Contents

FOREWORD

Standards make life safer, healthier and easier for people, organizations and enterprises all over the world. They enable communication and trade, while allowing resources to be used more efficiently. All organizations can benefit from standards: from global heavyweights to small local firms; from ambitious start ups to long established household names, from hospitality, catering and retail businesses through construction, manufacturing and engineering firms to high tech innovators. By providing best – practice guidance, standards help organizations and services to assess their processes, allowing them to take steps to increase efficiency and become more profitable. Standards also provide a reliable benchmark against which performance can be judged, enabling organizations to demonstrate product performance.

The ministry developed this "Standard for Emergency Department" with an aspiration to achieve higher efficiency, clearer communication and uniformity of services in the emergency department throughout the health system. Since, emergency department is a core clinical unit of a hospital and the experience of patients attending the emergency department significantly influences patient satisfaction and the public image of the hospital. Its function is to receive, triage, stabilize and provide emergency management to patients who present with a wide variety of critical, urgent and semi urgent conditions whether self or otherwise referred.

This standard delineates guidelines and the resources necessary for hospital emergency departments (EDs) to serve patients. Adoption of this standard should facilitate the delivery of emergency care for patient of all ages and, when appropriate, timely transfer to a facility with specialized emergency services.

Though, it must be acknowledge that the Emergency Department has been performing up to the mark throughout the nation, an explicit standard is required to benchmark the existing performance. This would not only enable the policy makers to focus on the weaker areas, but would also help the end users to have a uniform set of procedures throughout the country; be it in field of services, human resources, equipments or infrastructures.

It is with this hope that this National Standard for Emergency Department has been developed. Therefore, I would urge all the stakeholders and health workers to follow the standard consistently so as to provide quality health care services in the country.

(Nima Wangdi)
Secretary
Ministry of Health

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1. Maj. Dr. Tashi Tenzin, Neurologist, JDW/NRH
2. Dr. Gem Dorjee, GDMO, JDW/NRH
3. Dr. Rojna Rai, JDW/NRH
4. Mr. Passang Dorji, Sr. Nurse, JDW/NRH
5. Mrs. Pama Wangmo, GNM, JDW/NRH
6. Mrs. Deepika Adhikari, Program Officer, EMTD
7. Mr. Tshewang Dorji, Asst. Information and Media Officer, BMHC
8. Mr. Dechen Choiphel, Chief Program Officer, QASD
9. Mr. Kinley Wangchuk, Asst. Program Officer, QASD
10. Mr. Thinley Namgay K, Asst. Program Officer, QASD

ACRONYM

ACO	Assistant Clinical Officer
BHU	Basic Health Unit
BMHC	Bhutan Medical and Health Council
CME	Continuing Medical Education
CO	Clinical Officer
CQI	Continuous Quality Improvement
DMS	Department of Medical Services
DoPH	Department of Public Health
ED	Emergency Department
ENT	Ears Nose and Throat
EQA	External Quality Assessment
ESP	Emergency service provider
HHC	Health Help Center
HoD	Head of Department
HRD	Human Resources Division
IPD	Indoor Patient
IQA	Internal Quality Assessment
MoH	Ministry of Health
MO	Medical Officer
OPD	Outdoor patient
QA	Quality Assurance
QAG	Quality Assurance Group
QASD	Quality Assurance and Standardization Division
QI	Quality Improvement
SOPs	Standard Operating Procedures
TOR	Terms of Reference

INTRODUCTION

The emergency department is a core clinical unit of a hospital and the experience of patients attending the emergency department significantly influences patient satisfaction and the public image of the hospital. Its function is to receive, triage, stabilize and provide emergency management to patients who presents with a wide variety of critical, urgent and semi urgent conditions whether self or otherwise referred. The emergency department also provides for the reception and management of disaster patients as part of its role. In addition to standard treatment areas, some departments may require additional specifically designed areas to fulfill special roles.

This first National Service Standard for emergency department is intended to provide a basis of measurement against which performance can be compared and assessed. This document encompasses the following four main areas of standardization:

1. Emergency standards of practice
2. Human resource standard and education
3. Emergency standard of services
4. Equipments and physical settings standard

These four areas would give a comprehensive overview of the present health system as well as the desired areas of standardization in emergency department. This document in not final and would be subject to change as and when required.

PURPOSE OF THE DOCUMENT

Vision

To have a facility that serves to provide state-of-the-art care to the patients and a conducive work environment that encourages employees to excel in their work and establish strong internal and external working relationships to promote complete physical, mental and social wellbeing that will contribute to enhance happiness.

Mission

To ensure quality patient care by administering an effective, nationwide system of coordinated emergency medical care, both during routine and disaster medical response.

