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Mass Violence and Early Mental Health Intervention: A Proposed Application of Best Practice Guidelines to Chemical, Biological, and Radiological Attacks

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Based on past episodes, there will be psychological sequelae to chemical, biological, and radiological attacks. Some of the psychological morbidity should be able to be ameliorated through planning and appropriate early intervention. Key components of early intervention are illustrated following a hypothetical scenario of a bomb and anthrax threat near the Pentagon. Many of these components, such as monitoring clear, consistent messages about health risks, are provided by physicians or politicians, not mental health providers, but have a serious impact on the mental health of the population. We hope that this scenario and the principles of response will prove useful to planners of emergency preparedness and responders in the case of an actual attack.

Introduction

September 11, 2001 is a day now scored into human consciousness. The collapse of the Twin Towers, the airplane crash in Pennsylvania, and the rift in the side of the Pentagon summoned forth many thousands of first responders, medical personnel, and mental health workers. After only a few days, it became clear that the major tasks were removing the debris, identifying remains, and providing mental health assistance to survivors, family members of the deceased, and to millions of affected U.S. citizens.

In the chaotic influx of mental health workers, a variety of different approaches and strategies were used. Many used a technique called Critical Stress Incident Debriefing. This practice had been questioned as to whether it is helpful or possibly harmful.[1-4] Extensive discussion of this controversy has been described elsewhere.[5] Heightened interest was generated as to what were the best practices of mental health early intervention following mass violence.

A month later, the anthrax letters began arriving. Many feel that the response to those events suffered from confusion and poor health risk communication. There was little guidance on the psychological management of affected individuals, either those infected or worried about being exposed.

Before September 11, a consensus conference had been organized, "Mass Violence and Early Intervention." The purpose of the conference was to examine the literature and to develop best practice guidelines in a number of arenas. The conference was organized around six questions: (1) What current good practice would be recommended in mass violence situations, as a set of early interventions? (2) What should the key operating principles be? (3) What are the issues of timing of early intervention? (4) What is appropriate screening? (5) What is appropriate follow-up, for whom, over what period of time? (6) What expertise, skills, and training are necessary for early interventions, at what level of sophistication?

Consensus statements were developed, and published by the National Institute of Mental Health on September 2, 2002.[5] Table I outlines the key principles of early intervention developed at the conference. Extensive information is available in the conference

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TABLE I

KEY COMPONENTS OF EARLY INTERVENTION

Some of these components will be provided by mental health professionals (MH) while others have components with mental health implications but will be provided by other service providers.

1. Basic needs.
   - Safety/security/survival
   - Food and shelter
   - Orientation
   - Communication with family, friends, and community
   - Assess the environment for ongoing threat/toxin
2. Psychological first aid
   - Protect survivors from further harm
   - Reduce physiological arousal
   - Mobilize support for those who are most distressed
   - Keep families together and facilitate reunion with loved ones
   - Provide information, foster communication and education
   - Use effective risk communication techniques
3. Needs assessment
   - Assess current status, how well needs addressed, recovery environment, what additional interventions needed for group, population, individual
4. Monitoring the rescue and recovery environment
   - Observe and listen to those most affected
   - Monitor the environment for toxins and stressors
   - Monitor past and ongoing threats
   - Monitor services that are being provided
   - Monitor media coverage and rumors
5. Outreach and Information Dissemination
   - "Therapy by walking around" (making services available informally by being present at common gathering places and aid stations)
   - Using established community structures
   - Flyers
   - Web sites
   - Media interviews, releases, and programs
6. Technical assistance, consultation, and training
   - Improve capacity of organizations and caregivers to provide what is needed to re-establish community structure, foster family recovery/resilience, and safeguard the community. Provided to relevant organizations; other caregivers, other mental health professionals, and responders; leaders
6. Fostering resilience/recovery
   - Social interactions
   - Coping skills training
   - Risk assessment skills training
   - Education about stress response, traumatic reminders, coping, normal vs. abnormal functioning, risk factors, services
   - Group and family interventions
   - Fostering natural social support
   - Assisting the bereaved
   - Repair organizational fabric
   - Operational debriefing (when standard procedure)
7. Triage/clinical assessment
   - Referral when indicated
   - Identify the vulnerable, high-risk individuals and groups
   - Emergency hospitalization
8. Treatment
   - Reduce or ameliorate symptoms or improve functioning via individual, family, and group psychotherapy; pharmacotherapy; spiritual support; short-term or long-term hospitalization

report, available online at http:www.nimh.nih.gov/research/massviolence.pdf. Nevertheless, the statements were broad and did not get into the specifics needed to apply them to a variety of situations. Chemical, biological, and radiological events were not specifically discussed, partly because there is little published research in early interventions on those occasions.

