
Chapter 6

Implementing the Plan in Hospitals

General Objectives of the Plan

The main objective of the plan is to provide medical and surgical care to all sick or injured persons who require it as a result of a disaster situation. The operation will consist in directing the hospital's efforts toward the recovery of disaster casualties and patients.

Activating the Plan

Communications Unit

- 1) All disaster-related incoming telephone calls should be channeled through the hospital's switchboard operator. The operator should obtain the following information:
 - a) who is calling;
 - b) nature of the disaster;
 - c) location of the disaster;
 - d) number of cases being sent to the hospital;
 - e) estimated hour of arrival;
 - f) mode of arrival (example: by ambulance, helicopter, other);
 - g) telephone number of the person supplying the telephone information.
- 2) The operator has no authority to declare that the disaster plan is in operation. The operator should notify the following authorized persons in the order indicated:
 - a) chairman of the disaster committee (head of the emergency ward or department);

- b) assistant to the chairman of the disaster committee (assistant to the head of the emergency ward or department);
- c) assistant to the director of the hospital;
- d) senior resident (in point of service) in the emergency ward or department.

A notification that the disaster plan has entered into operation will be given only when it has been so ordered by one of the authorized persons.

After the first contact has been made, the operator will continue to convey all information pertaining to the disaster.

3) Instructions to the operator:

- a) the operator will receive no further calls except those from the emergency extension or those which are replies to calls made in connection with the disaster. The operator should inform callers that no calls will be taken that are not related to the disaster situation;
 - b) an operator will be assigned to initiate the disaster notification calls; observing established procedures, the operator will notify the following units or departments:
 - Emergency ward or unit.
 - Hospital security unit.
 - Nursing service or unit.
 - Management.
 - Operating rooms.
 - Anesthesiology unit.
 - Sterilization unit.
 - Clinical laboratory and pathology unit.
 - X-ray service or unit.
 - Biostatistics unit.
 - Social work unit.
 - Public relations office.
 - Religious services.
 - Admissions unit.
 - c) all operators will resume their work at the switchboard in normal fashion;
 - d) all calls from press services will be directed to the public relations office;
 - e) all calls from members of the victims' families will be directed to the information center;
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- f) all hospital employees' requests for information will be directed to the information center.
- 4) The communications unit is responsible for contacting only those persons included in the disaster notification list, or those specified by the hospital director. All requests for disaster casualty assistance will be directed to the information center.

Emergency Unit or Ward

After the emergency service or ward has been notified that the disaster plan is in operation, the following steps will be taken:

- 1) *The informant:*
 - a) will notify the head nurse on duty that the disaster plan is in operation;
 - b) will notify all people who are in the emergency room waiting to be attended that they will be examined in turn and in accordance with the severity of each case;
 - c) will conduct members of the patients' families to a hospital waiting room.
 - 2) *The head nurse on duty:*
 - a) will place an orange armband on each member of the emergency department staff;
 - b) will deliver the instruction sheet to nursing staff and auxiliary personnel;
 - c) will assign two nurses to the major treatment area and one to the minor treatment area. These nurses will be in charge of the specific area assigned and will therefore issue the pertinent instructions.
 - 3) *The ranking physician on duty:*
 - a) will assign a physician to each of the triage areas, for major treatment and for minor treatment; these physicians will be in charge of the particular areas assigned and will follow the plan according to the disaster instruction sheet for emergency department staff;
 - b) will perform a new triage of casualties who have been treated in the emergency ward and those who are ready to be attended
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to by a physician in the appropriate major or minor treatment area.

4) *The orthopedic technician:*

- a) will supervise the stretchermen assigned to the triage area;
- b) will see to it that casualties are moved from ambulances to stretchers in a proper way.

When notification has been given that the disaster plan is no longer in operation, the ranking physician in the emergency ward will complete the report form on the disaster area and send it to the chairman of the committee.

