

# Role Of Hospitals in Disasters



## Medical Science

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### ABSTRACT

*During emergencies, hospitals become the only hope of security and relief for the affected community. Thus it is essential for hospitals to remain safe and physically sound as well as continue to function with whatever resources available to provide the necessary care and services to the victims of disasters. Apart from delivering life saving and critical care to the victims, hospitals need to play a proactive role by disseminating awareness among the staff and community to tackle with imminent life threatening situations by immediate first aid, taking appropriate preventive measures to deal with public health emergencies and prevention of disabilities.*

### Introduction

Hospitals are an integral part of a healthcare system and are vital assets to the communities not only on a day-to-day basis but also when disaster strikes. Hospitals have a pivotal role in initiating prompt response mechanism during emergency situations and provide life saving surgical and medical care as well as essential trauma care to the victims of disasters. Since hospitals are the symbol of faith and hope for the entire community, any degree of damage or incapacitation of the structure and services cannot be acceptable. Hospitals need to be safe enough to protect patients, visitors, staff and continue to function and provide life-saving medical care in disasters. They have a key role in preventing public health emergencies by coordinating and implementing programmes such as safe drinking water and Minimal Initial Service Package (MISP).

### Approaches to Disaster Preparedness

The paradigm shift of disaster management strategy from a relief-centric response to a proactive prevention, mitigation and preparedness-driven approach will further contribute by conserving developmental gains and also to minimise losses of life, livelihoods and property. Health systems rely on a range of public, private and non-governmental health facilities to work together to serve the community. In times of emergency, this is even more important. Hospitals, primary health care centres, laboratories, pharmacies and blood banks work with non-health sectors, including energy and water supplies, transport, and emergency services to ensure the continuity of health services.

Hospitals are facing new and emerging threats – both man-made and natural – with increasing frequency. Some of these are foreseeable, such as floods, cyclone, earthquakes and conflicts, while others are emerging as new threat such as pandemics and the risk of chemical or nuclear fallouts. Hospitals thus need to maintain and regularly upgrade “all-hazards” plans that provide the framework for managing the consequences of a range of events that include both natural and man-made disasters. Emergency planning, adequate staff training and regular drills would help in building hospital capacity to manage risks and respond effectively.

Man-made Disasters	Natural Disasters
<ul style="list-style-type: none"> <li>• Fires</li> <li>• Bomb blasts / terror attacks</li> <li>• Firearm attacks</li> <li>• Structural collapse</li> <li>• Transportation event                             <ul style="list-style-type: none"> <li>○ Air, Rail, Roadway, Water</li> </ul> </li> <li>• Industrial HAZMAT</li> <li>• CBRN events</li> <li>• Urban flooding, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Earthquake</li> <li>• Floods</li> <li>• Landslides</li> <li>• Cyclones</li> <li>• Tsunamis</li> <li>• Avalanche</li> <li>• Hurricanes</li> <li>• Volcanoes</li> <li>• Tornadoes</li> </ul>

### Roles of Hospitals during Disasters

Hospitals play a vital role during disasters; not only they need to provide the definitive hospital care in form of life saving and emergency care for critically injured victims but they also have to ensure the pre-hospital emergency response mechanism by sending Quick Relief Medical Team (QRMTs) for immediate first aid and early transportation of casualties to the hospital. The important activities during immediate response include trauma care, surgery, reconstruction, blood transfusions, etc. and involve facilities including laboratories, blood banks, ambulances, rehabilitation, aged care and pharmacies.

Hospitals assume a key role in prevention of public health emergencies by active surveillance for outbreaks and epidemics and can reduce the incidences by imparting health awareness and by initiating appropriate immunisation and timely care of emergencies such as diarrhoea, malaria, respiratory infections, and other communicable diseases.

The major killers in refugee emergencies– diarrhoea, measles, acute respiratory infections (ARI), malnutrition and malaria, where prevalent -- are well documented. However, there are some aspects of reproductive health that also must be addressed during initial post-disaster phase to reduce mortality and morbidity, particularly among women. The implementation and coordination of Minimal Initial Service Package (MISP) is considered an essential step towards this direction. It is directed towards sensitising the vulnerable group towards use of condoms, sanitary napkins, Post-rape care, STD management, use of contraceptives, etc and primarily aims towards care of reproductive health.