It is now recognized that chemical, biological, and radiological events do have major mental health consequences.[6-9] A NATO-Russia Advanced Scientific Workshop held in March 2002 in Brussels demonstrated numerous psychological sequelae: following the SCUD missile attacks in Israel in 1990; after the sarin attack in Japan in 1995; after the anthrax attacks in the United States in 2001; and after numerous chemical and radiological disasters (http://www.nato.int/science).[10] Even the threat of chemical warfare has been implicated in long-term distress and unexplained symptoms after the Persian Gulf War.[11] Nevertheless, planners often neglect to prepare for the mental health needs following these events.

The term "early interventions" represents a range of options used to reduce danger, provide safety, foster resilience, ameliorate normal pain and suffering, prevent adverse long-term psychological consequences, and address clinically significant psychiatric reactions. Most of the principles are based on the disaster psychiatry literature.

This article is an attempt to apply principles of early mental health intervention to a hypothetical mass trauma event. It will utilize a complex scenario to illustrate how and when to implement a variety of early intervention actions that were recommended by the expert consensus panel. The scenario demonstrates what we conceive of as relatively ideal mental health interventions on the part of government and practitioners, with good results, and does not necessarily represent what would actually happen.

It should be emphasized, however, that there is little actual experience in applying the principles to chemical, biological, and radiological attacks. The scenario deliberately combines a "conventional agent" (a bomb) with a biological agent (anthrax). However, terrorist attacks vary widely. Thus, it is hoped that this article will serve as a stimulus for planning rather than a doctrine to be followed slavishly.

Scenario: Bomb plus Anthrax Attack Near the Pentagon

Suddenly a sports bar in Crystal City next to the Pentagon, on a warm and windy Washington evening, is shattered by an enormous boom. The bar, an adjacent restaurant, an apartment building, and a flower shop collapse. Glass flies everywhere. People run out into the streets bleeding. Other bodies lie still.

The air is quickly filled with sirens. Police, fire truck, and emergency medical personnel arrive at the scene. Media converge also, and photographs reminiscent of Israel fill the television screens across the country. Then a second bomb explodes. Shortly afterward, a letter is found stating that anthrax spores had been in the bombs.

Because this is a suspected terrorist event, the Federal Bureau of Investigation (FBI) is the lead coordinating agency in the investigation. They make decisions, limiting access to and delaying the movement of bodies, based on the needs of their criminal investigation, angering some of the emergency services personnel. Most firefighters are wearing personal protective gear, but the medical personnel, many police and FBI agents, journalists, and bystanders are all unprotected. The first responders are busy getting the wounded and dead into ambulances and it takes several hours to relay the information about the note regarding the anthrax spores. Fears of a "dirty bomb" (i.e., contaminated with radiation) are also raised.

Following the anthrax letters, concern about biological terrorism has been heightened in the Washington, DC area. Because this attack was within a few blocks of the Pentagon, the Department of Defense immediately becomes involved, both because of the national security threat and because they have expertise with anthrax. Scientists are summoned immediately to identify which areas might have been contaminated. They find that there are a few spores in the area, but are unable to determine whether they were scattered in the bomb blast.

The media reports this activity continuously. Shortly, telephone lines are jammed as Washington, DC, Maryland, and Virginia residents try to figure out whether they are, or soon will be, in danger.

The death toll from the bombs is 20 people, with another 80 wounded. Arlington residents, wanting a medicine to shield them from the effects of anthrax, line up at the already overwhelmed local emergency rooms.

Teams of mental health counselors want to know what they can do to help.

Applying Best Practice Guidelines

This discussion will focus on applying the mental health intervention components recommended by the mass violence and early intervention consensus conference (Table I), with the assumption that appropriate medical planning and treatment are being implemented.

Initial Needs (1–3 Days)

Providing for the basic needs of affected individuals is the first priority. Evacuation and medical care of the wounded is accomplished first. Providing for the safety, security, and survival of local residents occurs in parallel. Although these interventions might not be provided by mental health personnel, they must be considered the first priority in any effective mental health response. Once wounded and dead are evacuated from the immediate scene of the bombing, the area is assessed for the ongoing threat of contamination and evacuation of the others to a safe area is carried out as quickly as possible.

