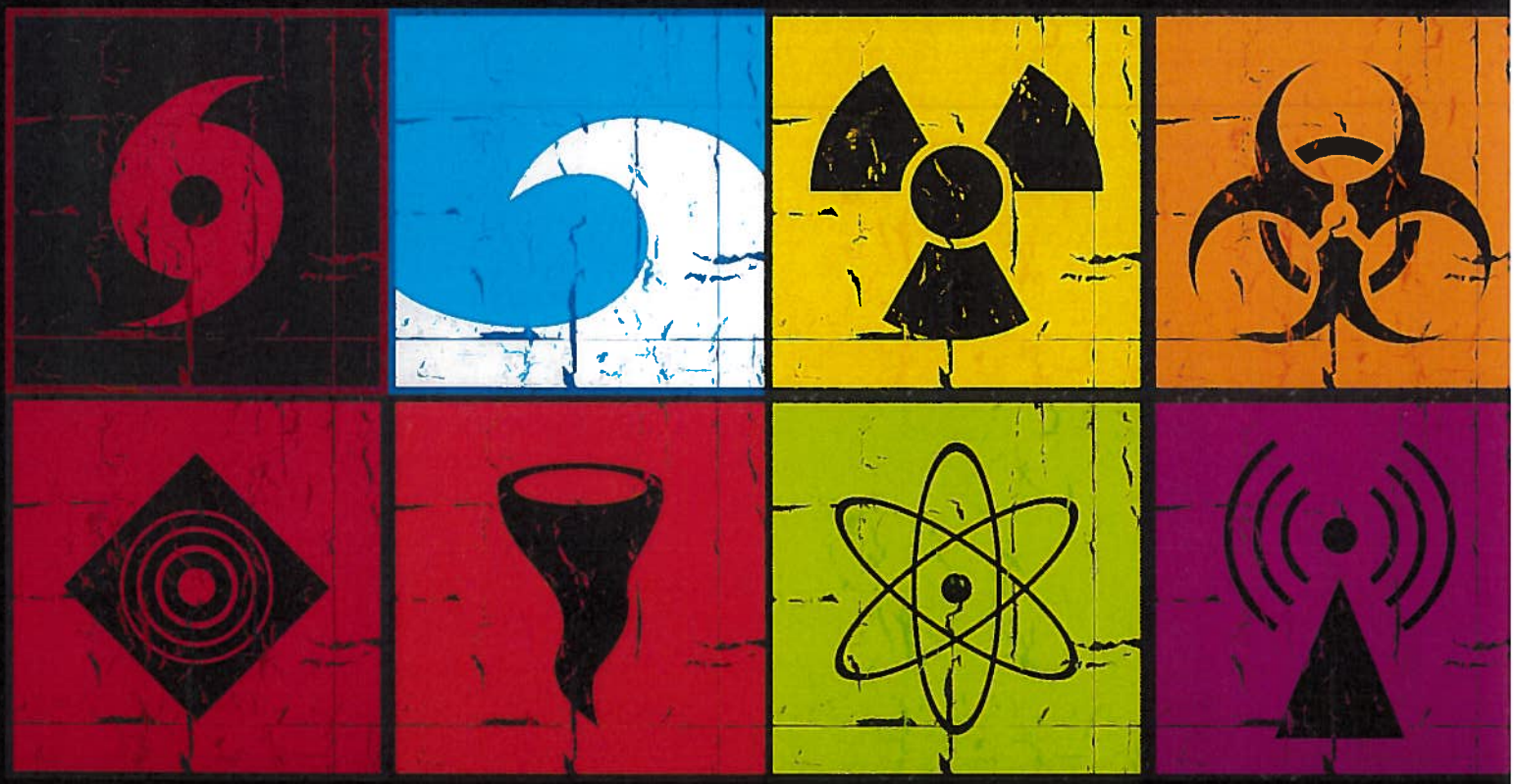
DISASTER PREPAREDNESS *for* HEALTHCARE FACILITIES



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Chapter 16

Psychosocial Issues in Disasters

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Preface

In planning for mass casualty events, psychosocial considerations must be addressed. Extreme events and emergency situations cause psychosocial effects that ripple out from the individual level, to families, communities, organizations, and society at large. These effects are both direct and indirect and may even be caused by the rescue and response interventions themselves.[1] Psychosocial effects cover a wider scope of impact than direct medical injuries. They can also have a significant impact on health outcomes because psychosocial, biological, and cognitive effects are interrelated.[2] The psychosocial footprint extends out beyond immediate medical footprint, with psychological casualties outnumbering the physical ones at ratios as high as 500:1.[3,4]

The 5 topics that have been addressed in this chapter on psychosocial considerations are as follows.