- Dynamic and Effective Work Environment
- Proactive Public Image and Information Sharing
- Professional Pre-hospital Personnel

- Stable Dedicated Funding
- Statewide Quality Systems and Services
- Strong External Working Relationships
- Technologically-Advanced Organization

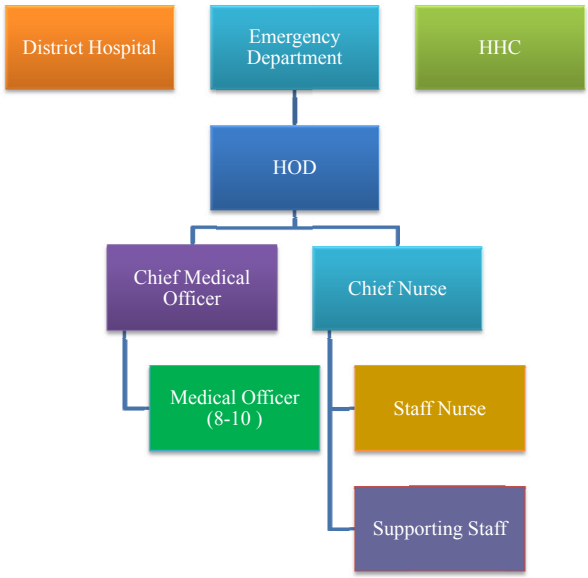
Purpose

- To provide timely and efficient services.
- To provide a service delivery centre equipped with required standard technology and relevantly qualified professional
- To strive to develop the full potential of every personnel
- To maintain high level of quality services that would contribute to ensure public trust and confidence

CHAPTER 1 : EMERGENCY STANDARDS OF PRACTICE

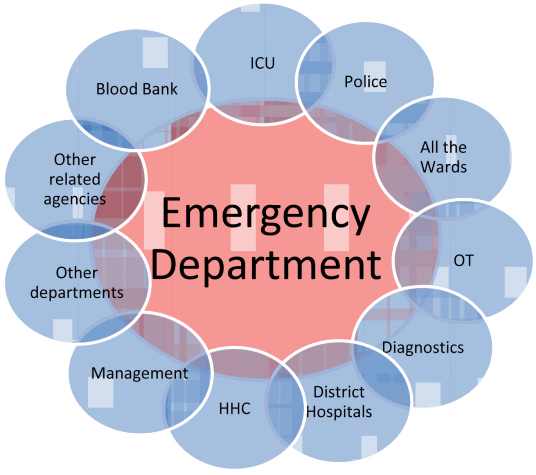
1.1. ADMINISTRATION

1.1.1. Organization Chart



1.1.2. Collaboration

The emergency department collaborates with the following units in various ways



- The management of pediatric patients
- The management of major trauma patients
- The management of psychiatric patients
- The management of patients following sexual assault
- The management of infectious patients
- The extended observation and management of patients
- The management of prisoners in custody
- The management of patients affected by chemical, biological or radiological incidents
- Undergraduate, postgraduate teaching
- Transport and retrieval services
- Telemedicine

1.1.3 Emergency Health Services Policy

National health policy, 2010 identifies the importance of emergency and disaster response as follows:

"All health facilities shall institute appropriate system of care to deal with emergencies, disasters, epidemics and out-breaks."

All health facilities shall provide a system of emergency for:

a. Disasters,

b. Epidemic outbreak,

c. Mass casualty,

d. Routine emergencies.

The services shall be supported by appropriate transport facilities, safe health infrastructures and competent emergency medical teams.

National emergency preparedness plans shall be maintained and appropriate resource provided at all levels to respond rapidly and effectively to all health related emergencies of national and international concerns.

1.2 PROCEDURES

Access of Emergency Services

Patients can access Emergency services 24x7 all over the country irrespective of any nationality.

1.3 COMMUNICATION

1.3.1 Communication with patient and patient party

- To use appropriate language that patient and the patients' party understands in a polite and caring manner to avail adequate information regarding the illness and other related issues that can help reach a diagnosis and for further management

1.3.2 Communication within the staff

- To maintain cordial atmosphere
- Confidentiality
- Patient information

1.3.3 Communication with other departments

- Appropriate sharing of professional clinical information
- Interdepartmental consultation

1.3.4 Communication with other health centers

- Receive correct and timely information
- Referral of patients

1.3.5 Communication with other agencies

- Police
- Social workers and NGOs
- Media
- International agencies
- Insurance companies within and abroad
- The linkage with other centers.

1.4 COMMUNITY RESPONSIBILITY

- Public awareness and preventive measures

1.5 CULTURAL COMPETENCE

- The Emergency service provider acquires skills to better understand people from differing

- cultures in order to achieve the best possible health outcomes.
- The Emergency service provider shall show respect and sensitivity to people and communities,
- taking into account their spiritual, emotional, socioeconomic and physical needs.
- The Emergency service provider plans and delivers in a way that respects cultural values,
- requirements and variations.
- The Emergency service provider shall identify their own cultural realities, knowledge and
- limitations.
- The cultural values of the Emergency service providers are acknowledged and respected.

