Strategy Plan for Emergency Medical Services 2018-2023

First Edition
2018

Emergency Medical Services Division
Department of Medical Services
Ministry of Health
Thimphu Bhutan

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Strategy Plan for Emergency Medical Services

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Department of Medical Services
Ministry of Health
Royal Government of Bhutan

2018

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Contents

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Foreword

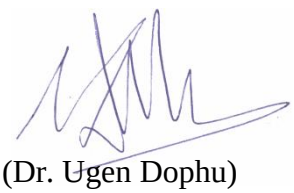
The Ministry of Health is pleased to publish the Strategy Plan for Emergency Medical Services (2018-2023). This strategy plan is envisaged to further improve the quality of emergency medical care and services delivered in the country.

This strategic plan is intended to enhance the health system capacity to prepare, prevent, respond to, and recover from public health emergencies or disasters through development of a single, common preparedness vision and strategies. This strategic planning effort is designed to assist nationwide leadership in directing programmatic efforts, accomplishing results, ensuring accountability, and properly allocating limited resources over the next five years (12th FYP) and beyond. At the same time, efforts have been made particularly in aligning with the 12 Five Year Plan and Sustainable Development Goals.

The strategic plan is developed in close collaboration with the health professionals representing clinicians, nurses, technologists, planners, academia, programs, and other relevant stakeholders engaged in emergencies and disasters planning and response in the country. The health professionals and stakeholders assessed the current emergency management system using SWOT analysis and identified 7 strategic areas and developed objectives, strategies and outputs for the strategic plan.

While developing this strategy, necessary references have been made to a multitude of strategic documents and reports. It is, therefore, our earnest hope that this strategy plan would guide Emergency Medical Services Division (EMSD) to remain focused on major interventions in the next five years thereby gearing towards fulfillment of some of the key national and international health goals. Furthermore, we are hopeful that this document would be useful to our health professionals, program managers, policy makers, stakeholders, UN partners, NGOs and beyond.

Finally, ensuring provision of quality emergency care and services would entail inter-sectoral partnership and community engagements in which contributions transcend beyond the health sector. By bringing all these stakeholders together, this strategy offers a unique opportunity to realize our common goals and objectives of improving health and wellbeing of Bhutanese population.



(Dr. Ugen Dophu)
Secretary
Ministry of Health

Acronyms

The following is a comprehensive list of frequently used emergency management and emergency medical care acronyms:

ACLS	Advanced Cardiac Life Support
AHB	Annual Health Bulletin
AKRA	Agency Key Result Area
ATLS	Advanced Trauma Life Support
BEMT	Bhutan Emergency Medical Team
BHU	Basic Health Unit
BLS	Basic Life Support
BMHC	Bhutan Medical and Health Council
BRCS	Bhutan Red Cross Society
CBRN	Chemical, Biological, Radiological, Nuclear
DDM	Department of Disaster Management
DDMC	Dzongkhag Disaster Management Committee
DHO	District Health Officer
DMAB	Disaster Management Act of Bhutan (2013)
DMS	Department of Medical Services
DoMSHI	Department of Medical Supplies and Health Infrastructure
DoPH	Department of Public Health
ED/ER	Emergency Departments/ Emergency room
EmONC	Emergency Obstetric and Neonatal care
EMS	Emergency Medical Services
EMSD	Emergency Medical Services Division
EOC	Emergency Operation Center
FoNPH	Faculty of Nursing and Public Health
FYP	Five-Year Plan
HEDCP	Health Emergency Disaster Contingency Plan
HEOC	Health Emergency Operations Center
HISC	Health Information Services Center
HMIS	Health Management Information System
ICS	Incident Command System
IEC	Information, Education and Communication
JDWNRH	Jigme Dorji Wangchuck National Referral Hospital
KGUMSB	Khesar Gyalpo University of Medical Sciences of Bhutan
LGKRA	Local Government Key Result Area
MISP	Minimum Initial Services Package
MoH	Ministry of Health
NCD	Non-Communicable Disease
NEOC	National Emergency Operations Center
NGO	Non-Governmental Organization
PALS	Pediatric Advanced Life Support
RGoB	Royal Government of Bhutan
RRH	Regional Referral Hospital
RCDC	Royal Centre for Disease Control
SDGs	Sustainable Development Goals
VHW	Village Health Worker
WHO	World Health Organization

Glossary

Activities: Actions performed to produce specific outputs using a given set of resources.

Affected people: People who are adversely affected by a public health emergency, crisis or a disaster and who are in need of urgent humanitarian assistance.

Assessment: The evaluation and interpretation of measurements and other information to provide a basis for decision-making

Awareness: The continual process of collecting, analyzing, and disseminating intelligence, information, and knowledge to allow organizations and individuals to anticipate requirements and react effectively.

Contingency planning: The process of establishing programme objectives, approaches and procedures to respond to situations or events that are likely to occur, including identifying those events and developing likely scenarios and appropriate plans to prepare and respond to them in an effective manner (Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance 2001).

Communications: A method or means of conveying information of any kind from one person or place to another.

Disaster: A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources (UNISDR). 2. Situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance (CRED)

Emergency Management: The process by which the national, local jurisdictions, agencies, and businesses prepare for emergencies and disasters; mitigates their effects and respond to and recover from them.

Emergency Medical Services: is the full spectrum of emergency care from recognition of the emergency, communication access of the system, provision of prehospital care, through definitive care in the hospital. It also includes medical response to disasters, planning for and provision of medical coverage at mass gatherings, and interfacility transfers of patients.

Emergency Operations Center (EOC): The physical location at which the coordination of information and resources to support domestic incident management activities normally takes place. An EOC may be a temporary facility or may be located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction.