Hospital Security Unit

The hospital security service will be notified by the operator that the plan has been put into effect. The following will be done:

1) *The supervisor on duty:*

- a) will request the necessary assistance for exercising better control;
 - b) should make certain that the following doors are open:
 - Treatment areas.
 - Supply room.
 - Morgue.
 - Information center.
 - Main entrance.
 - c) will see to it that all areas are fully identified by name and with signs;
 - d) will send a supply of patient identification tags to the triage area;
 - e) will get in touch with the office which controls parking places and, in agreement with that office, assign an area for vehicles of members of the family and friends of disaster victims;
 - f) will issue appropriate instructions to:
 - Direct all vehicles arriving with disaster victims to the entrance to the emergency ward.
 - Direct all regular emergency patients to the emergency ward entrance.
 - Direct vehicles of members of family and friends of victims to the assigned parking area.
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- Direct vehicles of press personnel to the parking area assigned, and designate the place where reporters will meet in the waiting room of the emergency ward.
 - Coordinate arrangements for a member of the national or military police to provide guard service, and establish radio communication with the hospital security officer.
 - Coordinate the operation of elevators to operating rooms and intensive care units.
- g) when a notification has been issued that the disaster situation is no longer in effect, the security service will be responsible for:
- Suspending the supply of patient identification tags, securing the doors, and removing the disaster signs from their respective places.
 - Completing the disaster area information form and sending it to the chairman of the disaster committee.

Chairman of the Disaster Committee

- 1) The chairman of the disaster committee or his assistant will be notified of the disaster by the switchboard operator and will receive the following information:
 - a) name and number of the person that called;
 - b) nature of the disaster;
 - c) location of the disaster;
 - d) number of victims that will be sent to the hospital;
 - e) approximate time of arrival;
 - f) mode of arrival (example: by ambulance, helicopter, other).
 - 2) The chairman of the hospital disaster committee, after putting the plan into effect, will:
 - a) instruct the switchboard operator to initiate disaster notifications according to established procedures;
 - b) immediately notify the highest local authority where the disaster site is located;
 - c) make sure that the shift on duty in the emergency ward is assigned to the initial triage group and to the major and minor treatment areas;
 - d) check that a person has been assigned to handle the telephone during the disaster;
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- e) make sure that the communications system is operative in all the areas of the disaster zone;
 - f) begin compiling a disaster area telephone directory.
- 3) When the chairman of the emergency committee has determined that the disaster situation no longer exists:
- a) he will notify the communications department and reserve staff to institute procedures for terminating the operation;
 - b) the chairman of the committee will be responsible for collecting the information forms from the hospital departments that have participated, for review at the next meeting of the disaster committee.

The Hospital Administrator

- 1) When the hospital administrator or his deputy has been notified that the disaster plan has gone into effect, he will take the following steps:
- a) assign an assistant to handle the disaster telephone;
 - b) assign one or two assistants to the reserve staff area;
 - c) report immediately to the disaster information center;
 - d) make certain that disaster identification tags have been supplied in the appropriate areas;
 - e) see that security personnel are directing and controlling traffic within the hospital areas;
 - f) call the office of the medical director and request that the heads of clinical departments be notified that the disaster plan has gone into effect, and make certain that all available medical, paramedical, and administrative personnel report to the reserve staff area;
 - g) once the communications system in the disaster information center has been checked, the hospital administrator, acting in consultation with the head of the nursing department, will determine the number of beds available and institute the mobilization of off-duty personnel. The administrator will also coordinate with the nursing department on the movement or release of hospitalized staff, as well as the movement of victims, after consultation with the director of the hospital;
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- h) the disaster information center will maintain contact with the command post with respect to the number of disaster casualties and the severity of their injuries; the center will also coordinate with the public relations office on the supply of information to members of victims' families and the press;
- i) when the administrator has been notified that the disaster is over, he will fill in the form with the pertinent information on the disaster area and send it to the chairman of the disaster committee.

