

Disaster Management Plan of Kannur District Hospital December, 2019



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I. Background

The District hospital Kannur, which is one of the few major hospitals in Kannur of Kerala, not only caters the needs of the communities in the city, but also serves health services to the communities spread across Kannur district. It is the most important health facility in Kannur and therefore it is of utmost importance that the hospital to be prepared to respond to any emergency or disastrous event. The recent flooding in Kerala has affected as close to 332 health facilities, 61 Ayurveda institutions and 59 homeopathic centres as per Post Disaster Need Assessment (PDNA) report developed by UNDP.

The Hospital Safety Guideline developed by National Disaster Management Authority mandates the Hospital Disaster Management Plan (HDMP) *“optimally prepare the staff, institutional resources and structures of the hospital for effective performance in different disaster situations”*. It further states that *“each hospital shall have its own Hospital Disaster Management Committee (HDMC) responsible for developing a Hospital Disaster Management Plan”*. Members of this committee shall be trained to institute and implement the Hospital Incident Response System (HIRS) – for both internal and external disasters. The District hospital Kannur, which is prone to many hazards such as earthquake, landslide, flood and fire etc. has considered to develop a Disaster Management Plan. This plan has been prepared to help the hospital manage various types of events, from simple and limited emergencies to major incidents such as earthquakes. The plan has several levels of activation depending on the type of emergency situation.

II. Objectives

1. To ensure preparedness of the District hospital Kannur to respond and recover from internal and external emergencies;
2. To ensure continuity of essential activities, critical services and safety of its hospital staff, patients, visitors, and the community;
3. To coordinate and organize response to various incidents including protection of the facility and hospital services.

III. Hazards - The District Hospital Kannur has identified the following hazards that can affect it.

1. Earth quake
2. Landslide
3. Floods
4. Fire Hazard
5. Lightning
6. Drought
7. Wind
8. Tsunami
9. Coastal erosion

10. Epidemics
11. Food poisoning
12. Pest attack
13. Industrial explosions
14. petrochemical transportation accident
15. stampede
16. road accidents
17. building collapse
18. Boat capsizing
19. Air and rail accidents
20. Hooch accidents

IV. Overview of the hospital

District hospital is the most important health institution in Kannur district. It was established about 85 years back by the British Govt and serving lakhs of common people every year for the last 8 decades. It is situated in Kannur cantonment area and functioning in about 20 small and big buildings. This is a 616 bedded hospital, main problem faced by the institution is non availability of land for development and expansion.

Table 1 – Current Human Resources at District hospital Kannur

Sl. No.	Existing Human Resource Capacity	Number
1	Departments	13
3	Doctors	59
4	Administrative Staff	22
5	Para Medical Staff	55
6	Nursing Staff	140
7	Supporting Staff	187

Critical departments –

Sl. No.	Critical departments	Remarks
1	ED	Lack of space and manpower, New trauma care to be inaugurated soon
3	ICUs	2 ICUS3 bedded, &8 bedded No dedicated intensives. Staff shortage
4	OTs	Total 4 OTs
5	CSSD	No separate dept., autoclaving done by nursing asst
6	Maternity	24 h functioning labour room and OT.

7	Radiology	Consultant Radio diagnosis post vacant
8	Blood bank	24 hrs component separation unit available
9	lab	24 hrs functioning

V. Types of emergency

The District hospital Kannur may be affected by various level of emergencies. It may have external, internal or combination of external and internal such as earthquake that can affect the functionality of the hospital. The plan will help hospital staff respond in a proactive manner to various hazards be it internal or external. This will also enable the District hospital Kannur to minimise injuries and casualties in case of any unforeseen incident or accident.

a. Level I

Level-I incidents can be managed by the Emergency Department(ED) with the existing staffs and resources. With its staff on duty and resources, the emergency department can handle a maximum 4 critically injured cases at any given time with minimal disruption to normal services. There may be need for partial activation of Incident Response System (IRS) and activation of some departments. Level I emergency decisions will be made by the IRS based on report from the ED.

b. Level II

Level-II incidents would mean large mass casualty incidents requiring the activation of the IRS and the hospital Emergency Operation Centre (EoC). The decision to declare a Level II emergency will be made by the Incident Commander based on report from the incident site / field.

c. Level III

Level-III incidents would be in cases where the hospital itself is affected by a localized event and there is a need to evacuate staff, patients and visitors and resources may need to be mobilized from outside the facility. EoC will need activation and decision to declare a Level III emergency will be made by the Incident Commander based on report from the incident site / field.

d. Level IV

Level IV incidents would be in cases where the hospital as well as the city is affected by a disastrous event such as an earthquake. The hospital may have to evacuate staff, patients and visitors as necessary, activate IRS and prepare for mass casualty. EoC will need activation and decision to declare a Level IV emergency will be made by the Incident Commander based on report from the incident site / field.

VI. Hospital Disaster Management System

1. Hospital Disaster Management Committee (HDMC)

The District hospital Kannur, Hospital Disaster Management Committee (HDMC) shall consist of the following members:

Table 2 – HDMC Members:

Sr	Name of the Departments / Designation	Name of the committee members
1.	Medical Superintendent	Dr Rajeevan V K
2.	Deputy Superintendent	Dr Leka V
3	Resident Medical officer	Dr Ismail C V T
4	HoD, Ophthalmology	Dr Smitha M P
5.	HoD Medicine	Dr Abhilash
6.	HoD, ENT	Dr Vijayakrishnan
7.	Department of Ortho	Dr Rajeev R
8.	Department of Blood bank	Dr Shaheeda K B
9.	Department of Anaesthesia	Dr Jayarajan
10.	Deptt of obstetrics	Dr Roja
11.	Dept of physical medicine	Dr Maya Gopalakrishnan
12.	Deptt of Dermatology	Dr Daisy Thomas
13.	Deptt of Psychiatry	Dr Gaurav Shankar
14.	Deptt of Paediatrics	Dr Satheeshan
15.	Deptt of Pulmonary	Dr Venugopal
16	Dept of Forensic	Dr Augustus
17.	Deptt of Surgery	Dr Bushra
18.	Dental	Dr Sujatha
19	Pain and palliative	Dr Irshad
20	PP Unit Medical officer	Dr Ashish Bens
21	Administrative staff	Binilbala
22.	Office In charge Central Store	Sasidharan
23.	Nursing Superintendent	Shylaja P R
24.	Security In-Charge	Sadhananandan
25.	PRO	Bijesh.T.P
26	Junior scientific officer	Sachidanandan
27	Staff council secretary	Head nurse Mary kutty

