo). Outcomes were measured using various surveys assessing anxiety, depression, anger, and stress. Each of the five studies showed that those who received CISM improved more than those who did not, either immediately after the trauma or up to 3 months post-trauma. While these studies do support the short-term effectiveness of CISM, and included a large number of participants (over 300 participants across the five studies), long-term outcomes were not assessed.

The conclusions of the above review are inconsistent with the Cochrane Collaboration Review of randomized controlled trials of one-session psychological debriefing.¹¹ Cochrane Reviews are designed to provide overviews of the effects of interventions for prevention, treatment, and rehabilitation in healthcare settings. The Cochrane Review suggested that there is no strong evidence for the efficacy of one-session psychological debriefing provided soon after a trauma and recommended that, “compulsory debriefing of victims of trauma should cease.”¹² However, Everly and Boyle criticized this review for combining several different kinds of psychological debriefing rather than including only those studies that used pure CISM, as they did in their review.¹³ Other researchers have suggested that psychological debriefing, perhaps in a revised form, may be useful for early intervention. It is clear that indiscriminant use of single-



Although evidence for or against CISM is mixed at the current time, it does appear that single-session psychological debriefing is used too frequently without considering whether it is an appropriate intervention.

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Comparing results of studies on debriefing can be difficult, as the term “debriefing” has been used to refer to a number of different interventions, including operational debriefings (i.e., routine reviews of factual details of an event), psychological debriefings (i.e., reviews of the emotional impact of an event and coping strategies), and CISD.

session psychological debriefing is at least a questionable, if not an inappropriate intervention.¹⁴

Recently the CISD framework has been revised to include a more comprehensive series of interventions designed to address the needs of emergency services personnel. This comprehensive series of interventions is referred to as Critical Incident Stress Management (CISM).¹⁵ CISM is designed to prepare individuals prior to critical incidents, provide support during and after critical incidents, provide services to families directly impacted by the traumatic event, and assist individuals in locating referrals and follow-up interventions. Although this more comprehensive package would appear to be more effective than CISD alone, there have been no controlled studies of its components.¹⁶ Moreover, psychological debriefing as it is typically practiced consists only of a single session.

Criticisms of CISD

Critics of CISD have noted a number of concerns about the intervention. For example, one of the appealing aspects of CISD is that it is not presented as “therapy,” but rather as an opportunity to share common responses to extreme circumstances. However, critics have pointed out that participants may be concerned about confidentiality, as well as potential impacts on their working relationships and job status. CISD groups often include paraprofessionals that either work in the same field or are familiar with people who have experienced trauma. Whereas the inclusion of such peer support may lend credibility to the CISD team, it has also been strongly criticized as possibly making participants feel unsafe or uncomfortable, and may therefore be counter-productive.¹⁷ Another concern is that individuals in certain work contexts (e.g., EMS workers, police officers, firefighters) may feel coerced to attend CISD sessions by their managers. Even though voluntary attendance is stressed in the CISD training literature, it is possible that subtle pressure is exerted that results in people feeling “forced” to attend. Also, those who are reluctant to disclose their emotional reactions during the debriefing may feel pressured to speak.¹⁸ Pressure may be problematic because individuals are already feeling a loss of control as a result of the disaster event. This loss of control may be intensified if individuals feel they are not able to control their choice of whether or not to share their experiences with others, thus resulting in harmful consequences.¹⁹

There are additional concerns regarding CISD. One of the main concerns is that it takes a “one size fits all” approach that does not take into account participants’ individual coping styles, current and past life stressors (including past trauma), history of emotional problems, and other individual factors.²⁰ Additionally, CISD typically focuses on a single aspect

of trauma - for example, threat to life. However, loss, dislocation, separation, and many other stressors are often involved in trauma, and these stressors may all require different interventions.²¹ Because many studies have found an increase in stress and anxiety symptoms after psychological debriefing, some researchers have concluded that the emotional processing is premature and does not include follow-up that would assist in therapeutic processing.²² This argument supports the notion that CISM should not be used as a “stand alone” intervention but that it may have value when delivered as part of the full range of CISM techniques. Others propose that the reason psychological debriefing does not appear to work is that it calls attention to participants’ symptoms, thus making it more likely that they will report increased symptoms, but this does not necessarily mean more impairment.^{23,24} This possibility has yet to be investigated in controlled studies.

Perhaps the biggest criticism of the CISM approach is the assumption that experience of trauma is the *only* factor that needs to be considered. In other words, the approach does not take into account that many complex factors determine whether a person recovers naturally from trauma or develops serious problems, such as Posttraumatic Stress Disorder (PTSD). Although the CISM training guidelines emphasizes that direct victims of the traumatic event, family members of people seriously injured/killed, and rescuers seriously injured trying to respond to an event should receive more extensive intervention and not attend CISM, how such victims are handled is not clearly specified.²⁵ Also, in practice, it appears that application of CISM is not restricted in this way.²⁶ For example, CISM was administered to thousands of office workers and others directly impacted by the September 11, 2001 terrorist attacks.²⁷ Yet, the literature to date suggests that most people recover from acute stress reactions to a trauma by approximately 3 months after the event. Only roughly 8-9% of such individuals go on to develop PTSD. Thus, critics of CISM have pointed out that a better approach would be to target those individuals who appear most at risk for developing PTSD, while at the same time not interfering with the natural healing process that works for most people.

Screening for PTSD

Several risk indicators for PTSD have been identified. Among those that can be screened for are:²⁸

- **Prior trauma history** - previous exposure to trauma (especially interpersonal violence) increases risk of PTSD.
- **Severe acute stress reactions** - highly disturbing symptoms soon after the event (especially dissociation) increase PTSD risk.



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One-session meetings between survivors and professionals may be appropriate if they:³³

- Are used to assess the need for further treatment.
- Provide psychological first-aid (information, comfort, support, and help with the individual's immediate emotional and practical needs).
- Provide information about trauma and treatment resources.

- **Social support** - positive social support can aid recovery; preexisting relationship difficulties impede recovery.
- **Hyperarousal** - heightened arousal increases risk of PTSD; stress management skills such as daily relaxation may help.

Thus, screening people in the immediate aftermath of a trauma can help identify those who may benefit from intervention. On the other hand, under certain circumstances even a brief screening is not feasible. Also, some events may be so large in magnitude that it is appropriate to provide anyone present with some form of “psychological first aid” (support and comfort but not therapy/treatment) and referrals if requested.²⁹ If feasible, a more formal assessment may take place at least one week after the event, since immediate symptoms will have subsided.³⁰ These assessments can be conducted using any of a variety of standardized measures available for such purposes.³¹

Other Recommendations

Although this review highlights weaknesses of CISM as it is frequently practiced, some aspects of this approach may be useful. According to Litz, Gray, Bryant, and Adler, one-session meetings between survivors and professionals may be appropriate if they: 1) are used to assess the need for further treatment; 2) provide psychological first-aid (i.e., information, comfort, support, and help with the individual's immediate emotional and practical needs), and 3) provide information about trauma and treatment resources.³² Other recommendations detailed by Litz & colleagues to help survivors include:

- Handouts or flyers that describe the trauma, what to expect, and where to get help should be made available.
- Individuals should be given a choice of intervention options rather than a single option (e.g., CISM only) recommended by the managing organization.
- Those who choose not to participate should be given the opportunity to meet individually with professionals.
- Survivors who are not interested in formal intervention should be asked if they wish to discuss the event and encouraged to talk about the event with significant others.

Thus, the goal should not be to maximize emotional processing as in therapy, but to respond to the need that many survivors have to share their experience, while at the same time respecting those who do not wish to talk about what happened.

Final Thoughts

Finally, it is important to keep in mind that despite lack of scientific support for its efficacy, CISD and other psychological debriefing interventions have been largely accepted as standard practice for emergency workers and many organizations. Moreover, the CISD approach has been well received when applied to mass disasters such as the terrorist attacks on September 11, 2001. An obvious question is, “why is CISD so popular despite limited evidence to support its effectiveness?” Debriefing may be popular because it meets many needs, such as the need of those not impacted by the disaster to overcome their guilt for surviving and their sense of helplessness; the need of those directly affected to talk about what happened as a way to understand it and gain some feeling of control, and the need of workers and management to assist those affected and to show concern.³³

It is possible that one main effect of psychological debriefing is an increase in morale and cohesion in the face of catastrophe, rather than the prevention of PTSD.³⁴ Thus, the benefit of psychological debriefing may be that it gives people a chance to feel validated, de-stigmatized, and empowered by their peers, and that this group-based approach contributes to better functioning in work environments after stressful incidents.³⁵ Clearly, those involved in trauma and disaster recovery cannot wait for conclusive proof of the effectiveness of psychological debriefing, and generally speaking, most interventions are developed from anecdotal evidence.³⁶ Nevertheless, despite the difficulties in conducting sound research, particularly in relation to disasters, future studies should examine how psychological debriefing interventions can be improved. As with all interventions, such improved versions should be subjected to rigorous scientific testing prior to their widespread adoption.

For further information on current recommended practices in the area of psychological debriefing, please refer to the National Institute of Mental Health report entitled, “Mental health and mass violence: Evidence-based early psychological intervention for victims/survivors of mass violence.”³⁷ This report is available online at <http://www.nimh.nih.gov/research/massviolence.pdf>.

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The controversy over psychological debriefing is likely to continue. Clearly, more research is needed to determine if these interventions result in clinically meaningful symptom improvement and a lower likelihood of long-term problems such as PTSD, as well as to identify what components of the intervention are most effective.

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SECTION SIX

LONG-TERM RECOVERY

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INTRODUCTION

Disasters can have long-term effects on both communities and individual citizens. Some of these impacts are highlighted below.

Changes in Social Structures

Disasters frequently result in temporary changes in the social structure of a community. Some of these changes occur at the individual level, while others occur at the community level. At the individual level, people may have to temporarily relocate while their homes are being repaired or rebuilt. During this time, they may have less contact with members of their usual social support system, including neighbors, friends, and family. Other social support structures, including places of employment, church groups, and social groups may be disrupted by disaster events. Changes in individual social support structures can lead to additional stress, as people commonly turn towards family, friends, and coworkers to discuss problems.

Political Impacts

There are a number of long-term political consequences associated with disaster events, especially human-made disasters and terrorist attacks. For instance, following the September 11, 2001 terrorist attacks new legislation was enacted, the Department of Homeland Security was created, and federal money was allocated for recovery efforts. Citizen dissatisfaction with government responses to disaster may lead to scape-goating and activist political movements. In other cases, citizens may come to distrust governmental agencies or officials if they feel information was withheld or the response to the event was inadequate. Scape-goating, loss of trust in agencies and officials, and crisis political decisions can all add to the stress level in a community after a disaster.