Emergency threshold: Mortality rate above which an emergency is said to be occurring. Usually taken as a crude mortality rate of 1 per 10 000 per day, or as an under-five mortality rate of 2 per 10 000 per day (ODI/HPN paper 52, 2005, Checchi and Roberts).

First Responder: Any entity's personnel, including fire, law enforcement, public health, emergency medical services, and State proprietary or private security staff, who respond to emergencies as a recognized and daily part of their positions.

Health Informatics: is the interdisciplinary study of the design, development, adoption, and application of IT-based innovations in healthcare services delivery, management, and planning. (U.S. National Library of Medicine)

International Health Regulations (IHR): An agreed code of conduct adopted by the World Health Assembly in May 2005 to protect against the spread of serious risks to public health and, the unnecessary or excessive use of restrictions in traffic or trade. The IHR 2005 came into force on 15 June 2007.

Information: Processed fact reporting with or without analysis. It is often prepared for publication or dissemination in some form and is intended to inform rather than warn or advise.

Preparedness: The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the capability to protect against, respond to, and recover from the impacts of likely, imminent, emerging, or current emergencies. Preparedness is a continuous process. It involves efforts at all levels of government and within the private sector to identify required resources.

Public Health Emergency: An occurrence or imminent threat of an illness or health condition, caused by bioterrorism, epidemic or pandemic disease, or novel and highly fatal infectious agent or biological toxin, that poses a substantial risk of a significant number of human facilities or incidents or permanent or long-term disability

Recovery: Development, coordination, and execution of service and site-restoration plans; constitution of government operations and services; individual, private sector, and public assistance programs to provide housing and promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental, and economic restoration; evaluation of the incident to identify lessons learned; post-incident reporting; and development of strategic goals to mitigate the effects of future incidents

Response: Activities that address the short-term, direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes execution of emergency operations plans and mitigation activities designed to limit loss of life, personal injury, property damage, and other unfavorable outcomes.

Risk: The combination of the probability of an event and its consequences. Risk results from interactions between natural and human-induced hazards, vulnerability, exposure, and capacities.

Risk assessment: The process of determining those risks to be prioritized for risk management by a combination of risk identification, risk analysis, and evaluation of risk level. A risk assessment includes a review of the technical characteristics of hazards, analysis of exposures and vulnerability, and evaluation of the effectiveness of existing coping capacities.

Risk management: Coordinated activities to direct and control risk in order to minimize potential harm. These activities include risk assessments, implementing risk treatment or response measures, and evaluation, monitoring, and review.

Surge capacity: Ability to obtain additional resources when needed during an emergency (US Centers for Disease Control and Prevention).

Introduction

The Ministry of Health (MoH) has embarked on an ambitious strategic planning effort to enhance its emergency management capabilities and improve overall emergency medical care and services in the country.

This document will provide a comprehensive strategic direction to the health sector in improving emergency medical care and services in the country during 12th FYP. It identifies strategic goals and charts a roadmap that unifies efforts of relevant stakeholders in addressing the current emergency management. The plan is designed to improve the efficiency of emergency management preparedness efforts by:

- Focusing on high-priority needs
- Reducing or eliminating redundant efforts
- Emphasizing on all-hazards approach to preparedness
- Strengthening coordination and communication

This strategic plan highlights on building on the existing strengths of the emergency medical care and services, while also critically examining any opportunities for improvement. The plan also considers future challenges that the ministry and community would likely encounter in order to develop and mount the most effective response. On a whole, this document is intended to provide overall strategic direction to the ministry with a five year perspective and it does not provide details regarding either tactical components or operational components.

Background

Emergency Medical Service Program was formally instituted in 2006 under Department of Medical Services (DMS), Ministry of Health (MoH) though the emergency related services were established since 1999 under other program. Since then, the program dealt with health aspect of emergency and disaster through proper institutionalization of EMS at different level of health facilities. The EMS program acted as coordination and facilitating body for training, risk communication, information management and providing support to the community level.

The need to strengthen the EMS program was felt after the major earthquake in 2009 which claimed 9 lives, affected 1150 household and 45 Basic Health Units in eastern region. Another similar earthquake in 2011 claimed 1 life, injured 14 and damaged 7, 965 houses and 50 health facilities. The frequencies of road traffic accidents, fires and disasters related to climate change also increased over the years due to increasing population, rapid urbanization and climate change.

Further, the world is seeing continued public health threats and new challenges due to the emergence of infectious diseases like avian influenza, SARS, MERS-CoV, and most recently the Zika virus re-emerging diseases like Ebola and TB, and the increasing public health threats from chemical, radio nuclear and food safety events. The World Health Organization expressed deep concern of this new global public health threats and warned in its 2007 report that infectious diseases are emerging at a rate that has not been seen before.

Therefore, recognizing the growing importance of strengthening emergency medical service in the country, the EMS program was upgraded to the Division level in 2016. EMSD acts as the nodal body to direct, coordinate, communicate and manage medical responses during any public health emergencies including in natural disasters.

Vision

A nation with the best Emergency Medical Service System

Mission

To reduce mortality and morbidity from public health emergencies and disasters by enhancing preparedness, response and recovery capacities

Core Values

- *Collaboration:* strive to work effectively with relevant partners to solve problems, make decisions, and achieve common goals.
- *Competence*: demonstrate expertise in carrying out the responsibilities and inspire others to have confidence
- *Preparedness*: maintain the highest level of both organizational and individual preparedness
- *Professionalism*: commitment to excellence in service and care through positive attitude and actions
- *Ethical*: manage and deliver emergency services to save human lives based on accepted ethical values and principles
- *Innovation*: we work within a dynamic environment, which requires a flexible, creative and adaptable application of systems
- *Stewardship*: utilize fiscal, human, and capital resources in an appropriate, effective and efficient manner.