1.6 DOCUMENTATION

The Emergency service provider shall clearly documents all aspects of patient care/ management including the results of the initial examination/assessment and evaluation, diagnosis, prognosis, plan or care/intervention/treatment, response to intervention/ treatment, changes in patient status relative to the interventions/ treatment, re-examination, and discharge/discontinuation of intervention and other patient management activities.

- ESP ensure that the content of documentation:
  - ✓ is accurate, complete, legible and finalized in a timely manner
  - ✓ is dated and appropriately authenticated by the ESP
  - ✓ records equipment loaned and/or issued to the patient
  - ✓ includes, when a patient is discharged prior to achievement of goals and outcomes, the status of the patient and the rationale for discontinuation
  - ✓ includes reference to appropriate outcome measures, where possible
- ESP make sure that documentation is used properly by ensuring it is:
  - ✓ Stored securely at all times in accordance with legal requirements for privacy and confidentiality of personal health information
  - ✓ only released, when appropriate, with patient's permission
  - ✓ consistent with reporting requirements of HMIS (health management and information system)

- The documentation in Emergency Department includes the following:
  - ✓ Pre-hospital documentation- trip sheet
  - ✓ Registration and triage (includes observation and referred cases)
  - ✓ Case management sheet (includes history sheet, investigation, diagnosis, treatment,
  - ✓ Intake Output chart, drug chart, disposition sheet)
  - ✓ Patient status board
  - ✓ Patient information board (during disaster and mass casualty)
  - ✓ Department Logbook
  - ✓ Checklist
  - ✓ Trauma flow sheet

1.6.1 Key Point for Medical Record and Clinical Documentation:

- Documentation includes all forms of documentation by a doctor, nurse or allied health professional (physiotherapist, occupational therapist, dietician etc) recorded in a professional capacity in relation to the provision of patient care.
- Documentation and record keeping is a fundamental part of clinical practice. It demonstrates the clinician's accountability and records their professional practice.

- Documentation is the basis for communication between health professionals that informs of the care provided, the treatment and care planned and the outcome of that care as a continuous and contemporaneous record.
- Documentation is a record of the care and the clinical assessment, professional judgment and critical thinking used by a health professional in the provision of that care
- Documentation should be clear, concise, consecutive, correct, contemporaneous, complete, comprehensive, collaborative, patient-centered and confidential.
- Documentation should be patient focused and based on professional observation and assessment that does not have any basis in unfounded conclusions or personal judgments.
- Clinical staff should be able to competently communicate effectively with individuals and groups using formal and informal channels of communication and ensuring documentation is accurate and maintains confidentiality.
- Clinical staffs are required to make and keep records of their professional practice in accordance with standards of practice of their profession and organizational policy and procedure.
- Documentation is often used to evaluate professional practice as a part of quality assurance mechanisms such as performance reviews, audits and accreditation processes, legislated inspections and critical incident reviews.
- Documentation systems should promote appropriate sharing of information amongst the multidisciplinary and teams.
- Accurate and comprehensive documentation is a valuable source of data for data coding, health research and a valuable source of evidence and rationale for funding and resource management.
- Documentation should record both the actions taken by clinical staff and the patient's needs and/or their response to illness and the care they receive.
- Clinical staffs have legislative, professional and ethical obligations to protect patient confidentiality. This includes maintaining confidential documentation and patient records.
- Precautions must be taken to ensure that clinicians are fully informed of appropriate, safe and secure use of electronic information systems and the potential risks involved in using such systems in ensuring and maintain confidentiality.
- It should be assumed that any and all clinical documentation will be scrutinized at some point.

1.7 EDUCATION

The ED contributes to the education of health professionals as a resource centre nationwide on emergency medical care.

The ED participates in the education of students by supervision.

1.8 ETHICAL BEHAVIOUR

The ESP shall deliver services at the highest ethical level according to a Code of Etiquette Ethics and conduct that is consistent with BMHC regulations and the National Laws.

1.9 INFORMED CONSENT

Wherein the patient is explained with reasonable thoroughness about his/her medical problem, procedures to undergo, advantages and disadvantages and alternatives

The written informed consent should be obtained for any procedures that entail risk of the procedure and untoward complications.

1.10 LEGAL

The ESP shall comply with all the laws and legal requirements of the Kingdom of Bhutan, BMHC Regulations and hospital standard protocol.

1.11 PATIENT MANAGEMENT

- Patient comes to the Emergency Department
- If patient is critically ill. He/she is shifted on trolley or wheelchair, by the trolley Boy deputed for this purpose, to resuscitation room
- At the reception, the patient party will register
- The reception clerk shall make entries of the patient details in the computer as well as the register and send the patient to the Medical Officer (MO)
- The critical patient is resuscitated after which the concerned department is consulted by the MO for further management.
- The necessary investigation is advised by the MO and the nurses shall carry-out the instructions.
- Consulted patient shall be attended by the concerned department.
- The concerned specialist shall write down the treatment plan on the case sheet and sign it.