The overall assessment of the Washington area reveals a population that is concerned, but not panicked. Previous media accounts of anthrax have familiarized them with the disease. With respect to general components of early intervention (Table I), in this case there is no need to address basic needs such as shelter and food. Psychological first aid consists of mobilizing support, supporting the community, bringing families together, fostering natural resilience and support, and providing accurate information and using effective risk communication.

Principles of health risk communication include listening to the concerns of the affected populations and having experts in bioterrorism available. Three phrases are repeated often: (1) "This is a normal reaction to an abnormal situation." (2) Anthrax is manageable with antibiotics. (3)"Anthrax is not contagious: fear is."

All mental health activities are integrated within the overall crisis response plan and all mental health practitioners are accountable to the chain of command. For instance, liaison between sanctioned mental health practitioners and emergency responders is first approved by their chain of command.

Intermediate Responses (3 Days to 2 Weeks)

Knowing that this could be an extremely stressful experience for people over an extended period of time, television and radio stations contacted disaster and emergency mental health experts to come on the air and give advice on relevant topics, including much of the psycho-educational information described earlier. Special emphasis is placed on such topics as family relations, mitigating adverse effects of isolation, and cautions regarding substance abuse. There is no mass exodus or panic.

A family assistance center is created by the Red Cross in a local hotel, outside of the area of contamination, to provide for basic needs and psychological first aid. Each surviving resident of the apartment building or family of the wounded and dead is provided a caseworker. The caseworker helps the individual or family negotiate their many needs, including orientation, food, clothing, and shelter, and liaison with the Office of Victims of Crime (DOJ), the Red Cross, and multiple other agencies. Communication with family, friends, and community is arranged, and natural support networks are facilitated.

Virginia's Disaster Mental Health Coordinator, in the Office of Mental Health, organizes volunteer mental health counselors, detailing them to work with the wounded, their families, and those most exposed to anthrax, providing assistance as needed. Inherent in this approach are the principles of supporting the community and fostering natural resilience.

Interventions are quickly put into place that facilitate the re-establishment of natural social networks, train mental health aid workers in risk assessment skills, and educate mental health counselors about stress response, effective coping skills, traumatic reminders, normal vs. abnormal functioning, bereavement, risk factors, and available mental health services. These counselors are then able to provide support and education, mobilize natural support systems, and address panic reactions and bereavement issues.

Although the need for more formal mental health interventions is generally greater in the weeks and months following a terrorist incident than during the immediate aftermath, licensed, credentialed mental health clinicians sanctioned by the Office of Mental Health are made available to provide clinical assessment for those who are already exhibiting overwhelming distress. They make referrals for ongoing mental health treatment for those at most risk and provide for emergency hospitalization when indicated. Psychiatrists are used for triage, management of psychiatric emergencies, prescribing medications, and providing liaison and continuity with health care providers treating radiation exposure, when needed. Survivors are kept informed about the activities of federal professionals such as FBI investigators seeking to identify the perpetuators. Information regarding ongoing risk and threat from anthrax, decontamination, future risk, and safe behaviors is communicated via trusted public officials and experts as soon as possible and disseminated through multiple channels, including web sites, special announcements, and news programs and publications.

Principles of health risk communication are followed, including listening to the concerns of the affected populations and providing education from available experts in bioterrorism. The mayor and media, having been briefed by experts in the field of health risk communication, provide televised briefings twice daily. Experts in public health, infectious disease, and mental health as well as police and fire officials flank the mayor. He reassures the population by telling them that experts have stated that the risk of infection is low, but real. Similar activities are taking place in surrounding exposed jurisdictions.

Coordination is continually made with the federal government and public health officials from DC, Maryland, and Northern Virginia. A special effort is made to coordinate public announcements by the many government spokesmen and scientific experts to make sure that they are all giving a consistent message. Town meetings, attended by hundreds of residents, are held in which accurate information about radiation is communicated. Rumors and misinformation are quickly addressed and quelled as soon as possible.

Effective monitoring of the recovery environment is a top priority which includes monitoring the prevalence of psychological distress and psychiatric problems, monitoring the quality and quantity of services that are being provided, monitoring media coverage and rumors, monitoring the toxicity of the environment, and monitoring ongoing threats to physical safety and psychological security. Maintaining public confidence is a key priority that can be accomplished through regular public service announcements, ongoing education via the Internet and major media sources, hotlines, and ongoing outreach activities.

Longer Term Interventions

Virginia's Office of Mental Health, with assistance from the Federal Center for Mental Health Services, begins a formal mental health needs assessment that evaluates how well initial mental health needs have been addressed and identifies the unique characteristics of the recovery environment. The needs assessment also develops estimates concerning current and future mental health needs for individuals at highest risk (i.e., those closest to the incident, first responders), for the local community, and for the population at large.