28	Executive Engineer Jilla Panchayat	
29	KSEB AE	
30	Water Authority AE	

The HDMC shall be responsible for:

- Drafting and endorsement of the hospital disaster management plan;
- Operationalization, review and updating the plan;
- Conducting regular drills, at least two table top exercises and one drill on an annual basis;
- Ensuring all staff are sensitized on the plan through dissemination meetings;
- Ensuring all new staff have disaster management training;
- Ensuring all the Head of Departments (HoDs) and In-Charges of Wards/ Departments develop job-cards (detailing actions during emergencies) for every staff member as per the roles and responsibilities.
- Ensuring supplies required for emergency response are stored and ready to use as per sample stock inventory for disaster stores.
- Liaison with health department, State Disaster Management Authority, armed forces, and other hospitals/ health facilities to ensure operationalization of the plan;
- Take decisions to systematically reduce risk (structural and non-structural mitigation and preparedness actions) components of the hospital to achieve maximum functionality during disasters/ emergencies.

2. Hospital Incident Response System

The Hospital Incident Response System (HIRS) consists of the following structure. The overall responsibility for the management of the incident/emergency/disaster rests on the Incident Commander, including the management of all personnel involved. Each box in the table will be allocated with two successors in case the designated person is unavailable at site during an emergency. HIRS is flexible and the Incident Commander shall only activate the required positions, or functions. Under the HIRS, one person could hold more than one position or work of one position could be allocated to different people.

Illustration 1 – Suggested IRS for District Hospital Kannur

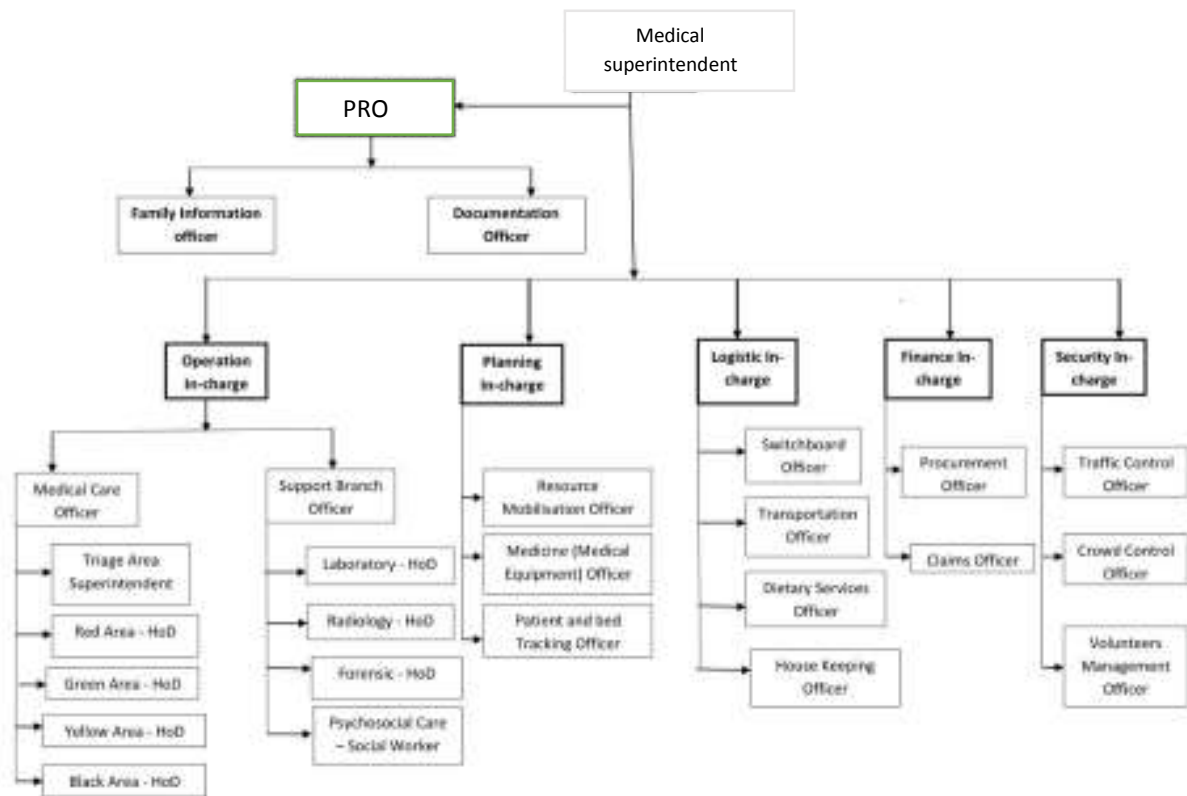


Table 3 – Designated IRS Positions for District Hospital Kannur

Sr. No	HIRS role	Position	Name	Mob No
	Incident Commander	Superintendent	Dr Rajeevan V K	9447543789
	Deputy Incident Commander	Deputy Superintendent	Dr Leka V	9447399080
	Public Relation Officer (PRO)		Bijesh.T.P	6282435353
	Documentation Officer		nil	
	Family Information Officer		nil	
2. Operations Section				
	Operation In-charge			
		Resident medical officer	Dr Ismail C V T	8086552277

2.1.1. Medical Care Branch				
	Medical Care Officer	Resident medical officer	DR.Ismail.C.V.T	8086552277
	Triage Area	House Surgeons	Medical&Surgery dept	
	Red Area	Casualty MO		9544874761
	Yellow Area	Ortho duty MO	Dr.Rajeev Dr.Jithendranath Dr.Rajmohanam Dr.Deepak	9497090000 9447961535 9447458055 8547018388
		Surgery mo	DrBushra Dr.Mohan kumar Dr.Rathnakaran	9847906616 9497055255 9072847473
	Green Area	GOP/ Duty mo		
		House Surgeons	O&G department	
	Black Area	Casualty Nursing asst		
Support Service Branch				
	Support Branch Officer	Junior scientific officer	Sachidanandan	9495028418
	Lab	Lab technician	MEERA	9995709333
		Radiology	Sr Radiographer	Anitha ullas
	Forensic	Forensic Surgeon	Dr Augustus	9496357045

