HOSPITAL DISASTER MANAGEMENT GUIDELINES

DIRECTORATE OF HEALTH SERVICES, KERALA

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LIST OF ABBREVIATIONS

ASHA	Accredited Social Health Activist
ARI	Acute Respiratory Infection
CDR	Crude Death Rate
CHC	Community Health Centre
CLW	Community Level Worker
CMR	Crude Mortality Rate
CT	Computed Tomography
DMO	District Medical Officer
ESI	Employees State Insurance
GHE	General Hospital Ernakulam
GIS	Geographic Information System
ICU	Intensive Care Unit
IEC	Information, Education, and Communication
ILI	Influenza-Like Illness
JHI	Junior Health Inspector
JPHN	Junior Public Health Nurse
KASH	Kerala Accreditation Standards for Hospitals
LSGI	Local Self Government Institution
MCI	Mass Casualty Incidents
MRI	Magnetic Resonance Imaging
NABH	National Accreditation Board for Hospitals and Healthcare Providers
NDMA	National Disaster Management Authority
NGO	Non-Governmental Organizations
NHM	National Health Mission
OT	Operation Theatre
PHC	Primary Health Centre
RMO	Resident Medical Officer
RRT	Rapid Response Team

Contents

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PRE-DISASTER PHASE

CHAPTER I

DISASTER PREPAREDNESS AND RESPONSE

DISASTER AND HEALTH CARE MANAGEMENT AN OVER VIEW

Disasters have existed ever since the history of mankind and have shaped the destiny of the earth and its people. The disaster event concerns every community and no community is immune from it. The disasters may be the second major human problem after war, in terms of monetary damage and the number of people killed or affected. Millions of people are affected annually by natural disasters and result in number of deaths, suffering and economic losses. Disasters have their greatest economic and social impact in the poorest countries.

The frequency distribution of disasters in the Asian region between 1964 and 1986 showed that India is one of the most disaster-prone country and faced the largest number of disaster events in this region. India manifests natural disasters like floods, earthquakes, cyclone and drought regularly due to the vast variation of geographical terrain and climatic conditions.

India is one of the most flood prone countries in the world. Out of the 96 internationally recognized natural disasters the country experienced between 1960 and 1981, 28 were due to floods. The earthquake prone areas have witnessed over 31 major earthquakes in the last century. The 26 Jan 2001 earthquake in Gujarat virtually flattened the Bhuj area, which resulted in death of over 30,000 people and severe economic losses. The 5700-kilometer long coastline of India is vulnerable to tropical cyclones arising in the Bay of Bengal and Arabian Sea. Cyclonic storms have been causing considerable damage to life and property in the coastal area of India. Due to the high density of population along the coastal areas the devastation is also on a large scale. The severity of the effect of cyclone on the community, risk potential and vulnerability make it inescapable that emphasis focus on prevention and preparedness for response is laid to reduce loss of lives.

Many of the contemporary disasters have been man-made. India has been witnessing an increasing incidence of man-made disasters. India faced one of the worst man-made disasters on 03 December 1984 when the Bhopal gas tragedy occurred. The list of man-made disasters like train accidents, aircraft crashes, fire in high-rise

buildings, mine disasters, industrial and chemical disasters are ever increasing for various reasons. The spectrum of occurrence of man-made disasters focuses attention on policy imperatives for disaster management, preparedness and response to provide relief to the community.

In Kerala State, we have witnessed both manmade and natural disasters within a span of 10 years. Pulmedu tragedy of Idukki district occurred on January 14, 2011 during the Sabarimala pilgrimage season claimed more than 100 lives due to stampede occurred after witnessing Makara Jyothi at Pulmedu. On 10th April 2016, Puttingal fire work tragedy at Puttingal temple in Kollam district claimed more than 100 lives and many are still living with the injuries occurred during the disaster. On 29th November 2017, Kerala State witnessed another natural disaster due to cyclone (OCKHI) which also claimed the lives of around 100 fishermen and more than 200 are still missing. Many incidents involving inflammable gas leakage have also been reported in the state, with the Kannur incident in 2012 claiming 20 lives, and the blast in a ship under repair in Cochin shipyard in February 2018. These incidents, though caused smaller scale damage, had potential to cause very high levels of destruction.

CLASSIFICATION OF DISASTERS

Natural Disasters
- Natural phenomena beneath the earth's surface
- Earthquake
- Tsunami
- Volcanic eruption

Man-made Disasters
- Caused by warfare
- Conventional warfare
- Nuclear, biological and chemical warfare

NEED FOR DISASTER PLANNING AND PREVENTIVE MEASURES

On a global level, the mortality generated by natural disasters shows a temporal increase and geographical correlation. There is a significant increase in average mortality per event in all categories of natural disasters over the years as well as increase in mortality per 1000 population exposed.

Disaster mitigation includes all those measures that are aimed at reducing the impact of a natural or man-made disaster on a nation or community. The concept of mitigation spans the broad spectrum of prevention and preparedness.

Disaster prevention covers, measures which are aimed at impeding the occurrence of a disaster event and/ or preventing such an occurrence having harmful effects on communities. Prevention concerns the formulation and implementation of long-range policies and programs to prevent or eliminate the occurrence of disaster.

Disaster preparedness aims at measures, which enable governments, organizations, communities and individuals to respond rapidly and effectively to disaster situations. Preparedness measures include the formulation of viable disaster plans, the maintenance of resources and the training of personnel. Preparedness is supported by necessary legislations and organizing, planning, coordinating, resource planning and training are its major concerns.

Disaster response are measures that are taken immediately prior to and following disasters. Such measures are directed towards saving life and protecting property and dealing with the immediate damage caused by the disaster. Its success depends vitally on good preparedness. Disaster recovery is the process by which communities and nations are assisted in returning to their proper level of functioning following a disaster. '

The disaster plans essentially vary from place to place on the basis of risk, resources, response capability and multitude of other variables. Most elements of response are common to all disasters; hence a general preparedness plan helps in a rational disaster response. Disaster management implicates different sectors at different times and the need for cooperation and coordination among local, state and national agencies is never more apparent than in the case of disasters, hence disaster management necessitates a multidisciplinary approach. Disasters cannot be managed in a vacuum. Many agencies have to be integrated, coordinated into the plan to prevent

duplication and confusion. Preplanning, preparedness and coordination are key issues in disaster management.

KEY ISSUES IN DISASTER MANAGEMENT

Preparedness is the central issue in disaster management. Preparedness, which is based on **risk assessment, hazard assessment** and **vulnerability analysis**, has a greater chance of evoking appropriate response when disaster strikes.

Disaster management requires various types of resources at various stages of the disaster event. No community can have all the resources for all types of disasters. The resource inventories involving government, private sector, non-government sector, voluntary agencies and general public is of paramount importance.

Resource inventory of material, equipment, technical and human skill is a major task of disaster preparedness. The accuracy of the resource inventory will determine the outcome of response actions.

One of the major problems in disaster management is to achieve the **optimum utilization of available resources.** The important resource organizations must have their plans based on the community, state and national plans. Various ministries, departments, police, ambulance services, communication, transport, medical and health services, electricity, fire service, public works, food, housing, social welfare, civil defence and Armed Forces are some of the key resource organizations. Key requirements that affect the functions must be taken into consideration in preparedness.

PLAN OF ACTION FOR DISASTER PREPAREDNESS

No major disaster can be managed without assistance from the state, the Centre and may be even the international agencies. The strange thing however is that even with best possible help provided the relief operations shall be far from satisfactory, if the district administration is insufficient and poorly co coordinated.

First of all, a good state of preparedness before the striking of the disaster may reduce its impact and the greatest number of lives may also be saved during the first few hours after the disaster has occurred. However developed a country may be no outside help beyond district can arrive during this initial brief period. Thus, if the lives have to be saved the District health wing has to be prepared for a disaster. If the community is well organized and actively involved the numerous problems of survival and health are dealt with more efficiently.