Economic Impacts

Disasters often result in far-reaching economic effects that can delay community recovery. These economic consequences include lost revenue from unemployment and lost production, reduced public services and resources, the disruption and redirection of economic growth, reconstruction costs, individuals capitalizing on public crisis for economic gain, disputes over who pays for new preparedness measures, damage and recovery costs, economic instability, and costs of environmental clean-up. Some economic impacts are a direct result of the disaster, while others are an indirect result. Direct economic



Disaster-related destruction of businesses and loss of economic revenue can lead to lost jobs. Job loss can be a particularly serious stressor for families who were financially disadvantaged prior to a disaster.

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Oftentimes, there is a ripple effect across local, state, and sometimes federal economies, such that a disaster in one community can lead to lost revenue in other communities. For instance, the September 11, 2001 terrorist attacks resulted in decreased tourism, which economically impacted many communities far from the disaster site.

impacts include structural damages, damage to crops and livestock, damage to business infrastructure, reduced income, and interruption of production and commercial activities. Indirect impacts include corporate buyouts of smaller businesses and farms that are unable to recover, unemployment, poverty, local and state budget deficits, and loss of tourism revenue.

Economic impacts can also result from community stigma following a disaster. In certain instances, a community becomes known for a particular disaster, resulting in stigma that can deflect tourism into the area. As seen with the September 11, 2001 terrorist attacks, air travel and tourism to certain areas of the country were notably sidetracked. In another example, countries halted shipments of goods from India due to a fear of contamination following a plague outbreak in 1994. In the case of natural disasters, Southeastern coastal communities and Caribbean nations typically report steep drops in tourism after a major hurricane, even after most components of the local infrastructure are rebuilt. Due to concerns of further attacks or disasters in an area, tourism may be significantly diminished even after a considerable amount of time has passed. This effect may be more likely following disease outbreaks or disasters involving environmental contaminants.

Rural areas may especially suffer from the economic impacts of a major disaster. The reliance of many rural areas on open-field operations (e.g., farming, ranching, mining) leaves these areas vulnerable to disasters that destroy or significantly damage these natural resources. Wildfires, droughts, floods, or environmental contamination are particularly devastating in rural areas, as they may damage the economic base such that local residents are no longer able to continue utilizing these resources for economic revenue. In some cases, the level of economic damage may not be known immediately. For instance, the extent of damage to crops may not be known until harvest is completed. In addition to direct economic impacts in rural areas, there is a trickle-down effect to local businesses that rely on revenue from local citizens and agricultural businesses. Since dollars are heavily recycled through rural communities, there may be significant changes in the local economy after a major disaster. These economic changes may further lead to changes in the way of life for some members of the community.¹ For instance, following the 1980's farm crisis, many farmers had to sell their farms and move to larger communities to find work.

Although federal and state recovery programs often provide communities with financial assistance following a disaster to help cover repair and reconstruction costs, redevelopment plans, and direct aid to disaster victims, this assistance will not meet the financial needs of all

individuals impacted by a disaster. The long-term economic impacts of a disaster have an effect on both individual and community mental health. At the individual level, individuals and their families may experience stress and anxiety over how to pay for repairs or rebuilding, confusion and frustration over the paperwork needed to file insurance claims or obtain state or federal relief funds, and uncertainty regarding income and job status. At the community level, community members may collectively feel the stress of a loss in business that could result in lost jobs and income for many community members, the possibility that local taxes may need to be increased to cover costs of reconstruction, or cut-backs on other vital community services due to recovery costs. The economic loss and uncertainty following a disaster is thus a powerful stressor for the entire community.

Mental Health Impacts

Even if individuals cope effectively with the immediate aftermath of a disaster, subsequent anniversaries of the disaster and decisions about disaster memorials can bring post-disaster emotions back to the surface. Anniversaries and memorials may be especially difficult following large-scale tragedies, such as the September 11, 2001 attacks and the 1995 Oklahoma City bombing. Long-term reactions related to anniversaries and memorials are discussed in greater detail in, “Anniversaries and Memorials.”

Other long-term mental health impacts include depression, anxiety, Posttraumatic Stress Disorder (PTSD), and substance abuse. Survivors may also face difficulties coping with loss of loved ones, anger, survivor’s guilt, and threats to belief systems. Sometimes individuals who appear to cope relatively well in the immediate aftermath of a disaster will develop symptoms several months or maybe even years after the event. Delayed-onset symptoms or immediate post-disaster symptoms that persist for months following the event may signal the need for more formal intervention. A number of long-term emotional reactions are discussed in further detail in the section, “Recovery for Individuals.”

In the sections that follow, we discuss long-term recovery for communities and individuals. Many of the sections on individual recovery can be used as handouts for community members affected by a disaster, and thus contain a number of tips for coping with specific emotional responses.

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Potential long-term mental health impacts of disasters include:

- PTSD
- Anxiety
- Depression
- Substance abuse
- Marital conflict/divorce
- Anniversary reactions
- Unresolved grief

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During the Disillusionment phase, widespread discouragement often sets in, as people feel that their needs are no longer being met and that attention has shifted elsewhere. Media attention frequently shifts to the next large disaster, aid from local groups formed after the disaster may weaken, conflict begins to surface over recovery strategies, and recovery resources may be shifted elsewhere.

COMMUNITY STAGES OF RECOVERY

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Much like individuals, communities typically go through the process of recovery in a series of stages.¹ While it is not always easy to identify the moments that a community transitions from one stage to the next, it is helpful to consider some of the prominent issues a community will face in each stage. Please remember that parts of a community may experience some of these phases simultaneously, and it is also possible that these phases could be experienced differently depending on the type of disaster.

Heroic Phase

During and immediately following a disaster, individuals and communities commonly respond with extra support, altruism, and heroic acts to save individuals and property. This is often a time of social consensus and good will. Cooperation and generosity help to offset negative emotional responses. During the heroic phase the affected community pulls together to respond to the crisis. Interestingly, disasters that are larger in scale, or more severe, often provide a longer heroic phase than smaller-scale events.

Honeymoon Phase

The Honeymoon phase begins shortly after the disaster and may continue for weeks or months. During this phase, affected individuals are often receiving aid from the community, as well as outside agencies, and feel that attention is being given to their needs. Typically, communities receive large influxes of resources following a disaster, as well as heightened media attention, both of which can lead citizens to feel supported and to anticipate further help. This extra support, however, can lead to some individuals having unrealistic expectations for the long-term recovery process, as immediate extra supports are often short-lived.

Disillusionment Phase: When Helpers Leave

This is one of the longest phases of recovery and can last for months or even years depending on the disaster event. Following the withdrawal of response and recovery resources (e.g., Red Cross, FEMA, donations) from the affected community, citizens are faced with the reality of their losses. During this period, widespread discouragement sets in, as people feel that their needs are no longer being met and that attention has shifted elsewhere. Media attention frequently shifts to the next large

disaster, aid from local groups formed after the disaster may weaken, conflict begins to surface over recovery strategies, and recovery resources may be shifted elsewhere. Feelings of anger, bitterness, and discord are common in this phase. Also, scape-goating occurs during this stage, often directed at individuals believed to be responsible for permitting the disaster to occur or for failing to respond adequately to the crisis.

This phase may result in significant mental health impacts, as community stress levels are at their highest and people are struggling to adjust to their post-disaster reality. Sources of stress include the need to adapt to the changes caused by a disaster, financial fallout, lack of support from unaffected family and friends, and unfulfilled expectations of community, state, or federal assistance. Also, individuals may be coping with PTSD, depression, or substance abuse. It is thus important to continue to provide mental health resources for a community during this phase.

Recovery and Reconstruction: Finding a “New Normal”

During the Reconstruction phase, damaged homes and businesses are repaired, the economy begins to recover, and community routines return. People realize that they need to find ways to recover despite the withdrawal of resources, and they desire to return to their normal way of life as soon as possible. Some individuals may even experience feelings of empowerment from having lived through the experience. However, it may not always be possible to return to the pre-disaster way of life. In this case, individuals and communities must establish a new sense of normality.

This stage may be experienced only after a significant amount of time has passed, perhaps more than a year in extreme cases. Recovery and reconstruction may be hampered by poor pre-disaster preparedness and planning, community and political conflicts, and lack of economic resources. In some cases (e.g., nuclear or environmental contamination, destruction of dams) communities will not be able to rebuild or recover, and individuals may have to relocate elsewhere. Delays in recovery or decisions not to rebuild can have significant impacts on mental health. Continued mental health resources are needed at this time to address these long-term mental health impacts, as well as continuing cases of PTSD, depression, and substance abuse.



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Providing citizens with a mission for long-term recovery gives them the opportunity to have some control over the long-term impact of a disaster in their community.

Helping Communities Recover

Long-term community recovery requires not only economic inputs, but also social inputs. Social inputs that can aid in community-wide recovery include:

- **Social supports**

Following disasters, normal social supports in a community are often disrupted. In times of crisis, many people reach out to their social supports to help them recover. If these social supports are no longer available, it may be more difficult to cope. Thus, it is important to consider how a particular disaster may have affected community and individual social networks and take steps to maintain these networks. Please see, “Maintaining Community Social Networks and Continuity” for further information.

- **Mental health assistance**

Although the need for mental health assistance often appears greatest immediately post-disaster, it is frequently the case that individuals will need more help in the long-term, as they begin to cope with long-term economic losses, mourn changes in the community, and anticipate anniversaries of the event. Thus, it is important to remain vigilant for longer-term mental health needs and plan for continued mental health services in the community. Please see, “Recovery for Individuals” for more information.

- **Community leadership**

Community leaders can promote volunteerism and rally the community to work together to overcome a disaster. As discussed earlier in the section entitled, “Communicating With Citizens in a Time of Crisis,” giving citizens a mission helps promote a shared sense of purpose and resolve to overcome the tragedy together as a community. These same principles hold true for long-term recovery. Providing citizens with a mission for long-term recovery gives them the opportunity to have some control over the long-term impact of a disaster in their community.

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RECOVERY FOR INDIVIDUALS

In this section we present materials that can be used by community leaders and professionals who are responding to a disaster event, as well as individuals who are affected by that event. As such, the following subsections could be used both as training tools and as resources for individuals who present to physicians, public health departments, or mental health providers following a disaster event. We discuss a range of long-term emotional reactions, including guilt, grief, and Posttraumatic Stress Disorder (PTSD). In addition, we talk about the significance of anniversaries and decisions about memorials, as well as how belief systems are often threatened by disaster events. Remaining vigilant for these long-term reactions is essential, as some individuals in a community may have delayed reactions following a disaster event.

Remaining Vigilant for Warning Signs

During the reconstruction and recovery phase of disaster, community focus and attention naturally shifts towards trying to restore aspects of the community that were destroyed or disrupted as a result of the disaster. While the community is focused on reconstruction and moving forward, some individuals may continue to experience post-disaster stress symptoms and may even have developed more severe problems such as Major Depression or PTSD. Additional long-term psychological reactions to remain vigilant for include anger management problems and substance abuse. Stress reactions may even continue after reconstruction is completed, as the secondary effects generated by a disaster may continue to linger in a community. For example, even when buildings are reconstructed, the local economy may move very slowly towards a complete recovery, leaving some without jobs or with lower incomes. The resulting financial strain can contribute to continuing post-disaster stress.

