

Chapter 21

AMBULANCE AND HELICOPTER SERVICES

Learning Objectives:

By the end of this chapter, participants would be able to:

- Familiarize on ambulance and helicopter services.
- Understand the roles and responsibilities of stakeholders in ambulance services.

INTRODUCTION

Ministry of Health (MoH) is mandated to ensure accessibility, equity, and quality health services. Further, the section 12.3 (b) of National Health Policy 2011 states that “All health facilities shall provide a system of emergency for (a) disasters; (b) epidemic outbreaks; (c) Mass casualty; (d) routine emergencies. The services shall be supported by appropriate transport facilities, safe health infrastructures and competent emergency medical team.” Therefore, establishment of Health Help Center (HHC) in May 2011 has been a milestone for timely delivery of emergency medical services in the country. Further the emergency medical service is improved with introduction of Helicopter services in November 2015. This has helped to minimize the challenges of distance, terrain and time for the most critical patients.

Ambulance service is one of the essential health services for the delivery of immediate medical services to a patient or to an injured person resulting from an emergency or a disaster. It includes the evacuation of the patient from the incident site to the receiving health facilities. It is to save lives of the patient (s) in transit to and from the health facilities.

LAND AMBULANCE

Criteria for availing land ambulance services in health facilities:

- patients referred from district hospital to higher center after consultation with concerned specialist
- patients referred from BHU(s) to district hospitals after consultation with on-call doctors
- Patients referred for routine CT, MRI, endoscopy and OPD consultation and other investigations **shall not be** entitled to ambulance services.

Standard Ambulance Allocation:

Standard number of ambulances for different level of health facilities shall apply as detailed in table below. Allocation of ambulance to BHU-IIs shall be decided by the Ministry of Health on a case by case basis and situation.

Use of Siren and Beacon:

The Sirens and Beacons of Ambulance shall be used in order to alert other road users as per the following conditions:

- During evacuation of critical patients both the Sirens and beacon lights shall be used.
- During evacuation of non-critical patients, only Beacon light shall be used and siren or loud speaker may be used if necessary.
- The ambulance without patient with prior approval from HHC to attend emergencies shall:
- use beacon lights; or may use siren during traffic jam in order to gain thoroughfare.
- may use siren or loud speaker of the ambulance to alert road users.

Table 21.1 Standard ambulance allocation to hospitals/districts

Sl. No	Level of Health facilities	No. of Ambulances (minimum)
1	National Referral Hospital (350 beds)	6
2	Regional Referral Hospital (150 to 349 beds)	5
3	Hospital with 40 to 60 beds	3
4	Hospital with 20 to 39 beds	2
5	BHU I	1

- Ambulances shall not use beacon light and siren in the event of death of the patient while on referral.

Lifespan and road worthiness of Ambulance:

Lifespan and road worthiness of ambulance shall be as prescribed by Road Safety and Transport Authority (RSTA) and as per notifications of the Ministry of Finance (MoF).

Patient Attendant:

Not more than two attendants shall be allowed to accompany patient and ambulance team during the evacuation of patient.

Ambulance Utility and Services:

An ambulance shall:

- be assigned only for evacuation of sick or injured people to, from or between places of illness or injury for treatment.
- not be used for transport of dead body, except death occurring while on referral.
- collect patients en route when assigned by HHC.
- carry terminally ill and paralyzed patients that are discharged from the referral hospital while returning to the station.
- All the ambulance movements in the country shall be regulated and coordinated by HHC. The respective health facilities shall be held responsible if they fail to deploy ambulance as directed by HHC.
- The movement order for ambulance(s) shall be signed by the administrative officer or any other health professional designated by the health facilities.
- The administration of respective health facilities shall assign Emergency Medical Response Officer (EMRO)/EMR or any other health professional to sign the movement order during off hours.
- Through coordination with Royal Bhutan Police (RBP) and RSTA, ambulance(s) shall be allowed unhindered transit through check-posts and traffic congested areas while on emergency evacuation.
- If the road is not pliable, the ambulance team shall inform HHC and health facility to arrange transfer of patient(s) if necessary.
- The ambulance can evacuate only one patient if critically ill or injured. Number of patients will be on discretion of referring doctor if non-critical.
- The ambulance driver and EMT should be considered as emergency staff of the health facilities and needs to be given preference for accommodation in the health facilities' premises.
- Only emergency medical consignment measuring not more than 60x30x26 cm (lxbxh) packed in a carton or box, which can be placed under the patient stretcher, may be allowed to carry in the ambulance. Ambulance should not carry any restricted goods and products (e.g. tobacco, narcotics, wild life products, vegetables, weapons, explosives, etc.).
- The ambulance shall be deputed on duty by DMS, MoH during major national events, international VIPS, major international conferences upon prior approval from DMS.

Budget and Maintenance:

Dzongkhag(s) and health facilities shall;

- keep an adequate annual budget for fuel and maintenance of ambulance (s)
- perform periodic maintenance of the ambulance (s)
- seek approval for repair and maintenance of ambulances from respective Dzongkhag or health facilities

Surrender, Mobilization and Disposal of Ambulance:

Dzongkhag(s) and health facilities shall surrender ambulances to the MoH only on the following conditions:

- complete the lifespan as prescribed by RSTA or with the notification of MoF.
- beyond repairable condition supported by technical certificate issued by authorized automobile workshop and verified by relevant Committee.
- MoH shall dismount medical equipment, communication system and other parts of ambulance when surrendered for disposal.

Roles and Responsibilities of Dzongkhag(s)/Health facilities:

- secure adequate annual budget for fuel and maintenance.
- ensure periodic maintenance of ambulance
- indent annual medical equipment and medicines as per standard list.
- arrange rooms for overnight stay for ambulance service team in the referral center.
- maintain trip sheet and log book.
- monitor ambulance service performance through trip sheet and log book.
- ensure that ambulance service team wear uniform during duty hours.
- inform the referral hospital of the condition of a patient.
- ensure that EMRs monitor drugs and non-drugs and are replenished regularly
- print adequate number of trip sheet (*Annexure 4*).
- provide accommodation to ambulance service team in the premises of health facility.
- ensure the ambulance is driven by designated driver only.
- submit detailed report to EMSD, DMS in the event of ambulance road crash at the earliest.
- ensure ambulance (s) are not misused.
- ensure there is no disruption to ambulance services due to unavailability of drivers, fuel and maintenance of the ambulance.
- ensure that the drivers are monitored as per the guideline.
- ensure that ambulance service team are strictly prohibited to take pictures of patient related and post in social and other media.

HELICOPTER SERVICES**Criteria for availing helicopter service:****1. Criteria on Medical Conditions:**

Helicopter shall be requested for emergency evacuations by the health professionals after assessing the health conditions of the patients based on the following criteria:

- Severe Trauma

- Surgical Emergency
- Medical Emergency
- Pediatric Emergency
- Obstetric Gynecological Emergency

Any other life-threatening medical conditions as decided by the health professionals in consultation with the Emergency specialists. For more details, please read Annexure 3 of Guideline on Use of Helicopter for Medical Emergencies.

2. Other key considerations:

Isolated Place: Helicopter services may be considered where there is no road accessibility and where patient cannot be reasonably reached by land ambulance or any other means e.g. cutoff due to earthquake, roadblock, etc.

Facility to Facility Transfer: Facility to facility transfer services may be provided in the following situations:

- where patients admitted in lower health facilities (BHUs, District Hospitals) need to be referred to higher health facilities due to development of life-threatening conditions.
- where there are no adequate facilities, when land ambulance transport can deteriorate the condition of the patient due to movement or inadequate time for preventing death
- or both the conditions combined

Patient in Far Flung or Isolated Location: Helicopter services may be considered to evacuate a patient where they cannot contact health workers or health facilities. In this remote setting where consultation with a health professional is impossible, the patient or patient attendant shall directly contact HHC (112). HHC/112 shall activate the helicopter service and inform Department of Medical Service (DMS) according to the aforementioned activation protocol.