1. The Psychosocial Risk Management and Assessment Framework (P-RAM) and its applications.
2. Psychosocial considerations for the healthcare environment.
3. Psychosocial considerations for the public.
4. Psychosocial considerations for the staff.
5. Psychosocial considerations about disaster time phases.

Contents

Psychosocial Considerations in Mass Casualty Events

Successful recovery from mass casualty events begins with effective pre-event planning. One key component of this emergency planning is including the cascade of psychosocial considerations. Understanding the motivations for behaviors in the public and in the responder community can be of assistance when determining which interventions to apply.

The Psychosocial Risk Management and Assessment Framework

Planning for disasters and other extreme events is often focused on the hazard or pathologies. In response to this mindset, Lemyre et al. (2007) designed the Psychosocial Risk Assessment and Management (P-RAM) framework, a multilayered framework that is population driven.[1] Figure 16-1 depicts a multilevel, multitier P-RAM framework.

1. *Effects.* As shown in the diagram, documented evidence on psychosocial impact of major events can be categorized into 10 main categories of psychosocial effects that ripple through 3 tiers. These effects include both positive and negative effects and consist of information seeking, helping behavior, social cohesion, resilience, public confidence/trust, compliance, stigma, worry, somatization, and lastly, extreme effects (pathologies).
2. *Population.* Psychosocial effects occur at multiple population levels. The P-RAM framework addresses multiple population levels including individual, family, organization, community, and the society. Although the clinical effects on individuals have been more documented and may be more obvious, other population groups are also affected as the various effects move outward like a drop of water hitting a pond. For example, individuals who require extended treatment following a disaster may cause their family to experience financial difficulties. Ripple effects not only travel from the individual level outward but also from the societal level inward when a surge on healthcare system challenges routine and elective services. Psychosocial responses are necessarily complex and occur in context. Moreover, embedded within these multiple population levels are at-risk population, such as children, the elderly, pregnant women, and transitory populations, among others, who experience extreme events differentially and may require interventions tailored to their needs.[5]
3. *Interventions.* The interventions themselves can cause secondary effects. Psychosocial interventions can be grouped into broad categories: clinical, bioenvironmental, risk communications, education, social support, professional counseling, and policies. Although these interventions are often used in response to negative psychosocial effects or to promote positive effects, at times the interventions may cause secondary, unintended effects. For example, the use of personal protective equipment, although essential from a safety standpoint, can cause secondary effects among patients in that their use conveys a high level of

worry or concern, which may be contradictory to what is being officially communicated to the public. Similarly, protective equipment may cause children to become afraid of medical personnel, thereby slowing down decontamination procedures.[6]

4. *Risks and protective factors.* Although most of the concern, of course, goes to the risks and morbidity, each situation also comes with strengths, assets, resilience, and protective factors that a comprehensive and integrated analysis has to take into account and foster to develop.