- The additional investigations shall be ordered by the concerned specialist and MO is responsible to carry-out the instructions.
- The acute patient who may require observation and admission is directed towards the observation directly for evaluation and management.
- If the patient requires further consultation, the consultant on call should be informed.
- If discharged after observation, the discharged patients should be provided with the discharge summary for follow up.
- If the patient is admitted in the ward, case sheet shall be forwarded along with the patient to the respective ward; however, prior information on availability of bed should be discussed.
- If the patient is discharged/expired after treatment, the case sheet shall be kept as record in the E.D. and submitted to medical record office.
- In case of expiry of the patient MO shall prepare the death certificate and sign it.
- He shall also write down the death summary in the death register of E.D.
- If the patient is suffering from minor ailment then MO may advise treatment and dispose or advise for further consultation as OPD case in concerned department.
- The treatment of discharged patients should be written on the OPD slip and handed over to the patient for follow up.

1.12 QUALITY ASSURANCE

A coordinated approach to quality assurance is essential for managing the complexities of health care in the emergency department. Nearly every activity in the emergency care setting has implications that fall under the QA umbrella. The program follows traditional QA concepts for monitoring structure process and outcome elements of emergency care. Key principles that are foundation of the program includes activity participation by all staff levels (clinical and nonclinical), standardizes documentation and specifically defined review mechanisms.

The following are the components of Quality Assurance for monitoring the CQI in the ED.

1.12.1 Technical performance

The degree to which tasks carried out by ESP (emergency health provider) and facilities meet expectations of technical quality (i.e. comply with guidelines and SOPs)

Example: CPR provided by the ESP as per the SoP

1.12.2 Effectiveness of care

The degree to which desired results (outcomes) of care are achieved

Example: Number of patients revived after resuscitation

1.12.3 Efficiency of service delivery

The ratio of the outputs of services to the associated costs of producing those services

Example: Total time spent by the patient in the ED before being seen by the consultant.

1.12.4 Safety

The degree to which the risks of injury, infection, or other harmful side effects are minimized

Example: The Degree to which the risk of injury/ infection or other harmful side effects are minimized (People should not be harmed by an accident or mistakes when they receive care)

1.12.5 Access to services

The degree to which emergency health services are unrestricted by geographic, economic, social, organizational, linguistic, or other barriers

Example: A health professional is on duty at all times in a health centre to provide emergency services or 112 services accessible to all (24x7)

1.12.6 Interpersonal relations

Trust, respect, confidentiality, courtesy, responsiveness, empathy, effective listening, and communication between providers and clients

Example: Doctor listens to patient's concerns

1.12.7 Continuity of services

Delivery of care by the same healthcare provider throughout the course of care (when appropriate) and appropriate and timely referral and communication between providers

Example: adequate number of medical officers to run an ED.

1.12.8 Physical infrastructure and comfort

The physical appearance of the facility, cleanliness, comfort, privacy, and other aspects those are important to clients and employees.

Example: Number of monitors available in the ED.

1.12.9 Appropriateness

Acuity of cases reporting to emergency department demanding emergency care

Example: Number of cases disposed without requiring observation by the medical officer.

1.13 RESEARCH

Services are being provided based on the evidence based medicines. ED will try to evaluate the clinical case management which is variance to the standard treatment guideline. By applying the components of QA activities, it will be aimed to guide future progress and development of such emergency cares. The analysis of case load of emergency cases managed will further help in policy directives.

1.14 SUPPORT PERSONNEL

The support staff shall dedicate to their job responsibilities.

CHAPTER 2 : HUMAN RESOURCE STANDARD

2.1 EDUCATION AND JOB DESCRIPTIONS

2.1.1 Emergency Physician:

Qualification: MD plus 3 years in service.

Job Primary Duties:

- Head of the Department (Job responsibilities as per HoD TOR)
- Technical focal person for EMS program
- Formulation and development of emergency protocols and guidelines
- Facilitate the training of junior doctors and other health personnel
- Dedicate his/her time in patient care in addition to the above responsibilities.
- Nomination for training and workshop
- Facilitate CMEs for Department staff
- Monitoring and supervision of pre hospital care provider

2.1.2 Medical Officers:

Qualification: MBBS plus 5 years in service.

Job Primary Duties:

- Deputation to HoD
- Day to day activities of patient care
- Ensure smooth functioning of Emergency Department
- Work closely with other health staff
- Undertake any responsibilities assigned/directed by the HoD
- Preparation of duty rosters
- Monitoring and supervision of pre hospital care provider

2.1.3 Chief Nurse:

Qualification: Ms. in Nursing

Job Primary Duties:

- Day to day activities of patient care

- Ensure smooth functioning of Emergency Department
- Work closely with other health staff
- Undertake any responsibilities assigned/directed by the Nursing Superintendent
- Preparation of duty rosters
- Supervise other nurses, student nurses and supporting staff.
- Indenting of drugs and non-drugs
- Nomination for trainings and workshops
- Facilitate CMEs for the nursing staff
- Data compilation
- Monitoring and supervision of pre hospital care provider

2.1.4 Triage Nurse

Qualification: Bachelors or GNM with short course.