Because this incident received a presidential disaster declaration, an immediate grant proposal is developed to obtain additional funds needed to supplement local mental health resources. Had this event not received a presidential declaration, the same assessment and planning process would occur, but using local funds. The proposal outlines a coordinated strategy to provide education, outreach, community assistance, and mental health services for affected residents.

In general, the major strategy is to emphasize resilience by promoting and supporting existing strengths at the community, family, and individual level, capabilities, and self-sufficiency. The proposal also outlines strategies for outreach and identification of populations at risk, such as mothers of young children and persons who are socially isolated or poor.[12]

This outreach and information dissemination will be accomplished via multiple channels, such as established community structures (day care centers, schools, churches, unions, welfare or food stamp programs), flyers, web sites, and through the media. Community activities such as memorials are planned to foster growth and resilience of the community.

Mental health clinicians sanctioned by Virginia and adjacent state disaster planning offices as having adequate expertise in trauma, bioterrorism, and evidence-based treatments for acute stress disorder, post-traumatic stress disorder, depression, and traumatic grief will be organized to provide technical assistance and consultation regarding bioterrorism, trauma, coping, and referral, to leaders, media, caregivers, and affected organizations.

The goal of consultation activities is to improve the capacity of both organizations and individual caregivers to provide what is needed to re-establish organizational and community structure, foster family recovery/resilience, and safeguard the community. These consultation activities will be offered via personal contact, telephone consultation, web site and email communication, and via public service and media announcements.

These mental health clinicians will also be tasked to provide supervision and training to local mental health providers, so that they can offer effective evidence-based treatment to those residents showing signs of ongoing trauma-related distress, functional impairment, or clinically significant psychiatric problems. In addition, consultation with local religious leaders, pastoral counselors, and communities is made to coordinate principles of trauma treatment with spiritual support.

The quick arrest of the perpetrators adds additional calming effects. The population of the entire area agrees to participate in drills and evacuation exercises. Additional funding is planned for emergency and public health responses.

Discussion

Overall, although the event involved malicious intent and threat of contamination, injuries and deaths were relatively small in number, destruction to property or resources was minimal, and social support systems remained intact and functioned well. It was therefore estimated that this event should have a mild-moderate impact on the mental health of the affected community at large. At this level of impact, community level programs that reduce stress, enhance social support, and provide reassurance about future risk can be expected to meet the psychological needs of the vast majority of people exposed to such threats. It is important, however, to put in place effective mechanisms for detecting the relative few with more serious impairment who require professional treatment.[12]

Critical interventions used in this hypothetical event focused on needs assessment, risk communication, and targeted intervention. The media played a central role. Leaders who gave consistent accurate statements were essential in avoiding panic.

There are many other scenarios that would require different responses, especially if a bioterrorism agent is infectious. In that case, town hall meetings should be avoided. People would not be able to/allowed to gather in their typical supportive groupings. We know, for example, in past epidemics, church services were halted for fear of providing an opportunity for infection to spread. People were prevented from receiving comfort from their natural support systems.[13]

Receiving both information and therapy via the Internet could be an attractive alternative, except that many people still do not have Internet access in their homes. When Israeli citizens were shut in sealed rooms during the Persian Gulf War, some found the nascent Internet an essential tool in maintaining psychological stability, as that is how they communicated with the outside world.

The aim of the majority of mental health interventions in each of the scenarios is fundamentally to support the community, to encourage resilience, and to support them in coming to their own solutions involving their own folks. The issue of who is the best person to stand in front of the cameras will vary according to the culture. In some it may be the mayor or other respected politician, in others the doctor or community representative.

It is important to "take the high ground" early, as far as information dissemination. People will be communicating constantly, by cellular phone, Internet, and in person. Rumors will fly around the globe. In some cases, leaders do not have enough information to give accurate statements, because they do not have all of the available information or have conflicting information. It is better to admit uncertainty than to say something inaccurate, because rumor and myth thrive on inaccurate statements, and they lay the seeds of distrust and suspicion. Planning should include not just evacuation and decontamination scenarios, but rehearsal of the communication scenarios. The community should be involved in the planning.[14]

Obviously we hope that these mental health interventions are never needed. However, the best defense is preparation and planning. We hope that this article further contributes to the literature about mental health reactions to chemical/biological/radiological incidents by outlining some preventive measures that planners and mental health specialists can make.

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