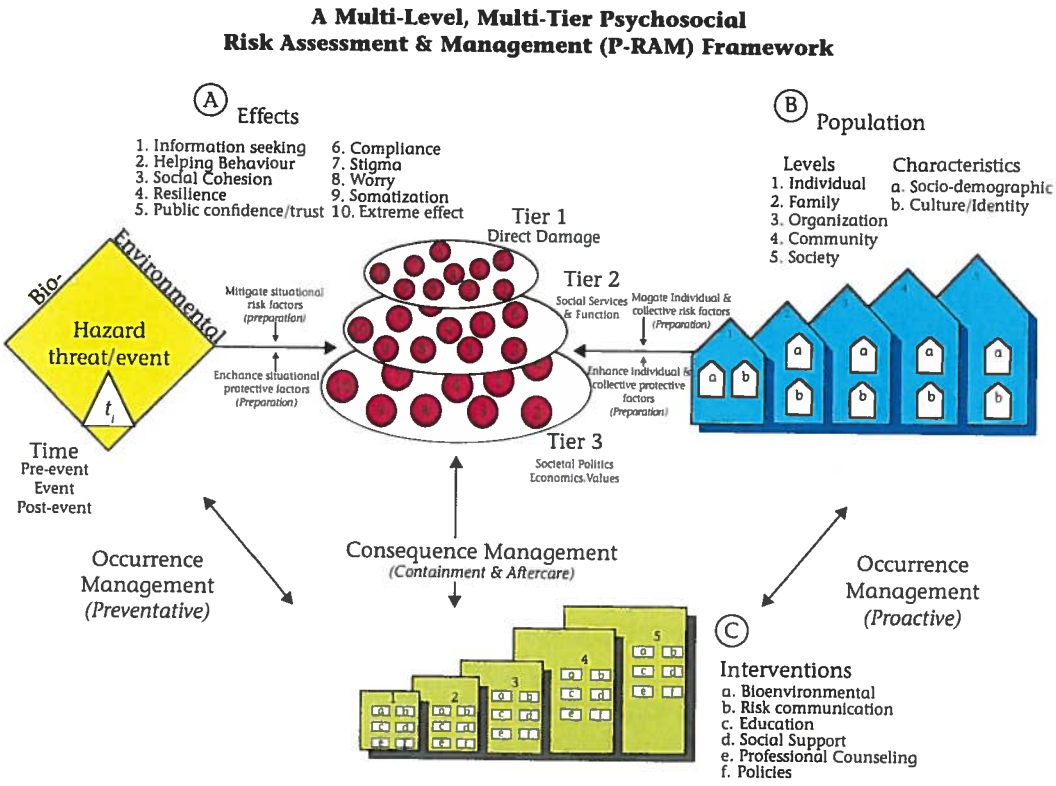

Figure 16-1: The Psychosocial Risk Assessment and Management framework.

Psychosocial Considerations for the Healthcare Environment

Crowd control and management are essential in managing a hospital surge during mass casualty incidents.[7] Triage may be complicated by issues such as victim self-evacuation, large number of expectant or dead victims, mass psychogenic illness, and high levels of uncertainty. There are some important considerations.

1. *Not all patients will be assessed during triage, as victims have a tendency toward self-evacuation.* Patients will arrive by their own means on foot, by car, by taxi, or by public transit, without warning or without having been seen by EMS. Although self-transportation can improve the rate at which the incident scene is cleared, it can result in a kind of unintentional and unavoidable overtriage, in which noncritically injured casualties receive

treatment sooner than is ideal and strain the limited resources, impairing the management of more critically injured persons.[8] Furthermore, self-transportation has important consequences in a chemical, biological, or radiological incident because victims may not undergo decontamination procedures before reaching a hospital. This increases the likelihood of secondary or cross contamination on the way to the hospital and in the hospital itself. This cross contamination became problematic following the release of sarin gas by the cult group, Aum Shinrikyo, Tokyo, Japan, in 1995. Only 7% of the patients were transported to the nearby St. Luke's hospital by ambulance, whereas 35% arrived on foot, 24% arrived by taxi, and 14% arrived with the help of good Samaritans.[9] Self-transportation of victims, a lack of decontamination on scene, and insufficient personal protective equipment combined to cause secondary exposure in St. Luke's hospital workers.[10]

2. *Large number of expectant and dead victims requires dignified palliative care and treatment of bodies.* Mass casualty planning must include dignified treatment of the dead and dying to maintain public trust and to prevent further psychological trauma to the living.[11] Apart from medical intervention in palliative care, psychosocial support is also an important component of palliative care as patients and families may require counseling to process their loss. In a surge situation, social workers, pastoral, and volunteer spiritual caregivers may be used to supplement mental health professionals. This consideration is especially relevant during pandemics, where triage methods may result in a large portion of the sick being denied critical care. By focusing on dignity in medical and psychosocial interventions, healthcare workers will also be partially protected from feelings of helplessness associated with dealing with large numbers of critical patients and deaths.

3. *Effective triage may be complicated by mass psychogenic illness.* Based on past cases, such as the Tokyo sarin gas attacks, it is clear that people will seek medical care regardless of actual exposure.[2] Hospitals will be faced with a surge not only of injured and contaminated individuals but also those suffering psychosomatic symptoms.[12] Moreover, the latter, least injured group may comprise the majority of the surge, clogging up the hospital system as medical personnel separate the severely injured and contaminated from those who are experiencing mass psychogenic symptoms. Unfortunately, differentiating instances of psychogenic or sociogenic illness from the similar symptoms that may present following actual exposure to chemical, biological, or radiological agents can add further complexity to a hospital surge, as these symptoms have a tendency to overlap. Following the radiation event in Gioiana (Brazil), approximately 20% of people presented with symptoms that mimicked exactly those expected in actual exposure.