Triage

Triage at the Hospital Entrance

All patients should enter through a single door. Experience has shown that many people involved in a disaster head for the hospital on their own, independently of the ambulance service. Since it can hardly be assumed that all these persons will have suffered only minor injuries, these patients should also pass through the triage area. Once it has been determined that their injuries are indeed minor, the people in question should be separated as promptly as possible from more seriously injured casualties.

The resuscitation area should be located in a place immediately adjacent to the hospital entrance and the triage area. In most hospitals this would be behind the entrance to the emergency ward, using that ward's major treatment area and possibly the waiting room. Triage should be conducted from the outset by an experienced physician, who may delegate resuscitation procedures and subsequent casualty management to other physicians.

Triage inside the Hospital

Triage is a continuous process. In order to be effective it should be applied as soon as possible after the need arises, that is, when a sharp imbalance is found to exist between a large patient demand and the medical resources available for meeting it.

Triage Area

Hospital entrance triage is the key to the effective management of a sudden inflow of disaster casualties. The principal objectives are to:

- 1) Receive the disaster victims.
- 2) Make a rapid classification of casualties and conduct them to appropriate treatment areas.
- 3) Provide only such basic treatments as necessary for saving a person's life. This includes serious patients requiring tracheotomies, thoracentesis, venous dissection, hemostasis of bleeding vessels, etc.

The triage officer will have the following responsibilities:

- 1) Supervising the entire triage area.
- 2) Classifying the patients into the following categories: minimal, immediate, delayed, and expectant treatment.
- 3) Instituting decontamination procedures if necessary.
- 4) Assigning a person to supervise the ambulance team.
- 5) Assuming full responsibility for the triage area and serving as head of all personnel assigned to that area.
- 6) Seeing to it that there are sufficient identification tags, wheel chairs, and stretchers in the triage area.
- 7) Organizing the personnel assigned to the triage area from the reserve staff.

Classification of Casualties

The triage officer will classify the disaster victims according to the following categories:

- ***Minimal***

Cases assigned to the minimal category are those that can return to their jobs after being treated for minor lesions. The latter include small lacerations, contusions, simple fractures of small bones, second-degree burns on the face and hands, small-bone fractures causing disability, and moderate neuropsychiatric disorders.

- ***Immediate***

Includes cases of hemorrhages in easily accessible sites, extensive lacerations with quickly correctable respiratory disorders, severe crushing injuries of the extremities, open fractures of large bones, and incomplete amputations.

- *Delayed*

This category includes cases in which a delay in treatment after initial emergency care involves very little risk, as for example moderate lacerations without extensive hemorrhaging, closed fractures of long bones, noncritical lesions of the central nervous system, and burns covering 10 to 40 per cent of the body surface.

- *Expectant*

Cases considered expectant include those with critical lesions of the central nervous system or respiratory system and multiple severe burns over large areas (third degree and covering 40 per cent or more of body surface). Treatment in these cases will consist of resuscitation maneuvers and emergency medical treatment in appropriate facilities, with adequate equipment and specialized staff.

Deployment to Treatment Areas

- 1) After proper medical evaluation and classification into one of the categories described above, the casualty is taken to the radiology and laboratory departments if clinical conditions so permit. All x-ray requests should include the greatest possible amount of information that will contribute to a better interpretation of the x-ray films.
- 2) Only the following essential laboratory procedures should be requested:
 - a) white blood cell count;
 - b) urinalysis;
 - c) ureal nitrogen;
 - d) glucose;
 - e) arterial gases (only for pulmonary involvement);
 - f) blood group and Rh factor;
 - g) electrolytes (only in patients with burns);
 - h) hematocrit;
 - i) cross tests.

Patients in the immediate treatment category will be conducted initially to the resuscitation room.

Cases in the deferred treatment category will be sent to the minor treatment area.

Cases in the expectant treatment category will be sent initially to the resuscitation room.