Policy and Legal Framework

Bhutan's commitment to international goals such as Sustainable Development Goals, International Health Regulations (IHR) 2005 and Sendai Framework provide obligations to put in place an effective and efficient emergency management plans at all levels for all-hazards.

The National Health Policy 2012 requires all health facilities to institute appropriate system to deal with any public health emergencies and disease outbreaks. It should be supported by appropriate transport facilities, safe health infrastructure, and competent EMS team. Further Chapter 10 (111/112) of the Disaster Management Act of Bhutan 2013 (DMAB) mandates the Ministry of Health (MoH) to put in place contingency emergency medical services (EMS) throughout the country in the event of any PHEs including natural disasters. MoH will have

national emergency preparedness and response plan for all health related emergencies of national and international concerns.

Key Strategic Areas

- Strategic Area 1: Governance and Coordination
- Strategic Area 2: Pre-hospital care Services
- Strategic Area 3: Clinical and Operational Performance
- Strategic Area 4: Preparedness, Response & Recovery
- Strategic Area 5: Surveillance, Information and Research
- Strategic Area 6: Risk Communication
- Strategic Area 7: Capacity Building

Strategic Area 1: Governance and Coordination

Sufficient legal and policy tools supported by effective leadership and coordination mechanisms among relevant stakeholders across all sectors and levels are critical to strengthening health system's resilience to and capacity to manage public health emergencies and disaster.

While existing legal and policy tools such as the Disaster Management Act of Bhutan (DMAB), 2013 and the National Health Policy, 2010 are in place, these need to be reviewed to address current gaps, incorporate new developments in the field, and to ensure that Bhutan's efforts towards strengthening health security aligns with international legal tools, frameworks and initiatives such as the IHR (2005), SDGs and Sendai Framework for Disaster Risk Reductions 2015-2030.

Similarly the DDM is the national lead agency for over all disaster management in the country. The DMAB 2013, mandates the health sector to take a lead in the management of public health emergencies in the country. This entails the Ministry of Health to develop/strengthen and maintain a systematic and effective national coordination mechanism for all phases of emergency management that is in sync with other sector's emergency plans. Therefore, this strategic area is geared towards strengthening the legal/policy environment and coordination mechanisms among all relevant stakeholders which are critically essential components to facilitate effective management of all-hazard public health emergencies.

Goal

Strengthen governance and coordination mechanism at all levels for effective management of all-hazard public health emergency and disaster

Objective 1

To review and revise national legislation and policies to support the implementation of integrated and coordinated public health emergency efforts at all levels

Strategies

- Review and strengthen national legislation/policies/plans for all-hazard public health emergencies at all levels, including at the designated points of entry.
- Advocate for and explore sustainable mechanisms to mainstream relevant activities of public health emergency management into the plans and programmes of relevant sectors.
- Set up mechanisms to strengthen cross-border collaboration for management of all-hazard public health emergencies.

Outputs

- National legislations/policies for all-hazard health emergency management reviewed and follow up actions initiated
- Health Emergency Contingency plan, guidelines/protocols (e.g. trauma care; incident command system) and standard operating procedures (SOPs) for all-hazards health emergencies management reviewed, revised and/or developed
- Mainstream emergency preparedness, response and recovery activities into the plans and programmes of relevant sectors for all types of hazard ensured.
- High-level advocacy on mainstreaming health emergency preparedness and response into relevant sector's plans conducted.
- EMS committee to support the implementation of the EMS Strategic plan established.

Objective 2

To enhance national coordination and collaboration among stakeholders for public health emergency management

Strategies

- Strengthen national coordination, and collaboration among relevant stakeholders through drawing up appropriate agreements and understanding between agencies and programs.
- Carry out yearly tabletop exercises on coordination mechanism

Outputs

- Coordination meeting amongst stakeholders conducted
- Protocol to activate Incident Command System for health emergencies and disasters developed.
- Guidelines/SOPs for intersectoral collaboration/coordination at the national and sub-national developed through multi-sectoral consultations.
- Yearly tabletop exercises conducted on coordination mechanism at the national and sub-national levels

Objective 3

To create advocacy/awareness program on preparedness and response to emergencies at all levels (National, Districts and Gewogs)

Strategies

- Conduct high-level advocacy to policy makers and government officials (parliamentarians, government agencies; UN agencies, developmental partners, civil society, NGOs, media, and private sectors).
- Conduct community awareness programs using different media channels on public health emergencies
- Conduct awareness on emergencies preparedness and response actions

Outputs

- IEC materials on emergencies preparedness and response developed and distributed to health centers/communities
- High-level advocacy conducted annually or biannually
- Awareness program on health emergencies preparedness for communities and institutions conducted.
- Guidelines and materials to educate public and EMS service providers developed

Strategic Area 2: Pre-Hospital care services

Pre-hospital care is a system of providing immediate emergency medical care to patients at the site of incident by appropriately trained personnel and other people, and timely transportation to a health facility. It is a system of coordinated response and emergency medical care, involving multiple people and agencies. The goal of pre-hospital care is to rapidly dispatch, stabilize, treat and transport victims to the health facilities.

Given the importance of pre-hospital care in determining health outcomes of affected populations, this aspect of emergency care in the country needs to be reviewed and strengthened in areas of governance, capacity of service providers, quality and adequacy of services and equipment, information system, and referral mechanisms, among other things, in line with and adapting from international and regional best practices that are feasible to Bhutan's context.

The current pre-hospital care system to undertake critical lifesaving tasks need to be improved through use of existing professionals to respond to global trends of medical emergency care. Moreover there is no proper document that guides the advance of the profession and practice of EMS personnel.