Job Primary Duties

- Based on the standard guidelines and SOP
- Interchangeable with other nursing staff

2.1.5 Trauma Nurse

Qualification: Diploma/short training or Bachelors

- In addition to general training, they should be trained in Trauma Registry

Job Primary Duties:

- Registrar of Trauma Registry
- Trauma Data management
- Data analysis
- Timely generation and submission of reports

2.1.6 Staff Nurse:

Qualification: Bachelors or Diploma in Nursing

Job Primary Duties:

- Deputation to Chief Nurse
- Day to day activities of patient care

- Maintaining data and record keeping.
- Monitoring of student nurses and supporting staff.

2.2 SUPPORTING STAFF:

2.2.1 Receptionist:

Qualification: Class 12

Job Primary Duties:

- Patient registration and record keeping
- Give general information and direction as and when necessary to the patient and party.

2.2.2 Ward Boy/ Trolley Boy:

Qualification: Class 8

Job Primary Duties:

- Transportation of patient and hospital logistic
- Transportation of samples and collection of diagnostic reports
- Hospital infection control team member.
- Other miscellaneous works
- Receive the patients from the gate to the ED.
- Over all care of the trolley and wheelchairs.

2.2.3 Sweepers:

Qualification: NA

Job Primary Duties:

- Maintain cleanliness at all time
- Assist the ward boy/girl as and when required.
- Hospital infection control team member.
- Ensure proper waste disposal

2.3 STANDARD DEVELOPMENT OF STAFF

Designation	Standard
Emergency Physician/HoD	6 Nos.
Chief Medical Officer	1 No
Medical Officer	11 Nos.
Chief Nurse	1 No
Assistant Chief Nurse	1 No
Triage Nurse	6 Nos.
Trauma Nurse	6 Nos.
Staff Nurse	14 Nos.
Receptionist	5 Nos.
Ward boy/Trolley boy	13 Nos.
Sweeper	5 Nos.

2.4 HUMAN RESOURCE STANDARDS FOR EMERGENCY SHALL BE GUIDED BY HEALTH HR MASTER PLAN 2011-2023

S l . No	Category	NRH	RRH	DH/H	BHU I	BHU II	Remarks
1	HOD (senior Emergency Physician)	1	1	-	-	-	Available senior medical officer/HA will lead in management of emergency in DH,BHU and BHUII
2	Emergency Physician	5	3	-	-	-	Proposed HR requirement is Nil in the HR master plan.
3	MOs	12	8				As per HR master plan the requirement is 25 for NRH and 12 for RRH
4	ACO/CO						ACO not required in RRH but reflected in HR MP
5	Chief Nurse (Clinical Nurse I)	1	1	-	-	-	
6	Assistant Chief Nurse (Clinical Nurse)	1	1	-	-	-	

7	Trauma and Triage Nurse (Clinical/staff Nurse)	12	6		-	-	
8	Other NURSING STAFF (Staff/ Clinical Nurse)	14	7	-	-	-	
9	Receptionist	5	5	-	-	-	
10	Ward boy	8	8	-	-	-	
11	Trolley boy (Ward boy category)	5	5	-	-	-	
12	Sweeper	5	5	-	-	-	

CHAPTER 3 EMERGENCY STANDARD OF SERVICES

3.1 EMERGENCY SERVICES AT DIFFERENT LEVELS OF HEALTH FACILITIES

3.1.1 Emergency services in the BHU

- Basic life support
- Basic trauma/wound care
- Basic burns care
- EMnOC
- Essential surgical care
- Basic disaster response and preparedness

3.1.2 Emergency services in the BHU grade I

- All above services plus
- Advanced life support
- Advanced Cardiac Life support
- Advanced Trauma Life support
- Blood transfusion
- Mental services
- Laboratory services
- ECG services

3.1.3 Emergency services in the Hospitals with Gynae-Obs and general surgical services

- All of the above plus
- Surgical procedures
- Gynae-Obs procedures
- Orthopedic procedures

3.1.4 Emergency services in the Hospitals without Gynae-Obs and general surgical services

- Same as BHU grade I

3.1.5 Emergency services in the Regional Referral Hospitals

- All of the above from plus
- Neonate and pediatric care
- Internal medicinal care
- ENT care
- Eye care
- Maxillo-facial care
- Diagnostics (CT scan, ultrasound, Laboratory and X-Ray)
- Endoscopy services

3.1.6 Emergency services in the National Referral Hospital

- All of the above from plus
- Cardiac care
- Nephrology care
- Neuro-surgery care
- Urology care
- Cardio-thoracic care
- Gastro-enterology care

3.2 IN CASE OF EMERGENCY OF ANY TYPE, THE MEDICAL OFFICER SHOULD BE ABLE TO DO THE FOLLOWING:

1. Maintain airway by head tilt chin lift or jaw thrust method
2. Bag-mask ventilation using resuscitation bag and mask with oxygen
3. Perform cardiopulmonary resuscitation.
4. Insert intravenous cannula and start fluid resuscitation
5. Bleeding control using pressure bandages
6. Immobilize a fracture
7. Put on a cervical collar in patients with suspected cervical injury

8. Put a patient on spine board using log roll method
9. Provide oxygen therapy
10. Insert a ryles tube in a patient that need the tube
11. Insert an indwelling cather- Foley' catheter
12. Insert and oro-pharyngeal airway properly
13. Use of appropriate drugs-cardiac, bronchodilators etc.

