

Defence Against Disasters

*Equipping hospitals for times of disasters, both man-made and natural, is the need of the hour. **Raelene Kambli** tracks down ways to improve the emergency and disaster management system*

Why do Indian hospital authorities wake up to the need for a disaster management plan after an event occurs, the learning from which is forgotten after some time?

During disasters, hospitals become the first institutions to be affected because of heavy in-flow of patients effected by the incident. Isn't it necessary for hospitals to be well-equipped to handle such an unusual workload?

Events such as the fire at AMRI Hospital in Kolkata and Columbia Asia Hospital in Bangalore, the Bhuj earthquake, the 2008 terrorist attack at Mumbai's Cama Hospital and many such incidences in the past points out that Indian hospitals become the weak link with respect to community disaster preparedness as they deal with such emergencies in an ad hoc manner. This is a result of significant systemic constraints within hospitals that continue to hinder effective disaster operations.

At a recently held conference in Pune, titled 'Exploring the horizon of disaster prevention and management - The role of hospitals,' organised by the Center for Health Management Studies and Research, Bharati Vidyapeeth, Pune, Dr Erach Bharucha, Director, Bharati Vidyapeeth Deemed University's Center for Health Management Studies and Research, revealed that mock drills to handle external disasters as well as cases of internal disaster (within a hospital) are not being carried out by hospital managements in the country. Referring to the events in the past, he added that when disaster strikes, there is panic among the people. If hospital staff members know how to deal with disasters, it will definitely help in reducing the effects of disaster. Although it is hard to establish a perfect system that prevents damage, certainly there is need for an emergency and disaster management system in place that can effectively manage emergencies during a disaster.

The Role of an Emergency Management Team

In times of a disaster, the emergency management team plays a pivotal role in stabilising the situation. Says, Dr P K Dave, Chairman Advisory Board & HOD Orthopaedic, Rockland Hospital, "Emergency management team within a hospital is an integral part of the Hospital Incident Command System (HICS), which helps various hospitals to prepare for and respond to various types of extraordinary situations."

Explaining the core functions of this team, Dr Shakti Gupta, Chairperson, Head, Department of Hospital Administration and Medical Superintendent, Dr RP Centre for Ophthalmic Sciences and JPNA Trauma Centre, AIIMS, says, "The team is an integral part of the overall regional disaster plan and has predetermined and definitive role. The important roles are: being prepared for all un-foreseen events, regular drills and training the team to keep them updated, integration of various disciplines to result in a cohesive effort in time of need and organise equipment, stores in a manner that optimisation of resources is there, provide needed logistical and administrative support to operational personnel, as well as to ensure that key functions are covered and eliminate duplication."

Dr Ashish Banerji, CEO, Umrao Hospitals, emphasising on the functions of this team during a disaster, says, "The emergency management team coordinates the whole disaster management plan, ensuring that cases are triaged (sorted into three categories), providing appropriate and timely treatment as per the requirements of each case. The organisation and deployment of manpower as well as equipment form a very important part of this role, though many other things have to be done too."

Apart from these, Dr Tamorish Kole, Head of Emergency Services, Max Healthcare lists down a few more functions:

1. Assess the level of response and resources required (Situational Awareness)
2. Call backup services (blood bank, radiology, lab) and teams (surgical, house keeping, nursing, doctors etc)
3. Debrief relatives and media at regular intervals
4. In complex disasters (when the hospital building is affected) organise evacuation of patients if required.

An Appropriate Plan

Preparedness for disasters being a dynamic process, calls for an apropos emergency and disaster operation plan. To date, these plans have predominantly focused on pre-hospital issues such as triage, evacuation, and transport of casualties, and has largely assumed that hospital management would occur as planned. However, hospitals quickly get overwhelmed in the event of a disaster and this entire assumption goes for a toss. For effective disaster management, a hospital should incorporate various issues that address natural disasters; biological, chemical, nuclear-radiological and explosive-incendiary terrorism incidents; collaboration with outside organisations for planning; establishment of alternate care sites; clinician training in the management of exposures to weaponisable infectious diseases, chemicals and nuclear materials; drills on aspects of the response plans; and equipment and bed capacity available at the hospital.

Dr Sujit Chatterjee, CEO, Dr L H Hiranandani Hospital, describes an emergency and disaster operation plan as a vital part of disaster management process. "The emergency operations plan (EOP) provides the structure and processes that the organisation utilises to respond to and initially recover from an event. The EOP is therefore the response and recovery component of the emergency management plan of every hospital," adds Dr Dave.

Likewise, Dr Gupta states that the EOP addresses response procedures, capabilities and procedures when the hospital cannot be supported by the community, recovery strategies, initiating and terminating response and recovery phases, activating authority and identifies alternate sites for care, treatment and services.

Similarly, Dr Chatterjee alludes that the EOP lays down the steps in such situations that is to acknowledge there is a problem. Next, it indicates the first step—raise the alarm and lay down the immediate steps to be taken that will reduce injury to others and also make evacuation easy, if the situation arises.