Preparing the community to face a disaster has a very important role in mitigating the impact of a disaster. The people who are facing a disaster will have to recognize the extent of the danger posed by the disaster, and the actions to avert or blunt it, and actions which are likely to compound the existing danger. For example, in the recent inflammable gas leak events in the state, people were reported to stay very close to the leak site for photos, which could have had disastrous results in case of any stray sparks. Community awareness, and preparedness for prudently responding to common disasters will require active IEC, equipping them for the same. The IEC for each community should cover common disasters known to occur in the area, and possible rare disasters with high-destruction potential that the area is at risk for. This should be preceded by a vulnerability mapping and should be conducted by concerned LSGIs, with intersectoral co-ordination. IEC material should include the individual, and community level response to the situation at hand, in a way to minimize the level of impact and damage, and distribution of emergency contact numbers. Such activities should be done at each panchayat level, schools, colleges, and other institutions. The activities may use informational audio-visual messages, mock-drills, etc. for reaching various population groups in the community.

Disaster- resilient infrastructure in disaster-prone areas also have major role in reducing the damage caused by disasters. Buildings, especially hospitals, and schools

in disaster-prone areas should be constructed only after approval from the Disaster Management Authority. Existing/Aging infrastructure will have to be reinforced/ remodeled in order to make such buildings resistant to possible disasters. Fire alarms, fire control systems, entry and exit routes should be included in such building plans, and the occupants be informed of the same through demonstrations, mock-drills, posters, or direction boards.

Phases of hospital emergency disaster management plan

There are three important phases in hospital emergency disaster management plan

      1) Pre-disaster phase

      2) Disaster Phase

      3) Post Disaster Phase

Pre-Disaster Phase

a) Planning: Most of the assessment and planning is done in the pre-disaster phase, the hospital plans are formulated and then discussed in a suitable forum for approval.

b) Preparation of written disaster manual: The hospital disaster plan should be written down in a document form and copies of the same should be available in all the areas of the hospital.

c) Staff education and training: It is very important for the staff to know about and get trained in using the hospital disaster/emergency manual. Regular staff training by suitable drills should be undertaken in this phase.

a) Pre-Disaster Planning

- Formation of hospital Disaster Management Committee
- Initiation of central Command structure (Incident command system)
- Preparation of Job Cards
- Plan activation of different areas of hospital
- Increase bed capacity in emergencies
- Planning of public information and liaison
- Planning for security of hospitals in emergency situation
- Logistics planning
- ➢ Planning for communications (within and outside the hospital)
- ➢ Transportation (To and from the site/ other hospitals)
- ➢ Stores planning
- ➢ Personnel Planning – Medical and Non-Medical
- ➢ Financial Planning

Logistic planning

1) Communication from the state level to lower level & back

As a member of the State Level Disaster /Crisis management Committee, Principal Secretary Health will co-ordinate the overall Disaster /Crisis management for the Health Department. Timely communication and feedback and action taken reports etc. from the state level Disaster /crisis management committee will be communicated by the secretary health through the Director of health services, Director of Medical Education, Director Rural Health Mission to District Level Officers, Supts. of Hospitals, Principals of Medical College Hospitals etc. Name Address, telephone numbers including mobile numbers, institutional level Email ID etc. will be kept ready at all levels including that of other stake holders like private hospitals, ESI, Railways, Sea Ports, Airport, NGOs etc. Urban area wise and Panchayat wise details of the Hospitals with the nodal officers of crisis management will be communicated to nodal agency coordinating the crisis management at each level and also to the related departments/agencies. Efforts for doing GIS mapping of Hospitals and health institutions also will have to be attempted.

Information of the Hospitals CHCs and PHCs of Government Sector, Co Operative Sectors and private sector:

Updated information on the details of the hospitals coming under various Govt. departments, private sector, Co Operative Sector etc. with the telephone numbers of the RMO and Supt will be compiled at the District level and updated periodically. Copy will be available at the DMO (H) and will be made available at the State level and for the use of other stake holders. The resource requirement including personnel, supplies, funds, and infrastructure are likely to be well above the available capacity of the public health system. In order to meet the higher demand in disaster situations, a pooling of resources from various sources, including private, and co-operative sectors is advised. Prompt reports of available beds, personnel, emergency and specialty services, patient transportation facilities, patient support facilities like ventilators, supplies, and mortuary capacities of major public, private, and co-operative sector institutions in the district and neighbouring districts should be made available at the hospital, district, and state level command centres. This will enable a more efficient channeling of resources.

2) **Stores planning**: It is recommended that adequate stores of linen, medical items, surgical items should be kept separately in the Emergency/Casualty and should be marked the "Disaster Store". The activation of this store is done only after the Disaster has been notified by the appropriate authorities. As immediate measures, the buffer stocks earmarked for the Casualty/Emergency Services should be utilized till the fresh stocks are replenished from main Hospital stores/ disaster stores.

3) **Emergency Transportation and Ambulance Services**: Details of Ambulances available in Govt Hospitals/ Private Hospitals/ Other Agencies / Special Schemes, with the telephone numbers of the Hospitals and drivers will be compiled at the district level and made available to the nearby district, state level and other stakeholders.

4) **Personnel Planning** – Medical and Non-Medical and Medical Staff:

In addition to the members of clinical staff, Para and preclinical disciplines (if present in the facility) should render their services in managing the casualties. Duty roster for standby staffs should be available in the control room/Command center, Nursing Staffs:

The Nursing Superintendent should be able to prepare a list of nursing staffs who may be made available at a short notice. The nursing personnel officer should be also able to mobilize additional nursing staffs from non-critical areas.

Other Staff: Duty roster (including those on standby duty) of all ancillary medical services (e.g. Radiology, Laboratory, Blood Bank) and also other hospital services (e.g. house- keeping, sanitation, stores, pharmacy, kitchen etc.) should be available with the duty officer/ hospital administrator.

5) Financial Planning: An important aspect of any management plan is the financial management. It is recommended that the disaster plans are made in close association with the financial advisors of the hospital/institution. This will make them more cost effective and avoid unnecessary and repeated expenditure.

b) Preparation of written disaster manual
Principles of a Hospital Disaster Plan

- **Predictable**: The hospital disaster plan should have a predictable chain of management.
- **Simple**: The plan should be simple and operationally functional.
- **Flexible**: (Plan should have organizational charts). The plan should be executable for various forms and dimensions of different disasters.
- **Concise**: (Clear definition of authority)
- **Comprehensive**:(Compatible with various hospitals). It should be comprehensive enough to look at the network of various other health care facilities along with formulation of an inter-hospital transfer policy in the event of a disaster.
- **Adaptable**: Although the disaster plan is intended to provide standard procedures which may be followed with little thought, it is not complete if there is no space for adaptability.
- **Anticipatory**: All hospital plans should be made considering the worst-case scenarios.

- **Part of a Regional Health Plan in Disasters**: A hospital cannot be a lone entity making its plans in isolation. The hospital plans have to be integrated with the regional (district/taluka/block) plan for proper implementation.
- **Make provisions for vulnerable groups**: Often, vulnerable groups like children, women, elderly, disabled persons etc. fall behind in situations warranting evacuations, causing higher casualties. Means for efficient, faster evacuations of these groups have to be involved in the disaster management plans, with clarifications on the priority of groups during evacuations.

c) Staff education and training

Once the Disaster Plan is ready the next phase would be the education and training of the staff of the hospital about the plan and specific roles of each staff member in case of a disaster.

Most of the existing categories of Health Staff are expected to play a major role in the disaster management. All of them need to be equipped with the necessary managerial and technical skills for the effective and systematic management of the disasters.

Human Resources Development Plan of Doctors and other health staff

Annual plan of action for the organization of the training programs for the health staff to be prepared. Training programs for the Health staff can be organized as separate programme indented for the above purpose, and also as special sessions in the various ongoing training programs of the Health services department. It can be included as a component of the NHM Training, Public Health training etc. State level, district level and block level trainings will be required. Periodic review trainings are also advised to ensure staff readiness.