	Psychosocial Care-Social Worker		Ajitha	
3	Logistic Section			
	Logistic In-charge	Nursing superintendent		
	Switchboard officer	Duty Electrician	Sudhakaran Chandrababu	9895315447 9847642986
	Dietary Services	HN incharge		
	Housekeeping Services			
		HIC	Baby Sudheesh H N	
	Transportation			
		Supervisor nursing dept		
4	Finance Section			
	Finance In-charge	Lay secretary and treasurer		
	Procurement Officer	Junior superintendent (A)	ANILA	
	Claim Officer	Junior superintendent (A)		
5	Planning Section			
	Planning In-charge	physician		
	Medicine and Medical Equipment	Store supdt	Sasidharan	9446468174
	Patient and bed capacity officer	Nursing supdt		
6	Security Section			
	Security In-charge	Duty security officer		

	Traffic Control Officer	Duty security officer		
	Crowd Control Officer	Duty security officer		
	Volunteer management Officer	Resident Medical officer	DR.Ismail	

The other staff members who are not part of the ICS system of the hospital will be responsible and working together with their concerned departments to help manage disaster emergency.

3. Hospital Emergency Operation Centre (HEOC)

The HEOC will be established in Deputy supdt room. In the long term an external, independent HEOC may be planned. Another medium-term option would be to install a porta-cabin near the hospital entrance area to serve as the HEOC, when needed.

The HEOC shall have the following facilities and amenities:

- Manual for the HEOC (this should be in summarized format and shared with all staff members for quick reference).
- Communication sets –telephones, fixed lines, telephone set, phones, mobiles and wireless communication sets.
- Maps – City and Hospital
- Television
- Computers with internet and printers
- Photocopy machines
- Contact numbers of key persons, both internal and external (Annex XXX), should be kept in the HEOC.
- Provision for male/female toilet and rest room with adequate facilities
- White board with marker pens
- Back-up generator
- Pantry items
- Seating area for at least six members

VI. Standard Operating Procedures for emergency management

1. Activating the Emergency Management Plan

Emergencies can be:

- 1) **Internal** - Fire/ smoke or hazardous materials release within hospital building; Explosion; Violent patients/ armed visitors; Police actions; Other internal and disturbing events such as water failure/contamination, electrical failure, HVAC failure, medical gas failure, steam failure, etc.
- 2) **External** – Natural hazards (mainly fire, earthquake and windstorms); transport accidents involving mass casualties; epidemics; or other incidents leading to mass casualty.
- 3) **Combination** - A combination of the above as in a major earthquake where the hospital is affected as well.

Superintendent shall be the Incident Commander for all other levels.

Level I

- On receipt of information, HoD, Emergency Department (ED) activates emergency department procedures and be prepared to receive casualties.

Level II

- On receipt of information, IC informs all the section chiefs and activates the emergency operation centre.
- On receipt of information, IC directs HoD, ED to activate the emergency department to receive casualties.
- ED, HoD activates ED procedures, including staff call back and triage procedures.
- IC activates positions in the IRS as required.
- ED, HoD and activated section chiefs report back on actions taken to the IC
- IC briefs to all section chiefs including HoDs.

Level III

- On receipt of information, IC informs all the section chiefs and activates the emergency operation centre.
- Evacuation orders are given, as required.
- All staff and in-patients are evacuated using identified evacuation routes to designated evacuation area.
- Emergency procedures such as - Staff call back; patient reception and triage (if required); internal and external communication; patient evacuation to other hospitals are activated as required.
- Emergency meeting is held in a prepared location.

- IC along with section chiefs and other relevant IRS positions quickly draw up and agree on an Incident Action Plan (IAP).
- All sections and individuals fulfil their responsibilities under their section chiefs.
- Chiefs of the activated sections report to the IC regularly on actions taken.

Level IV

- On receipt of information, IC informs all the section chiefs and activates the emergency operation centre.
- Evacuation orders are given, as required.
- All staff and in-patients are evacuated using identified evacuation routes to designated evacuation area.
- Emergency procedures such as - Staff call back; patient reception and triage; internal and external communication; patient evacuation to other hospitals are activated as required.
- Emergency meeting is held in the HEOC if centre is usable, if not the meeting is held in a prepared location.
- IC along with section chiefs and other relevant IRS positions quickly draw up and agree on an Incident Action Plan (IAP). Medical camps, along with other operational areas are set up in pre identified locations.
- All sections and individuals fulfil their responsibilities under their section chiefs.
- Chiefs of the activated sections report to the IC regularly on actions taken.

2. Evacuation Procedures

Illustration 2 – Map of evacuation sites (ES) – Should get satellite image



Standard Ward Evacuation Procedure:

Standard ward evacuation procedure given below and additional steps and advice given under Procedure for Natural Hazards in Section VII in this plan document can be used as a reference to develop individual procedures.

- Upon receiving information of an emergency in the ward, the Nurse In-Charge assesses situation and decides to evacuate or not. Nurse In-charge may also order evacuation on receipt of evacuation instructions.
- In case of a fire incident in the ward, the Nurse In-charge shall dial a Code Red / inform IR who spreads out information to others using intercom.
- In-charge takes stock of available staff, including support staff available for re-assignment.
- Hospital should develop emergency codes to alert staff members of the hospital.
- In-charge/designated staff member contacts other unaffected wards for patient evacuation support and initiates staff call back, if required.
- Staff takes stock of number of patients and makes preparations for evacuation;
- Patients are segregated as follows:
 - Patients who can walk on their own are accompanied out in groups through evacuation routes to the evacuation site.
 - Infants should be carried by the parents.
 - Wheel chair dependent patients are accompanied out by nursing assistants or ward boys through evacuation routes to the evacuation site.
 - Bed-bound patients.
- For bed-bound patients, Nurse In-charge with required staff should first attempt horizontal evacuation to identified refuge areas and only if there is threat to life, a vertical evacuation will be attempted.
- ICU patients should ideally be accompanied by a doctor.
- Staff ensures all utilities are turned off before evacuating.
- Designated staff accounts for all patients and staff at the evacuation site.
- Nurse In-charge reports back to IC on actions taken.
- HoDs and In-charges should disseminate their ward or department evacuation procedures to all concerned staff.
- Each ward (units and offices) should display their evacuation routes and sites.
- Procedures must be tested through simulation exercise or ward/departmental drills, at least twice a year and the procedures updated on a regular basis.