3.3 IN CASE OF EMERGENCY, THE FOLLOWING SHOULD BE DONE AT THE DISTRICT HOSPITAL

1. Head tilt chin lift or jaw thrust in a compromised airway
2. Bag-mask ventilitate using resuscitation bag and mask with oxygen
3. Perform cardiac massage in a case where the heart has stopped
4. Defibrilate a heart using a defribillator
5. Recognize tension pneumothorax and insert needle to relieve the pneumothorax
6. Insert chest tube to relieve blood or fluid from chest cavity
7. Insert intravenous line and provide fluid resuscitation including blood
8. Use cardiac drugs appropriately
9. Be able to interpret basic ECG and provide appropriate drugs
10. Insert an alternative airway like LMA and provide breathing
11. Perform USG to rule out fluid in chest and abdominal cavity in a traumatic patient
12. Perform X-ray of cervical spine, chest and other body parts in trauma patients (cervical spine fracture and to rule out pneumothorax)
13. If USG shows fluid in abdominal cavity, the doctor should be able to do abdominal paracentesis for symptomatic relief
14. To perform manual removal of placenta
15. Immobilize a fracture using POP
16. Insert an oro-pharyngeal airway in compromised airway
17. Put on a cervical collar in a suspected case of cervical spine injury
18. Transfer a patient to a spine board using log roll method in spine injury is suspected and to immobilize the patient to the spine board
19. Clean and dress a contaminated wound
20. Clean a immobilize an open fracture with dressing

21. Do a cut down if an intravenous access is not available
22. In hospital where anesthetist is available, perform endo-tracheal intubation and provide ventilation using resuscitation bag
23. Insert an in-dwelling catheter – Foleys catheter and monitor urine output
24. Provide oxygen therapy
25. Insert ryles tube where required
26. Be able to resuscitate a patient in shock
27. Suture minor wound after wound cleaning
28. Use of local anesthetic drug- Lignocaine 2% (Dose, local infiltration techniques)

The drugs and most of the equipments are available in the district hospitals. The health workers including the doctor must be taught how to use the equipments and drugs.

3.4 THE REGIONAL REFERRAL HOSPITAL SHOULD BE ABLE TO DO ALL OF THE ABOVE MENTIONED PROCEDURES IN ADDITION TO THE FOLLOWING

1. Intubate and put a patient on artificial ventilation
2. Perform a cut down where intravenous line is not available
3. Perform pericardiocenthesis for Cardiac Temponade (under ultrasound guide)
4. Insert a central venous catheter and monitor fluid input
5. Insert chest tube where required
6. Perform abdominal paracentesis for symptomatic Ascites and pleural tap for symptomatic Pleural effusion.
7. Perform FAST (Focus Assessment with Sonography in Trauma) or eFAST in a patient with intra abdominal injury.
8. Resuscitate patients using ACLS and ATLS Guidelines.

3.5 EQUIPMENTS FOR REGIONAL AND NATIONAL HOSPITALS INCLUDE ALL OF THE ABOVE PLUS THE FOLLOWING

1. Foldable stretchers 50 nos. in case of mass casualty
2. Multipara monitors to monitor the patient's cardiac activity
3. Defibrillators
4. Ultrasonography machine (portable)

5. Ventilator machine
6. Drugs- dopamine/Noradrenaline injection

There may be a need to decide which procedures are to be done at the district hospital level and which should be done at the regional referral hospital. This is due to the presence of specialist at the RR hospital, and at the district hospital level the medical officers may not be competent to do certain procedures which are mentioned.