Goal

Strengthen pre-hospital care for timely provision of effective emergency care to prevent disability and deaths

Objective 1
To strengthen pre-hospital care governance, management and quality of service

Strategies

- Strengthen governance structure and quality of pre-hospital care service

Outputs

- *Existing pre-hospital care service reviewed and updated*
- *SOPs/guidelines for pre-hospital care service developed*
- *Clinical audits of pre-hospital care service conducted periodically*
- *ICT enabled communication system in pre-hospital care service encouraged*
- *Appropriate and adequate resources are maintained for pre-hospital care services at all times*
- *Proper documentation, reporting and feedback developed and maintained*
- *Pre-hospital care services related research carried out and findings disseminated*

Objective 2
To strengthen pre-hospital care transport and referral services

Strategies

- Improve Turn-Around-Time (TAT) for ambulance activation by HHC
- Strengthen the capacity of emergency responders for ambulance services

Outputs

- Adequate number of Aero-medical and ground evacuation team trained
- Guidelines and SOPs for ambulance services, including aero-medical services reviewed and revised
- Inventory of life saving equipment maintained and updated on a regular basis
- A Community awareness on pre-hospital care service conducted
- A Effective communication and collaboration mechanism between HHC and health facilities developed
- Table-top simulation exercises on pre-hospital care conducted

Strategic Area 3: Clinical and Operational performance

Hospitals and other health facilities such as Basic Health Units play a critical role for health and well-being of communities not only during normal times but also during emergencies, such as epidemics and pandemics, mass casualties and natural disasters. At present, emergency medical care services delivered by different health facilities vary due to differences in the resources available and geographical terrain among others. Therefore, it is essential to have well organized emergency department/room to manage emergency patients in standard and uniform manner in all health facilities across the country.

The operational role of an ED/ER may be defined as an area within the health facility to receive all patients in a medical emergency, where immediate interventions begin and the decisions about patient disposition are made. The medical role of the ER consists of immediate assessment and stabilization, making a rapid diagnosis and providing rapid intervention followed by risk stratification and patient disposition.

This strategic area focuses on strengthening the clinical and functional aspects of the emergency departments or units of the respective health facilities in the country.

Goal

Improve clinical and operational performances in ED/ER of health facilities

Objective 1
To provide timely, effective and safe emergency medical management at all times

Strategies

- Establish ED/ER in all hospitals with adequate and competent staff
- Ensure availability of adequate medicines, supplies diagnostic services (health technology)
- Develop/update infection prevention control and other occupational hazards management guidelines to ensure the protection of health and safety of ED/EUs

Outputs

- Staffing need for ED/ER assessed
- Guidelines and SOPs of clinical practices developed and implemented in ED/ER.
- Tools for proper documentation for quality reporting and timely feedback developed
- Clinical auditing conducted at ED/ER
- Evidence based emergency medical practice and technology promoted as per the existing guidelines
- Guidelines for Patient Referral developed

Objective 2
To promote the use of health Informatics in ED/ER

Strategies

- Develop and strengthen EMS information system
- Promote use of evidence-based medical practice and technology in emergency patient care

Outputs

- Emergency medicine/EMS component in Electronic Patient Information System (ePIS) incorporated
- Trauma registry/ surveillance system established
- Database of human resource, equipment, and services maintained

Strategic Area 4: Preparedness, Response and Recovery

There are wide ranges of hazards that pose a constant threat to public health. Despite preventive measures, health emergencies of different types and scales can occur at anytime, anywhere and anybody can be affected. Therefore health system must be adequately prepared and maintained at all levels to and from any health emergencies. Preparedness, response and recovery for any emergencies is a complex and multidimensional process that is required at every levels, involving collective efforts of government, communities, civil societies, private sectors and individuals.

This strategic area focuses and builds on existing health sector's capacity in areas of public health emergency preparedness, response and recovery. Also, in view of the overlapping nature of this section with other strategic areas of the plan where some core elements of preparedness, response and recovery have been addressed, this strategic area emphasize on situational assessment of hazard/risk and vulnerability, incident command system, rapid response and laboratory capacity, emergency stockpiles and distribution system, operational readiness activities, resource mobilization and management, and medical surge capacity.

Goal

Ensure well-coordinated, equipped and tiered response to public health emergencies in the country

Objective 1
To strengthen health emergency preparedness at all times

Strategies

- Improve/strengthen health sector's to preparedness to any health emergencies, including at points of entry
- Reduce vulnerabilities and increase resilience of health facilities to public health emergencies and disasters
- Ensure availability of adequate emergency stocks and equipment at all level of health facilities.
- Explore alternative transportation means for medical supplies and diagnostic kits
- Maintain regional supply hubs to ensure continuous capacity to address the needs of a population
- Strengthen laboratory, diagnostic capacity and biosafety for public health emergencies

Outputs

- National level public health hazards/risk mapping conducted
- Emergency contingency plan for health facilities and points of entry developed and/or reviewed and updated. Periodic mock drill and simulation exercises conducted at all levels
- Vulnerability Assessment of health facility to health emergencies conducted
- Inventory of buffer stocks for emergency at health facilities developed and implemented
- Regional medical supply hubs established
- Guideline for Bhutan Emergency Medical Team developed
- Guideline/checklist for rapid field assessment reviewed and revised
- Isolation room designated in all hospitals/BHU-Is
- Gap Assessment on laboratory, diagnostic capacity, referral and biosafety at national and regional level conducted

Objective 2
To effectively respond to public health emergencies and disaster at all times

Strategies

- Strengthen HEOC as part of Incident Command System
- Strengthen medical surge capacity at all level
- Institute mechanism for effective mobilization and distribution of need- based resources
- Strengthen effective management of national and international relief team (from EMTCC)