3. Mass Casualty Management Procedures

3. a. Surge Capacity Procedures

Surge capacity is the ability of a health service to expand beyond normal capacity to meet increased demand for clinical care. Surge capacity requires both increase in human resources and increase in bed capacity.

I. Increase in human resources:

Under the direction of the Incident Commander depending on the level of emergency, the Operations Chief, will assess and direct all section chiefs to call back staff as required. Department Heads/ In-charges may also initiate staff call back in an emergency situation.

All Department Heads and In-charges shall ensure that staff shift system (roster) is in place before hand and that they make the roster available to the Telephone operator on a weekly basis.

During emergencies, the HoDs or In-charges shall:

- Call the Telephone operator to initiate staff call back and inform the reporting area. The operator shall call back (or use other means of communication installed in advance such as mobile SMS or WhatsApp groups staff based on the shift system.
 - Staff designated for the immediate next shift shall report immediately.
 - The following shift should come in after 6 hours of the emergency
- Brief and assign tasks to reporting staff.
- Review and update staff roster as per the emergency requirements.
- Ensure staffs have adequate amenities and the required rest.

To support staff, HR should have pre-agreements with staff from nearby hospitals GH thalassery, (also senior students), and other hospitals such as AKG hospital, Koyli hospital, to assist in case hospital is overwhelmed. Local volunteers and ex-employees should also be mobilized, and rosters (with required contact information) maintained in advance, to augment staff capacity. All external human resources coming in should be trained and made aware of the IRS, communication and other procedures and their roles and responsibilities in advance. They should be provided with an arm band or cap for identification during emergencies.

II. Increasing in-patient bed capacity (Surge Capacity)

Bed capacity may be increased through the following options:

1. Option 1

Discharging non-critical patients using 'reverse triage' by identifying hospitalized patients who do not require major medical assistance. These patients could also be transferred out to other nearby hospitals such as CHC azhikode, CHC pappinisseri, etc. or allowed to go home.

2. Option 2

District Hospital Kannur can extend the current bed capacity in the existing wards and other areas in the hospital, as estimated below:

Area	Wards	Current Bed Strength	Max extendable bed capacity	Max bed capacity after addition	Current nursing staff strength	Additional required to manage max in-patient bed capacity
Surgical Ward	male	46	nil	46	3	3
	female	35	nil	35		
Medical	Male	52	nil	52	3	3
	female	40	nil	40		
Children Ward		36	4	40	1	2
Gynaec ward	Antenatal	28	Nil	28	1	2
Gynaec ward post natal		56	Nil	56	1	2
Neonatal icu		18	Nil	18	1	3
Casualty observation Room		4	Nil	4	2	2
HDU		3	Nil	3	1	1
Operation Theatre Recovery Beds	Surgical Recovery	Nil				
	GICU	nil				
	Ortho Recovery	Nil				
Post operative ward	female	12	Nil	12	1	2
Gynaec post op ward		26	Nil		1	3
Dialysis unit		19	Nil	19	2	3
Female Eye Wards					1	2
	Female Eye Ward	16	nil	16		
Male Eye ward	Eye Ward	14	Nil	14	1	2

Medical ICU 1		3	Nil	3	1		1
Deaddiction Ward		5	Nil	5	No separate staff		1
Radio Therapy Ward	Chemotherapy wards	8	Nil	8	1	1	
Labour room		22	Nil	22	2	4	
Payward		39	nil	39	1	4	
Medical icu 11		8	nil		3	8	

3. Option 3:

The hospital can extend the current bed capacity in the existing wards and other areas in the hospital such as emergency wards in nursing, labs, auditorium, seminar hall/rooms and conference hall etc. In this District Hospital, Kannur can be increased in the following areas Conference hall Telemedicine room, Old Kitchen.

3.b. Patient Reception, Triage and Treatment Procedures (When building is safe):

- Patients will be unloaded from ambulances (or guided to the area by security personnel in case of patients walking in or brought in by private vehicles) and taken into the patient reception area near nurses duty room.
- Triage nurses (posted according to the anticipated number of patients) will carry out triage - 1) Red - for urgent cases/ Priority 1; 2) Yellow - for less urgent cases/ Priority 2; 3) Green - for minor injuries/ Priority 3; and 4) Black - for the dead.
- Triage nurses/ registration officers will systematically register and record patients. Existing Triage Registration forms should be used for collecting information.
- Triage nurses will direct patients to appropriate treatment areas according to triage category.

3.b.1. Triage and Admission

A triage area will be set up in front of registration counter and the staff will be trained. The triage will be done on the following basis. There will be colour coded wrist band to the patients to be sent off to the concerned area.

Table 5 – Triage Colours and Priorities

	On Scene	Hospital Care	Suggested [Assign department]

Colour Tag	Priority for evacuation	Medical needs	Priority	Conditions	
Red	1 st	Immediate care	1 st	Life-threatening	
Yellow	2 nd	Need care, injuries not life threatening	2 nd	Urgent	
Green	3 rd	Minor injuries	3 rd	Delayed	
Black	Not a priority	Dead	Last	Dead	

3.b.2. Patient Treatment Area Procedures

- **Patient Resuscitation area (Red Tag Area – inside casualty)**

- This area is for the Priority 1 or urgent cases requiring immediate medical attention, stabilization and transfer for surgery. The red tag area will be in or nearest to the Emergency and will be handled by the Emergency Department.
- The Emergency store will be near the Emergency and should have medical supplies at all times to cater up to 50 incoming patients at a time.
- The Emergency Department team takes over patients from Triage nurses
- Administer medical care to stabilize, admit to ward or transfer for surgery

- **Patient Observation Area (Yellow Tag Area – observation room)**

- This area is for Priority 2 or less urgent patients and will be located near the Emergency department.
- The yellow tag area will be handled by the Orthopaedic department.
- The Ortho Department team takes over patients from triage nurses and administers medical care as required and stabilizes patients.
- In case patients require surgery, Ortho team will hand over to Red tag area
-

- **Minor Treatment Area (Green Tag Area – surgery op)**

- This area is earmarked for the “walking wounded” or patients with minor injuries (Priority 3).
- The green tag area will be handled well by the skin department as it will involve minor procedures. Skin department will be assisted by the Medical department.
- The triage nurses will direct the patients to the red tag area.
- The Skin Department team administers medical care, upgrades patient priority if required or sends patients back home.
-

- **Area for the dead bodies (Black Tag Area – mortuary)**

The mortuary should be used for keeping the dead bodies. This will ensure that the identification of the dead is smoother. The Forensic unit and support service In-charge will be responsible for the

registration and release of body in coordination with the HP Police and as per established protocol and as per the job responsibilities in Annex A.