Major training programmes are
- Disaster Drills
- Partial evacuation/Non-evacuation Drills
- Revision of Hospitals Disaster/Emergency Plan
- Continuing Staff Education

Disaster preparedness at various levels:

Preparedness for dealing the disasters will be done on a regular basis at state level district level, Block level, Panchayath level, urban areas and at the grass root level in all the villages, and will be a part of the annual LSGI plan.

An integrated strategy as part and parcel of the existing work pattern and programme management line is proposed. Heath department is having a systematic pattern of the convening the intersectional coordination Committees and the formation of the Rapid Response Teams (RRTs) at various levels for dealing the natural calamities and the epidemics. Also, intra departmental planning and co-ordination committees on fixed dates of every month for reviewing the programme performances of the previous month and for the planning of the coming month is a regular feature of this department. The concept of disaster management and the systematic incorporation of the components of the disaster management should be incorporated into the existing health service system at all level.

Following systematic coordination and planning meetings are proposed.

A. Activities at state level

1. *State level inter-sectoral co-ordination meeting* involving the line departments NGOs etc. by the fifth month of every year.

2. Convening of the *state level Rapid Response team* shall be done in conjunction with the state level inter-sectoral co-ordination meeting.

3. *Senior Medical Officers Conference*: As usual all the district Medical officers of the health and other senior medical officers and Programme officers will be attending the above meeting. Brief presentation of the disaster Preparedness plan of every district will be done and activities to be done at state level, district level and other area specific activities will be specifically identified.

B.   Activities at the district/ Block/ Grama Panchayat / Urban   level.

1. *Institution level and LSGI level disaster preparedness plan finalization/ updating*: This will be done every year from January to March, and will be a part of the annual LSGI plan.

2. *PHC Level* full day zonal meeting of the last working day of April of every year the finalized disaster preparedness and epidemic preparedness plan of the Panchayat will be presented

Following specific tasks will be addressed in these meetings.

- Role and responsibility of each department and individuals of each department in case of a disaster / epidemic prevention.
- The timely communication of the disaster, /warning.
- Updating the telephone number address etc.
- Vehicle arrangement with the telephone number, including the govt/ private/ NGO vehicles.
- Ensuring the availability of the consumables including the drugs, reagents, insecticides, bleaching powder etc.
- Arrangements for the temporary sheds/ shelters/ relief camps etc. (preferably the nearby schools/Kalayanamandapam / halls etc.)

- Finance including the mechanism for meeting the contingency expenditures in case of emergency situations.

4. **CHC (Block Level) Conferences of May, June**: In the CHC (*Block level) conferences* convened on the block level disaster preparedness plan and the disaster preparedness plan of every panchayath of the locality will be presented. The above meeting will be planned such a manner that adequate time would be allotted for the review of disaster preparedness. Similar to the work planning done at the Panchayat levels every component of the disaster preparedness with the specific earmarking of the roles and responsibilities of the departments / individuals would be done.

In addition, inter Panchayat level and block level human resource mobilization chart in case of emergency, based on the willingness and considering the individual aptitude and ability would be done and list would be handed over to the DMO (H) /concerned MO (PHC) with the emergency phone numbers.

1. *DMO (H) Conference*: District level planning and block level and panchayath level review and the activity plan will be similarly done in special session as part of the district Medical officers conference convened on the 5 the working day of May.

2. *Convening of the Grama Panchayath level, Block level and Municipal /Corporation level and District level inter-sectoral co-ordination Committee meetings* under the chairmanship of the concerned head of the LSGI. The district level meeting will also be attended by the district collector. Representatives of all the line departments and NGOs and private sectors will also be participants of the meeting.

DISASTER PHASE

CHAPTER II

RESPONSE

EXTERNAL AND INTERNAL DISASTER MANAGEMENT PLAN

Need for Disaster Management Plan in Hospitals

Hospitals play a critical role in health care infrastructure. Hospitals have a primary responsibility of saving lives, they also provide 24x7 emergency care service and hence public perceive it as a vital resource for diagnosis, treatment and follow-up for both physical and psychological care. Hospitals are central to provide emergency care and hence when a disaster strike the society falls back upon the hospitals to provide immediate succour in the form of emergency medical care.

Whenever a hospital or a health care facility is confronted by a situation where it has to provide care to a large number of patients in limited time, which is beyond its normal capacity, constitute a disaster for the said hospital. In other words when the resources of the hospitals (infrastructure, trained manpower and organization) are over-whelmed beyond its normal capacity and additional contingency measure are required to control the event, the hospital can be said to be in a disaster situation. This implies that a same event may have a disaster potential for a smaller hospital and not so for a bigger hospital. Therefore, disaster for a hospital is "a temporary lack of resources which is caused due to sudden influx of unexpected patient load".

Hospital disaster management provides the opportunity to plan, prepare and when needed enables a rational response in case of disasters/ mass casualty incidents (MCI). Disasters and mass casualties can cause great confusion and inefficiency in the hospitals. They can overwhelm the hospitals resources, staffs, space and or supplies. Lack of any tangible plan to fall back upon in times of disaster leads to a situation where there are many sources of command, many leaders, and no concerted effort to solve the problem. Everyone does his/her own work without effectively contributing to solving the larger problem of the hospital. Therefore, it is essential that all Hospital Emergency Plans have the primary feature of defining the command structure in their hospital, and to extrapolate it to disaster scenario with clear cut job definitions once the disaster button is pushed.

Emergency plan for smaller hospitals:

The emergency plan for smaller hospitals such as community health centre may actually only focus around providing either mobile emergency care on the site of incident or providing intermediate stabilization and forward referral of serious patients to the nearest networked hospital. In most mass casualty incidents, it has been observed that majority of the victims are not seriously injured and come in the walking wounded category. Such small centres can provide immense help in case of disasters/MCI by providing definitive care to such victims who are not seriously injured. The emergency plan of such small hospitals would largely depend upon the concept of hospital networking.

Hospital networking:

Hospital networking does not necessarily mean linking up of various health care facilities with communication networks. Network essential means a dynamic link between various health care facilities of a given geographical area
for augmentation or optimization of available resources. It means that the district authorities must have the information about the available health resources in their area.

Advantages of hospital networking:

Analysis of existing resources

In order to network various health care facilities, the district authority should analyze the available resources in terms of materials and trained manpower. This helps in assessing the existing capabilities and limitations.

Knowledge augmentation.

The sharing of inventory data between different hospitals, health care facilities, diagnosis laboratories, blood banks (public as well as private) etc. enriches the district medical authorities about various medical resources they have at hand in case of a mass disaster. It also helps the policy maker to critically analyze the available resources and augment them if and when required.

Optimal utilization of resources.

In a disaster situation no single health care facility standing alone can provide optimal care to all the victims affected. Networking helps and identifies not only the strength and weaknesses of our own hospital but also other available resources in the area so that optimal care of patients can be taken. For example, a district hospital might not have a CT scanner but the same might be available at nearby private setup which can be utilized by the district authorities in case of disaster so that the final treatment of the victims is not delayed.

EXTERNAL DISASTER: Source outside the hospital
(Eg. Accidents, Earth quake, Flood, Blast etc.)

I. Disaster management action plan in Hospitals

Figure 1 shows the flow of information in a hospital during External disaster.

