Disaster Planning: Are Hospitals Prepared?

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Two overloaded buses collide at high speed near Baneshwor. A truck and three taxis pile into the wreckage. Within an hour, sixty people are arriving at your hospital, many of them severely injured. How will the hospital cope with the situation?

At the worst, it could be something like this:-

The first ambulances arrive at the Casualty Department. They wait to pick up their stretchers and personnel. They then try to leave by the same gate, but this is now jammed by more vehicles trying to get in and spectators wanting to get a glimpse of the victims. Traffic gets blocked in the main road.

Meanwhile the first victims are being treated in Casualty. All available couches and trolleys quickly become occupied. There are at least ten patients outside; They cannot be brought in because of the crowd of victims and more spectators.

The Medical Superintendent is on leave; no-one knows who is in charge. Supplies of IV fluid, analgesic injections, wound cleansing fluids, suture and sterile instruments are rapidly used up. As for blood for transfusion, the supply is too slow to save the liver of some victims with heavy internal and external bleeding. There are not nearly enough beds to admit the extra 45 people who must be admitted. Many of the victims are unconscious and cannot be identified. Doctors and nurses rush from one severely injured victim to another, frustrated by the volume of work, the difficulty of deciding priorities, the lack of supplies and the crowd of spectators that continues to push its way in and hinders any attempt to bring order into the situation.

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How can this sort of nightmare be prevented ? Major disasters like this are bound to happen at times, so hospitals need to be prepared to deal with them. A well-made Disaster Plan will enormously increase the efficiency of the hospital and save lives.

The process of developing a Disaster plan to suit an individual hospital might include the following steps:-

1. Identify the possible disasters that might occur (see Table 1)
2. Decide upon a Triage area, where victims can be sorted into groups according to the urgency of treatment. This area should be accessible to ambulances and other vehicles but should not block the Casualty and other areas where treatment will be given.
3. Develop a flow pattern for vehicles to include:-
 - Entrance
 - Unloading area
 - Holding/waiting area for recovery of stretchers etc.
 - Separate exit.
4. Decide on categories of care to be decided at the Triage Area. (see Table 2)
5. Devise a way of identifying patients in the different categories, e. g. by tying to the patient numbered tags of different colours.
6. Decide upon different areas for treating patients in the various categories, and waiting areas for the less serious patients.
7. Decide upon supplies, equipment and staff needed in each area.
8. Develop flow patterns for transporting patients to each area to the X-Ray department and wards. Avoid congestion.
9. Make arrangements for discontinuing routine work immediately
 - Stop all OPD work and remove patients, preferably by a separate route.
 - Discontinue routine operating lists,
10. Make arrangements for increasing bed capacity immediately
 - Discharge as many patients as possible.
 - Remove some patients to a minimal care area.
 - Designate areas for additional beds or mattresses.
11. Arrange to make additional staff available
 - Cancel all leave
 - Call staff who are off duty

- reassign staff released from OPD duty
- 12. Decide on a Disaster Director and at least substitutes in case that person is not available.
- 13. Establish disaster roles for Nursing Superintendent, Administrator and Senior surgeon as well as the Director.
- 14. Make security arrangements.
 - Some doors to be kept locked
 - Some doors and gates to be guarded closely to keep out spectators.
- 15. Arrange a public information system to deal with relatives and officials.
- 16. Arrange for the identification of victims e. g.
 - initially by the numbers on the disaster tags.
 - later by name, address and age.
- 17. Make arrangements, e. g. with Red Cross Blood Transfusion Centre, for rapid release of blood supplies in a disaster situation.
- 18. Keep additional stocks of necessary supplies and arrange for rotation regularly e. g. for IV fluids and sterile packets.
- 19. Identify resources for additional supplies, staff volunteers, water, power and transport that may be necessary.
- 20. Designate areas for keeping dead bodies.

Some work may have to be done in preparation for a disaster. Examples are given in Table 3.

It may be necessary to produce alternative plans, for example to deal with relatively small numbers of victims in which case it might not be necessary to stop all routine work. Also, contingency plans for damage to the hospital itself may be needed; for example by earthquake or fire.

Finally, a major disaster could well involve polices, army, fire service and airlines as well as may hospitals, blood transfusion service and suppliers of medicines and IV fluids. A Co-ordinating Committee to plan for smooth co-operation among all these groups, would ensure a prompt and effective response to a wide range of major human tragedies. If you doubt this-remember Bhopal !

Table 1 Possible Disasters

Earthquake	Civil Riot
Fire in a large building	Escape of toxic gas
Collapse of a building	Explosion
Bus crash	Plane crash
	Collapse of a bridge

Table 2 Treatment Categories

Immediate resuscitation :	shock, haemorrhage, airway obstruction, chest injuries.
Delayed care:	closed fractures of major bones, serious head injuries, major burns
Minimal care:	Lacerations, abrasions, minor fractures and burns
Palliative care:	Fatal injuries, e.g. very extensive burns

Table 3 Advance preparation for disaster

- Prepare list of emergency telephone number and addresses.
- Building a separate ambulance exit.
- Prepare disaster tags of various colours with suitable numbers.
- Establish a store for disaster supplies.
- Carry out practices in a simulated disaster situation.