Outputs

- HEOC established and operational with clear ICS
- Needs/Rapid assessment conducted within 24 hours of aftermath of public health emergencies
- Rapid Response Team deployed within 24 hours
- Medical surge capacity assessed Appropriate and adequate resources mobilized and distributed
- EMTCC established to manage national and international relief team as per national guidelines

Objective 3
To strengthen national capacity for provision of, rapid and effective recovery services in the aftermath of public health emergencies

Strategies

- Restore health emergency service & systems to meet the needs of the affected populations
- Safeguard psychosocial well-being and resources needed to improve the health/quality of life for survivors

Outputs

- Continuity of routine health services in alternate location/site (MCKS, schools, halls) provided/ensured

- Psychosocial and Rehabilitation services provided

Strategic Area 5: Information, Surveillance and Research

The availability of timely and quality information generated through a robust national surveillance system (both indicator and event-based surveillance) and other sources such as operational research is vital to have effective national preparedness and management of public health emergencies. An effective national public health emergency information management (IM) system requires concerted and well-coordinated efforts from RCDC and all relevant sectors in planning, organization, data collection, timely information sharing, utilization and feedback.

Goal
To generate timely, reliable and quality information to facilitate early detection and effective health emergency management

Objective 1
To strengthen surveillance system for the prioritized public health hazards

Strategies

- Review and harmonize all hazard based surveillance system at all levels in line with existing/upcoming legislations
- Develop guidelines and SOPs for national surveillance system using all-hazard approach
- Improve surveillance data quality and its compliance in reporting
- Establish baseline and threshold level for notifiable diseases and other hazards of national public health significance
- Institute joint real-time integrated surveillance system for humans, animals and wildlife
- Strengthen surveillance, information sharing, and reporting mechanisms between PoE and relevant stakeholders
- Conduct research capacity assessment in relation to health emergency in all phases

Outputs

- Harmonized legislative tools in place to support surveillance system for all-hazards
- Surveillance guidelines/SOPs and early warning system established prioritized national public health hazards established
- Monitoring and Evaluation mechanism developed to improve surveillance data quality and compliance
- Baseline and epidemic thresholds for notifiable diseases and other hazards established
- Joint integrated real-time surveillance system instituted for diseases at human-animal and wildlife interface
- Functional mechanism for surveillance, information sharing and reporting between PoE and relevant stakeholder established

Objective 2
To improve availability, accessibility and application of evidence-based information in health emergencies preparedness and response

Strategies

- Develop a system for information generation, sharing and use both within and outside health sector
- Develop and maintain central data repository for public health emergencies
- Prioritize operational research areas to improve use and application of surveillance data
- Improve interoperability of surveillance systems for use by all concerned stakeholders

Outputs

- A system for information sharing developed for relevant agencies
- A well-coordinated, robust and interoperable web-based information system established on health emergencies
- List of prioritized operational research areas for health emergencies identified and conducted

Strategic Area 6: Risk Communication

Risk Communication refers to the real-time exchange of information, advice and opinions between experts or officials and people who face a threat (hazard) to their survival, health or economic or social well-being (WHO). The ultimate purpose is every people at risk are able to take informed decisions to mitigate the effects of the threat (hazard) such as disease outbreaks and take protective and preventive action. It involves multiple messages about the nature of risk and other messages, not strictly about risk, that express concerns, opinions, or reactions to risk messages or to legal and institutional arrangements for risk management.

For effective risk communication, the social, religious, cultural, political and economic effects of the event should be considered, including the voice of the affected population.

Goal

Reduce the impact of public health emergencies through promotion of positive/protective behavior through risk communication

Objective 1

To establish effective risk communication capacity and mechanisms during all phases of public health emergencies or disasters

Strategies

- Develop integrated multi-hazard risk communication guideline and SOPs
- Conduct Advocacy and awareness on risk communication
- Conduct simulation exercises on integrated multi-hazard risk communication
- Establish networks and formal communication channels for information sharing

Outputs

- Guideline on risks communication reviewed and revised
- All hazards risk communication materials developed
- Networks and formal communication channels established
- Risk communication focal points/media focal points at different levels (Dzongkhags, regional and national) identified and designated
- Rumours and misinformation are identified in a timely manner and managed
- Public communication, gap identification and strengths of existing mechanism assessed
- Refresher training for spokespersons and health personnel conducted

Strategic Area 7: Capacity Building

Developing and maintaining national human resource capacity for public health emergencies, both in terms of numbers and appropriate skill for varied groups of people, including community members, is a critical function in all phases of emergency management.

Therefore, it is important to equip relevant organizations, health professionals (including non-clinical health policy makers and managers) staffs, first responders, volunteers, civil servants and corporate employees, and community members with knowledge and skills to prepare and respond effectively during disasters and health emergencies (HEDCP 2016). It is also equally important to ensure that approaches adopted for quality human resource capacity-building are locally appropriate and sustainable so as to generate and maintain the required health emergency workforce of appropriately trained personnel at all times to come

The capacity of the community to deal with the effects of the disasters and health emergencies can be improved by training first responders or volunteers in first aid. First responders should be trained to provide pre-hospital care to any victims in a disaster and public health emergency. First responders shall include EMRs, police personnel, Desuups, firefighters, BRCS volunteers, and other community members.

In health care facilities, health workers including doctors and nurses shall be trained and updated on PALS, ATLS and ACLS. At the Ministry and Dzongkhag level, program personnel and district health officers shall be trained in emergency management. In addition, integrating a Health Emergency Management course in any pre-service training for the new civil servants shall be mandated in order to equip with essential skills and knowledge required during the times of response to emergencies.