4. *The impact of mass psychogenic illness on triage is magnified when uncertainty is high.* Mass psychogenic behavior has a tendency to originate with an environmental event, particularly with strong odors, but can be spurred on by rumors and by uncertainty stemming from either imagined or actual events. The uncertainty of traumatic events can contribute to this group behavior, particularly when a hazard is unfamiliar to the general

public. For example, following an unintentional exposure of Cesium 137 in Goiania, Brazil, 112,000 people sought screening at the Olympic stadium for presumed exposure when the actual number of exposed individuals was closer to 250 people.[13] More than 8000 documents were issued to those who underwent screening, to certify uncontaminated status.[14] Although individuals experiencing mass sociogenic illness are sometimes referred to as the "worried well," this term is misleading because many of these people will require counseling or psychiatric care to address acute symptoms of anxiety.[12] Furthermore, the use of this term may lead staff to dismiss them, which serves to increase their insistence and demands for treatment. The clinical picture is also complicated by "true" somatization, that is, actual symptoms caused by the anxiety and stress such as vomiting, diarrhea, chills, and fever.

Psychosocial Considerations for the Public

Managing bystanders and the public during a hospital surge can be a challenging situation.[7] An influx of helpers and volunteers, including professionals from other locations, as well as media, can also be taxing on hospital systems during a surge situation. Large number of people that will show up cannot be simply turned away. A number of issues become salient when considering such convergence during a mass casualty event including that surges affect the larger public, that help will arrive whether it is wanted or not, that the public can be used to improve surge capacity, and that indirect exposure to trauma can result in anxiety and stress reactions.

1. *Hospital surges affect the public.* The surge will include not only those who are injured but also the family members seeking disaster survivors and regular patient visitors. Advanced disaster planning must consider the increased shelter, communication, and security needs that hospitals will require in dealing with this influx of people. The increased demand of critical patients can strain resources needed to help existing patients with their scheduled appointments, elective surgeries, and chronic illnesses, including at-risk populations who are dependent on medical equipment such as dialysis machines.
2. *Helpers will arrive whether they are wanted or not.*[15] Once professionals and nonprofessionals arrive, they will need coordination to be effective and to make sure that they do not go beyond their capabilities and harm themselves or others.[1] Following September 11, volunteers showed support and solidarity for victims of the terrorist attacks through blood donation in the months following the attacks with a national increase in the number of units donated of over 572,000.[16] However, the perishable nature of blood products led to the destruction of some of these donations, which confused and angered volunteers. The value of volunteers cannot be underestimated or go unrecognized in a mass casualty event, as even search and rescue operations are rarely carried out entirely by professionals; more often such efforts are *ad hoc* and rely on volunteers and survivors.[15] Some challenges arise from the accrued risk linked to lack of proper training, self-exposition to contamination or

*For more information on volunteer management, please refer to Chapter 7.

danger, overwork, and fatigue. Proper coordination of tasks and duties requires distributed leadership and shared governance.

3. *Surge capacity can be expanded with the help of the public.* Early psychosocial interventions may be delivered by nonphysicians in the event of a surge situation.[2] Social workers, psychiatric nurses, and trained volunteers, such as volunteers from the Red Cross, can be of assistance in this regard. Early intervention such as psychological first aid may be protective of long-term negative psychosocial effects. Education, regular sleep and eating patterns, and limiting media exposure can also be protective steps in mitigating transitory psychiatric symptoms.[12]
4. *Media impact will exacerbate anxiety and stress reactions in people who are not directly exposed to trauma.* Physicians and other health professionals must be aware not only of those individuals who are directly affected by traumatic events but also those that are indirectly affected. Although direct exposure may lead to posttraumatic stress disorder (PTSD), depression, or increased alcohol use in some individuals, indirect exposure to trauma is also linked to the development of PTSD, depression, and alcohol abuse, especially in cases where an increased vulnerability or predisposition to mental illness is present.[12,17] Family physicians must be especially vigilant in the months following a traumatic event, as psychiatric disorders brought on by a traumatic experience may present themselves in the form of somatic complaints. In addition to these more acute cases, a larger group of individuals may need reassurance as more individuals may experience an altered sense of safety or a state of hypervigilance following a traumatic event, which can occur in the absence of psychiatric illness. Continuous news coverage, internet, and social media can contribute to vicarious trauma if not monitored for excess viewing of repeated scenes and traumatic imagery.

Psychosocial Considerations for Staff

The needs of both front- and second-line workers must be considered during a mass casualty event. Issues of absenteeism are best mitigated by adequately addressing staff safety concerns and other practical considerations, whereas stress reactions in staff require interventions such as education, professional counseling, and policies (on limits on number of hours worked, respite, and support).