Cases in the minimal treatment category will be sent to the minor treatment area. If a plaster cast is required, this will be done in the plaster room in the emergency ward. Dead victims will be identified and then sent to the morgue.

Resources for the Triage Area

Personnel

The medical and nursing personnel to be assigned to the triage area will depend upon the exact nature of the disaster. For planning purposes, the initial staff might be tentatively the following: a triage officer (surgeon), a general surgeon, an orthopedic surgeon, a dentist, three medical interns, three head nurses, and four auxiliary nurses.

Material and Equipment

1) Equipment for pediatric intravenous use	36
2) Tensiometers for children and adults	12
3) Assorted ferrules	2 boxes
4) Tracheal cannulae	36
5) Set of laryngoscopes for infants, children, and adults	1 of each
6) Endotracheal tubes, No. 7 Murphy	36
7) Endotracheal tubes, No. 8	36
8) Nasogastric probes	36
9) Oxygen masks, for adults and children	2 boxes
10) Large scissors for cutting bandages	3
11) Plastic linings	60
12) Phonendoscopes	15

Sterilization Unit Supplies

1) Tracheotomy set	6
2) Thorachotomy set	6
3) Venous dissection set	6

4) Set for small sutures	12
5) Bottles for drainage of thorax	10
6) Hand scissors, No. 4	6
7) Syringes (disposable) × 2 cc	60
8) Syringes (disposable) × 10 cc	90
9) Syringes (disposable) × 50 cc	60

Casualty Identification Criteria

Triage Area

The triage area should be located preferably at the entrance to the emergency ward. Here, the triage officer will determine the severity of the the injury to disaster victims and designate the treatment area to which they should be sent.

In the triage area, the nursing staff will attach to each disaster casualty an appropriately color-coded identification tag. Depending on the diagnosis by the triage officer, the following measures will then be taken:

- 1) Victims determined to be dead will be given a white tag and moved to the morgue.
- 2) Patients in stable condition who remain so for a period of 30 minutes or more will be sent to the minor treatment area with a yellow tag.
- 3) All other patients should be sent to the major treatment area with a red tag.

All patients must have a disaster tag and the forms for any laboratory examinations and x-rays ordered. These standard forms of the hospital concerned should be attached to the disaster tag.

Major Treatment Area

The major treatment area should be located in the emergency ward; it is the area designated for treating the most severe cases. When the disaster plan goes into effect, the head physician on duty in the emergency ward will remain on duty assigned to the treatment area until the reserve staff office is able to assign additional medical, paramedical, and administrative personnel.

All treatment of disaster victims in this area will be administered under the supervision of the head physician of the emergency ward. This physi-

cian, identified by an orange armband, will be in charge of the major treatment area. All the physicians working in the major treatment area will report to the head of the emergency ward in charge, as will all nursing staff. All staff should wear an orange armband.

Requests for additional personnel should be channeled through the command post located in the center of the major treatment area. Any staff members not wearing the proper armband will be asked to leave that area. Staff whose services are not required for the moment should be instructed to report to the reserve staff office.

Minor Treatment Area

This area should be located near the emergency ward, in the space assigned for treating those patients who are in stable condition and who, judging from the initial diagnosis, will remain in that condition for 30 minutes or more.

When the disaster plan has been put into effect, staff on duty in the emergency ward, also wearing orange armbands, will automatically be assigned to the minor treatment area and remain there until the reserve staff office assigns additional medical, paramedical, and administrative personnel to those areas.

Physicians assigned to the minor treatment area should report to the physician in charge of that area, wearing the appropriate orange armband.

Nurses and other staff assigned to the minor treatment area should also wear orange armbands and should report to the nurse in charge of that area.

Requests for additional staff should be presented to the reserve staff office.

Only authorized staff will be allowed to remain in the area. Persons not wearing the proper armband should leave the area.

Personnel not needed for the moment should be instructed to report to the reserve staff.

Human Resources

Reserve Personnel

Should be located in one of the reception areas or in a hospital waiting room.