Goal

Maintain a pool of well trained and equipped personnel for effective public health emergency management

Objective 1
To ensure availability of an adequate, appropriately-trained, and diverse health emergency personnel

Strategies

- Conduct HR gap and capacity need assessment for public health emergency
- Establish and maintain specialized emergency medical and rapid response teams
- Develop repository for the trained personnel in emergency management
- Train health workers in all hazards emergency preparedness and responses plan
- Conduct training to community volunteers on relevant aspects of health emergencies
- Identify and implement best practices for retention of specialized emergency medical personnel as feasible
- Develop and maintain capacity of relevant officials to strengthen the generation and use of surveillance data

Outputs

- A Long-term training of 2 Emergency physicians supported by 20203
- At least 80 Emergency Medical Responders (EMR) trained by 2023
- ED or ER at hospitals and BHU-I established with adequately trained health personnel
- Wellness programs for accumulative stress, promote physical health, and support good emotional health introduced
- Capacity of all relevant officials in generation and use of surveillance data developed

Objective 2
To provide standardized emergency medical training to health workers and first responders

Strategies

- Develop standardize, and institutionalize emergency medical training programs, including emergency leadership training course at institutes recognized by Royal Civil Service Commission
- Initiate and institutionalize emergency medical training program in accredited institutions
- Mandate all health workers in the country to have valid BLS certificate for recertification by BMHC
- Implement a regular formal first aid training program for first responders
- Explore and implement both on-site and online training opportunities on public health emergencies
- Conduct in-service Health Emergency Management course for health workers in the country

Outputs

- Emergency medical training programs standardized and institutionalized
- Health personnel with BLS training certificate certified once every 3 years by BMHC
- ACLS, PALS & ATLS trainings are made mandatory and prioritized specific groups of specialties (ED, ICUs) and provided
- First aid training provided to first responders such as ambulance drivers, taxi drivers, truckers, police personnel, BRCS volunteers, tourist guides and other volunteers
- Mentoring & succession programs established for emergency medical system
- Health Emergency management course integrated into in-service training program for health workers
- ToT for all hazard emergency management at both national & regional level developed
- On-site and online/distance training opportunities on medical and public health emergencies explored and provided.
- Training need assessment conducted in collaboration with HRD

Implementation Modality

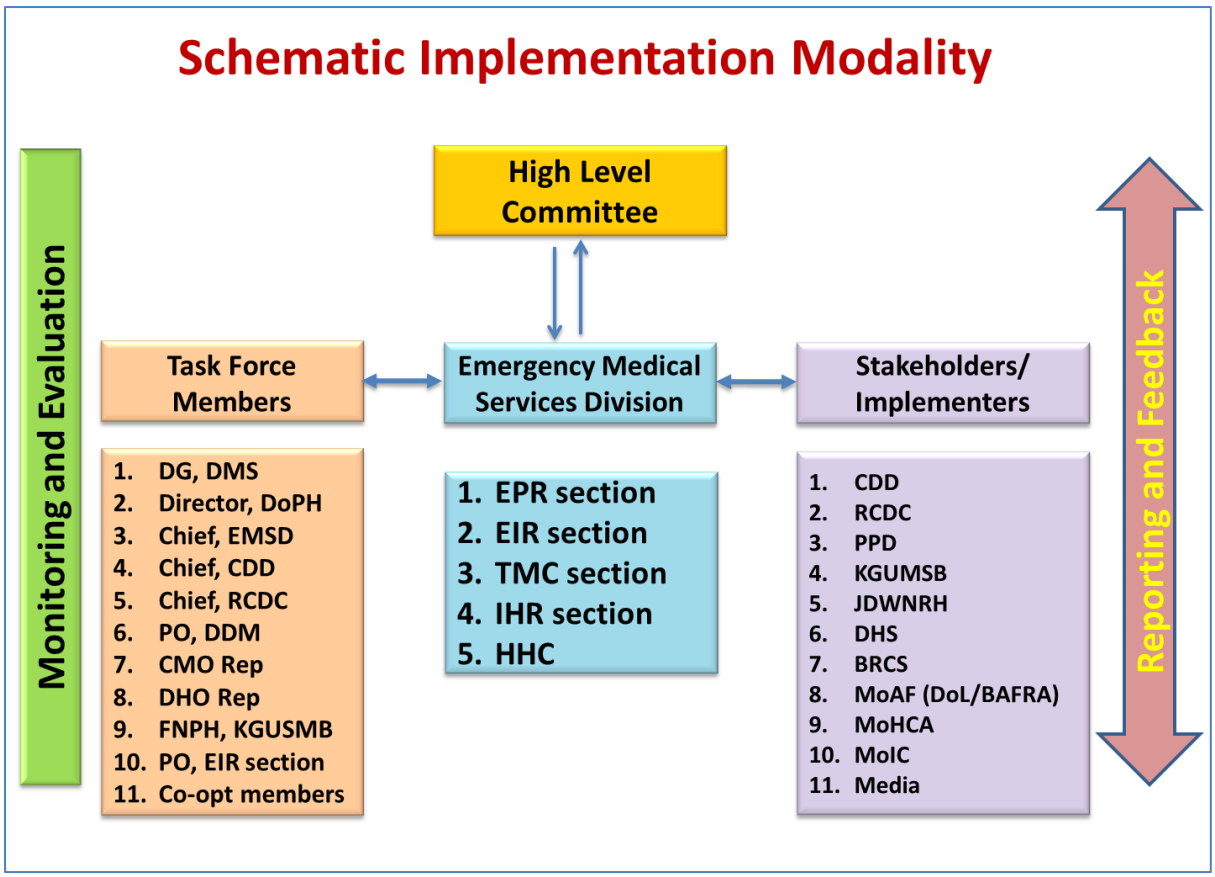
The implementation of this strategic plan will start after the endorsement by HLC through the issuance of executive order. The successful implementation of this plan will require support from all the relevant programs, departments and agencies, both within and outside the Ministry of Health. It will also entail relevant programs and stakeholders to develop actions plans or incorporate relevant activities into their annual works plans or as part of Annual Performance Agreement.