Another important role of hospitals during disasters is to help in identification of the dead by various methods including DNA profiling tests wherever feasible and further provide adequate arrangements for storage of dead bodies till their final disposal.

Hospitals, thus, have an important role in delivering health care before and after an emergency (for the management of chronic disease, maternal and child health services, and psychosocial support) and play a key role in preventing disabilities and deaths among the victims of disasters. The compassionate and caring attitude of the hospital staff and a positive attempt to provide updated status report of the victims to their relatives will further establish the social and patient friendly image of the hospital which would last for a prolonged period.

### Challenges

Failure of hospitals and emergency services during a disaster can greatly affect public morale and a community's social and health capital. Disasters from a management standpoint can be – fixed versus prolonged events. Hospitals and their communities must plan to create surge capacity for each of these two distinct types of events. Hospitals must be able to effectively extend their ability to deliver uninterrupted medical care in the face of a prolonged event involving large numbers of victims.

A critical aspect of preparedness to the challenges of public health security is that of surge capacity. Surge capacity is a healthcare system's ability to rapidly expand beyond normal services to meet the increased demand for qualified personnel, medical care, and public health in the event of large-scale public health emergencies or disasters and hospitals are an important component of the healthcare system, which can play a critical role in minimizing the damages as a result of public health insecurity. There are several ways a hospital can increase its surge from within. Some of them are:-

- (a) Rapidly discharging existing patients especially from areas like chronic wards, wards with patients waiting for elective surgeries or investigations, etc.
- (b) Cancelling scheduled procedures such as elective surgeries and diagnostic interventions in non-critical patients.
- (c) Reconfiguring available space in a healthcare facility for use in the initial management of disaster victims. Additional beds may be put to facilitate immediate care.
- (d) Taking steps to increase the number of patient care staff in the facility by calling up from other areas of the hospital, those on leave or from other health facilities through networking.
- (e) Extending emergency department capability by using lobby and waiting room areas, as well as other patient care.

While this type of strategy can only provide for a temporary ability to increase patient care capacity, most hospitals cannot sustain such a surge for an extended period of time.

### Strategies for Preparedness of Hospitals during Disasters

Hospitals would be among the first institutions to be affected

after a disaster, natural or man-made and because of the heavy demand placed on their services at the time of a disaster, hospitals need to be prepared to handle such an unusual workload. This necessitates a well documented and tested disaster management plan (DMP) to be in place in every hospital. To increase their preparedness for mass casualties, hospitals have to expand their focus to include both internal and community-level planning. The disaster management plan of a hospital should incorporate various issues that address natural disasters; biological, chemical, nuclear-radiological and explosive-incendiary terrorism incidents; collaboration with outside organizations for planning; establishment of alternate care sites; clinician training in the management of exposures to weaponizable infectious diseases, chemicals and nuclear materials; drills on aspects of the response plans; and equipment and bed capacity available at the hospital. The key hospital personnel should be trained to implement a formal incident command system, which is an organized procedure for managing resources and personnel during an emergency. The hospitals should also have adequate availability of personal protective hazardous materials suits, negative pressure isolation rooms and decontamination showers. A hospital's emergency response plan has to be evaluated whether that plan addresses these issues. Preparedness for disasters being a dynamic process, in addition to having a well documented DM Plan in place, it is prudent to have regular drills to test the hospital's DM Plan. The drills may be hospital disaster drills, computer simulations and tabletop or other exercises.

### Conclusion

Hospitals play a vital role during and after a disaster event. Since any form of man-made or natural disaster can affect the hospitals, every hospital need to develop a disaster preparedness plan with an all – hazard approach. In addition to effectively utilise the existing resources, there is a need to build partnership with other organisations and agencies for support during the emergencies. The DM plan developed by the hospital should contain all aspects of response activities including establishment of an Incident Command centre, defining of roles and responsibilities of each staff and steps for activation of the plan. A DM plan is a tool which helps in enhancement of the capabilities / competencies for an effective patient care during emergencies and can be considered effective only when it is practiced regularly through mock drills taking into consideration different scenarios.

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