1. *Absenteeism is rooted in safety fears.* In planning for contagious outbreaks, the issue of absenteeism among healthcare workers can be of concern. The root cause of this absenteeism behavior can be found in the personal safety concerns of front- and second-line staff members, which result in role conflict. Therefore, staff safety concerns must be addressed, including those of medical staff (doctors, nurses, anesthesiologists, and emergency medical technicians) and of support staff (housekeeping, maintenance, administration, and food preparation staff). Concerns for family safety must also be addressed because staff members are more likely to avoid coming to work if it puts their loved ones at risk of infection.[12] Protective equipment must be made available along with vaccines for staff and family, where medically appropriate.[18] Practical concerns such as childcare, eldercare, and pet care must also be addressed, particularly among female

staff members and single parents, who may have more limited support options in the event of quarantine situations.

2. *Stress reactions of staff need to be addressed.* Hospital staff may be at risk for developing feelings of overidentification with the victims that they help.[2] Although this capacity for empathy can be prosocial during the rescue and recovery phases, allowing staff to cope with the tasks required by the job, lingering feelings such as the thought that "it could have been me" can become pervasive and debilitating in some cases. Offering information to the staff about when to seek help can be a mitigating step in this respect. Within the healthcare community, high mortality rates and insufficient resources can become demoralizing, due to an inability to provide adequate care for advanced illnesses or certain exposures.[12] Some staff will experience more extreme effects, including the development of PTSD.[19] Self-care can be important in mitigating stress reactions, including taking care of basic needs and limiting the number of hours worked.[17]

Psychosocial Considerations for Time Phases

Building surge capacity begins with pre-event planning. Although crisis management is centered on the impact phase and consequence management is focused on recovery and reconstruction, the risk management paradigm requires ongoing monitoring of interventions, beginning in the pre-event stage. Risk management has a wider scope, encompassing all of the time phases, and requires putting the emphasis on predisaster planning (Figure 16-2).

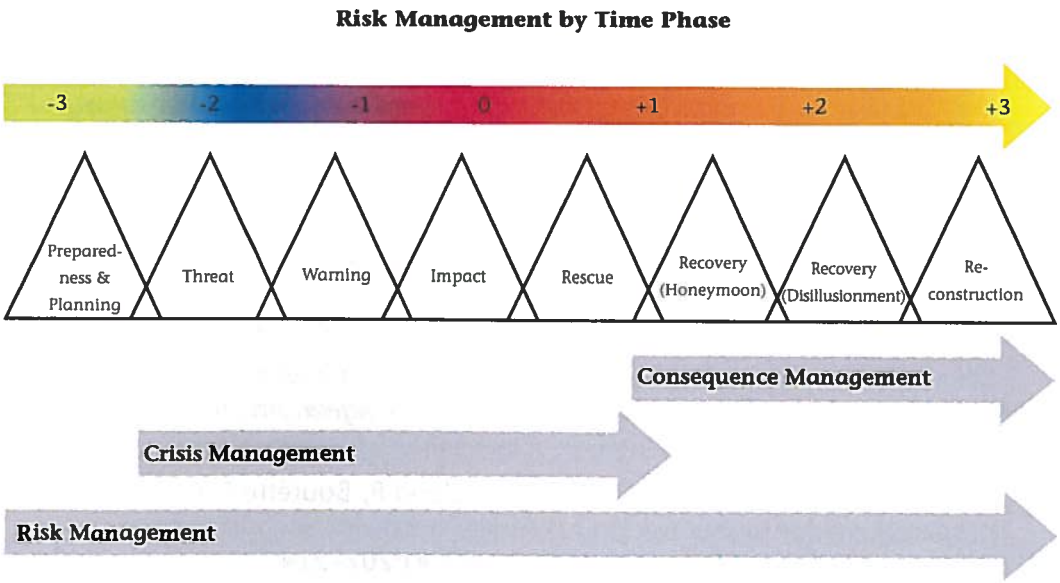

Figure: 16-2 Risk management by time phase.

In terms of mass casualty situations, hospital continuity planning is in keeping with this risk management approach. For example, just-in-time delivery of supplies is a key issue, particularly with respect to vaccines and basic personal protective equipment such as masks. An overreliance on just-in-time delivery

can translate into supply shortages in a surge situation. Stockpiles of basic safety supplies, vaccines, antidotes, antibiotics, and palliative care kits, among other essential supplies such as food, can help to prevent shortages, as can predetermined arrangements with suppliers.

Conclusion

Psychosocial considerations cover a broad range of issues and impact all stakeholders, from patients, families, general public, and staff. Addressing these issues and identifying solutions, assets and strengths require careful pre-event planning and think-through. Prevention and preparedness, through planning, exercises, and sustained capacities, are key elements of effective response.

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