Figure 2 shows expected flow of patients during disaster event in a hospital.
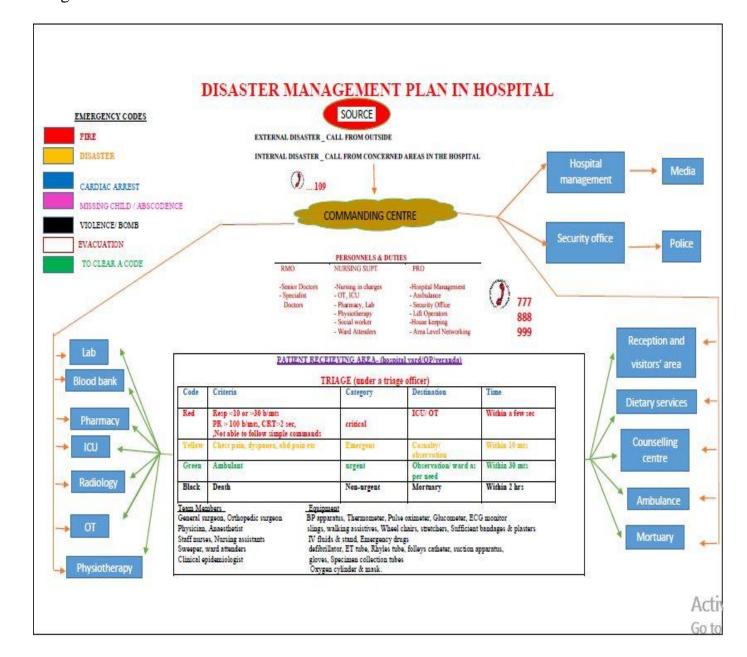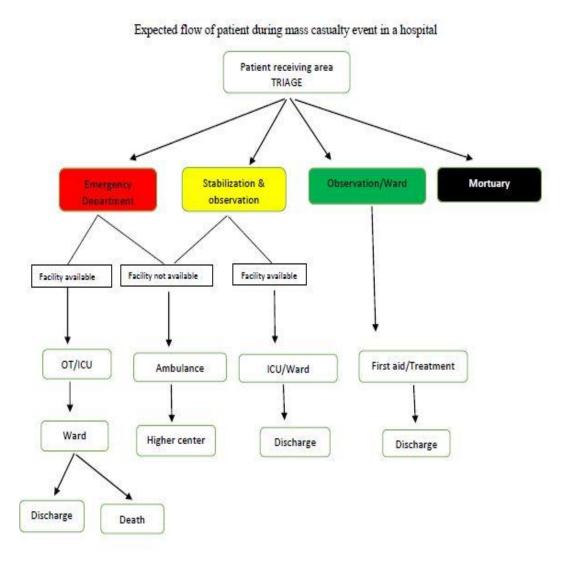
Fig 1

DISASTER MANAGEMENT PLAN IN HOSPITAL

SOURCE

EMERGENCY CODES

- FIRE
- DISASTER
- CARDIAC ARREST
- MISSING CHILD / ABSCODENCE
- VIOLENCE/ BOMB
- EVACUATION
- TO CLEAR A CODE

EXTERNAL DISASTER _ CALL FROM OUTSIDE

INTERNAL DISASTER _ CALL FROM CONCERNED AREAS IN THE HOSPITAL

...109

COMMANDING CENTRE

Hospital management → Media

Security office → Police

PERSONNELS & DUTIES

RMO	NURSING SUPT.	PRO
-Senior Doctors	-Nursing in charges	-Hospital Management
- Specialist Doctors	- OT, ICU	- Ambulance
	- Pharmacy, Lab	- Security Office
	- Physiotherapy	- Lift Operators
	- Social worker	-House keeping
	- Ward Attenders	- Area Level Networking

777
888
999

Lab

Blood bank

Pharmacy

ICU

Radiology

OT

Physiotherapy

PATIENT RECEIEVING AREA- (hospital yard/OP/veranda)

TRIAGE (under a triage officer)

Code	Criteria	Category	Destination	Time
Red	Resp <10 or >30 b/mts PR > 100 b/mts, CRT>2 sec, ,Not able to follow simple commands	critical	ICU/ OT	Within a few sec
Yellow	Chest pain, dyspnoea, abd pain etc	Emergent	Casualty/ observation	Within 10 mts
Green	Ambulant	urgent	Observation/ ward as per need	Within 30 mts
Black	Death	Non-urgent	Mortuary	Within 2 hrs

Team Members
General surgeon, Orthopedic surgeon
Physician, Anaesthetist
Staff nurses, Nursing assistants
Sweeper, ward attenders
Clinical epidemiologist

Equipment
BP apparatus, Thermometer, Pulse oximeter, Glucometer, ECG monitor
slings, walking assistives, Wheel chairs, stretchers, Sufficient bandages & plasters
IV fluids & stand, Emergency drugs
defibrillator, ET tube, Rhyles tube, folleys catheter, suction apparatus,
gloves, Specimen collection tubes
Oxygen cylinder & mask.

Reception and visitors' area

Dietary services

Counselling centre

Ambulance

Mortuary

Activ
Go to

Fig 2

Expected flow of patient during mass casualty event in a hospital

II.   Job chart for disaster management

Commanding center

RMO

It is the RMO's duty to:

- Arrange senior doctors and other specialist doctors to patient receiving area.
- Appointing the triage officer and medical controller for the ward, casualty department and OT.
- Stay in the area of administrative offices to be available to assist, as requested, by disaster coordinator.
- Arrange the pickup and drop van for doctors, paramedical nurses for mobilization in the disaster situation

Nursing superintendent

The nursing Supts. is responsible for:

- Identifying nursing needs.
- Allocating extra nursing staff in essential areas.
- Re-deploying existing staff.
- Recalling of staff.
- Activating the pre-arranged admission ward.
- Passing alert message to OT, ICUs, pharmacy, lab, physiotherapy and counselling centre.
- Inform floor manager for allocating ward attenders.

PRO

The PRO is the person who is responsible for:

- Deploy voluntary workers.
- Detailing the staff reported him to the commanding centre.
- Inform ambulance department, security office, house-keeping department and lift operators.
- Take necessary arrangements for area level networking.
- Updating the information to hospital management.

- Establish information services for relatives and friends.

Hospital management

Hospital administrator/RMO

- Dissemination of correct information regarding disaster in order to present to media.
- Hospital administrator/ medical superintendent is responsible for addressing the media.
- If the above personnel were absent during the time of disaster management, the RMO will be responsible for addressing the media.

Security office

- Liaison with various agencies such as the fire brigade, police done by chief security officer.
- Take necessary actions to control crowd, traffic control with in the hospital.
- Direct the ambulance in and out of the hospital.
- Physical arrangement of triage area should be done by security guards.

Reception and visitors' area

Reception staff

- Maintain register for victims of disaster
- Provide necessary instructions to patient and patient relatives.
- Notify Emergency Communications Center if internal disaster is involved.
- Do not accept routine non-emergency admissions.

Patient receiving area

Triage officer

- Triage officer will take in charge of forming triage team in the patient receiving area.
- Categorize patients according to the severity of condition and assign staffs for treatment.
- RMO/Hospital superintendent will be the triage officer.

Specialist doctors

- Specialist doctors in the triage team include, general surgeon, orthopaedic surgeon, physician, anaesthetist etc.
- Identify the patients who need special care in their concerned areas and provide necessary management.

Nursing staffs

- All the nursing staffs in the triage team should be trained in Emergency Medical Services.
- Nursing in charge should have the list of equipment and medicines available in the unit.
- Obtain information and fill out available information and time on disaster tags. Even if no information is available as to identity, give information as to Condition, types of injuries, etc.
- Give aggressive first aid treatment.
- Make out the appropriate lab slips and x-ray requisitions with disaster number. It is essential that they have these slips made out.
- They should assist the doctors in receiving patients, categorize them and providing treatment according to the priority.
- Obtain help from different departments when needed.
- Maintain proper medical records of the victims.
- If a patient is transferred, be sure to indicate on the tag to which hospital he has been sent.

Nursing assistants

- Assisting the nursing staffs during procedures
- Mobilize specimens to the concerned departments.
- They are acting as a mediator between casualty and other departments
- Arrangement of beds with linen and pillows
- Remove the spoiled linen and replace with new one
- Know current empty bed count and number of personnel available who could assist in other units. Send number to Command Center.

House-keeping staff

- Clean the concerned departments, their work should not disturb the work in the department.
- Remain in your unit until notified differently.

Ward attenders

- At least four ward attenders should be there in the emergency area.
- Wheel chairs and stretchers should be available in the department whenever needed.

Clinical epidemiologist

- Surveillance of any communicable diseases after disaster.
- Ensure proper water and sanitation in the emergency area.