Thus, it is important for those who have contact with individuals following a disaster to remain watchful for signs that a person may be having trouble recovering. Keep in mind that recovery is an individual process; not everyone recovers in the same way or at the same pace following a traumatic event. As with short-term post-disaster stress reactions, the key is to be watchful for individuals who continue to struggle with their daily activities and do not appear to improve even after several months have passed since the disaster. Again, a good rule of thumb is to assess whether the person is having trouble functioning in their normal environment (e.g., work, school, home), whether the person's symptoms are interfering with their normal activities, or



Keep in mind that recovery is an individual process; not everyone recovers in the same way or at the same pace following a traumatic event. As with short-term post-disaster stress reactions, the key is to be watchful for individuals who continue to struggle with their daily activities and do not appear to improve even after several months have passed since the disaster.

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The materials included in the “Recovery for Individuals” section are written so that they can double as handouts/educational materials for individuals affected by a disaster. The following subsections can double as handouts:

- Anniversaries and Memorials
- Coping With Threats to Belief Systems
- Coping With Loss and Survivor’s Guilt
- Coping With Anxiety and Depression
- Posttraumatic Stress Disorder (PTSD)
- Treatment for Long-term Reactions to Trauma

whether their symptoms are persistent. If any of these problems are present, the individual may benefit from additional assistance, such as referral to a mental health provider or speaking with a trusted clergy member.

What can you do?

- Ask how someone has been coping. Showing an interest in how someone is doing signals empathy and can open the door for you to find out if an individual needs additional help.
- Do not assume that everyone has recovered from the disaster just because physical reconstruction is finished in a community. Make sure there are services that focus on emotional recovery, and that these services are available well past the completion of physical reconstruction. Maintain referral networks, and develop a plan for referrals over the long-term.
- Provide community education on the possible long-term effects of post-disaster stress, such as PTSD, to help community members recognize symptoms that might warrant referral for help.
- Initiate frequent contacts with those individuals you feel are still struggling with effects of the disaster.
- Recognize that disaster stress often has a delayed effect. Disaster impacts (loss of life, property, or a way of life) have profound, long-term effects on individuals that can contribute to the delayed appearance of post-disaster stress problems. Also, the long-term economic impacts of disaster contribute to chronic and very powerful stress reactions among some segments of the community.
- Be especially vigilant at times such as the anniversary of an event, birthdays of victims, occurrence of key community decisions (e.g., construction of a monument, how to spend disaster relief funds), and occurrence of similar disasters in neighboring communities.

Anniversaries and Memorials

Although the passage of time may bring closure and recovery for the majority of the community, anniversaries of the disaster event can bring post-disaster emotions back to the surface. Increased feelings of distress around the anniversary of a traumatic event, known as anniversary reactions, can range from feeling distraught for a day to significant psychological or medical symptoms. Individuals who have lost loved ones may experience intensified feelings of grief and depression. The anniversary of an event serves as a time cue, which is a strong reminder that is associated with many of the initial thoughts and feelings experienced by victims and communities at the time of the disaster. An anniversary time cue includes not only the date of the disaster, but also potentially a season of the year or a time of day. It is possible for people to experience anniversary reactions even when they are not directly aware of the time cue.¹

Many individuals also report anticipatory stress in the weeks and days leading up to an anniversary. These individuals may feel intense worry about their ability to cope with the stress and grief of the coming anniversary. In a sense, their anxiety about the coming anniversary serves as a self-fulfilling prophecy that they will have emotional difficulty as the date approaches.

Individuals who were most affected by the disaster event are at risk for being more affected by the anniversary, especially individuals with PTSD. Anniversary reactions are also influenced by:²

- The scope of the disaster, or the number of affected individuals and deaths.
- Media attention that reviews the disaster.
- Memories of personal losses, such as deaths, lifestyle changes, or financial losses.

In addition to anniversaries, decisions regarding community memorials also bring to the surface strong emotions. The primary function of a memorial is, “to preserve remembrance, of or relating to memory.”³ Memorials may commemorate individuals lost in a disaster or the disaster event as a whole. For many people, memorials are a key part of the grieving process, as they symbolize a community’s shared grief. Although communities build memorials to remember and honor victims of disaster, community members often have different ideas about how a memorial should be constructed, thus leading to controversy and disagreement on the design, location, content, and funding of the



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Disaster anniversaries can trigger debates in a community about progress towards memorials, enhanced preparedness measures, and determining the causes of an event. This conflict can be a source of additional stress for the family members of the victims and the community as a whole.

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Tips for Coping

Anniversaries and decisions about memorials can produce a range of emotions for all community members, especially those most directly impacted by the disaster. Tips for coping with this range of emotions include:

- **Reduce exposure to anniversary coverage**

For many individuals it is helpful to reduce the amount of anniversary media coverage watched. Media coverage may be particularly heavy on the first anniversary of large-scale tragedies, such as terrorist attacks (September 11, 2001) or devastating natural disasters (Hurricane Andrew).

- **Seek out support**

Many people find it helpful to seek support from friends and family members. Other individuals who are having significant difficulty coping with an anniversary of a disaster or trauma may find it helpful to contact a mental health professional or a member of the clergy for further assistance and support.

- **Build new meanings**

Building new meanings and memories for the time frame can help diminish negative reactions.⁴ In other words, looking for the positive aspects of an event, such as how it strengthened feelings of community, may help individuals feel less distressed.

- **Stress management**

Practicing good stress management also may be helpful. Please see, “Stress Management for Adults” for further information.

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¹ Panos, A. (2002, October 1). *Anniversary reactions: A survivor's guide on how to cope*. Retrieved June 3, 2003, from <http://www.giftfromwithin.org/html/panos2.html>

² Hamblen, J., Friedman, M., & Schnurr, P. (2002, October 27). *Anniversary reactions to the September 11th attacks*. Retrieved November 13, 2002, from http://www.ncptsd.org/facts/disasters/fs_anniversary.html

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Coping With Threats to Belief Systems

Disaster has the potential to destabilize personal belief systems of both victims and witnesses. While loss in general can lead a person to question important aspects of their life, including what they believe about the world, exposure to large-scale tragedy can shake the belief systems of nearly all victims and witnesses. People struggle as they examine their belief systems in light of the disaster.¹ Belief systems potentially affected by tragedy include spiritual or religious beliefs, but could also include other belief systems. For example, a belief system that includes notions about the safety of our communities might be shaken substantially after a terrorist attack. Other beliefs also might be challenged under these circumstances, such as faith in the government to care for citizens after an attack.

During the initial period of tragedy there is shock and distress.² Once the initial trauma has passed, there is an opportunity to integrate the experience with the current belief system.³ For those who find that the event does not fit with their belief system, there are several possible reactions.

Altering Perceptions of the Event

People might attempt to change their perception of the event in order to keep the current belief system intact.⁴ For example, if a person believes that bad things happen only to bad people, that person might view large-scale tragedy as a punishment for bad things each victim had done. Rather than changing the belief system, the perception of the event is altered so that the belief system can remain unchanged.

Altering Belief Systems

People may alter their belief system to accommodate the events.⁵ For example, if one believes that bad things happen only to bad people, and a family member or friend who is viewed as good experiences misfortune or tragedy, there might be a need to revise the belief system. However, other parts of the belief system, such as belief in God, may remain intact.

Abandoning Belief Systems

It may be necessary to abandon the belief system entirely.⁶ Completely changing one's belief system can be difficult and frightening. This fear can be heightened if there is not another belief system into which one



Terrorist attacks represent a substantial threat to our beliefs in the safety and security of our communities and nations. Additionally, these attacks can cause a person to question their beliefs in a just world, their religious beliefs, and their faith in the ability of governmental organizations to respond effectively to crises.

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It is important to recognize that even for those people who do not directly experience loss during a tragedy or crisis, belief systems might be shaken, and this can lead to emotional upset and a struggle to find meaning.

can easily shift. It can be quite disconcerting to individuals to abandon a belief system, and people may struggle in order to find a new belief system that can fill the void.

Those With Vague Belief Systems

Regardless of what occurs during a crisis, belief systems of all sorts will be vulnerable to challenges.⁷ There is typically a time of mental upset after a crisis that will require some restructuring of the belief system based on challenges created by the crisis. Those with a vague or poorly defined belief system will likely find crises to be particularly challenging.

On a daily basis it might be possible to function without thinking consciously about particular issues, such as death, safety of the world, and reasons for living. Therefore, people may function with incomplete or nonexistent sets of beliefs about these issues.⁸ However, a tragedy or crisis can bring one's beliefs to the forefront, and it might be difficult to function in daily life without first addressing these issues. For example, one may not think much about what happens after death until faced with the death of a loved one.

In order to cope, and without having a solid belief system on which to rely, attempts might be made to turn to old beliefs from childhood to cope with the tragedy, or to seek a new belief system that can accommodate the events that occurred.⁹ For example, someone who has been raised attending church but stopped practicing religion during young adulthood may have a belief that there is a higher power, but no specific beliefs about death. Although this causes no problems on a daily basis, during times of disaster and loss this person might find comfort in going back to the traditions and beliefs from childhood, or might struggle to find a new belief system in order to make sense of the current situation. As with belief systems that cannot accommodate the events that occur in a tragedy, people with incomplete or nonexistent belief systems could face existential crisis, and may struggle to find some sort of explanation for events.¹⁰

It is important to recognize that even for those people who do not directly experience loss during a tragedy or crisis, belief systems might be shaken, and this can lead to emotional upset and a struggle to find meaning. Just witnessing or hearing about a tragic event can lead to significant distress and an effort to seek new interpretations about how the world works. Furthermore, belief systems are not confined to spiritual matters. Beliefs that might be challenged by a disaster could be related to any notions about how the world works. Beliefs about safety or vulnerability, beliefs about governmental operation, beliefs about

financial security, and even beliefs about the strength of friendships could be challenged during a tragedy.

Helping Others

It will take time for people to come to terms with tragic events, and the amount of time necessary will vary for each individual. As an employer, colleague, friend, or relative it is helpful to provide emotional support to people experiencing tragedy by allowing them to freely express their thoughts and feelings. It is not necessary or helpful to tell people what to think or feel. Rather, it is better to reassure them that *their thoughts and feelings are natural*, and provide a non-judgmental ear to listen to what they are experiencing.

