Nepal Red Cross Society

Package of Essential Non-Communicable Diseases Interventions for Disaster Settings in Nepal (PEN-D)



PREPARED BY

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ABOUT THIS PACKAGE

The PEN-D builds on and adapts existing resources, particularly the Package of Essential Non-communicable Disease (NCD) Interventions for primary healthcare (WHO PEN), Nepal PEN protocol and the PEN-Plus framework for use in disaster contexts, without creating entirely new clinical protocols. While global tools such as the Package of Essential Non-Communicable Disease Interventions for Humanitarian Settings (PEN-H) Toolkit offer useful references, PEN-D is specifically aligned with Nepal's national protocols and health system structures. PEN-D complements, but does not replace, modify, or supersede Nepal's existing clinical guidelines and treatment protocols. Clinical assessment, prescribing, treatment, stabilization, and referral must follow current national protocols and the authorized scope of practice of each health-worker cadre.

PEN-D provides a broader operational framework across preparedness, anticipatory action, response and recovery. Its accompanying MISP identifies the minimum priority actions to maintain essential NCD care when routine services are threatened or disrupted. It aligns with the humanitarian principle of prioritizing urgent, feasible, and high-impact health services, while laying the groundwork for longer-term NCD care system strengthening.

The PEN-D serves as both a preparedness tool and an operational guide. In preparedness phases, it helps strengthen health systems and build resilience by capacity building, implementing early warning and anticipatory actions, and developing coordination mechanisms. During disasters, it supports coordination and communication between health and disaster stakeholders for rapid deployment of services to ensure continuation of NCD care that aims to reduce the risk of treatment interruption, acute NCD complications, avoidable hospitalization, and death. PEN-D is designed as an adaptable and evidence-informed operational framework that supports the protection of vulnerable populations in fragile and hazard-prone contexts and contributes to Nepal's broader disaster risk reduction and health system strengthening agenda.

DEVELOPMENT OF THE PEN-D

The development of the PEN-D followed a structured, inclusive, and evidence-informed process, combining empirical research, expert consensus, and co-design approaches to ensure contextual appropriateness, feasibility, and policy alignment with Nepal's national health priorities.

Step 1: Evidence Generation and Baseline Assessment

Empirical evidence was generated to inform the PEN-D framework through a community-based survey of people living with NCDs to assess healthcare access, treatment continuity, and disaster impacts; qualitative interviews and focus-group discussions with stakeholders at community, facility, municipal, provincial, and national levels to identify barriers and coordination gaps; and a health-facility assessment evaluating service readiness, availability of essential medicines, supply-chain resilience, and emergency response capacity. The findings provided the evidence base for the subsequent consensus-building and design activities.

Step 2: Pre-Delphi Workshop

A preparatory workshop engaged national experts in the fields of NCDs, emergency preparedness, humanitarian health response, and primary care systems. The workshop familiarized participants with the Delphi methodology, objectives, and scope, ensuring a shared understanding and cohesive approach to consensus-building.

Step 3: Delphi Study to Develop Consensus on PEN-D Components

A structured three-round online Delphi study was conducted with multidisciplinary expert panel. The aim was to generate components of the PEN-D and gain expert consensus on the core components, strategies, and tools to be included in the PEN-D package. Experts reviewed and rated proposed

interventions for their relevance, feasibility, and effectiveness in disaster settings. Through successive rounds, a high level of agreement was reached on the essential elements required to deliver NCD care during disaster.

Step 4: Provincial and Local-Level Co-Design and Validation Workshop

A co-design and validation workshop was held in Kailali district, bringing together provincial, district, and local-level stakeholders, including representatives from the Provincial Health Directorate, District Health Offices, municipal health coordinators, NCD focal persons, disaster risk reduction officials, and frontline health workers. The workshop provided a platform to:

- Validate the Delphi-derived content in the local context
- Co-develop practical tools and workflows for facility and community-level implementation
- Identify operational challenges and cross-sector coordination needs in disaster-prone areas

This workshop ensured that PEN-D is grounded in the realities of subnational disaster preparedness and health service delivery.