CHAPTER 4 : EQUIPMENT AND PHYSICAL SETTING STANDARDS

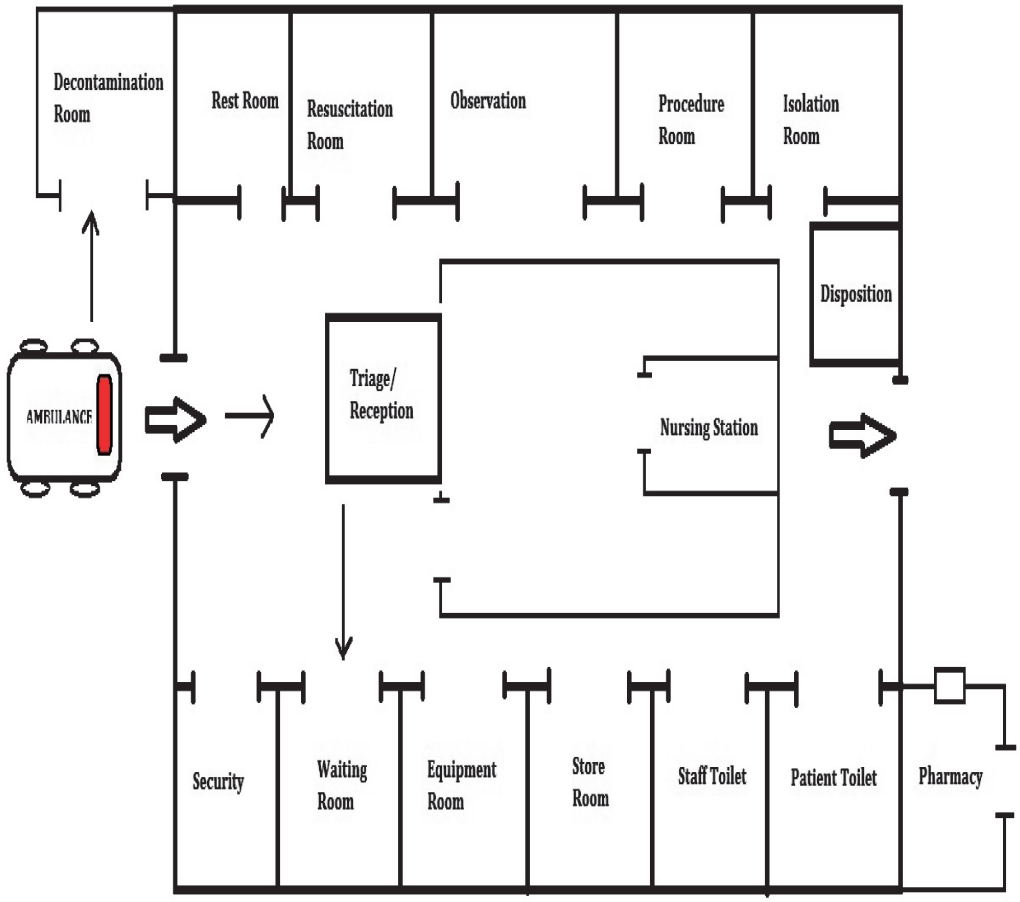
4.1 PHYSICAL SETTING (infrastructures) STANDARDS

4.1.1 Physical setting

The physical setting is designed to provide a safe and accessible environment that facilitates fulfilment of the vision, mission and purpose of the emergency care service.

The physical setting is planned, constructed and equipped to provide adequate space and the proper environment to meet the professional, educational and administrative needs of the service with safety and efficiency.

4.1.2 Ideal Design for Emergency Department:



4.1.3 Physical Setting for Emergency Department

SL No.	Physical setting	NRH	RRH	DH/H	BHU I	BHU II
1	Ambulance Parking	√	√	√	√	√
2	Decontamination Area	√	√	√	√	√
3	Waiting room with security desk	√	√	√	√	√
4	Reception/Registration/ Triage	√	√	√	√	√
5	Resuscitation room	√	√	√	√	√
6	Procedure/Minor OT/ dressing room*	√	√	√	√	√
7	Observation	√	√	√	√	√
8	holding room*	√	√	√	√	√
9	Isolation room	√	√	√	√	√
10	Work station	√	√	√	√	√
11	Scrub zone	√	√	√	√	√
12	HoD office with toilet	√	√			
13	Chief nurse office with toilet	√	√			
14	Consultation/MO Room	√	√	√	√	√
15	Family counseling room	√	√			
16	Night duty room with toilet (Doctor)	√	√			
17	Night duty room with toiled(Nurses)	√	√			
18	Staff Lounge/ Pantry	√	√			
19	Changing room with shower and locker (for male And for female)	√	√			
20	CME Room	√	√	√	√	
21	Store	√	√	√	√	√
22	Patient toilet	√	√	√	√	√
23	Utility room	√	√			
24	Patient luggage room	√	√			
25	Night Support staff/security room	√	√			
26	Pharmacy	√	√			
27	Dead body room* (before disposing to Mortuary)	√	√			

4.2 EMERGENCY EQUIPMENT FOR HOSPITALS & BHUs

4.2.1 Emergency Room in hospital/BHU-I

Every hospital is required to establish emergency room and make functional for 24 hours x 7 days with basic facilities. Therefore, it is essential to standardize the equipments and instruments for the various health facilities.

4.2.2 BHU grade I &II:

This health facility is manned by a medical officer, and ACO and health Assistant. The Health facility has wide range of drugs and hospital beds for admission. The doctor is assisted by nurses and other health workers.