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Following a loss, common experiences include:

- Intrusive thoughts about the deceased person
- Feeling that one is betraying the deceased by moving forward
- Guilt
- Depression and anxiety
- Thoughts of personal vulnerability
- Anger
- Disbelief
- Loneliness

Coping With Loss and Survivor's Guilt

Disasters frequently result in loss of life. Whether one or many lives are lost, this loss of life results in grief for family, friends, and community members. Following particularly devastating disasters where many lives are lost, these feelings of loss and grief may ripple through an entire nation. The immediate effects of loss include feelings of shock, numbness, disbelief, depression, and difficulty accepting the loss. For many, these feelings are intense, and they may believe they will never be able to cope with the loss. It is common for these feelings to persist for months, even years, post-disaster. The emotional reactions associated with grief can be traumatic in and of themselves, especially if they are intense, unfamiliar, and unexpected.¹

It is important to realize that intense feelings of emotion following loss are entirely normal and do not necessarily mean a person will have long-term problems. For most people, the initial feelings get better with time and they find ways to continue their lives while honoring their lost loved ones. However, some people experience long-term unresolved grief. Although there is no firm definition of unresolved grief, unresolved grief may be signaled by:^{2,3}

- Extreme disruption in normal functioning and routines.
- Intense symptoms and inability to cope lasting more than a year.
- Onset of Major Depressive Disorder or Posttraumatic Stress Disorder.
- Excessive use of alcohol or other substances to cope.
- Feelings of wanting to harm oneself.

If feelings of loss and grief do not subside over time, it is a good idea to seek outside assistance from a support group, clergy member, or a mental health professional.

The Experience of Grief and Bereavement

The close relationships between family members and friends are sources of support, stability, and positive feelings. When these close relationships end through bereavement, people begin a period of adjustment to life without the lost loved one. Also, the loss of a loved one brings to mind thoughts of our own vulnerability, fears of dying, and guilt about surviving the disaster.⁴ Although grief can be a painful emotion, it usually improves over time. Each individual will experience loss and grief in their own unique way; however, there are some common elements of grief that most people experience. Initial feelings

include preoccupation with the deceased, intense sadness, loneliness, withdrawal, fear, anxiety, guilt, and anger. Eventually, the bereaved person begins to re-engage in life and find ways to remember the loved one while continuing forward with their own life, thus leading to an improvement in grief symptoms.⁵

The amount of time it takes to experience symptom relief varies based on the individual, their previous experiences with grief, and the nature of the loss. Typically, bereaved individuals experience an increase in depressive symptoms for the initial 6-12 months following the loss. Thus, people who lose loved ones will experience sadness and loss of interest in things they usually find pleasurable, as well as symptoms such as loss of appetite, trouble sleeping, and difficulty concentrating. These symptoms are entirely normal. Most of these symptoms improve by the second year following the loss, although approximately 20% of individuals remain depressed.⁶ Those who experience clinical levels of depression following the death are at risk for continuing to have long-term depressive symptoms. Other risk factors for complicated bereavement include:⁷

- Age – Younger and elderly individuals may be at higher risk for complications than other age groups.
- Sex – Men may have more health difficulties in response to bereavement, especially if they lose their spouse.
- Guilt – Feelings of guilt for having survived may contribute to complicated bereavement.
- Sudden/violent death – When a death is sudden and unexpected, individuals may experience greater symptoms of loss. Also, violent death (such as death resulting from terrorism) may result in feelings of helplessness and loss of faith in the safety of the world. These reactions contribute to complicated bereavement.
- Coping style – Those individuals who avoid coping with the loss may experience unresolved grief.

Survivor's Guilt Following Disasters

When a loved one, friend, co-worker, or fellow community member dies or loses someone they loved in a disaster, those individuals who survived may experience feelings of guilt for being alive. Guilt may also be experienced if a survivor manages to keep his or her home, valued possessions, or other financial assets when many others lose these due to the disaster. Survivors may wish they themselves had died or feel guilty for not being able to save someone who died in the disaster event. These feelings of having survived, when others have not, are referred to



When a loved one, friend, co-worker, or fellow community member dies or loses someone they loved in a disaster, those individuals who survived may experience feelings of guilt for being alive. These feelings of having survived, when others have not, are referred to as “survivor’s guilt.”

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Prolonged feelings of grief or survivor's guilt that interfere with everyday functioning signal the need for outside assistance. If a person feels they need outside assistance in coping with a loss, they should seek help regardless of how much time has passed since the loss.

as “survivor’s guilt.” People who experience survivor’s guilt usually have certain negative beliefs about their role in the disaster. Four dimensions of survivor’s guilt have been identified:⁸

- Feeling responsible for causing a trauma or for deaths that occurred during an event.
- Thinking that one could have acted differently to prevent or lessen the impact of an event.
- Feeling guilty of wrongdoing during an event, even though one’s intentions and actions were consistent with one’s values.
- Believing that one “knew” what was going to happen, even though it was not possible to know ahead of time that an event would occur.

These thoughts, feelings, and beliefs contribute to feeling guilty for having survived an event when others have lost their lives. Those individuals who experience survivor’s guilt may be at increased risk for post-disaster stress, long-term emotional difficulties, and complicated grief reactions.

Seeking Help

Grieving is an individual process that varies from one person to the next. However, prolonged feelings of grief or survivor’s guilt that interfere with everyday functioning signal the need for outside assistance. If a person feels they need outside assistance in coping with a loss, they should seek help regardless of how much time has passed since the loss. People who are experiencing unresolved grief can seek assistance from trusted friends and family members, although it is important to remember that these individuals may be trying to cope with the same loss, thus making it more difficult for them to provide emotional support. For this reason, it is often helpful to consult with a trusted clergy member, health professional, or mental health professional for help with unresolved grief and survivor’s guilt. Following disasters, community support groups may also be available to assist those who lost loved ones in the disaster event. Please see, “Treatment for Long-term Reactions to Trauma” for further information on seeking professional treatment.

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Coping With Anxiety and Depression

Two of the primary emotions people experience after the immediate crisis period of a disaster has passed are anxiety and depression. These emotions are normal and expected, as disasters can lead to significant losses and changes in a person's way of life. Feelings of fear and anxiety may be triggered by specific reminders of the disaster event such as a certain place, sound, or even smell. Sadness and depression may occur when an individual thinks about the way life "used to be" and mourns the loss of loved ones and family possessions. For some people, these feelings come from out of the blue.

Why do People Feel Fear and Anxiety?

Fear and anxiety are *natural* responses to danger and trauma. When a person encounters danger, there is an *automatic* system that kicks into gear to prepare the body for physical confrontation or escape. This automatic system (*sympathetic system*) is known by many people as the "flight or fight system," - it helps protect us when we encounter danger by preparing us to take action. As the name suggests, the purpose of the "flight or fight" system is to prepare a person to either stay and fight, or to quickly leave a dangerous situation. As part of this preparation, chemicals are released and other reactions occur in the body. Some of the main reactions that occur are:

- A release of adrenaline, which results in the body becoming aroused so it is ready for action.
- An increase in heart rate to quickly pump more blood to the muscles.
- An increase in the rate of breathing to get more oxygen to the body's tissues.
- An increase in sweating to prevent the body from overheating.
- An increase in muscle tension to prepare the body for action.

There is an opposite system (*parasympathetic system*) that helps the body wind back down after the danger or trauma is over. This system helps to ensure that the "flight or fight" system does not continue un-ended. However, the parasympathetic system does not kick in right away, as it takes a while for the adrenaline and other substances unleashed by the "flight or fight" system to leave the body. Thus, the parasympathetic system is different because it operates slowly, whereas the "flight or fight" system turns on instantly. The parasympathetic system operates slower because the body tries to stay primed in case the danger returns.



Many people experience symptoms of anxiety and depression following a disaster event. However, if your symptoms are severe and are interfering with your daily routines, it is important that you see a mental health professional (psychologist, psychiatrist, social worker, licensed mental health counselor). Only a qualified mental health professional will be able to determine if you have a mental health diagnosis.

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Danger does not always have to be present for the “flight or fight system” to operate - it can kick in even when we just think about a trauma or dangerous situation. Because of this, even if a dangerous event such as a disaster has long since passed, if a person thinks about or is reminded of the trauma, they can feel fear and anxiety.

Danger does not always have to be present for the “flight or fight system” to operate - it can kick in even when we just *think* about a trauma or dangerous situation. Because of this, even if a dangerous event such as a disaster has long since passed, if a person thinks about or is reminded of the trauma, they can feel fear and anxiety. They may also feel some of the physical symptoms that occur as a result of the “flight or fight” system, such as sweating, muscle tension, and rapid breathing. Most people can think back to a very stressful event in their lives and recall some of the fear and anxiety that they experienced during that event. Although the experience of fear and anxiety may be unpleasant, these feelings are not harmful. They are natural feelings designed to help protect us from danger, and eventually these feelings subside when the parasympathetic system takes over.

How Can I Deal With Feelings of Fear and Anxiety?

Helpful coping strategies for fear and anxiety involve activities that strengthen the parasympathetic system - the system that calms the body after the “flight or fight system” has been activated. The primary thing you can do to lessen feelings of fear and anxiety is practice skills that help the body relax. Several of these are listed below.

- **Slow, deep breathing**

As you may remember from above, people breathe quicker when they feel afraid or anxious. However, if a person continues to breathe rapidly, the parasympathetic system may not kick in, and it is even possible that a person might hyperventilate (i.e., over-breathe). Hyperventilation can cause dizziness, lightheadedness, faintness, and tingling hands/feet, thus making it difficult for the body to calm down. To help counter-act rapid breathing, practice slow, deep breathing. Although practicing slow, deep breathing may sound easy, it takes some practice. The following steps will help you get started.

Step 1: Locate your diaphragm

Ideally, you want to take deep breaths, breathing from your diaphragm and not your chest. When you breathe through your chest, you tend to breathe more shallowly, which is not as effective for relaxing the body. To locate your diaphragm put two fingers on your breastbone and follow it down until you feel a soft location in between the rib cage. Put your hand over this location and take a deep breath, almost as if you are breathing into your stomach. You should be able to feel your hand rise with your breath. If your hand does not rise, you are probably breathing shallowly from your chest.

To make sure you are not breathing from your chest, put your left hand on the diaphragm and your right hand on your chest. Try breathing in so that your left hand rises but your right hand does not. When you breathe out, your left hand should fall. For some people, they may find it helps to lie down and put a tennis ball or a lightweight book on their diaphragm so that they can watch it rise and fall as they breathe. Another trick is to say the word “huh” as you breathe out. This will help activate your diaphragm.

Step 2: Remind yourself to relax as you breathe

Once you have practiced taking slow, deep breaths, try saying the word “relax” or “calm” to yourself (in your head, not out loud) every time you breathe out. Take a slow, deep breath in, then breathe out and say the word “relax.” Practice this whole exercise breathing at a normal rate until you feel comfortable with the exercise.