- **Area for the families**

The area (waiting area near pharmacy) to be earmarked as a waiting area for the families.

- Security personnel shall direct the families to the designated waiting area.
- Public Relation Officer in coordination with Logistics Chief will ensure a family information site in the area.
- Safety and security officer/ personnel ensure waiting area is safe and families are not moving to critical and unsafe areas.

- **Area for VIPs and media**

The room (green area) to be identified for VIPs and also for media personnel. Under the directives of the Incident Commander, the PRO will be responsible for ensuring VIPs and media receive update and accurate information, as required.

3.C. Patient Reception and Triage procedures (When hospital's buildings are not functional):-

Following areas have been earmarked as operational areas, in case the hospital building is not functional:

- Patient Reception area for registration and triage new trauma care building.
- Patient resuscitation area (Red new trauma care)
- Patient observation area (Yellow new trauma care)
- Minor treatment area (Green new trauma care)
- Area for the Dead (Black mortuary)
- Area for the family members – new trauma care
- Area for VIP/ Media– new trauma care
- Area for decontamination – new trauma care

3.D. De-activation of Plan and Post-disaster de-briefing

- Incident Commander and section chiefs discuss and deactivate the emergency plan if convinced there would be no more casualties or feel that the situation is under control.
- Incident Commander holds post-disaster de-briefing with all the section chiefs and other staff involved to discuss any gaps, issues and challenges faced during implementation and update plan to deal with future emergencies.
- After Action Report (AAR) is written up and shared with all the staff. The Planning team should document the entire incident to support the AAR.

VII. Standard procedures for natural hazards in the hospital

1. Procedures for fire prevention and during fire outbreak

i). Fire Preparedness and Mitigation

- Instructions for fire prevention should be formulated and communicated to all hospital staff, especially preventing electrical and LPG related fires through proper and mindful use of related appliances.
- Hospital premises should be assessed for fire hazard and necessary preventive actions taken. The assessment will bring out the high fire hazard areas and the need to implement risk reduction actions.
- Evacuation areas and routes should be identified and marked.
- Entry and Exits in all the hospital buildings should be marked and open at all times.
- Corridors and exits should be clear of equipment and furniture so that they do not block evacuation routes or exits during emergency.
- Adequate fire extinguishers, fire hydrants and smoke/ heat detectors and fire sprinklers should be installed and proper maintenance of the equipment and machinery ensured. Monthly fire extinguisher maintenance checklist and record provided below may be used.
- Keep emergency contact number of Fire Brigade (101).
- All staff should be aware of procedures to follow in case of a fire alarm or receipt of information of a fire outbreak (including shutting down of medical gas, air conditioning and other systems).
- All telephone calls must be terminated immediately after a fire alarm is activated unless they deal specifically with the alarm, so as not to waste time and be alert for instructions.
- All staff must be trained to use fire equipment.

ii). Procedures during Fire Outbreak:

In case of detecting any fire, follow the RACE procedure:

R – Rescue (rescue anyone including yourself or anyone who is in immediate danger to the closest safe area)

A – Alarm (if you are the first person to hear it, communicate to others)

C – Confine (confine the fire to where it is by closing all doors (not locking) in and around the fire area, after ensuring no one is trapped)

1. In case fire is detected

a) If the fire is in the early stages:

- Remain calm and activate hospital alarm system (break glass and sound alarm)

- Fire safety unit is alerted and will respond
- Trained staff should use nearest fire extinguisher to extinguish fire.
- Initiate Code Red by dialing (XXXX) / Or inform via phone
 - The receptionist / switchboard attendant calls the following:
 - Medical Superintendent (or Administrative officer in case MS is unreachable (XXXXXX))
 - Fire Brigade (101)
 - Local fire station number [0497 2706900]
 - Staff call back, as required
- Ready patients for horizontal evacuation.
- b) If fire is well developed:
 - Remain calm and activate hospital alarm system (break glass and sound alarm)
 - Fire safety unit is alerted and will respond
 - Initiate Code Red by dialing XXXX / or inform via calls
 - The receptionist / switchboard attendant calls the following
 - Medical Superintendent (or Administrative officer in case MS is unreachable)
 - Fire Brigade (101)
 - Local fire station number [0497 2706900]
 - Staff call back, as required
 - Initiate evacuation procedures. In case fire safety officer arrives at the scene, follow his/her instructions.
 - While leaving - leave lighting on; turn off oxygen, gases and electrical appliances and contain the fire by closing the windows and doors of the room.
 - If possible, collect medical records, patient notes etc. and take to the evacuation area, however the priority is to evacuate as quickly as possible.
 - Do not use lifts.
 - If there is heavy smoke, crawl to the exit, so that poisonous smoke is not inhaled.
 - In case your clothes catch fire – Stop, Drop and Roll.
 - For ambulatory patients give blankets to cover their body and head and take along lifesaving equipment if convenient and accessible.
 - Return back to the evacuated area only when instructed by fire safety officer or senior staff.

QUARTERLY MONTHLY FIRE EXTINGUISHER CHECKLIST:

The following items shall be checked on all fire extinguishers at the facility and documented. If there is a fire extinguisher on site that does not pass the monthly inspection, notify the Fire safety unit immediately. All fire extinguishers are to be marked for ease of maintenance and testing.