Dietary department

- Prepare to serve nourishments to ambulatory patients, house patients and personnel as need arise.
- Be responsible for setting up menus in disaster situation and maintain adequate supplies.

Counselling centre

- One clinical psychologist/ one social worker should be on duty.
- Provide counselling to the victims and family members after disaster.

Ambulance

- 24x7 service, ambulance including mobile ICUs should be make available.
- Enough number of drivers, emergency technicians should be available.

Mortuary

- One security personnel on duty, ensure proper electricity in the unit.
- Maintain proper register, help the family members to identify the dead body and hand over to them.

Lab

- Department Head or designee will call in their own personnel as needed after reporting to Command Center

- Verify the samples with request and do the analysis
- Disseminate lab reports on time

Blood bank

- At least two staffs on duty
- One staff should be responsible for receiving the matching samples, and other should do the cross matching and dispatching the blood.
- Keep a list of blood groups and products available in the unit.
- Arrange for further blood products when needed.
- Maintain proper registers.

Pharmacy

- 24x7 duty in the central pharmacy, at least three staffs on duty.
- Report to Command Center, then remain in department.
- Have list of drug suppliers that can provide emergency supplies quickly.
- Provide necessary drugs and equipment whenever requested.
- Ensure enough stock of medicines
- Arrange for further stock of medicines in case shortage has been reported.

ICUs

Nursing in charge should;

- Evaluate patients in the Intensive Care Unit for possible discharges. Use established discharge criteria as a guide(GHE/ICU/01). Transfer patients out if indicated.
- Prepare to admit more critically ill patients.
- Send runner to Command Center or phone for help.

Radiology

- One X-ray, CT and MRI technicians should be available along with one radiologist.
- The Radiologist on duty or on call for the Radiology Department will be alerted by the supervisor.
- At least one house keeping staff on duty

- Nursing assistant should verify the stocks in the department, maintain proper register for each.
- Dissemination of reports on time should be done by nursing assistant on duty.
- It will be the duty of this Radiologist to call in extra help as needed. All extra help called in will report directly to Radiology.

Operation theatre

- Supervisor or Nurse will supervise Operating Room and call all needed personnel after reporting to Command Center.
- Verify the stock in the OT and make available the necessary things should be done by shift in charge.
- Call additional surgeons as needed.
- Check area for supplies and equipment.
- Ask for additional help to carry out surgery and treatments in Operating Rooms and Recovery Room.
- Assign and direct scrub nurses and circulate.
- Notify Triage when Operating Rooms and Recovery Room is available for more patients.
- Keep minimum list of supplies on hand and be prepared to process additional sterile supplies quickly.
- Notify anaesthetists who will maintain adequate anaesthesia and drug supplies.

Physiotherapy

- Department Head or designee will call in their own personnel as needed after reporting to Command Center.
- Pain management of ambulant patients according to the conditions.
- Provide necessary slings, splints and walking assistive devices for ambulant patients as per need

Information Management

It is the role of the Command centre to effectively co-ordinate the hospital preparedness and utilizing the hospital networking for the disaster victims. As the preparations need be adequate for the patient load, it is essential to reconfirm the information passed to the Command centre on the scale of damage, and patient movements from the disaster site. It is highly likely that multiple sources may pass on the same information, or information varied on the scale of damage. It is therefore advisable to document the source of information with name, position, and contact number of the source of each piece of information obtained at the hospital, and the disaster helplines. The information that will be passed onto the Command centre should be reverified. The Command Centre will also be disseminating information on the victims and victim load to the media through media briefs. It is advisable to open an Information centre for the purpose, to ensure unhindered working of the different units of the hospital. Information on the admitted/transported victims will also be passed to the inquiring relatives, and public representatives through this centre.

It is imperative to adhere to infection control guidelines in the different units of the hospital during all phases of the disaster management. This will also be included in the staff training for disaster management. The hospital should have a policy on the restriction of entry of visitors (KASH/ NABH/ NDMA Hospital Safety Guidelines), and other persons including media, police, and public representatives and it should be conveyed to all concerned parties on this policy. It is advisable to have a separate discreet entry-exit for visiting VIPs, like Ministers, Governmental authorities etc. to avoid media and public crowding.

Furthermore, proper documentation of the disaster victims in the hospital is necessary for identification purposes, needs assessment and impact assessment. Daily line listing of the patients (disaster victims) is advisable.

Health personnel at disaster sites:

In situations where health personnel are requested to accompany the rescue teams at disaster sites, the personnel who are charged with this duty should be trained to

navigate disaster sites, and should be provided with the required protection equipment (PPE). Health personnel untrained in such, should not be required to accompany rescue teams to dangerous disaster sites at the risk of their own lives. On such missions, the members of the trained rescue teams should ensure the safety of the accompanying health personnel, and there should be clarification on the transportation of rescue team members falling victim to the disaster or secondary events.

INTERNAL DISASTER: Source inside the hospital

(Eg. Fire, short circuit, chemical spillage, blast etc.)

Steps to follow during internal disaster:

Step 1:

-   Press the disaster alarm from the source (anybody present in the source can press the alarm).

Step 2:

-   Information should be passed through phone to the disaster management commanding centre by any staff from the concerned department.
-   Announce the particular emergency code by any staff from the concerned department (Eg. Code RED in case of fire, Code ORANGE in case of disaster etc.)

Step 3:

-   Turn off the lift (done by lift operator)

The nursing personals should;

-   Evacuate the patients or personnel form the source.
-   Open the fire exit and direct the patients to use it.
-   Shift the bed ridden patients to nearby safe zone.
-   Sequence of evacuation should be- a) Patients in immediate danger

    b) Ambulatory patients

    c) Semi-ambulatory patients

    d) Non-Ambulatory patients.

Step 4:

-   In case of fire, depending upon the nature, extinguisher should be applied by the staffs available there.
-   Hospital security teams should control the crowd throughout the evacuation process.

- Police and fire force should be informed by the security officer.
- Turn off the power supply to the source if needed.

Step 5:

- Hospital management is responsible for passing the messages to press and media.
- Once all the patients have been evacuated, all the staffs should leave the source.
- Further extinguishing work should be carried out by fire force.
- When situation is under control announce Code GREEN.

POST DISASTER PHASE

CHAPTER III

RELIEF, REHABILITATION AND RECONSTRUCTION

POST DISASTER EPIDEMILOGICAL SURVEILLANCE AND MANAGEMENT

Post-Disaster Recovery

Post-disaster recovery planning shall be part of the Hospital Disaster Management Planning process and it shall be performed at the onset of response activities.

To ensure speedy and effective post-disaster recovery every hospital/healthcare facility shall:

i. Designate an official/member of the staff to oversee the hospital recovery operations.

ii. Determine the essential criteria and processes to deactivate the disaster response and recovery activities from the hospital's normal operations.

iii. Undertake a Post Disaster Damage Assessment if there is structural damage to the hospital.

iv. Estimate the time and resources that shall be required to undertake complete repair/ replacement/retrofitting before a facility that is severely damaged can be re-opened.

v. Undertake a post-response hospital inventory assessment and consider repair or replacement of equipment as required (equipment venders could be involved in assessing the functional status of the sophisticated equipment).

vi. Prepare and submit a post-response report to the chief of the hospital and other pertinent stakeholders.

vii. Debrief staff meticulously immediately after the disaster response phase to enable them to cope and recover from any post-traumatic stress disorder.

viii. Appropriately recognize the services provided by staff, volunteers, external personnel and donors during disaster response and recovery.

ix. Monitor post disaster health situation in the local community.

x. Systematically and comprehensively document lessons learnt, and structural modification/adaptation of the hospital contingency plan as required.

xi. Provide definitive treatment.

Disaster Epidemiology and post disaster Public Health works for prevention of epidemics

Epidemiology, as classically defined, is the quantitative study of the distributions and determinants of health-related events in human populations. Disaster epidemiology, however, must be viewed in a broader perspective; it links data collection and analysis to an immediate decision-making process. Disaster epidemiologists measure and describe the adverse health effects of disasters, both natural and those of human origin, and the factors that contribute to those adverse effects, with the overall objective of assessing the needs of disaster-affected populations, matching available resources to needs, preventing further adverse health effects, evaluating programme effectiveness, and planning for contingencies.