Further, the emergency and disaster operation plan also provides the following:

- Who all should be informed?
- How to establish the process of evacuation if the need arises?

- Peculiar situations in a hospital as evacuation when an operation is in progress or child birth etc
- How to evacuate the bed ridden?
- How to manage smoke and these situations?
- Establish critical care areas and also refuge areas

Dr Kole advises all hospitals to have their own EOPs depending on the hazard vulnerability analysis (HVA) report of the area where it is located. Moreover, he says that the hospital's capability, resources and plan to transfer or evacuation, should also be incorporated in the plan.

EOP includes six critical elements:

- Communications
- Resources and assets
- Safety and security
- Staff responsibilities
- Utilities and clinical
- Support activities

Mock Drills and More

In order to cogently manage disasters conducting mock drills within the hospital premises is an ideal way to equip the existing hospital staff to face such situations. Emergency management experts believe that mock drills are essential to prepare hospital staff to best respond during an emergency and are key instruments for testing the workability of any emergency response plan. Dr Banerji says, "Regular mock drills should be conducted. All personnel of the hospital should be familiar with their roles and responsibilities in case of an emergency." Additionally, mock drill provides ample scope for identifying areas of improvement.

On the other hand, Dr Kole furthers that hospitals should ask for HVA report of the district/town/city from the municipal authorities and see what they may face. According to Dr Gupta, a fresh look has to be given owing to the changing nature of disasters and the evolving Chemical Biological Radiological & Nuclear (CBRN) environment. Interdisciplinary integration should be stressed and the functioning should not be from isolated compartments. IT and ITES should be gainfully utilised in various stages of emergency management phase and regular training and up gradation of knowledge should be inbuilt into the system in order to have the latest emergency response plans.

To curb adversities within hospitals, Dr Banerji suggests, "All areas should be regularly inspected, so as to avoid situations which can lead to a fire. Inflammable materials should be safely stored. Night supervisors should be appointed, who will be able to handle crisis situations. They should be regularly tested on their knowledge and abilities. Security personnel play a very important role and all of them should be trained in fire fighting and be aware of what they need to do."

Creating a Successful Synergy

A proper emergency and disaster management system is a result of collaborative efforts from the healthcare industry and the government. "Synergies between

government hospitals and private organisations are of paramount importance in today's world as the availability of resources and the skill base is not localised to one sector. Thus a concerted effort will yield optimisation of resources and desired outcome," asserts Dr Gupta. This approach enables all stakeholders to think and work across societies, to make sure that everyone—from government to hospitals to emergency service agencies makes the right decision to reduce the impact of disasters.

Similarly Dr Kole feels, "Every town/ district/ city should have a master plan in managing all possible disasters according to HVA report. All organisations, public and private, should be part of the master plan in addition to individual institutional plans.

Speaking about the government's role in initiating a successful synergy, Dr Chatterjee says, "The onus here lies with the State to get together the stake holders and formulate a plan that can be executed. The state with the armed forces should actually conduct the initiative. Mass casualty is a subject the armed forces will handle the best and natural calamities, outbreak of diseases and other related things need to be addressed by the state. The experience of the armed forces should be studied in details and the Standard Operation Procedures (SOP) adopted and then the country can develop an emergency medical system."

Adding in, Dr Gupta says, "Public Private Partnership (PPP) recognises that both the public and the private sector have certain advantages related to the other in the performance of specific tasks. By allowing each sector to do what it does best, public services and infrastructure for EMS can be provided in a most efficient manner. The partnership objective is to establish a functional integration and a sustained operation of EMS delivery system by optimising the equitable use of the available resources and investing in comparative advantages of the partners resource crunch.

"Furthermore, citing few successful examples of such synergies, he goes on to say, "PPP can ease out the needs of both public and private sector players. The new Sports Medicine Centre at Safdarjung Hospital is a glaring example of synergism and PPP. The State Governments in a PPP mode have rolled out Centralised Emergency Medical Response Services, which help in prompt response to any kind of emergency / disaster in any institution." "The Mumbai Emergency Management Exercise (MEMEX) and Chennai Emergency Management Exercise (CEMEX) are wonderful examples of synergistic drills involving all the stakeholders", opines Dr Kole.

GIS an Apt Option

To avert tragedies that are a consequent of a catastrophic event, experts say correct and timely information is a critical part of any successful emergency management programme. Incorporating a geographic information system (GIS) can act as a useful tool to gain that sort of information. GIS has a role to play in emergency management like emergency mitigation, preparedness, response and recovery. The system also helps in evaluating critical spatial aspects of emergency and disaster management such as identifying potential emergency problems, aiding in visualisation of hazards and its effects and mitigation efforts can thus be focused on the task on hand. The GIS can also display the current emergency unit locations and assign responsibilities to maintain overall situation status.