Interior Extinguishers:

- Mounted in an easily accessible place, no debris or material stacked in front of it.
- Safety pin is in place and intact. Nothing else should be used in place of the pin.
- Label is clear and extinguisher type and instructions can be read easily.
- Handle is intact and not bent or broken.
- Pressure gauge is in the green and is not damaged or showing “recharge”.
- Discharge hoses/nozzle is in good shape and not clogged, cracked, or broken.
- Extinguisher was turned upside down at least three times (shaken)

Exterior Extinguishers:

- Discharge Hose/nozzle is in good shape and not clogged, cracked, or broken
- It is mounted in an easily accessible area, with nothing stacked around it.
- Safety Pin is in place and not damaged.
- Pressure gauge is in the green and not damaged or showing “recharge”.
- Label is readable and displays the type of extinguisher and the instructions for use.
- It is not rusty, or has any type of corrosion build up.
- Extinguisher was turned upside down at least three times. (Shake)
- The location of the extinguisher is easily identifiable. (Signs)

QUARTERLY FIRE EXTINGUISHER INSPECTION RECORD

(Record all deficiencies on the monthly plant inspection to be turned into the Fire Safety Unit, District hospital Kannur

January	April	July	October
Total # of Extinguishers onsite: _____	Total # of Extinguishers onsite: _____	Total # of Extinguishers onsite: _____	Total # of Extinguishers onsite: _____
All have been inspected: YES NO	All have been inspected: YES NO	All have been inspected: YES NO	All have been inspected: YES NO
All passed inspection: YES NO # Did not pass:_____	All passed inspection: YES NO # Did not pass:_____	All passed inspection: YES NO # Did not pass:_____	All passed inspection: YES NO # Did not pass:_____
Notified Fire Safety Unit: YES NO	Notified Fire Safety Unit: YES NO	Notified Fire Safety Unit: YES NO	Notified Fire Safety Unit: YES NO

2. Procedure for earthquake preparedness and response

i. Earthquake mitigation and preparedness

- Conduct hazard and vulnerability assessment for earthquakes to identify structural and non-structural risks and measures for mitigation and preparedness.
- Fix and anchor equipment, furniture and fixtures on a prioritized basis to prevent and reduce risks from falling hazards.
- Clear all exits, doorways and corridors, especially the identified evacuation routes, to ensure smooth evacuation when required.
- Draw up evacuation procedure and identify evacuation routes and sites for each ward/ department and building.
- Put in place pre-agreements and arrangements for backup communication and emergency utilities such as water, gas, power, fuel etc.
- Ensure provisions for outdoor hospital, in case hospital buildings are damaged and non-functional.
- Store few necessary emergency items (such as emergency light, batteries, etc.) in each ward.
- Make staff aware of hospital's emergency preparedness plan, the key protective actions to take during an earthquake and procedures for evacuation.

ii. During Earthquake

- During shaking all staff, patients and attendants get under their beds or under sturdy furniture to take cover and hold on (Drop, cover and Hold). Patients or attendants should not start running out as this could lead to a stampede and injury from falling objects. Staff member will firmly instruct people to remain calm.



DROP

Drop where you are, onto your hands and knees. This position protects you from being knocked down and also allows you to stay low and crawl to shelter if nearby.



COVER your head and neck with one arm and hand

If a sturdy table or desk is nearby, crawl underneath it for shelter

If no shelter is nearby, crawl next to an interior wall (away from windows)

Stay on your knees; bend over to protect vital organs



HOLD ON until shaking stops

Under shelter: hold on to it with one hand; be ready to move with your shelter if it shifts.

No shelter: hold on to your head and neck with both arms and hands.

- Patients who are bed/wheelchair bound will be instructed to protect their head with a pillow or their hands.
- Staff checks if earthquake has caused any injuries to their patients or attendants in their ward and provides necessary first aid.
- Prevent panic among the patients and attendants.
- Staff on duty determines whether evacuation is necessary depending on the intensity of shaking.
- In case evacuation is necessary, put off the medical gas supply and any electrical appliances.
- One staff conducts rapid assessment of evacuation routes for safety before leading patients and attendants through the evacuation routes to the evacuation sites as per the earthquake evacuation procedure.

While evacuating:

- Tell patients and attendants not to carry their personal belongings.
- Use stretcher to evacuate patients suffering from serious medical conditions to the evacuation site.
- Vertical evacuation may be necessary during an earthquake to an outside area and you must use the stairways and ramps that are safe for evacuation(stairways and ramps need to be checked for safety by a staff member before evacuating patients).Never use a lift after an earthquake.
- Staff should ensure that the building thorough-fares are safe and open the doors to secure an exit.
- Keep away from buildings and fallen power lines in the evacuation site. Stay away from building elements, damaged trees and power lines.
- Once evacuation is complete, count number of patients and staff members and report to the Incident Commander on actions taken.
- Return back to the evacuated area only when instructed by IR or senior staff.

Annex A – Job Cards for various IRS designated positions

The HIRS positions mentioned in the table 3 will carry out their respective roles and responsibilities based on the following job action sheet.

Incident Commander: The hospital Incident Commander (IC) is to direct all aspects of the hospital's participation in the disaster operation. The effectiveness of the operational hospital is his/her responsibility. IC must not be expected to carry out any logistic activities, patients care or any other activity, but must be free to respond and coordinate the overall emergency response.

Reporting to: District medical officer

Reporting Area: HEOC

During normal times

- Ensure that all communication system are in working conditions.
- Monitor preparedness measures including simulation exercises are undertaken by various departments,
- Conduct two simulation exercises and one mock drills annually.
- Direct disaster focal person to update preparedness plan every six months.

During Drill/Emergencies

- Activate the hospital Incident Respond System and organize and direct Emergency Operation Centre (EOC).
- Call for initial action plan meeting of all section chiefs and initiate damage and needs assessments
- Authorize resources as needed or requested by section Chiefs.
- Represent Hospital in emergency meetings and response and recovery meetings at Ministry, City and national level
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Extended Actions

- Approve media releases submitted by the Information and liaison Officer
- Hold press conferences as required
- Direct formulation of after action report and share all staff
- Provide for staff rest period and relief

Information and Liaison Officer: The liaison officer is responsible for maintaining and disseminating incident's information and setting up a close liaison with the other external agencies.

Reporting to: IC

Reporting Area: HEOC

During normal times

- Set-up information Centre in HEOC (Hospital Emergency Operation Centre) to organize sharing of information with media and community.
- Maintain in-message and out-message register and other means of receiving and recording information

During Drill/Emergencies

- Collect and organize information for HEOC, Ministry, higher authorities and media and issue initial information report to the media on approval of IC.
- Prepare news releases and updates, including casualty status and ensure all the news releases have approval of the IC.
- Establish contact with external concerned agencies (e.g., other hospitals, governmental entities, response partners) to ascertain disaster status, plans, and appropriate contact and reporting procedures.
- Control and regulate media presence and facilitate VIP visits and ensure there is no disturbance to emergency medical operations.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Family Information Officer: The family information officer is responsible for dissemination of all the information, medical or otherwise, to the families/relatives of in-coming patients/disaster victims.