4.2.3 Emergency medical care equipments and drugs for BHUs

4.2.3.1 *Airway equipments*

1	Resuscitation bag and mask with reservoir bag and oxygen tube (adult)	Available in BHU
2	Resuscitation bag and mask with reservoir bag and oxygen tube (pediatric)	Available in BHU
3	Resuscitation bag and mask with reservoir bag and oxygen tubing (neonate)	Available in BHU
4	Pocket face mask (mouth to mask resuscitation)	Purchase 2 Nos. for each BHU
5	Oro-pharyngeal airway (size 00, 0, 1, 2, 3, 4)	Available in BHU

4.2.3.2 *Patient examination equipment*

1	Stethoscope	Available in BHU
2	Blood pressure machine (portable)	Available in BHU
3	Bag (size 20 X 8 X 9 inches- LXBXH)	1 for each BHU

4.2.3.3 *Bandaging and minor surgical equipments*

1	Roll bandages size 10 cm	Available
2	Roll bandages size 7 cm	Available
3	Roll bandages size 2.5 cm	Available

4	Gauze pads (small)	Available
5	Gauze pads (large)	Available
6	Adhesive tape	Available
7	Scissor	Available
8	Gloves (appropriate sizes)	Available
9	Surgical face mask	Available
10	NS for wound irrigation	Available

4.2.3.4 *Splinting equipments*

1	Cramer splint for adult (large)	Purchase 2
2	Cramer splint (small)	Purchase 2
3	Triangular bandages	Purchase 2
4	Cervical spine immobilization collars	Purchase 1
5	Spine board	Buy one for each BHU I

4.2.3.5 *Intravenous infusion sets*

1	Infusion set	Available
2	IV cannula (18G, 20G, 22G, 24G)	Available
3	Ringer lactate	Available
5	DNS	Available
6	Tourniquet	Available

4.2.3.6 *Emergency drugs and syringes*

1	Injection atropine (0.6 mg)	Available
2	Injection adrenaline (1 mg)	Available
3	Injection phenergan (25 mg)	Available
4	Injection dexamethasone (4mg)/hydrocortisone 100mg injection	Available
5	Injection diazepam (10 mg)	Available
6	5 ml syringe	Available
7	2 ml syringe	Available
8	Spirit swab	Available
9	Oxygen cylinder with regulator and wrench	3 Nos. always full with oxygen
10	Stretcher (light weight) in case of mass causality)	6 stretchers per BHU I

4.3 List of equipments and drugs for the district hospital emergency room (ER)

The district hospital is the referral point for the BHU grade I and the other BHUs in the district. The hospital has about 2 medical officers, an ACO, Health Assistant, and nursing staffs. The district hospital has additional facilities like X-ray, basic laboratory services, blood transfusion, Ultrasonography and ECG. Some of the district hospital also has surgeon, gynaecologist and anesthetist. In these districts, operation facilities have been established and emergency and routine elective operations are done.

4.4 EQUIPMENTS FOR ER AT THE DISTRICT HOSPITALS

4.4.1 Airway equipments

1	Resuscitation bag and mask with reservoir bag and oxygen tube (adult)	Available in hospital
2	Resuscitation bag and mask with reservoir bag and oxygen tube (pediatric)	Available in hospital
3	Resuscitation bag and mask with reservoir bag and oxygen tubing (neonate)	Available in hospital
4	Pocket face mask (mouth to mask resuscitation when going out of hospital)	Purchase 5 nos. for hospital
5	Oro-pharyngeal airway (size 00, 0, 1, 2, 3, 4)	Available in hospital

4.4.2 Patient examination equipment

1	Stethoscope	Available in hospital
2	Blood pressure machine (portable)	Available in hospital
3	Laryngoscope with blades	2 sets for each hospital
4	Glucometer	1
5	Chest tubes of various sizes with water seal bags	
6	Foleys catheter of various sizes	
7	Ryles tubes of various sizes	
8	Cut down set	
9	Laryngeal mask airway (LMA) various sizes	
10	Endotracheal tube of few sizes	
11	Oro-pharyngeal airway of various sizes	
12	Oxygen cylinder with regulator and wrench	
13	Oxygen face mask with tubing	

14	Mobilization set	
15	End tracheal tube of various sizes	1

4.4.3 Splinting equipments and immobilization equipments

1	Cramer splint for adult (large)	Purchase 2
2	Cramer splint (small)	Purchase 2
3	Triangular bandages	Purchase 2
4	Cervical spine immobilization collars	Purchase 1
5	Spine board	Buy one for each BHU I
6	Defibrillator machine	1 Some hospital have one

4.4.4 Other equipments

1	ECG machine	
2	Ultrasonography machine	
3	Stretcher light weight in case of mass casualty (foldable)	20 numbers
5	Suction machine (manual/electric)	1
6	Monitor with ECG, NIBP and SPO2	1
7	Central venous cather various sizes	

*** Note:** For detail list of equipments and consumables, please refer to the National Non-Drug list, 2012.

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