The hospital administrator will assign an assistant administrator to that area.

The director of reserve personnel will:

- 1) Set up procedures for x-ray examinations and rapid circulation of staff, in coordination with the head of the radiology department.
- 2) Designate someone to coordinate the assignment of medical, paramedical, and administrative personnel.
- 3) The first assignments will automatically be given to those arriving first at the reserve personnel office; they will be supplied with armbands and instructions.
- 4) Kits will be issued (containing coordination instructions, a map of the disaster area, and a color-coded armband), which will allow them to enter the treatment areas.
Medical staff: red armband.
Nursing staff: blue armband.
Administrative staff: green armband.
- 5) After the first assignments have been made, reserve staff in the three categories noted above will be kept on hand to accommodate command-post requests for additional assignments.
- 6) If a sufficient number of employees have not reported, the director of the reserve staff may request the nursing department and the clinical department to assign additional personnel. However, if circumstances so require, the hospital administrator may call in off-duty medical and administrative personnel.

Instructions for Staff in Specific Categories

Instruction kits will be issued to all medical staff to be assigned to the triage and treatment areas.

• *Nursing Staff*

Nursing staff will be issued an instruction kit in the triage and treatment areas.

• *Administrative Staff*

Instructions will be issued to administrative staff. The nature of the instructions will depend on the structure and organization of the hospital and the magnitude of the disaster:

- 1) Social worker assigned to the information center.
- 2) Biostatistics staff.
- 3) Public relations staff.
- 4) Press area staff.
- 5) Personnel assigned to serve as porters in the triage and treatment areas.
- 6) Technical x-ray staff assigned to the treatment areas.

Family Information Center

This is the place where members of the family and friends of disaster victims are to wait for information on the latter's conditions.

The command post will receive a list of casualties and members of their families from the information center.

All discharged patients will be sent home.

Medical and Support Services

Surgical Unit

As soon as the disaster plan has been put into effect, a call concerning that plan will be received at the command post in the operating rooms. The person receiving the call should notify:

- 1) The chief of operating rooms.
- 2) The coordinating nurse of operating rooms (recovery room nurse, administrative service nurse, and education nurse).
- 3) The head nurse of the operating rooms.
- 4) The head of administrative and support services.

The person in charge of the command post in the operating rooms will announce three times, with a minute's interval: "Code yellow; all unassigned operating room staff report to the recruiting room."

● ***Casualty Control: Technical Coordinator***

- 1) All surgical procedures will be carried out in accordance with the normal rules, including those for recovery room service.
 - 2) Patients waiting in the observation rooms to be taken to surgery will return to their respective wards.
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- 3) Patients in recovery rooms will be taken to their respective wards as soon as possible.
- 4) Surgery patients who have undergone procedures of short duration will be sent home as soon as clinical conditions permit.

● *Responsibility: Coordinating Nurses*

- 1) The recruitment office will assume duties apart from its normal ones.
- 2) If additional personnel are needed, the coordinating nurse will request the command post to obtain the necessary staff from the reserve pool.
- 3) If staff is unavailable within the hospital, the reserve pool will send two nuns to the surgery room to help in procedures there and assist the surgeon on duty.
- 4) The anesthetist assigned to the surgery room will be directly responsible for establishing the procedures to be followed by all anesthetists on duty.
- 5) The telephone operator will call the head nurse on duty in the surgery rooms and notify her that the disaster plan has gone into effect.
- 6) The nurse on duty will request that a person from the reserve pool be assigned to her to handle the emergency telephone in the surgery room.

Medical Services

● *Anesthesia*

This department will be responsible for assigning its staff to the operating room, recovery room, admissions, and respiratory therapy.

● *Medicine*

- 1) Depending on the type of disaster, this department will coordinate or reinforce the efforts of the surgery department in the mass treatment of casualties.
 - 2) Will assign the necessary available staff to the triage, intensive care, and intermediate care areas.
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