Due to cross-cutting nature of health emergency management with many other sectors, a Task Force Members, comprising members from both within and outside the health sector will be formed to oversee and guide the successful planning and implementation of the plan outlined in the document. The Task Force Members will also review, monitor, and provide implementation progress updates to the HLC members of Ministry of Health and other relevant agencies. The EIR Program under EMSD will serve as secretariat for smooth coordination and implementation. These task force members will advocate and take lead towards accomplishment of the key milestones outlined in this strategy. The Task Force members selection is based on the mandates and experience that are crucial for successful implementation of this strategy.

The work and effort of each stakeholder and EMSD officials to implement this Strategy plan must be fully supported by decision makers. The implementers' and department heads' recognition of the importance of emergency preparedness and support for strategic goals is crucial for the successful implementation of this strategy plan. The *Task Force Members* include the following:

1. DG, DMS (Chairperson)
2. Director, DoPH
3. Chief, EMSD
4. Chief, CDD
5. Chief, RCDC
6. Representative, DDM
7. CMO Rep
8. DHO Rep
9. FNPH, KGUSMB
10. PO, EIR section
11. Co-opt members

The implementation modality of this strategic plan is as reflected in the following firgure:



This strategic plan will be funded through annual work plan with funding support from RGOB and other developing partners. This strategic plan is a living document that will be updated periodically to reflect and incorporate changes in priorities, funding, and organizational and political structures.

Monitoring & Evaluation Framework

Monitoring and evaluation (M&E) is essential component of this strategic plan and its implementation. Robust M&E is not only important for ensuring that directions established in the plan are followed by stakeholders, but it is also an indispensable tool for learning and accountability which are vital for the success of the plan as well as part of continuous learning process and for future directions.

The strategic plan has identified several key results at the output level under each of the strategic areas and corresponding performance indicators have been developed. These indicators should serve as a tool to track progress of each of the strategic goals. For the purpose of monitoring and evaluation, an M&E framework (annexed) has been developed which clearly specifies responsible lead agencies, frequency, means of verification, and lines of reporting. The Ministry of Health will also evaluate the effect of the plan at appropriate time period using the IHR (2005) index and other outcome/impact level indicators of relevance to the health sector's emergency management capabilities.

As per the framework, Ministry of Health and stakeholders will take a lead and be accountable for monitoring and evaluation aspects of the plan. The coordinating body (EMSD) should provide a report to the Task Force Members and further to Ministry. Each stakeholder or implementer will report on the status of all the strategic goals to the EMSD and Task Force Members during the six-monthly review. The monitoring and evaluation framework is provided as follows:

Strategic Area	Key Performance Indicator	Unit	Baseline (Year)	Targets and timeframe					Frequency	Means of verification	Lead Responsibility	Reporting
				2018-19	2019-20	2020-21	2021-22	2022-23				
1. Governance & Coordination	1) Timeline by which DMRR and relevant legislation are reviewed, and recommended	Time	NA		√				Once	EMSD Report Minutes of Meeting	PPD; EPR, EMSD	DMS; PPD; Task Force Members
	2) Timeline by which formal mechanism between the bordering States of India at POE and Bhutan's Ministry of Health is established	Time	NA			√			Once	EMSD Report Minutes of Meeting	IHR, EMSD	DMS; PPD; Task Force Members s
	3) Timeline by which Protocol to activate Incident Command System for health emergencies and disasters developed	Time	NA	√					Once	EMSD Report	EPR,EMSD	DMS; PPD; Task Force Members
	4) The timeline by which guideline/SOPs for intersectoral communication/coordination mechanism is developed and implemented	Time	N/A			√			Once	EMSD Report	EPR, EMSD	HLC; Task Force Members
	5) Number of table top and functional exercise made at national level	No	0	**1**		**1**		1	Alternative year		EPR, EMSD	HLC; Task Force Members

	6) Number of high-level advocacy PHE made to policy makers and government officials		NA	**1**	1	**1**	1	1	Annually	Report from EMSD, RCDC, CDD	EMSD, RCDC, CDD	HLC; Task Force Members
2. Pre-Hospital Care Services	1. TAT for all land ambulance	Time	10 mins	Main tain	Maint ain	Maint ain	Maint ain	Maint ain	Regularly	HHC records	HHC	DMS;
	2. TAT for air ambulance	Time	45 mins	30 m	Maint ain	Maint ain	Maint ain	Maint ain	Regularly	HHC records	HHC	Task Force Members
	3. Guideline/SOPs on pre-hospital care services developed	No	NA		√				Annually	EMSD Report	HHC, EMSD and KGUMSB	DMS; Task Force Members
	4. Number of Clinical audits of pre-hospital care service conducted	No	NA		**1**	1	1	1	Annually	EMSD Report	HHC, EMSD; QASD, JDWNRH	DMS; Task Force Members
	5. National Advocacy on pre-hospital care services conducted	No	NA	1	**1**	1	1	1	Annually	HHC, EMSD	HHC, EMSD	DMS; Task Force Members
3. Clinical and Operational performance	1. No of training of ED/ER staff on BLS, ACLS, PALS and ATLS	No. of staff	10		20	40	60	80	Yearly	Certificate (time-bound)	TMC, EMSD; ED, Hospitals	DMS; Task Force Members
	2. Timeline by which guidelines and SOPs in ED/ER are developed and implemented	Time				√					TMC, EMSD; ED, Hospitals	DMS; Task Force Members
	3. No. of SimEx and drills conducted in ED/ER	Times	2	2	2	2	2	2	Twice a year	Report/Media coverage	EPR, EMSD; ED, Hospitals	DMS; Task Force Members
	4. Trauma registry surveillance system instituted				√					Trauma register and reports	EMSD	DMS; Task Force Members