Processes and Procedures:

The procedures for availing helicopter services are as illustrated in the *Figure below*:

- I. The request for helicopter for emergency evacuation shall be made from the site by a health professional upon assessment of the patient based on the medical emergency criteria as specified above.
- II. All health professionals at the point of care/incidence shall call HHC (112). HHC personnel shall then directly consult with the Emergency Specialist of Regional Referral Hospitals or JDWNRH. The need for helicopter evacuation will be determined by the Emergency Specialist of



JDWNRH and/or HHC personnel based upon the severity of patient injury or illness and the priority criteria set forth in this guideline and in the SOP for BEAR.

- III. Upon confirmation from the Emergency Specialist (ES) or concerned specialist of JDWNRH, HHC will activate the Bhutan Emergency Aeromedical Retrieval (BEAR) team and call RBHSL for helicopter evacuation.
- IV. The number of BEAR team member (one or two personnel) for each evacuation will be decided by Emergency Specialist as determined by BEAR protocol detailed in its SOP.
- V. The receiving health facility for evacuated patient shall be determined by the Emergency Specialist, JDWNRH in collaboration with the BEAR team.
- VI. If the helicopter service is delayed due to weather or any other reasons, the concerned health professional shall refer the patient by other means of transport and inform HHC (112).
- VII. The referring health facility must inform HHC (112) if the patient has expired prior to helicopter dispatch.
- VIII. The requesting/referring medical team shall fill up the Helicopter Request Form (*Annexure 1 in the Guideline on use of helicopter for medical emergencies, 2018*) and hand over to the BEAR team at time of patient transfer. BEAR team will then submit it to HHC.
- IX. If the patient expires during the evacuation, the dead body shall be brought to the referred health facility. The receiving health facility shall certify and issue the death certificate and keep in the mortuary. The concerned patient attendant shall manage the dead body thereafter.

Emergency Evacuation Personnel:

The health personnel providing critical emergency and resuscitation care to patients during helicopter evacuation are known as the Bhutan Emergency Aeromedical Retrieval (BEAR) team. BEAR has its own SOP, which complements this document.

RESPONSIBILITIES

Emergency Department, JDWNRH:

- The Emergency Specialist shall respond to emergency calls and review, verify and recommend BEAR retrieval promptly or no later than 30 minutes of first request call.
- Prepare in advance for receiving the patient from the helipad.
- Document care given by BEAR to patient in the trip sheet.
- BEAR shall submit a copy of Helicopter Trip Sheet and Helicopter Request Sheet to the HHC.

Referring Health Facilities:

- When a health professional transfers a patient, he or she must communicate all patient-related information, history, findings, assessment and treatment to BEAR personnel at the time of patient hand-over.
- The referring health professionals shall complete the Referral Sheet and Helicopter Request Form and hand them over to the BEAR team at time of patient hand-over.
- Maintain a record of all patients referred and transferred by helicopter.
- If the patient expires prior to helicopter dispatch or arrival, the referring health professional must notify HHC/112.

Patient Attendant:

- The patient and the patient attendant (when present) shall:
- Abide by all requirements of RBHSL and BEAR during medical evacuation.
- Carry only essential things such as clothing and money.
- HHC/referring health worker will not be responsible for transportation of any restricted items by patient or patient party.
- Patient attendant shall accompany the critical patient with or without BEAR team for all evacuation.
- Patient attendant cannot accompany the critical patient if the captain declines based on technical reasons.

References

1. Ambulance Service Guideline 2018, 2nd Edition, Emergency Medical Services Division, Department of Medical Services, Ministry of Health.
2. Guideline on Use of Helicopter for Medical Emergencies 2018, Emergency Medical Services Division, Department of Medical Services, Ministry of Health.