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Family Physician Corner

Planning for Disasters in Primary Care

Eman Sharaf, ABFM*

Primary care has a basic rule which is providing preventive health services through health promotion and education, as well as providing curative treatment for various disease entities[1].

At time of emergencies or major disaster, the primary health care facilities, besides providing its usual services, they cooperate with other health care facilities in order to respond effectively to a major incident[1].

Major Incident

A major incident is any event that presents a serious threat to the health of the community, causes disruption to service or causes the number or types of casualty to exceed the capacity of the health system[2].

The event may cause, or have the potential to cause: multiple serious injuries, cases of ill health (either immediate or delayed), or death and serious disruption or extensive damage to property, inside or outside the organisation[2].

Why to Plan for Disasters in Primary Care?

The purpose of disaster plan is to establish an emergency plan to provide timely, integrated and coordinated response to natural and man made events that may disrupt normal services and require pre-planned response.

Goals

To provide continuous health education and decrease the incidence of injuries and possible threats, to increase the capacity of primary care centers to prepare for and respond to disasters, reduce the adverse impact of disasters on human health, such as medical, psychological, mental and social consequences and finally co-ordinate with other health organizations in order to respond to major incidents or disasters[2].

Objectives

To provide maximum protection from injury for patients, visitors, and staff, to attend immediately and efficiently to individuals in need for medical attention in an emergency situation, to provide a flexible chain of command within the health centre to enable maximum use of available resources, to maintain and restore essential routine services as quickly as possible following any disaster and to satisfy all accreditation requirements[2].

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* Consultant Family Physician
Ministry of Health
Kingdom of Bahrain

Stages of Major Incident Management

1. Mitigation: pre-event planning and actions which aim to decrease the adverse effects of possible disasters.
2. Preparedness: actions taken in advance of an emergency to be prepared for response.
3. Response: activities to address the immediate and short-term consequences of any emergency or disaster. Response includes all actions needed to save lives, protect property and meet human needs.
4. Recovery: activities that occur following a response to a disaster and are designed to help the health care facility and community return to a pre-disaster level of function[2].

Mitigation

During mitigation phase, the head of health centre council and all staff has to identify internal and external hazards and take steps to reduce the level of threat they pose by mitigating those hazards or reducing their potential adverse effects on the health centre. The areas of vulnerability that cannot be strengthened sufficiently are then addressed in emergency plans. Mitigation activities may occur both before and following a disaster[3].

Hazard Vulnerability Analysis

Hazard vulnerability analysis implies studying various possible hazards and the direct and indirect effect they may have on the health centre. This will provide information needed by the health centre to minimize losses in a disaster[4,5]. Hazard and vulnerability analysis should be done during the mitigation stage. It provides a tool for estimating and ranking the probability and potential severity of various events[3,4]. This assessment should be performed every three to five years and it was found that health care facilities that exercise hazard and vulnerability analysis regularly are more prepared to manage major incidents[4,5]. Hazard and vulnerability analysis has to be performed during the mitigation phase and following any major incident.

Preparedness

Preparedness activities build health care capacity to manage the effects of emergencies should one occur. During this phase, the Health Centre Emergency Preparedness Committee has to develop plans and operational capabilities to improve the effectiveness of its response to emergencies[2]. The health center has to develop and update agreements on cooperation with their local community, prepare a disaster contact list for its staff, train emergency response personnel and conduct drills and exercises.

Mental and Physical Health

Following a bio-terrorism event, or other disasters, anxiety and alarm can be expected from affected patients, their families and healthcare staff[6]. Psychological responses may be significant and may include anger, fear, panic, unrealistic concerns and social

isolation[7]. When available, mental health workers (psychiatrists, psychologists, and social workers,) can be consulted to help manage the mental health needs of patients and families[2]. Post-disaster health problems can be mental or physical, see Table 1.

Table 1: Common Post-Disaster Health Problems

Mental Health
Acute responses: cognitive dysfunction or distortion, dysfunctional interpersonal behaviors emotional liability and non-organic physical symptoms.
Chronic problems: alcohol abuse or dependence, depression, interpersonal violence, PTSD or other anxiety disorders, schizophrenia or other severe chronic disorders.
New-onset mental health problems: acute stress disorder possibly evolving to PTSD, alcohol abuse or dependence, depression and interpersonal violence.
Physical Health
Acute injuries: cuts or abrasions, fractures, motor vehicle crashes, occasional self-inflicted wounds, sprains or strains.
Acute problems: gastroenteritis or dehydration, pulmonary problems and toxic exposures.
Chronic problems: congestive heart failure, diabetes, hypertension, pulmonary problems. Medically unexplained physical symptoms, fatigue, gastrointestinal complaints, headaches, other generally vague somatic complaints without clear organic etiology.

PTSD = post-traumatic stress disorder
Information adopted from reference 7 with modification

Drills and Exercises

All employees working in the health the centre have to rehearse their disaster plan at least twice a year to be familiar with its content. All drills will be followed by a debrief session and a report evaluating the drill or exercise[2]. The disaster plan must be activated twice a year in response either to a real emergency or in planned drills.

Exercises should resemble real life emergencies as much as possible and should include one or more of the following response issues in their scenarios: health centre evacuation, bio-terrorism, mental health response, coordination with the community surrounding the health centre, continuity of the health centre services and expanding health centre surge capacity[2].

Response

During this phase, emergency response team at the health centre will mobilize the resources and take actions required to manage its response to disasters.

Response Priorities

The following disaster response priorities have to be established: ensure safety, protect life and provide care for injured patients, staff, and support the surrounding community response, protect critical infrastructure, medical equipments, vital records and other data, resume the delivery of patient care, restore essential services and provide essential information to the public[2,4].

Recovery

Recovery actions begin almost concurrently with response activities and are directed at restoring essential routine services and resuming normal daily work. Depending on the emergency impact on the health centre, this phase may require a large amount of resources and time to complete.

This phase includes activities taken to assess, manage and coordinate the recovery from any major incident as the situation returns to normal. These activities include: deactivation of emergency response in the health centre, estimating disaster-related expenses which includes costs from replacement of damaged medical equipments, construction related expenses and return to normal health centre routine services as rapidly as possible[2,7].

Staff Support

Clinic staff and their families are adversely affected by community-wide disasters, efforts have to be taken to assist staff in their recovery.

Risk Factor Model

Table 2 presents a risk factor model for post-disaster adjustment. When clinically evaluating persons after a disaster, family physicians should consider these risk factors to predict potential impact on patients' physical and mental health[8, 9].

Table 2: Risk Factor Model for Post-Disaster Adjustment*

Time frame	Risk factors
Pre- and post-disaster	Demographics; coping behavior; mental health history; social support; traumatic and other stressful life events.
Within-disaster	Deaths; experience of pain and horror; family separation (including death); perceived life threat; property loss; relocation and displacement; serious injury.

*This model documents risk factors that can be used to roughly stratify risk level for post-disaster physical and mental health problems. Family physicians should keep these risk factors in mind when clinically evaluating disaster victims.

Adapted with modification from Freedy JR, Resnick HS, Kilpatrick DG. Conceptual framework for evaluating disaster impact: implication for clinical intervention. In: Austin LS. Responding to Disaster: A Guide for Mental Health Professionals. 1st ed. Washington, D.C.: American Psychiatric Press, 1992:6.7

Summary

A disaster is any emergency event or a major incident that overwhelms the routine capabilities[2].

Disaster plan describes the policies and procedures that will be followed to mitigate, prepare for, respond to, and recover from the effect of emergencies.

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