Step 3: Slow down your breathing

Once you are comfortable with deep breathing, try gradually slowing down the pace of your breathing. Do not hold your breath or slow down your breathing so much that you feel like you do not have enough air. For some people, counting (in your head, not out loud) as they breathe in and out helps them breathe more slowly and evenly. Try counting to 5 as you breathe in, and then count to 5 again as you breathe out.

Step 4: Add deep breathing to your daily routine

To get the best results from deep breathing, it is best to practice at least twice a day (good times are in the morning and at night before bed). Try practicing for at least 5 minutes at a time in a quiet, private place. You can also practice deep breathing at other times during the day when you feel stressed or anxious, as this exercise works in pretty much any location where you can sit down. If you catch yourself breathing too fast, stop and take a moment to breathe slowly and deeply.

- **Progressive muscle relaxation**

Like deep breathing, progressive muscle relaxation helps the body calm down. Progressive muscle relaxation is a fancy term describing a process of alternating between tensing and relaxing the muscles in your body. When people are anxious, they often tense their muscles, usually without even thinking about it. The result is increased muscle tension



Coping strategies for anxiety:

- Slow, deep breathing exercises
- Progressive muscle relaxation
- Use stress management techniques, such as seeking support from others and maintaining routines
- Meditation/yoga
- Exercise

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Practice is important. Research has shown that people who practice deep breathing and progressive muscle relaxation daily can develop the ability to relax their body almost instantly.

and possibly physical pain in the muscles, thus making it difficult to relax. Progressive muscle relaxation involves first tensing, then relaxing, different muscles in your body to help you learn the difference between tension and relaxation. As you practice this skill, you will be able to relax easier.

Step 1: Find a comfortable location

This exercise works best if you have a comfortable place to either lie down or sit that is quiet and private. Wear loose and comfortable clothing. You may also wish to play some calming music at a low volume in the background. Once you are comfortable, close your eyes.

Step 2: Practice tensing and relaxing your muscles

Start with one muscle group to practice the exercise. A good starting place is your toes and feet. You want to tense up the muscles as much as possible and then release the tension. Crunch up your toes and feet (like you are trying to hold something in your toes) and hold that tension as tight as you can for about 10-15 seconds. Then, slowly un-crunch your toes and feet and release the tension. Pay attention to how your feet feel when they are crunched up and how they feel when they are relaxed. You should feel a difference. Once you are comfortable, add the word “relax” as you release the muscle tension. Breathe slowly and deeply while doing this exercise.

Step 3: Practice the exercise from toes to head

Once you feel comfortable tensing and relaxing your toes and feet, work your way up the body tensing and relaxing other muscle groups - legs/thighs, hips/buttocks, stomach, back/shoulders, arms, hands, neck, and face/head. Focus on one set of muscles at a time, keeping the rest of your body relaxed. Each time, tense up the muscles as tight as you can and hold the tension for 10-15 seconds, then release the tension and say the word “relax.” Pay attention to the difference between tension and relaxation each time. Once you are comfortable with this exercise, you can actually combine areas of the body into larger “chunks.” An example would be combining the feet and lower legs, upper thighs/hips/buttocks, and so forth. You can also tense and relax the entire lower body, then the entire upper body. Eventually you can try tensing and relaxing your whole body at once.

Step 4: Practice this exercise a few times a week if possible

If you are able to practice this exercise several times a week, your body will start to associate the word “relax” with the way your muscles feel when they are relaxed. Repeating this exercise many times helps the word “relax” become a cue or trigger for your muscles to relax. Research shows that repeated practice of this exercise over time can help decrease anxiety symptoms.

- **Other things that can help**

General stress management strategies can help ease symptoms of both anxiety and depression. Please see, “Stress Management for Adults,” for more information. Exercise can also be very helpful in reducing anxiety, as it has been shown to help boost the parasympathetic system, thus helping the body relax. Other relaxation techniques that can be helpful include yoga and meditation.

Why do People Feel Sadness and Depression?

Sadness and depression are *normal* emotions that people experience when they suffer a loss, such as the loss of a loved one, family possessions, employment, or pets. While most people recognize that sadness is common following the loss of a loved one or a family pet, some people may not realize that prolonged sadness is also common after the loss of possessions or a job. However, people commonly lose items of personal and historical significance in disasters, including family pictures, family heirlooms, and homes. Although possessions can be replaced, family treasures are often irreplaceable. For this reason, these losses can be difficult to accept. These types of losses are common after natural disasters, single-family fires, and some human-made disasters. Job loss can also be a trigger for depression, as it can be difficult to cope with the loss of income, as well as the loss of social support provided by co-workers. Also, many people gain self-esteem through their job. Thus, losing a job can mean a loss in self-esteem, which is possible trigger for depression.

Feelings of sadness and depression are often triggered by the thoughts that people have about the disaster event. For instance, a person may think, “I lost everything in the disaster. My life can never be the same again.” Such thoughts may lead a person to believe that they will not be able to rebuild their life to the life they had pre-disaster, thus leading to feelings of sadness and depression. For most people, these feelings begin to subside as they rebuild their lives in the months after the disaster.



Sometimes feelings of anxiety and depression can overwhelm a person's coping resources after a disaster event. If you feel that you need additional help coping with emotional reactions to a disaster, it is good to seek outside assistance.

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Coping strategies for depression:

- Seek support
- Think towards the future
- Use stress management strategies
- Use coping strategies that were successful in the past
- Write about your feelings

For others, these feelings may persist, especially if they get “stuck” on thinking about their losses.

How Can I Deal With Feelings of Sadness and Depression?

There are a number of things you can do to lessen feelings of sadness and depression.

- **Seek out support**

Seeking support from others is very important. When you share your concerns with other people, it can help to put things into perspective. Also, talking about your feelings with others will give you a chance to see that you are not alone in experiencing sadness about the disaster.

- **Think towards the future**

It is normal for people to spend time thinking about their losses after a disaster. However, it is also important to think towards the future. Although it may seem at first that it is not possible to regain the way of life a person had prior to a disaster, most people are eventually able to find a “new normal.” Also, it is important to think about how you were able to cope successfully with past stressors - you may be able to use some of those coping strategies to deal with your current situation.

- **Other things that can help**

General stress management strategies can help ease symptoms of both anxiety and depression. Please see, “Stress Management for Adults,” for more information. Also, some people find that writing their feelings in a journal helps to clear their mind and give them a new perspective.

Seeking Outside Help

Sometimes feelings of anxiety and depression can overwhelm a person’s coping skills after a disaster event. If you feel that you need additional help coping with emotional reactions to a disaster, it is good to seek outside assistance from a mental health professional, clergy member, or health professional. Please see, “Treatment for Long-term Reactions to Trauma” for more information about seeking treatment.

Posttraumatic Stress Disorder (PTSD)

What is Trauma?

A trauma is any kind of stressful, potentially life-threatening event such as an accident, assault, natural or human-made disasters, rape, combat, or seeing someone badly injured or killed. A trauma is like an emotional shock. During the trauma, the person typically feels extreme fear, and/or a sense of helplessness, or horror.

What are Typical Reactions to Trauma?

Each person responds in his or her own way to a trauma, including natural or human-made disasters. However, there are also some common reactions that most people experience.

Common reactions include:

- Anxiety and fear
- Flashbacks (feeling as though you are re-living the trauma)
- Nightmares
- Having trouble concentrating
- Feeling irritable
- Feeling overly alert or easily startled (e.g., by a phone ringing)
- Avoiding people, places, or things that remind you of the trauma
- Feeling emotionally detached or distant (feeling “numb”)
- Feeling sad or down and depressed
- Feeling guilty or full of shame
- Feeling angry
- Difficulties in getting along with other people
- Loss of interest in sexual relations
- Being reminded of past traumatic experiences
- Increased use of alcohol, cigarettes, and other drugs

These stress reactions are understandable responses to a dangerous and life-threatening event and thus are *normal reactions to an abnormal situation*. Some people will experience a number of these stress reactions, while others may experience only one or two. Even if two people experience the exact same trauma, each person will respond differently to that event.



Even if two people experience the exact same trauma, each person will respond differently to that event.

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Many people may experience several of the symptoms of PTSD following a disaster event. However, experiencing several symptoms does not mean a person has PTSD. If you believe you may have symptoms of PTSD, it is important that you see a mental health professional (psychologist, psychiatrist, social worker, licensed mental health counselor). Only a qualified mental health professional will be able to determine if you have a mental health diagnosis.

Recovery From Trauma

Just as each person will respond differently to the same trauma, each person will recover from the trauma at a different rate. Some people will be more affected by the trauma than others. Think about getting the flu. For some people, the recovery is quick and they are back to normal in a short time. For others, the recovery is very slow. Just as with the flu, recovery from trauma depends on many factors. Here are some risk factors that may lead to a more difficult recovery, particularly from natural or human-made disasters.¹

- **Being female** - Females are at increased risk for many psychological disorders. Possible reasons include: a more emotional way of coping with problems, increased willingness to admit distress, and being more dependent on others.
- **Being 40-60 years old** - People in this age group are vulnerable because they are typically juggling many responsibilities such as career/job, raising families, and caring for aging relatives.
- **Being a member of an ethnic minority group** - Members of ethnic minority groups may be more isolated or have fewer financial resources, factors that increase vulnerability.
- **Having children in the home** - Caring for children involves more responsibility, which can lead to increased stress in daily life; increased stress makes it harder to deal with a crisis.
- **Having a low income** - People with limited financial resources have less to fall back on when times get tough.
- **For women, having a spouse, especially if he is significantly stressed** - Women are often the care-takers in the family; as a result, they can neglect their own health and well-being.
- **Having a history of psychological problems** - Someone who has had prior psychological difficulties may find it harder to cope in times of uncertainty and sudden, unexpected change.
- **Having little previous experience or training in coping with disaster** - If a person does not have special training or has not had the experience of successfully coping with disaster in the past, he or she is less prepared to deal with such events.

- **Having greater exposure to the trauma, especially if injury is sustained, one's life is threatened, and/or one has experienced an extreme loss** - The more a person is directly impacted by the disaster, the greater the risk of future psychological problems.
- **Living in a highly disrupted or traumatized community** - Living in such a community increases stress and makes it difficult to get one's life back in order after a disaster.
- **Having previous traumas unrelated to the disaster (e.g., childhood trauma)** - Almost like having prior infections, having earlier traumas seems to "weaken" the system and make a person more vulnerable.
- **Experiencing other stressors in one's life (e.g., marital stress)** - Having a lot of stress taxes the body and mind, making a person less able to deal effectively with yet another crisis situation.
- **Experiencing the loss of important resources as a result of the disaster** - Losing one's primary source of income, for example, can severely limit a person's options and can lead to loss of self-esteem.

Although these risk factors give us some idea, when all is said and done, we cannot predict exactly how quickly each person will recover. However, on average, most people recover fully from moderate stress reactions within 6 to 16 months after the trauma.²

What is Posttraumatic Stress Disorder (PTSD)?