1. APPLICATION OF EPIDEMIOLOGY IN DISASTERS

The role of epidemiology in disaster situations has included a broad range of activities:

- Rapid assessment of health needs;
- Surveillance and action-oriented information systems;
- Disease-control strategies for well-defined problems;
- Assessment of the use and distribution of health services;
- Etiologic research on morbidity and mortality due to disasters;
- Development of long-term epidemiologic studies of the affected populations.

Health decisions made during emergencies are often based on insufficient, nonexistent, or even false information, which results in inappropriate, insufficient, or unnecessary health aid, a waste of health resources, or counter-effective measures

1.2 Damage assessment

The critical component of any disaster response is the early conduct of a proper damage assessment to identify urgent needs and to determine relief priorities for an affected population. The purpose of this assessment is to estimate the following factors:

- Overall magnitude of the impact of the disaster (geographical extent, number of affected persons, and estimated duration);

- Impact on health (number of casualties);
- Integrity of health services delivery systems;
- Specific healthcare needs of survivors;
- Disruption of other service sectors (power, water, sanitation) that are relevant to public health;
- Extent of response to the disaster by local authorities.

Information collected during this rapid assessment should be used to plan and implement immediate responses. The emphasis of these assessments is to gather a small amount of relevant information quickly (usually 2 to 4 days after a sudden impact disaster). It requires a multidisciplinary team (e.g. an epidemiologist, statistician, and possibly and engineer or health planner) and relies on visual inspection, interviews with key personnel, and surveys.

The health effects of a disaster can be measured by a series of indicators that permit objective assessment and are used to guide relief efforts.

Such indicators include -

➢ mortality;

➢ morbidity;

➢ the number of damaged houses,

➢ homeless persons and

➢ nonfunctioning hospitals; and

➢ the status of community lifelines (e.g. water, electricity, gas, sewage disposal).

Since everyone in the disaster area will feel needs and experience loss, the challenge of the early assessment is to decide for which needs and affected areas early intervention will prevent the greatest loss of life or severe morbidity.

The ultimate goal of disaster epidemiology is to prevent or reduce the adverse health consequences of the disaster itself, as well as to optimize the decision-making process associated with management of the relief effort.

These epidemiological objectives can be simply defined as the surveillance cycle, i.e. **the collection of data, analysis of data, and response to data**. The surveillance cycle must turn many times: immediately, with rapid and quick assessments of problems using the most rudimentary data collection techniques, then with short-term assessments involving the establishment of simple but reliable sources of data and,

subsequently, with ongoing surveillance to identify continuing problems and monitor the response to the interventions chosen.

Managing the Relief Camps

The epidemiological data generally collected in relief camps will fall-into one of the following categories:

- Total affected population;
- Age-sex breakdown;
- Identification of at-risk groups; e.g. children less than 5 years of age, pregnant and lactating women, disabled and wounded persons, and unaccompanied minors;
- Average family or household size;
- Mortality;
- Morbidity;
- Nutritional status;
- Health programme activities.

Mortality surveillance

Crude death or mortality rates (CDR or CMR) are the most critical indicators of a population's improving or deteriorating health status and are the category of data to which donors and relief agencies most readily respond. A CMR not only indicates the current health state of a population but also provides a baseline against which the effectiveness of relief programmers can be followed.

Nutrition and public health issues

In addition, surveillance of nutritional status and diseases of public health importance such as measles, malaria, diarrhoeal diseases (cholera and dysentery), and acute respiratory infections, as well as diseases of epidemic potential such as hepatitis and meningitis should be conducted.

Data on diseases of public health importance may help-

- To plan an effective preventive and curative health programme for refugees.
- To facilitate the procurement of appropriate medical supplies
- In the recruitment and training of appropriate medical personnel,

- For focusing on improving environmental sanitation (e.g. providing clean water and assuring appropriate disposal of excreta).
- The prevalence of acute malnutrition acts as an indicator of the adequacy of the general relief ration. A high prevalence of malnutrition in the presence of an adequate average daily ration for a given relief camp may indicate inequities in the food distribution system, or high incidence rates of communicable diseases (e.g. measles and diarrhoea).
- The presence of nutritional deficiency disorders (i.e. pellagra, beriberi, or xerophthalmia) indicates the need for ration supplementation.

Surveillance systems

The surveillance systems and data collection efforts assisted in the identification of disease outbreaks, implementation and assessment of interventions (e.g. control of diarrhoeal diseases through the provision of clean water and sanitation systems, distribution of soap, and training of clinical staff-in aggressive rehydration therapy), and recognition of the need for increased primary health care services.

Later, information on programme coverage and effectiveness of interventions should also be systematically collected; such data should include the average quantity of food rations distributed, per capita clean water available, ratio of families to latrines, immunization coverage, and supplementary feeding programme attendance. Such tracking of health sector activities will be useful in determining whether certain groups in the population are under-served, and in planning measures to reach a broader population base.

Evaluation of effectiveness and efficacy of health response

Epidemiological data is very relevant and very much needed for the assessment and effective monitoring of the efficacy of the health response.

There are five basic categories of data (indicators or measures of effectiveness) that are useful for monitoring and evaluation in emergency relief programs:

1   Mortality: monthly mortality rate; under five mortality rate;

2 Morbidity: serious communicable diseases (cases/month) nutrition-related diseases (protein energy malnutrition, anemia, scurvy, pellagra, etc.);

3. Nutritional status screening of new arrivals by mid-upper arm circumference (MUAC); periodic surveys by weight-for-height;

4. Activities: immunizations; feeding centre attendance; other public health activities; numbers of outpatients, inpatient admissions, referrals;

5. Vital sectors: food distributions, rations; water and sanitation; shelter, blankets, clothing; domestic utensils, cooking fuel. The use of health information to guide programme decision-making will be facilitated if such targets and critical indicators are established at the beginning of an emergency relief operation.

The emergency health information system should be periodically assessed to determine its accuracy, completeness, simplicity, flexibility, and timeliness. The utilization of the data by programme planners and key decision-makers should also be assessed. The health information system should evolve as the need for information changes. Finally, the presentation of data to decision makers should make use of simple, clear tables and graphs. Most importantly, there should be regular feedback to the data providers in the field through newsletters, bulletins, and frequent supervisory visits.

Post disaster public Health interventions:

Emphasis on post disaster public Health measures is necessitated by the following additional factors:

➢ Destruction of the health care infrastructure.
➢ Interference in the public health services especially for
  ● Safe drinking water.
  ● Sanitation measures.
  ● Immunization.
  ● Rodent / Mosquito control
➢ Ecological changes and its effect on vector populations.
➢ High population density due to displacement.

Public Health interventions to prevent disease outbreaks after disaster should focus on the disaster affected geographical area, in the neighborhood, and in the relief camps.

Following are the major areas of focus.

I. Post disaster public health measures for:

- ➢ Safe water supply.
- ➢ Food hygiene.
- ➢ Proper sewage systems/disposal of excreta.
- ➢ Vector / rodent control.
- ➢ Public Health education.

II. Strengthening of the aetiological surveillance system.

Surveillance system should be in place as early as possible after the natural disaster. Surveillance in natural disaster can be defined as a systematic collection, compilation, analysis, and interpretation of deaths, injuries and illnesses in order to provide information about any adverse health effects related to a disaster event in a community. This also tells us about the early warning signals of impending outbreaks.

Surveillance system allows-

- ➢ Assessment of human health impacts of a disaster.
- ➢ Early identification of potential problems to planning and effective preventive control measures.
- ➢ Early detection of the outbreak if it occurs

  The surveillance should focus on main health problems that can have a response. The system should be simple, feasible and easily adaptable to the local needs. A simple format would be used for the gathering information on epidemic prone diseases. (It is given in the section standard, procedure & protocols)

Daily Reporting

Daily reporting of the following diseases to be done from the field level, heath institutions and from the relief camps.