Reporting to:

Reporting Area:

- Participate in initial action plan meeting
- Establish information desk to provide requisite information to the families/relatives of the victims.
- Frequently display the list of casualties with their status at a prominent place in local language.
- Help Liaison/public information officer share information with media.
- Set up sites for the relatives and families of the victims in coordination with Liaison/public information officer and Security officer.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Documentation Officer: The documentation officer is responsible for collecting and organising information and preparing reports of the overall incident.

Reporting to:

Reporting Area:

- Participate in initial action plan meeting
- Document actions and decisions taken by section in-charges.
- Prepare and maintain records and reports as appropriate for internal as well as external uses.
- Help Liaison/public information officer disseminate required information.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Logistic In-charge: This section is responsible for organizing all actions associated with maintenance of the physical environment and adequate levels of food, shelter and supplies to support the ongoing operations.

Reporting to: IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Hold a meeting with all units head under the Logistics Section to support the action plan
- Requisition for and procure/hire materials, equipment, vehicles, as required and feasible through planning section
- Have close liaison and supervise all support services (switchboard, transportation, dietary and housekeeping)
- Observe all staff for signs of stress
- Report to IC about action taken
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Operation In-charge: This section is responsible for implementation and delivery of required medical services on the ground as per the action plan. The operation in-charge is responsible for all patient care activities and supervise support services (laboratory, radiology, forensic and psychosocial care).

Reporting to:IC And concerned chief

Reporting Area: HEOC

- Participate in initial plan meeting
- Activate the Emergency Department and other departments upon receipt of information from the IC.
- Hold a meeting with all HoDs under the Operations Section to support the action plan
- Implement operations and coordinate with logistics and planning sections as and when required.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Planning In-charge: The Planning In-charge is responsible for overseeing strategies and tracking and mobilizing resource and human resource requirements.

Reporting to: IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Coordinate with other section on their resource and manpower, and mobilize staffs if required.
- Increase the bed capacity of the hospital by creating emergency wards, discharging stable recovering patients and stopping admitting non-emergency patients.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Finance In-charge: This section is responsible for monitoring and allocation of emergency funds and facilitating emergency purchase when needed in the course of emergency.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Maintain all related documentation necessary for managing facility record keeping and reimbursement.
- Monitor the utilization of financial assets and the accounting for financial expenditures.
- Supervise the documentation of expenditures and cost reimbursement activities to documentation officer.
- Responsible for receiving, investigating and documenting all claims reported to the hospital during the emergency incident, which are alleged to be the result of an accident or action on hospital property
- Responsible for providing cost analysis data for the declared emergency incident and maintenance of accurate records of incident cost.
- Responsible for administering accounts receivable and payable to contract and non-contract vendors.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Security In-charge: The security In-charge is overall responsible for activating and alerting all security staff and designate them in various areas of the hospital.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Establish Security Command Post
- Establish ambulance entry and exit route
- Secure the EOC, ED and hospital areas from unauthorized access
- Initiate contact with fire or police, through the information and liaison officer when necessary
- Provide vehicular and pedestrian traffic control
- Control entry/movement of crowd/public.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Support Branch Director/ Ancillary Service Section Chief: The officer is responsible for timely providing and managing essential medical as well as non-medical services to help maintain the optimal functionality of the hospital in wake of an emergency.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting

- Organize and manage the services required to maintain the hospital's supplies and facilities.
- Ensure the provision of logistical, psychological, and medical support of hospital staff and their dependents.
- Provide for the optimal functioning of Ancillary Services in support of the facility's medical objectives in emergency situation.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Laboratory HoD:

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Ensure adequate collected screened blood (20% more than normal requirements)
- Keep adequate blood bags, reagents and other supplies
- Notify physicians about the availability of blood of different groups in stock.
- Contact potential living donors during emergency as required.
- Outbreak Investigation Response
- Utilize mobile blood bank van to meet the demand of blood
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Radiology HOD:

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Regularly inspect the machines for functionality,
- Keep portable X-ray/USG machine always ready,
- Team leader will coordinate with staff of all units (USG, X-ray, CT and MRI)
- X-Ray films, USG gel and solution will be kept in reserved basis(20% more than normal requirement)
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Forensic Officer:is responsible for ensuring system of identification and medicolegal management of the body of deceased.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Provide a system or procedures for identifying, endorsing and handing over of the body of the deceased to authorized members of the family.

- Handle autopsies and other medico-legal cases for proper identification and for evidence collection and preservation and coordination with police as required.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Psycho Social Care officer:

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Provide counselling and psychosocial care to those in need.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Medical Care Officer:is responsible for managing incoming patients, carrying out triage and sending off patients to correct treatment area.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Establish registration desk for incoming patients
- Carry out triage and tag color coded band according to the kind of treatment they may require
- Direct patients to the correct treatment areas (Red, Yellow, Green and Black)
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Red Area – HoD – This area will preferably be handled by an Emergency Department to treat the patients with urgent cases/ Priority 1.

Reporting to:Medical care officer

Reporting Area: casualty

- Participate in initial action plan meeting
- Receive patients from the triage team and give the necessary treatment.
- Patient resuscitation team provides immediate medical attention to priority 1 cases.
- Call concerned specialist and transfer to OR/ICU/Ward as required
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Yellow Area – HoD - This area will preferably be handled by an Orthopaedic department to treat the patients with less urgent cases/ Priority 2.

Reporting to: medical care officer

Reporting Area:casualty

- Participate in initial action plan meeting

- Receive patients from the triage team and give the necessary treatment.
- Patient observation team will take care of priority 2 cases and provide them with medical care
- Refer to red area if required.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Green Area – HoD - This area will preferably be handled by a GOP/Duty MO to treat the patients with minor injuries/ Priority 3.

Reporting to: Medical care officer

Reporting Area: Casualty

- Participate in initial action plan meeting
- Receive patients from the triage team and give the necessary treatment.
- The minor treatment team will take care of the “walking wounded”, provide them with medical care and send them home as soon as possible.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Black Area – HoD - This area will preferably be handled by a mortuary department for the dead.