What happens if after a few weeks or months a person still does not feel better? In this case, it is possible that the person may have a condition known as Posttraumatic Stress Disorder, or PTSD for short.

PTSD is not a new condition. Historical accounts of PTSD-like conditions originate from the Civil War. Soldiers who were severely traumatized during World War II were said to have "shell shock," a condition we now know is PTSD. Most of what we know about PTSD came from research conducted after the Vietnam War. One of the most important findings was that civilians who were never exposed to war can still develop PTSD. Thus, any trauma, including a disaster, can result in PTSD if the stress reactions listed in the beginning of this section do not go away on their own.



For more information on PTSD, please visit the National Center for PTSD at:

⇒ www.ncptsd.org

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Fact sheets on PTSD from the National Center for PTSD:

- ⇒ www.ncptsd.org/facts/general/fs_what_is_ptsd.html
- ⇒ www.ncptsd.org/facts/disasters/fs_effects_disaster.html
- ⇒ www.ncptsd.org/facts/treatment/fs_coping.html
- ⇒ www.ncptsd.org/facts/treatment/fs_seeking_help.html

How Many People Develop PTSD?

PTSD is far more common than most people think. Studies suggest that approximately 7.8% of Americans will develop PTSD at some point in their lifetime, and that about 3.6% of adults (ages 18-54) will develop PTSD at some point in a given year. Women are two times more likely than men to experience PTSD.³ After a traumatic event, approximately 8% of men and 20% of women eventually develop PTSD. Of those individuals who develop PTSD after a trauma, approximately 30% have chronic symptoms of PTSD over the course of their lives. For some of these individuals, symptoms are constant and severe, while others may experience periodic increases, then decreases, in symptoms.⁴

When Should a Person Seek Help for PTSD?

Only a qualified mental health professional will be able to determine if you have PTSD. However, there are some guidelines that can assist you in deciding whether to seek professional help.

A person should consider seeking help if a month after the trauma he or she:⁵

- Is anxious or fearful most of the time
- Experiences a significant change in behavior
- Has great difficulty functioning at work or at home
- Is experiencing high amounts of conflict in relationships
- Is using drugs or alcohol to cope
- Is very irritable
- Has frequent nightmares
- Thinks constantly about the trauma
- Has difficulty enjoying life
- Avoids people, places, or things that remind him or her about the trauma
- Complains of strong physical symptoms (e.g., sweating, heart racing, chills) when reminded of the trauma

It is important to remember that the appearance of any one of these symptoms does NOT mean a person has PTSD. In fact, many people experience short bouts of these “PTSD-like” symptoms as a normal part of recovery. However, the risk of PTSD increases as a person experiences more of the above signs, and the longer the person continues to experience them over time.

Where Can I Find a Mental Health Professional for PTSD Treatment?

There are several resources you can use to find a qualified mental health professional in your area. When you contact these resources, make sure to ask for a professional who has experience treating people with a history of trauma.

- Call the American Psychological Association at 1-800-964-2000 for a referral to a psychologist in your local area.
- Call your insurance company for a list of providers in your area.
- Call your local community mental health center.
- Call your area United Way or Red Cross chapters for information about resources in your local area.
- If you are concerned that your child has symptoms of PTSD, contact one of the above resources or speak with your child's school guidance counselor about any additional resources that might be available in your child's school or community.

For more information on treatment please see, "Treatment for Long-Term Reactions to Trauma."

References

¹ Norris, F. H., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002, May 28). *Risk factors for adverse outcomes in natural and human-caused disasters: A review of the empirical literature*. Retrieved November 13, 2002, from http://www.ncptsd.org/facts/disasters/fs_riskfactors.html

² National Center for Post-Traumatic Stress Disorder. (2003b, September 1). *Effects of traumatic stress in a disaster situation: A National Center for PTSD fact sheet*. Retrieved December 18, 2003, from http://www.ncptsd.org/facts/disasters/fs_effects_disaster.html

³ National Center for Post-Traumatic Stress Disorder. (2003d, May 14). *What is posttraumatic stress disorder?: A National Center for PTSD fact sheet*. Retrieved December 15, 2003, from http://www.ncptsd.org/facts/general/fs_what_is_ptsd.html

⁴ National Center for Post-Traumatic Stress Disorder. (2003c, May 14). *Seeking help for posttraumatic stress disorder: A National Center for PTSD fact sheet*. Retrieved December 18, 2003, from http://www.ncptsd.org/facts/treatment/fs_seeking_help.html

⁵ National Center for Post-Traumatic Stress Disorder. (2003a, May 14). *Brief tips about self-care and self-help following disasters: A National Center for PTSD fact sheet*. Retrieved December 18, 2003, from http://www.ncptsd.org/facts/disasters/fs_self_care_brief.html

Additional References

- Some of the material in this section was derived from work by Edna Foa, Ph.D., and colleagues, who have conducted extensive research on the etiology and treatment of PTSD. Sources include: E.B. Foa, E.A. Hembree, & C. V. Dancu – Prolonged Exposure (PE) Manual, University of Pennsylvania; Foa & D. S. Riggs (2001) – Brief Recovery Program (BRP) for Trauma Survivors, University of Pennsylvania.



Like adults, children can develop PTSD following a disaster. However, children may exhibit symptoms in different ways. For example, young children may show distress through their behavior. If you suspect your child is having difficulty recovering from a disaster, you can consult with your child's physician, a mental health professional, or a guidance counselor/psychologist at your child's school.

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If you think you might have depression, anxiety, substance abuse issues, PTSD, or other mental health concerns, it is important that you see a mental health professional (psychologist, psychiatrist, social worker, licensed mental health counselor). Only a qualified mental health professional will be able to determine if you have a mental health diagnosis. If you have decided to seek help, this section offers information on treatment for long-term reactions to trauma.

Treatment for Long-term Reactions to Trauma

Treatment for long-term reactions to disaster will differ based on the type of long-term symptoms you are experiencing, the severity of your symptoms, and the individual professional with whom you decide to pursue treatment. However, treatment does involve some common components. The first step in treatment includes an evaluation of your problem (including an interview and sometimes completing questionnaires). Following this evaluation, your therapist will work with you to develop a treatment plan that meets your individual needs. The final step is actual treatment tailored to your symptoms, the length of which will vary based on your personal needs, the severity of your symptoms, and your progress in reaching treatment goals. Most treatment approaches include education (learning more about the problems you are experiencing), skills training (learning more effective coping skills), and discussion of the traumatic event.

If you are experiencing more than one long-term reaction to trauma (e.g., depression and substance abuse, PTSD and suicidal feelings), each of these reactions will need to be addressed for therapy to be most effective. Generally, treatment for long-term reactions to trauma is more effective if you are no longer in the crisis situation that led to the development of your symptoms. For instance, if you are currently experiencing ongoing exposure to trauma (e.g., domestic violence, abuse, homelessness, or war), this ongoing exposure will need to be addressed first.¹

Common Treatment Approaches for Depression, Anxiety, and PTSD

As mentioned before, treatment approaches usually differ somewhat based on your specific long-term symptoms. However, there are several forms of therapy that are commonly used to treat symptoms of depression, anxiety, and PTSD. These forms of therapy are also frequently used to assist people with managing anger and other adjustment problems that may occur post-disaster. While there is no one treatment that guarantees a “cure” for symptoms, the treatments discussed below have been shown effective for reducing symptoms.

- **Individual psychotherapy**

Individual psychotherapy involves working one-on-one with a therapist. There are many types of individual therapy, including cognitive-behavioral therapy, interpersonal therapy, and psychodynamic therapy. One of the most frequently studied forms of therapy post-trauma is cognitive-behavioral therapy (CBT). CBT involves examining and

changing thoughts and behaviors related to the trauma. Also, the person is taught more effective coping strategies to use when faced with memories of the trauma. With regards to PTSD, research to date has found that psychotherapy can be very effective for reducing symptoms, especially CBT that involves an exposure component or stress inoculation training.² Roughly 90- 95% of people with PTSD who participate in prolonged exposure therapy improve significantly, while only 10% do not respond to this treatment.³

- **Group therapy**

Group therapy involves working in a group setting with other individuals who have similar concerns and one, or possibly several, therapists. Often, survivors of trauma feel isolated and may feel that others do not understand their experiences. One advantage of group therapy is the presence of other individuals who have had similar experiences and stressors. Many techniques used in individual therapy are also used in group therapy, such as teaching more effective coping strategies and examining thoughts and behaviors related to the trauma event. Although group therapy offers the advantage of working with other people who have shared similar traumatic experiences, some people find it more anxiety-provoking to discuss their concerns in front of a group of people. In this case, individual therapy may provide a more comfortable treatment setting.

- **Medication**

There are a number of medications available that have been shown to have effectiveness in decreasing symptoms of depression and anxiety. Many medications used to treat anxiety and depression have some effect on both kinds of symptoms, although symptoms may return when a person stops taking the medication. Although research on the use of medications for treating PTSD is in the early stages, studies have shown that medications can reduce symptoms of depression, anxiety, and insomnia for individuals with PTSD. Commonly used medications for depression, anxiety, and PTSD include the selective serotonin reuptake inhibitors (SSRI's; Prozac is one such medication).⁴ You can talk with a health professional about whether medications may be helpful for you. All medications have side-effects (e.g., jittery feelings, loss of appetite), so it is important to tell your health provider about any side-effects you experience while on a medication. Often, medications are prescribed in combination with psychotherapy. For individuals with severe PTSD or depression, it may be helpful to begin with medication to help ease symptoms before starting a course of psychotherapy.



Often, survivors of trauma feel isolated and may feel that others do not understand their experiences. One advantage of group therapy is the presence of other individuals who have had similar experiences and stressors.

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For more information on treatment for PTSD, please visit the National Center for PTSD website at:

⇒ www.ncptsd.org/facts/treatment/fs_treatment.html

How do I Choose a Treatment Approach?

Research to date suggests that both therapy and medication, either used separately or together, can be helpful in reducing symptoms of depression, anxiety, and PTSD. However, individuals need to determine for themselves which treatment approach is best. It is important to speak to a mental health professional to discuss which treatment will best fit your individual needs. Here are some things to consider when deciding on a treatment approach:

- Costs of treatment
- Severity of one's impairment
- Ability to work in a group setting
- Time commitment
- Concerns about drug effects and/or side effects
- Other on-going issues in one's life that may have been present prior to the disaster
- Family concerns

Where Can I Find a Mental Health Professional for Treatment?

There are several resources you can use to find a qualified mental health professional in your area. When you contact these resources, ask if there are any therapists who have experience working with people exposed to disasters.

- Call the American Psychological Association at 1-800-964-2000 for a referral to a psychologist in your local area.
- Call your local community mental health center.
- Call your area United Way or Red Cross chapters for information about resources in your local area.
- Call your insurance company for a list of providers in your area.
- If you are concerned that your child is continuing to struggle after a disaster, contact one of the above resources or speak with your child's school guidance counselor about resources that might be available in your child's school or community.