1. Acute Diarrhoeal diseases (including acute gastroenteritis)
2. Bacillary dysentery
3. Viral Hepatitis
4. Cholera
5. Enteric fever.
6. Malaria, Dengue, Chikungunya.
7. Measles
8. Chicken Pox
9. Acute Respiratory Infection (ARI)/ Influenza Like Illness (ILI)
10. Fever of Unknown Origin
11. Leptospirosis
12. Scrub Typhus.
13. Snake bites, Dog bites etc.

ESTABLISHING A POST –DISASTER MENTAL HEALTH INTERVENTION PROGRAM

Mental Health Services and Psychosocial Support

The guidelines for mental health services and psychological support also need to be followed in the response and recovery phases after the disaster. Some of the important guidelines include:

I. Appropriate interventions for mental health and psychological support be planned and implemented in a phased manner.

II. Emotional first aid along with mobilization of community support systems should form the basis of activities in the first few weeks following a disaster.

III. Trained counselors and Community Level Workers, with a backup of specialized mental health services as and when required will be made available and accessible for at least up to five years.

IV. Mental health services and psychological care integrated with the local delivery systems will be made available and accessible for at least up to five years.

V. Specific activities and programs for the psychological well-being and care of the rescue and relief workers, as well as the CLWs and counselors will be made available.

VI. Material for training of counselors and CLWs, as well as training of trainers will be made available, and uniformity implemented.

VII. Awareness material about the common psychological and behavior reactions to disasters will be made available and widely distributed.

Service of the mental Health team comprising doctors' clinical psychologists and other paramedical staff from the Psychiatry department of the Medical college Hospitals, mental Health Centres, District/community Mental Health Programme, private sector and NGOs would be utilized for this purpose.

➢ Services would be provided in the health institutions, relief camps and in the affected field areas.

➢ Considering the gravity of the disaster long-term community mental health programs would be planned and implemented with the support of the community volunteers.

It is the responsibility of administrators to provide post-disaster mental health services within the web of government, community, and volunteer agencies that are helping survivors cope after the disaster.

Programs can either be decentralized or centralized. Decentralized programs often have centers located in affected neighborhoods, with a team assigned the responsibility of servicing that area.

INTERVENTION PLANNING

Key components of an intervention plan include:

Knowledge: Conceptual knowledge of distaste's, disaster behavior, and intervention approaches that is obtained prior to a catastrophe.

Information: Determination of the degree of loss suffered by the community, based on media sources, on-site surveys, and visits to places where survivors are sheltered. It is also essential to collect information that will offer a cultural appreciation of the disaster's effects.

Assessment: An assessment of how the emergency assistance agencies have organized themselves into a network and prioritized survivor needs to enable rapid identification of the cultural influences of the community and the psychological influences affecting both survivors and caregivers.

TYPES OF CONSULTATION

Two types of consultation are most often seen in post-disaster situations:

Case Consultation (survivor-centered)

The primary task of case consultation is to develop a plan that will help a specific survivor who is having difficulties of an unusual nature. In some cases, the mental health consultant will personally investigate the survivor's psychological and

social needs. Survivor-centered case consultation is the type of consultation most often needed in a disaster program.

Community approval and support are necessary for the effective planning and implementation of programs for disaster survivors. Also, when a program begins, the dissemination of information about the program's activities and location of services is essential. This type of publicity may take several forms. It may educate the public and the survivors about the fact that physical and emotional discomfort following a calamity is a normal reaction to stress. If there is a need for help, survivors may seek assistance from the programs by calling and asking for help.

POST-DISASTER OUTREACH AND CRISIS COUNSELING

Crisis counseling

An intervention technique that restores survivors' capacity to cope and handle stressful situations and provides assistance for reordering and reorganizing their world; education and interpretation of the overwhelming feelings produced by post-disaster stresses should be made available to help restore a sense of capability and hopefulness.

OUTREACH OBJECTIVES

- Providing education and information about resources available to help survivors reorganize their lives.
- Helping with identification of ambivalent feelings, acknowledging needs, asking for help, and accepting support.
- Helping with prioritizing needs, obtaining resources, and increasing individual capacity to cope with specific priorities identified.
- Providing opportunities to become engaged and affiliated.
- Providing a structured method of perceiving specific problems, self-observations, behavior, and powerful emotions through help in understanding, defining, and ordering events in the larger world.

Outreach to individuals may initiate the linkage to mental health intervention. In such situations, outreach can be followed by crisis counseling. The goal of post-disaster psychological intervention is to alleviate a survivor's emotional

distress and/or cognitive disorganization and to suggest corrective action and offer appropriate information. The crisis worker can help survivors interpret their overwhelming emotions, understand the reactive nature of feelings, and recover a sense of capability and hopefulness.

Specific elements of post-disaster crisis counseling, and outreach are:

- Reorientation and adaptation to a social transition period;
- Appraisal of the support network;
- Determination of thoughts, emotions, levels of anxiety, depressive reactions, fear, and anger.

During the first phase of the post-disaster experience, the primary effort is the outreach process. This "first aid" technique helps survivors get reoriented and adapted to their new transitory reality. Care should be taken not to interfere with the psychological defense mechanisms used by the survivor. These defense mechanisms, which give the survivor a personal sense of remaining in control, include denial of the extent of an injury, loss, or trauma, and a sense of vagueness concerning the catastrophic event.

Further, although expressions of empathy are helpful, care must be exercised not to reinforce or reward the victim role. The healthier parts of the survivor's personality must be encouraged and mobilized to enhance the ability to "hold on" for the present.

All support system resources should be mobilized. The responsibilities of daily living can be apportioned to family members.

Crisis workers themselves should seek to strike a balance between rest and work. They should also build networks to enhance their own support systems in order to prevent "bum out." Crisis personnel should always work to facilitate the expression and understanding of painful emotions that are part of all phases of recovery.

GOALS AND OBJECTIVES OF CRISIS COUNSELING

Appropriate action includes helping survivors follow temporary shelter procedures, await news of post-disaster events, or deal with the lack of information on the whereabouts of other family members. In addition, the crisis worker can provide guidance concerning the survivor's immediate focus of attention.

TYPES OF INTERVENTION ACCORDING TO POST -DISASTER PHASES

First Phase: Triage and Outreach Activities

The primary objective in the first phase is to lessen stress and offer support. Psychological emergencies require immediate, rapid evaluation of the survivor's behavior. Efforts for alleviating the immediate situation and the psycho sociological reactions of the survivors by assisting them in venting feelings, sharing experiences, and receiving support will be done in this phase.

The major effects seen in the initial phase include sadness, fear, and anger, which are manifested in many forms and with a wide range of intensity.

Intervention objectives for survivors in the shelter include helping them achieve physical comfort, increased cognitive organization, and a sense of emotional control. These approaches will help diminish survivors' sense of helplessness, indecisive or regressive behavior, and belief that they lack coping skills. In addition, these approaches help increase competency, self-esteem, flexibility to consider alternative solutions, and ability to handle the confusion and mixed communications that are characteristic of this first phase of disaster assistance.

As the days go by, crisis workers must sort out priorities for action, such as helping survivors with a sense of orientation, reinforcing reality testing, and developing support systems.

Second Phase and Third Phase

As survivors are relocated from emergency shelters to temporary housing and back to their reconstructed homes, a new stage of bereavement and crisis emerges. This necessitates a broader repertoire of mental health intervention activities, including crisis counseling with the objective of achieving crisis resolution and assisting with depression reactions that emerge in response to the "second disaster." Therapeutic activities can help achieve some of the following objectives in assisting survivors:

• Providing education and information about the help available;

- Helping to identifying ambivalent feelings about acknowledging needs and asking for and accepting worker support;
- Helping survivors interact on a cognitive level, assigning priorities to needs, accepting advice on how to obtain information, and increasing the capacity to cope with the dislocation of their lives.
- Providing a structured method of perceiving problems, self-observations, behavior patterns, and powerful emotions through help in understanding, defining, and ordering events in the new environment.