Reporting to: Medical care officer

Reporting Area: Casualty

- Participate in initial action plan meeting
- Maintain master list of deceased patients with time of arrival
- Assure that all personnel belongings are kept with deceased patients and are secured;
- Assure that all deceased patients in Morgue Area are covered, tagged and identified when possible;
- Ensure the safety and Security for any morgue security needs;
- Report any concerns to the Operation Officer.
- Unclaimed bodies will be retained in the morgue and announcement made over public media or public address system
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Resource Mobilisation Officer:

Reporting to: Physician

Reporting Area:HEOC

- Participate in initial action plan meeting
- Ensure that in-charges of different sections are in the different areas of the hospital.
- Maintain information on the status, location, and availability of personnel, teams, facilities and supplies.
- Maintain a master list of all resources assigned to incident operations.

- Keep close liaison with all section in-charges.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Medicine (Medical Equipment) Officer:

Reporting to: physician

Reporting Area:HEOC

- Participate in initial action plan meeting
- Keep ready all medical supplies and necessary equipment
- Move to site after receiving the instruction
- Inform Planning in charge about the situation at site, number of casualties and requirement of resources.
- Check emergency kit weekly and manage storage and inventories.
- Mobilize vital and necessary items/Drugs and Non-drug items from other HCCs.
- Collect required items from MSD/ MSPD/local purchase
- Maintain recording and reporting system related to procurement, distribution and mobilization of required items.
- Assure and be equipped with necessary items. (We can give an annexure for Sample Stock Inventory for Disaster Stores)
- Procure additional emergencies request
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Patients and Bed Tracking Officer:

Reporting to: physician

Reporting Area:HEOC

- Participate in initial action plan meeting
- Conducting reverse triage of stable patients
- Stop admitting non-emergency patients
- Convert waiting/non-patients care areas into makeshift wards.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Switchboard Officer:

Reporting to: Nursing supdt

Reporting Area: HEOC

- Participate in initial action plan meeting
- Establish duty roster system for standby staff
- Identify physicians, nurses and hospital workers who are a) retired, b) have changed hospital, c) working in nearby hospitals etc.

- Liaison with Nursing Superintendent to prepare list of nursing staff who may be made available at a short notice.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Transport Officer:

Reporting to: Nursing supdt

Reporting Area: HEOC

- Participate in initial action plan meeting
- Manage and deploy ambulances and other vehicles based on the command made by IC.
- Coordinate and ensure alternate transportation arrangements (bus, taxi, public transport) , Armed Forces, schools and other agencies
- Manage fuel and maintenance of vehicles.
- Maintain efficient communication with the IC, administration, and store and with other stakeholders.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Dietary Service Officer: is responsible for preparing to serve nourishmentsto field workers/health staff and patients,managing catering services in the hospital.

Reporting to: Nursing supdt

Reporting Area: HEOC

- Participate in initial action plan meeting
- Ensure adequate levels of food for ambulatory patients, in-house patients and personnel as required.
- Ensure that food stockpiles are continually and adequately renewed.
- Utilize additional areas for extra eating space.
- Make arrangement to provide coffee and snacks to the casualty, OT, ED and other designated areas.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

House Keeping Officer: is responsible for organizing all actions associated with maintenance of the physical environment and supplies to support the functioning of the hospital.

Reporting to: Nursing supdt

Reporting Area: HEOC

- Participate in initial action plan meeting
- Assess critical medical utility systems and buildings for damages and needs for water, power and sanitation requirements.

- Ensure adequate water supply with alternate sources of water such as storage tanks in case of possible breakdown in the normal water supply.
- Ensure the provision of standby generators to provide lights and power to essential areas of the hospital like Emergency Department, OT and ICUs etc.
- Ensure that stockpiles are continually and adequately renewed
- Temporary repair to damaged infrastructure.
- Organize and coordinate debris clearance in hospital buildings and compound.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Procurement Officer: is Responsible for administering accounts receivable and payable to contract and non-contract vendors

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Ensure proper accounts receivable and payable to procured/hired materials, equipment, vehicles etc.
- Allocate emergency funds when required
- Facilitate emergency purchases if required in course of the emergency.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Claim Officer: is Responsible for receiving, investigating and documenting all claims reported to the hospital during the emergency incident.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- Receive all insured claims and
- Make compensation payment when required
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Traffic control officer: is responsible for controlling traffic within and outside the hospital.

Reporting to:Nursing supdt

Reporting Area:HEOC

- Participate in initial action plan meeting
- Establish ambulance entry and exit route
- Make sure ambulances are guaranteed free access to the incoming patient area.
- Secure important hospital areas from unauthorized vehicle access
- Secure evacuation areas

- Advise IC and section chiefs immediately of any unsafe, hazardous or security related conditions
- Post no-entry signs around un-safe areas.
- Report to IC about actions taken and coordinate and work closely with information officer.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Crowd Control Officer: is responsible for controlling crowd within and outside the hospital.

Reporting to: Nursing supdt

Reporting Area: HEOC

- Participate in initial action plan meeting
- Control entry/movement of crowd/public
- Designates a separate waiting area for relatives of the injured control crowd.
- Makes sure that on no account will be relatives be permitted into the Casualty or designated wards during the emergency.
- Direct family members to designated family areas
- Initiate contact with fire or police, through the liaison officer when necessary.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Volunteer Management Officer: is responsible for organising, assigning and deploying the volunteers within and outside the hospital.

Reporting to:IC

Reporting Area:HEOC

- Participate in initial action plan meeting
- If the hospital's security personnel are not sufficient to handle the situation, requests help from the hospital nearby volunteers.
- The role which volunteers will carry out should be predetermined, rehearsed, coordinated and supervised by regular senior staff.
- Designate them areas to control traffic and crowd.
- Extend the role beyond the responsibilities mentioned in the job cards if required.

Utility services -

Electricity services

GENERATOR 8 nos

Diesel storage will be available for 15 hrs

Water availability

Only WATER AUTHORITY supply

Storage capacity 1 lakh litres.

Daily usage 3-3.5 lakh litres.

Managed due to continuous supply from water authority

Oxygen supply

Total cylinders 128 (A,B, Jumbo)

Daily usage 26 cylinders

Back up available 2 days

DRAFT