References

¹ National Center for Post-Traumatic Stress Disorder. (2003a, September 1). *Treatment of PTSD: A National Center for PTSD fact sheet*. Retrieved December 15, 2003, from http://www.ncptsd.org/facts/treatment/fs_treatment.html

² Foa, E. B., & Meadows, E. A. (1997). Psychosocial treatments for posttraumatic stress disorder: A critical review [Electronic version]. *Annual Review of Psychology*, 48, 449-480.

³ Kanapaux, W. (2003). Combined therapy shows promise for PTSD [Electronic version]. *Psychiatric Times*, 20(2). Retrieved December 22, 2003, from <http://www.psychiatrictimes.com/0302pt.html>

⁴ National Center for Post-Traumatic Stress Disorder. (2003b, May 14). *What is posttraumatic stress disorder?: A National Center for PTSD fact sheet*. Retrieved December 15, 2003, from http://www.ncptsd.org/facts/general/fs_what_is_ptsd.html

SECTION SEVEN

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RESOURCES

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Agricultural Safety and Disaster Preparedness and Recovery Program
Institute of Food and Agricultural Sciences, University of Florida
P.O. Box 110570, Gainesville, FL 32611
1-352-392-1864
E-mail: clehtola@agen.ufl.edu
<http://it.ifas.ufl.edu/FDM/>

American Association of Marriage and Family Therapy (AAMFT)
<http://www.aamft.org>

American Red Cross
2025 E. St., NW
Washington, D.C. 20006
1-202-303-4498
E-mail: infor@usa.redcross.org
<http://www.redcross.org/>
<http://www.redcross.org/services/disaster>

American Psychiatric Association
1-703-907-7300
<http://www.psych.org>

American Psychological Association (APA)
750 First Street, NE
Washington, DC 20002-4242
1-202-336-5500
1-800-374-2721
<http://www.apa.org>

Centers for Disease Control and Prevention (CDC)
1600 Clifton Rd.
Atlanta, GA 30333
1-888-246-2675
<http://www.cdc.gov>

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Department of Veterans Affairs

<http://www.va.gov>

Disaster Recovery Yellow Pages

<http://www.disasterplan.com/yellowpages/>

Extension Disaster Education Network (EDEN)

<http://www.agctr.lsu.edu/eden>

Federal Emergency Management Agency (FEMA)

500 C Street SW

Washington, DC 20472

1-202-466-1600

1-800-621-FEMA

<http://www.fema.gov/>

Florida AgSafe

(A service of the Agricultural Safety and Disaster Preparedness and Recovery Program of University of Florida Extension)

<http://www.flagsafe.ufl.edu>

Florida Emergency Management

Division of Emergency Management

2555 Shumard Oak Boulevard

Tallahassee, FL 32399-2100

1-850-413-9900

<http://www.floridadisaster.org/>

International Critical Incident Stress Foundation

<http://www.istss.org>

National Association of Social Workers

1-202-408-8600

<http://www.socialworkers.org>

National Center for Post-Traumatic Stress Disorder

1-802-296-6300

<http://www.ncptsd.org>

National Center on Disaster Psychology and Terrorism

Pacific Graduate School of Psychology

940 East Meadow Drive

Palo Alto, CA 94303

<http://www.ncdpt.org/>

National Child Traumatic Stress Network

<http://www.nctsnet.org>

National Climactic Data Center

Federal Building

151 Patton Avenue

Asheville, NC 28801-5001

1-828-271-4800

<http://lwf.ncdc.noaa.gov/oa/ncdc.html>

National Emergency Management Association

1-859-244-8000

<http://www.nemaweb.org/index.cfm>

National Organization for Victims Assistance (NOVA)

<http://www.try-nova.org/>

National Voluntary Organizations Active in Disasters

1-301-890-2119

<http://www.nvoad.org>

Office of Homeland Security

<http://www.dhs.gov>

Be Ready:

1-800-BE-READY

<http://www.ready.gov>

SAMHSA Disaster Technical Assistance Center (DTAC)

1-800-308-3515

U.S. Department of Education

1-800-USA-LEARN

<http://www.ed.gov/index.jsp>

U.S. Department of Energy

1000 Independence Ave, SW

Washington, DC 20585

1-800-dial-DOE

<http://www.energy.gov>

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U.S. Department of Health and Human Services

Office of Emergency Preparedness

National Disaster Medical System

1-800-USA-NDMS

<http://www.ndms.dhhs.gov>

U.S. Department of Health and Human Services

Substance Abuse and Mental Health Services Administration

Center for Mental Health Services

200 Independence Avenue, S.W.

Washington, D.C. 20201

1-800-789-2647

<http://www.hhs.gov>

<http://www.samhsa.gov>

<http://www.mentalhealth.org>

HELPFUL PUBLICATIONS

Children and Disasters/Terrorism

La Greca, A. M., Silverman, W. K., Vernberg, E. M., & Roberts, M. C. (Eds.). (2002). *Helping children cope with disasters and terrorism*. Washington, D.C.: American Psychological Association.

La Greca, A. M., Sevin, S. W., & Sevin, E. L. (2001). *Helping America cope*. Coral Gables, FL: 7-Dippity, Inc. (available on the Internet at http://www.7-dippity.com/other/op_freedownloads.html)

La Greca, A. M., Seven, S. W., & Sevin, E. L. (2003). *Helping children cope with the challenges of war and terrorism*. Coral Gables, FL: 7-Dippity, Inc. (available on the Internet at http://www.7-dippity.com/other/op_hcc.html)

Helping children prepare for and cope with natural disasters: A manual for professionals working with elementary school children. (An abridged version relevant to all disasters is also available. Available by writing to: Annette La Greca, Department of Psychology, P.O. Box 249229, University of Miami, Coral Gables, FL 33124)

Disaster Planning

Federal Emergency Management Agency. (1996). *Guide for all-hazard emergency operations planning, state and local guide (SLG) 101*. Washington, D.C.: FEMA. (available on the Internet at <http://www.fema.gov>)

National Education Association. (2000). *Crisis Communications Guide and Toolkit*. Washington, D.C.: Author. (designed to help schools prepare for crises; available on the Internet at <http://www.nea.org/crisis/>)

Providing Disaster Mental Health Services

*DeWolfe, D. J. (2000a). *Field manual for mental health and human service workers in major disasters* (DHHS Publication No. ADM 90-537). Washington, DC: Government Printing Office.

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- *DeWolfe, D. J. (2000b). *Training manual for mental health and human service workers in major disasters, second edition* (DHHS Publication No. ADM 90-538). Washington, DC: U.S. Government Printing Office.
- *Friedman, S. B., Alderman, E. M., Pantell, R. H., Saylor, C. F., & Sugar, M. (1995). *Psychosocial issues for children and families in disasters: A guide for the primary care physician* (DHHS Publication No. SMA 95-3022). Washington DC: U.S. Government Printing Office.
- *Oriol, W. (1999). *Psychosocial issues for older adults in disasters* (DHHS Publication No. ESDRB SMA 99-3323). Washington, DC: U.S. Government Printing Office.
- *Speier, A. H. (2000). *Psychosocial issues for children and adolescents in disasters, second edition* (DHHS Publication No. ADM 86-1070R). Washington, DC: U.S. Government Printing Office.
- *U.S. Department of Health and Human Services. (2003). *Mental health all-hazards disaster planning guidance* (DHHS Pub. No. SMA 3829). Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

Psychological Debriefing

National Institute of Mental Health. (2002). *Mental health and mass violence: Evidence-based early psychological intervention for victims/survivors of mass violence* (NIH Pub. No. 02-5138). Washington, D.C.: U.S. Government Printing Office. (available on the Internet at <http://www.nimh.nih.gov/research/massviolence.pdf>)

Risk Communication

Defense Threat Reduction Agency. (2001, March). *Human behavior and WMD crisis/risk communication workshop: Final report*. Retrieved February, 2002, from <http://www.dtra.mil/about/organization/finalreport.pdf> (available on the Internet at <http://www.dtra.mil/about/organization/finalreport.pdf>)

*U.S. Department of Health and Human Services. (2002). *Communicating in a crisis: Risk communication guidelines for public officials* (DHHS Publication No. SMA 02-3641). Washington, DC: U.S. Government Printing Office.

Rural Issues

*Jackson, G., & Cook, C. G. (1999). *Disaster mental health: Crisis counseling programs for the rural community* (DHHS Publication No. SMA 99-3378). Washington, DC: U.S. Government Printing Office.

Office of Rural Health Policy. (2002, April). *Rural communities and emergency preparedness*. (available on the Internet at <ftp://ftp.hrsa.gov/ruralhealth/RuralPreparedness.pdf>)

Secondary Trauma in Disaster Workers and Mental Health Professionals

Figley, C. R., (Ed.). (2002). *Treating compassion fatigue*. New York: Brunner-Routledge.

*All of the publications preceded by an asterisk are available free of charge for printing/ordering on the Internet at <http://store.mentalhealth.org/default.aspx>. You can also order them free of charge by calling 1-800-789-2647.

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HELPFUL INTERNET RESOURCES

Disaster Preparedness and Relief Websites

Organizations

<http://www.fema.gov/>

Federal Emergency Management Agency

<http://lwf.ncdc.noaa.gov/oa/ncdc.html>

National Climactic Data Center

<http://www.floridadisaster.org/>

Florida Emergency Management

<http://www.redcross.org/>

American Red Cross

<http://www.hhs.gov>

U.S. Department of Health and Human Services

General Information

<http://www.fema.gov/kids/>

FEMA for kids.

<http://www.fema.gov/kids/teacher.htm#terror>

FEMA for kids: Resources for teachers.

<http://www.phppo.cdc.gov/han/>

CDC Health Alert Network

<http://www.gpoaccess.gov/index.html>

Official federal government information at our fingertips.

<http://www.udel.edu/DRC/>

University of Delaware: Disaster Research Center

<http://www.agctr.lsu.edu/eden/default.aspx>

EDEN: Extension Disaster Education Network

<http://www.lib.virginia.edu/science/guides/s-disas.htm>

University of Virginia Library: Disasters and natural hazards research guide.

Preparedness

<http://www.ces.ncsu.edu/disaster/>

Natural disaster preparedness.

<http://216.202.128.19/dr/index.htm>

Disaster response: principles of preparation and coordination.

<http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html>

EPA: Chemical emergency preparedness and prevention.

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Mental Health Websites

Organizations

<http://www.aacap.org>

American Academy of Child and Adolescent Psychiatry

<http://www.counseling.org>

American Counseling Association

<http://www.apa.org>

American Psychological Association

<http://www.mentalhealth.org/cmhs/emergencyservices/>

Emergency Services and Disaster Relief Branch: Center for Mental Health

<http://www.nasponline.org>

National Association of School Psychologists

<http://www.usd.edu/dmhi/>

Disaster Mental Health Institute: University of South Dakota

<http://www.ncdpt.org/>

National Center on Disaster Psychology and Terrorism

General Mental Health Information

<http://www.apa.org/psychnet/coverage.html>

American Psychological Association Online: Help with trauma.