    Once these objectives have been met, each categorical problem can be singled out and suggestions can be made for its management.

ANNIVERSARY REACTIONS

Families report a reemergence of memories of their emotions with the return of the date of the disaster. Generally, the media reinforce these memories by publishing pictures of the event. The range of distress can go from reliving the trauma to evoking unfinished mourning. For survivors who have experienced significant losses mourning is still in progress one year later. For other survivors dealing with the abnormal situation following the disaster, the anniversary can also provide an opportunity for further healing.

PREVENTIVE PLANNING FOR ANNIVERSARY REACTIONS

Crisis counselors should expect and be ready for a resurgence of calls asking for help to obtain further counseling. For many survivors, all that will be needed is phone counseling and reassurance that their emotions are healthy reactions. Others will need more extensive assistance and referral. At the time of the one-year anniversary of the disaster, the workers themselves will already have returned home, or will be preparing to do so, and they may therefore have some difficulty in separating their own feelings from the survivors' reactions. The objective of mental health assistance during the anniversary period is effective use of interventions that will assist families in (1) handling the stressful situation and (2) further strengthening their coping capacity.

CHAPTER IV

KNOWLEDGE MANAGEMENT

IEC Training Community involvement and other managerial issues of disaster

No major disaster can be managed without assistance from the state, the Centre and may be even the international agencies. The strange thing however is that even with best possible help provided the relief operations shall be far from satisfactory, if the district administration is insufficient and poorly co coordinated.

First of all a good state of preparedness before the striking of the disaster may reduce its impact and the greatest number of lives may also be saved during the first few hours after the disaster has occurred. However developed a country may be no outside help beyond district can arrive during this initial brief period. Thus, if the lives have to be saved the District health wing has to be prepared for a disaster. If the community is well organized and actively involved the numerous problems of survival and health are dealt with more efficiently.

A broad outline of Plan of action

Communication from the state level to lower level & back

As a member of the State Level Disaster /Crisis management Committee, Principal Secretary Health will coordinate the overall Disaster /Crisis management for the Health Department. Timely communication and feedback and action taken reports etc. from the state level Disaster /crisis management committee will be communicated by the secretary health through the Director of health services, Director of Medical Education, Director Rural Health Mission to District level Officers, Supts. of Hospitals, Principals of Medical College Hospitals etc. Name Address, telephone numbers including mobile numbers, institutional level Email ID etc. will be kept ready at all levels including that of other stake holders like private hospitals, ESI, Railways, Sea Ports, Airport, NGOs etc. Urban area wise and Panchayat wise details of the Hospitals with the nodal officers of crisis management will be communicated to nodal agency, co coordinating the crisis management at each

level and also to the related departments/agencies. Efforts for doing GIS mapping of Hospitals and health institutions also will attempted.

Information of the Hospitals CHCs and PHCs of Govt Sector, Co Operative Sectors and private sector:

Updated information on the details of the hospitals coming under various Govt. departments, private sector, Co Operative Sector etc. with the telephone numbers of the RMO and Supt will be compiled at the District level and updated periodically. Copy will be available at the DMO (H) and will be made available at the State level and for the use of other stake holders.

Emergency Transportation and Ambulance Services: Details of Ambulances available in Govt Hospitals/ Private Hospitals/ Other Agencies / Special Schemes, with the telephone numbers of the Hospitals and drivers will be compiled at the district level and made available to the nearby district, state level and other stakeholders.

Activities on Receipt of Warning

* Within the affected District/Taluk /Village, leave sanctioned to the department personnel will stand cancelled and the personnel will report back on duty.

* Out-of-station officers and staff will be recalled

* Establish communications with DDMA and related agencies /depts. within the district.

* All personnel working within the district in health sector come under the direction and control of the "NODAL-OFFICER-Health Services" or "Officer-in-Charge-Health Services"

* All district level officials of the department would be asked to report to work as required

* The District Magistrate to provide "Officer-in-Charge-Health Services" or the field staff as the need be, with all needed authorizations with respect to

- Recruiting casual laborers

- Procuring locally needed emergency and materials

- Expending funds for emergency needs.

● The "Officer-in-charge-Health Services" will ensure that all field and other officers submit the necessary reports and statement of expenditure in a format as required by DM.

● Review and update precautionary measures and procedures and review with staff the precautions that have been taken to protect equipment and the post-disaster procedures to be followed.

● Full department vehicles with fuel and park them in a protected area.

● Stock emergency medical equipment, which may be required after a disaster.

Importance of disaster preparedness

● A good state of preparedness may reduce its impact.

● However developed a country/State outside help beyond a district in the initial brief period will be very difficult.

● In the initial phase the involvement of the community is paramount in reducing the impact.

● Disaster awareness of the community can save the lives and reduce the impact.

● Forecasting and operation of the warning systems, and timely communication.

Pre –disaster Preparedness:

1. **Preparation/Updating** of the *disaster preparedness manual every institution*, *every district and state level every year*- Jan –March every year

2. **Human resource Management on disaster management**:

   a. **Special disaster management training for key staff and constitution of teams**;

   Disaster management teams of doctors and paramedical staff comprising orthopedician, surgeon, general doctors pediatrician, male staff nurse, Nursing

assistants and hospital attendants , ambulance drivers etc. to be properly trained on various aspects of the onsite disaster management. Such teams should be established at district level and taluk level hospitals. Similarly block level (CHC level) teams involving medical officers and paramedical staff of other PHCs and Mechanism for the effective utilization of this team along with the ALS and BLS ambulances from the concerned hospitals   should be established.

b. **General disaster management training to Health staff;** Most of the existing categories of Health Staff are expected to play a major role in the disaster management. All of them need to be equipped with the necessary managerial and technical skills for the effective and systematic management of the disasters.

Human Resources Development Plan of Doctors and other health staff

Annual plan of action for the organization of the training programmes for the health staff to be prepared. Training programmes for the Health staff can be organized as separate programme indented for the above purpose, and also as special sessions in the various ongoing training programmes of the Health services department. It can be included as a component of the NHM Training, Public Health training etc. State level, district level and block level trainings will be required.

Disaster preparedness and IEC activities at the community level

Community awareness plays a crucial role in prevention and early execution of the disaster management in the initial few hours of the disaster and hence every effort should be taken to make the local community aware of the probable disasters and essential preparedness and management of the same.

The people who are to take early action in the event of a disaster are:
a. The community.
b. The local health personal
c. The local authorities and individuals as groups who concern themselves in the localities with rescue work, communications, transports, shelter and food supply.

The local population stricken by a disaster should be enabled to be taking action for itself. Local communities react quickly and effectively, particularly if they are supported by assistance from outside. The action of the local community is of utmost importance but by no means can it be self- sufficient in case of a disaster. Most of the problems can be solved only by the outside assistance at various levels.

Following specific community level activities and institution level activities are very significant.

Ideally it should be done in all field areas, but considering the output and community involvement the focus will be given for the disaster-prone areas.

1. **Convening of the ward level disaster preparedness plan at the ward level under the leadership of the ward member**. JHI and JPHN would convene the meeting by April and May on consultation with the ward member, in which at the Anganwadi workers of the area, ASHA, school teachers, balawadi teachers, NGOs and representatives of all other institutions functioning in the area would be also invited.

2. **Organization of the disaster preparedness classes**, **film shows discussion** etc. in the field area considering the convenience of the community.

3. **Group talks, house to house campaigns etc.** on individual, protection mechanisms, and the proposed communication of the warning systems etc. would be done. At all levels precautions will be taken to avoid unnecessary panic. IEC activities on Diastral Management would be planned and implemented along with programs for the prevention and control of communicable diseases.

4. **Mass drills in institutions**: Considering the disaster proneness of the area, mass drills would be organized in the schools, colleges and other major institutions.

5. **Volunteers Skill development training in dealing the disaster victims**: Selected volunteers of the disaster-prone areas would be provided with 1-2 days' disaster management and first aid training, so that their services can be utilized effectively in case of a disaster.

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