	5. No. of CMEs conducted for EMS personnel	Numbers	0		12	24	36	48	Annually	Training/CME Report	All Programs under TMC, EMSD	Task Force member; DMS
	6. Human Resource need for ED/ER assessed and report disseminated	No	0		1					Assessment Report	EIR, EMSD; HRD; HCDD; Hospitals	
4. Preparedness, Response and Recovery	1. Health facilities with operational health emergency contingency plan	Number	26 (2017)	50	96	142	188	235	Annually	Documents available Health facility	EPR, EMSD Health facility	Task Force Members, HLC, MoH
	2. Health facilities conducting periodic Mock drills/simulation exercise	Number	26 (2017)	50	96	142	188	235	Annually	Report	Health facilities; EPR, EMSD; DHS	Task Force Members, HLC, MoH
	3. Vulnerability assessment conducted for health facility	Number	4		3	3	3	3	Annually	Report	EPR, EMSD	Task Force Members, HLC, MoH
	4. Regional supply hub for emergency stockpiles established	No				1	1	1	Annually	BOQ; Report	DoMSHI EPR, EMSD	Task Force Members, HLC, MoH
	5. Hazard/risk mapping conducted and report disseminated	time	NA			√			Once in two year	Report	EIR, EMSD CDD	Task Force Members, HLC, MoH
	6. No. Medical Emergency and Trauma Center established	Number	1 (JDW NRH)		1	1	1	1	Annually	Report Health facility	TMC, EMSD	Task Force Members, HLC, MoH
	7. Guideline for all-hazards Rapid Response Team developed & simulated	Time			√				Annually	Documents	EPR, EMSD	Task Force, HLC,MoH
	8. Inventory of emergency	Time			√				Annually	Documents	EIR, EMSD	Task Force,

	medical supplies and equipment established											HLC,MoH
	9. The timeline at which BEMT instituted at National level	Time			√				Annually	Documents (executive order, guideline)	EPR, EMSD	Task Force Members; HLC, MoH
	10. International Health Regulations (IHR) core capacity index	index	75					80	Annually	Report	IHR, EMSD	Task Force Members; HLC, MoH
	11. No. of Hospitals with functional ED/ER	No.	5					10	Annually	HF visits	EMSD	Task Force Members; HLC, MoH
5. Information, Surveillance and Research	1. Timeline by which surveillance & biosafety for prioritized public health hazards is incorporated in Health Bill	time	NA		√					National Health Bill 2019	RCDC	Task Force Members; HLC, MoH
	2. Timeline by which early warning system is /reviewed/updated to detect public health emergencies		0				√			Online system	RCDC	Task Force Members; HLC, MoH
	3. Number of operational research on health emergencies conducted		0			1	1	1		Report	RCDC HMIS EMSD	Task Force Members; HLC, MoH
	4. Surveillance guideline for reporting of health emergencies from PoE to relevant stakeholders is established	time	0		√					Guideline	RCDC; IHR, EMSD	Task Force Members; HLC, MoH
	5. Interoperable web-based information system established on public health emergencies	Time	0				√			Online system	EMSD;RCDC	Task Force Members; HLC, MoH

	6. National baseline and threshold level for prioritised health hazards is established	time	0		√					Report	EIR, EMSD; RCDC	Task Force Members; HLC, MoH
	7. A formal system for information sharing among relevant agencies developed	Time				√				Minutes of Meeting; Proctocol, E orders	EIR, EMSD; RCDC	Task Force Members; HLC, MoH
6. Risk communication	1. The timeline by which the Guideline on Risk communication is reviewed and revised.	Time	N/A		√				Once	Guideline on risk communication	EIR, EMSD Annual Reports	DMS, PPD
	2. The timeline by which risk communication focal point/ media focal point at different levels are being identified with ToR	Time	NA		√						EIR, EMSD; PPD	Task Force Members; HLC, MoH
	3. Simulation exercises on integrated multi-hazard risk communication conducted			1		1				Simulation Report	EIR, EMSD	Task Force Members; HLC, MoH
	4. Number of awareness on Risk Communication Guideline created to relevant stakeholders				1	1	1	1		Minutes, Reports	EIR, EMSD	Task Force Members; HLC, MoH
7. ***Capacity Building***	1. Number of Emergency Physician enrolled with BMHC	No.	3					5	Annually	HRD	HRD/EMSD	Task Force Members; HLC, MoH
	2. No. of EMR enrolled with BMHC	No.				20	30	30	Annually	HRD	EMSD	Task Force Members; HLC, MoH
	3. Timeline by which standardized emergency	Time			2019		1			EIR, EMSD	EIR, EMSD,KGUMS	Task Force Members;

	medical courses developed										B & BMHC	HLC, MoH
	4. Timeline by which BLS training is made mandatory to all health workers by BMHC	Time					√			EIR, EMSD; BMHC	BMHC, EMSD, KGUMSB	Task Force Members; HLC, MoH
	5. No of ED/ICU clinical staffs trained on ACLS, PALS & ATLS	%	?		20	40	70	100	Annually	Training report JDWNRH/RRHs	EMSD, JDWNRH	Task Force Members; HLC, MoH
	6. No. of first aid training conducted for community first responder	No	2	2	2	2	2	2	Annually	Training report	TMC, EMSD, BRCS	Task Force Members; HLC, MoH
	7. No. of SimEx for BEMT conducted	No	1		1	1	1	1	Annually	Simulation exercise report	EPR, EMSD	Task Force Members; HLC, MoH
	8. No of lab personnel at RCDC trained on surveillance and detection capacity for prioritized public health hazards	No								Training report	RCDC	Task Force Members; HLC, MoH

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