<http://helping.apa.org/daily/traumaticstress.html>

APA website on managing traumatic stress.

<http://www.usd.edu/dmhi/Pubs/terrcope.pdf>

University of South Dakota: Coping with the aftermath of witnessing a major disaster.

http://www.ncptsd.org/facts/disasters/fs_grief_disaster.html

Managing grief after disaster.

<http://www.usuhs.mil/psy/disasterresources.html>

Center for the Study of Traumatic Stress: Uniformed Services University

<http://www.seweb.uci.edu/faculty/vaughan/>
Cultural differences of environmental risk perception and assessment.

<http://www.Adopting.org/wsdepres.html>
When normal grief becomes clinical depression.

<http://www.ag.uiuc.edu/-disaster/facts/famdlist.html>
University of Illinois @ U-C: How to be a good listener.

<http://www.ag.uiuc.edu/-disaster/facts/refhelp.html>
University of Illinois @ U-C: How to refer a person for help.

<http://www.ag.uiuc.edu/-disaster/facts/emotion.html>
University of Illinois @ U-C: Emotional reactions to disasters.

<http://www.trauma-pages.com/>
Emotional trauma and traumatic stress.

<http://www.nimh.nih.gov/anxiety/ptsdmenu.cfm>
PTSD, trauma, disasters, and violence.

<http://www.mentalhealth.org/publications/allpubs/KEN-01-0094/default.asp>
SAMHSA: A guide for older adults.

Children and Disasters/Terrorism

<http://www.mentalhealth.org/publications/allpubs/KEN-01-0091/default.asp>
SAMHSA: How to help children after a disaster.

<http://www.mentalhealth.org/publications/allpubs/KEN-01-0093/default.asp>
SAMHSA: After a disaster: A guide for parents and teachers.

<http://www.mentalhealth.org/publications/allpubs/KEN-01-0092/default.asp>
SAMHSA: What teens can do.

<http://www.mentalhealth.org/publications/allpubs/KEN-01-0095/default.asp>
SAMHSA: Mental health aspects of terrorism.

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<http://www.preparerespondrecover.com/childrensneeds/>
Recognizing stress in children.

<http://www.redcross.org/disaster/masters/facingfear/>
Red Cross curriculum on disaster coping strategies for children.

<http://www.nimh.nih.gov/publicat/violence.cfm>
NIMH: Helping children and adolescents cope with violence and disasters.

<http://web.aces.uiuc.edu/familylife/terrorism.htm>
University of Illinois Extension: Talking with children about terrorism and war.

<http://www.aacap.org/publications/factsfam/disaster.htm>
American Academy of Child & Adolescent Psychiatry: Helping children after a disaster.

<http://www.ces.purdue.edu/terrorism//index.html>
Purdue Extension: Talking with children about terrorism.

<http://www.aboutourkids.org/articles/war.html>
Talking to kids about terrorism or acts of war.

<http://www.familyeducation.com/article/0,1120,20-6055,00.html>
Talking about terrorism and war.

<http://www.familyeducation.com/article/0,1120,1-4412,00.html>
Talking to children about war: Pointers for parents.

<http://pbskids.org/rogers/parents/sept11.htm>
PBS: Mr. Rogers video clip: Helping kids deal with scary news.

<http://www.ParentingPress.com/violence/10tips.html>
Ten tips to help your kids deal with violence.

http://www.tpt.org/TPTspecial_edition/walsh.html
Talking with children when disaster strikes.

<http://www.apa.org/practice/ptguidelines.html>
What to expect after trauma: Possible reactions in elementary school students.

<http://www.nasponline.org/NEAT/tragicevents.html>
National Association of School Psychologists: Helping children deal with tragic events in unsettling times.

<http://www.ag.uiuc.edu/-disaster/teacher/teacher.html>
Children, stress and natural disasters – A guide for teachers.

<http://www.disastertraining.org>

Helps adults learn to prepare children for disasters.

<http://www.teachervision.com/lesson-plans/lesson-15413.html>

Understanding September 11th: Answering Questions About the Attacks on America (a elementary/middle school lesson plan).

http://askeric.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Health/Mental_Health/MEH0200.html

Responding to Social Crisis: A Lesson Plan.

<http://specialed.about.com/library/weekly/aa091201a.htm>

Talking to traumatized kids: How do you explain a tragedy to a child who has special needs?

<http://www.schwablearning.org/articles.asp?g=2&r=355>

Talking to your child with LD about the WTC tragedy.

http://www.nasponline.org/NEAT/specpop_alt.html

Coping with Terrorism – Helping Children with Special Needs.

<http://www.schwablearning.org/articles.asp?g=2&r=353>

Helping kids cope with tragedy: Differences in kids with learning disabilities.

<http://www.apa.org/practice/kids.html>

A guide for helping children cope - the Oklahoma City bombing.

<http://www.talkingwithkids.org/television/twk-news.html>

Talking with children about what they see on the news.

<http://www.hospicenet.org/html/child.html>

<http://www.hospicenet.org/html/talking.html>

Hospice websites discussing tips for talking with children about death.

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Materials for Clerics

General Materials

<http://www.cwserp.org/training/liturgy.php?resourcetype=Terrorism>

Liturgical resources in response to terrorist events.

<http://www.cwserp.org/techdis/>

Technological disaster program website.

<http://www.cwserp.org/training/h3website/hthree.php>

Hope, help, heal: Disaster preparedness and response for church leaders.

<http://www.cwserp.org/training/guidebook/print.html>

Managing and operating the faith-based disaster recovery organization: A capacity building guidebook for boards of directors and program managers.

<http://www.cwserp.org/training/spcare/spcare.php>

Spiritual care: Bringing God's peace to disaster.

<http://www.cwserp.org/training/ptc/carecon.pdf>

Prepare to care: Guide to disaster ministry in your congregation.

<http://www.cwserp.org/training/Chaplain.pdf>

The disaster response chaplain: Bringing God's presence to trauma victims.

Religious Relief Organizations

<http://www.amurt.net/>

AMURT Global Network

<http://www.ujcna.org/>

United Jewish Communities

<http://www.iajvs.org/>

International Association of Jewish Vocational Services

<http://www.iocc.org/>

International Orthodox Christian Charities

<http://gbgm-umc.org/umcor/>

United Methodist Church on Relief

<http://www.adventistchaplains.org/>
Adventist Chaplaincy Ministries

<http://www.adra.org/>
Adventist Development and Relief Agency

<http://www.nazarenedisasterresponse.org/>
Nazarene Disaster Response

<http://www.mds.mennonite.net/>
Mennonite Disaster Services

<http://www.act-intl.org/>
Action by Churches Together

<http://www.churchworldservice.org>
Church World Service

<http://www.disaster-relief.net/mavoad/mafds.html>
Friends Disaster Relief

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Terrorism Websites

General Information

http://vig.pearsoned.com/store/product/1,3498,store-5620_isbn-0131796348_type-ALL_editmode-1,00.html

Terrorism response: Field guide for law enforcement.

[http://www.oes.ca.gov/oeshomep.nsf/all/TerrorLPGTR/\\$file/LPGTerrorismR.pdf](http://www.oes.ca.gov/oeshomep.nsf/all/TerrorLPGTR/$file/LPGTerrorismR.pdf)

Local planning guidance on terrorism response.

<http://www.diogenesllc.com/terrorismresponseformanagers.html>

Terrorism response: Guidelines for managers.

Terrorism and Mental Health

<http://helping.apa.org/daily/anthrax.html>

APA website on handling anxiety in the face of the anthrax scare.

<http://helping.apa.org/daily/terrorism.html>

APA website on coping with terrorism.

<http://www.ncptsd.org/terrorism/index.html>

National Center for PTSD: Dealing with the aftereffects of terrorism.

<http://www.usd.edu/dmhi/Pubs/anthcope.pdf>

University of South Dakota: Coping with the aftermath of the terrorist attacks.

<http://www.usuhs.mil/psy/bioexecsummary.html>

Conference on “Planning for Bioterrorism: Behavioral and Mental Health Responses to Weapons of Mass Destruction and Mass Disruption.”

Bioterrorism Websites

General Information

<http://www.cdc.gov/>

Centers for Disease Control and Prevention

<http://www.bioterrorism.slu.edu/index.html>

St. Louis University School of Public Health: Center for the Study of Bioterrorism

<http://nyc.gov/html/doh/html/alerts/wtc8.html>

NYC Department of Health: Questions and answers about bioterrorism.

http://wfubmc.edu/intmed/id/links_biot.html

Collection of bioterrorism links.

<http://www.cidrap.umn.edu/cidrap/content/bt/bioprep/btwatch/index.html>

University of Minnesota: Center for Infectious Disease Research and Policy - Bioterrorism watch.

<http://www.nap.edu/shelves/first/index.html>

The National Academies: Responding first to bioterrorism.

Biological Agents

<http://www.bt.cdc.gov/>

CDC: Index of biological agents.

<http://www.promedmail.org/pls/askus/f?p=2400:1000>

International Society for Infectious Diseases: Collection of articles on anthrax.

http://www.health.state.mo.us/BT_Response/BT_Response.html

Collection of articles, mostly on smallpox.

<http://www.aap.org/terrorism/index.html>

Biological agents of terrorism.

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<http://www.usamriid.army.mil/education/bluebook.html>

United States Army Medical Research Institute of Infectious Diseases: Medical Management of Biological Casualties Handbook

http://www.australiagroup.net/index_en.htm

The Australia Group: Biological agents updates.

Preparedness

<http://dev.asmus.org/pasrc/bioterrorismdef.htm>

Evaluating America's bioterrorism preparedness.

<http://www.bt.cdc.gov/EpiSurv/>

Biological surveillance and planning.

<http://www.brad.ac.uk/acad/sbtwc/other/disease.htm>

The threat of deliberate disease in the 21st century.

<http://www.cdc.gov/ncidod/EID/vol5no4/pdf/dahendrsn.pdf>

About the first national Symposium on medical and public health response to bioterrorism.

<http://www.sbccom.army.mil/>

U.S. Army Soldier and Biological Chemical command: ADASHI – a training tool for chemical and biological defense.

<http://hopkins-biodefense.org/>

Johns Hopkins Medicine: Center for Civilian Biodefense Strategies

<http://www.niaid.nih.gov/publications/bioterrorism.htm>

National Institute of Allergy and Infectious Diseases: Biodefense

<http://biohazardnews.net/>

A civilian initiative addressing the threat of bioterrorism.

<http://www.dtra.mil/about/organization/finalreport.pdf>

Human behavior and WMD crisis / risk communication workshop.