Step 5: National Co-Design and Validation Workshop

A subsequent national co-design and validation workshop was organized in Kathmandu, with the participation of the Ministry of Health and Food Safety (MoHFS), Epidemiology and Disease Control Division (EDCD), Curative Services Division (CSD), National Disaster Risk Reduction and Management Authority (NDRRMA), WHO, International Federation of Red Cross and Red Crescent Societies (IFRC), Nepal Red Cross Society (NRCS), academic institutions, training centers, and health cluster partners. The objectives were to:

- Align the PEN-D package with national policies, standards, and protocols (including WHO PEN, Nepal PEN, PEN-Plus, PEN-H, and Standard Treatment Protocols (STPs)
- Finalize the tools, triage algorithm, coordination frameworks and implementation tools
- Validate the package for institutional integration of PEN-D within Nepal's emergency preparedness and response system

Step 6: Simulation Exercises

To assess the operational logic, usability and adaptability of the PEN-D package under simulated disaster conditions, , tabletop simulation and drill exercises were conducted in Kanchanpur district, which is highly prone to seasonal floods and climate-induced disasters. The findings from these simulation exercises were crucial in refining the PEN-D package, informing further refinement, and identifying priorities for future implementation, field testing and scale up.

ACRONYMS

AA	Anticipatory Action
AAR	After Action Review
ACT	Assessment Coordination Team
ANM	Auxiliary Nurse Midwives
APA	Advanced Preparedness Actions
AWPB	Annual Work Plans and Budgets
BIPAD	Building Information Platform Against Disaster
CHW	Community Health Worker
CBO	Community-Based Organization
CMT	Crisis Management Team
CSD	Curative Services Division
CSDA	Cluster Specific Detail Assessment
COPD	Chronic Obstructive Pulmonary Diseases
CP	Contingency Planning
CVD	Cardio-Vascular Diseases
DDMC	District Disaster Management Committee
DHIS2	District Health Information Systems 2
DHM	Department of Hydrology and Meteorology
DIMS	Disaster Information Management System
DoHS	Department of Health Services
DRRM	Disaster Risk Reduction and Management
EDCD	Epidemiology and Disease Control Division
EWEA	Early Warning and Early Action
EPP	Emergency preparedness plan
ERP	Emergency Response Preparedness
FCHV	Female Community Health Volunteer
FEFO	First Expiry First Out
GLOF	Glacial Lake Outburst Flood
HEOC	Health Emergency Operation Center
ICS	Incident Command System

IRA	Initial Rapid Assessment
LDMC	Local Disaster Management Committee
LEOC	Local Emergency Operation Centre
LMICs	Low - and Middle-Income Countries
LMIS	Logistics Management Information System
MD	Management Division
MI	Myocardial Infarction
MIRA	Multi-Cluster Initial Rapid Assessment
MISP	Minimum Initial Service Package
MoHA	Ministry of Home Affairs
MoHFS	Ministry of Health and Food Safety
MPA	Minimum Preparedness Actions
NCD	Non-communicable Diseases
NEOC	National Emergency Operation Centre
NNF	Novo Nordisk Foundation
NDRRMA	National Disaster Risk Reduction and Management Authority
NDRRP	National Disaster Risk Reduction Portal
PEN	Package of Essential Non-Communicable Diseases
PEN-D	Package of Essential Non-Communicable Diseases Interventions for Disaster Setting
PEN-H	Package of Essential Non-Communicable Diseases Interventions for Humanitarian Setting
PHEOC	Provincial Health Emergency Operation Center
PHLMC	Provincial Health Logistics Management Center
PLWNCD	People Living with Non-Communicable Diseases
PPP	Public Private Partnership
PSD	Preliminary Scenario Definition
PSN	Peer Support Network
RRT	Rapid Response Team
SAR	Search and Rescue
STP	Standard Treatment Protocol
WHO	World Health Organization

PART I
INTRODUCTION

PART I
Introduction

1. BACKGROUND

Non-communicable diseases (NCDs) including cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, and mental health conditions are responsible for nearly 41 million deaths globally each year, with approximately 86% of premature deaths before the age of 70 years occurs these occurring in low- and middle-income countries (LMICs). In Nepal, NCDs are the leading cause of premature mortality and disability. In 2019, they accounted for 71% of total deaths, a figure projected to rise to 79% by 2040.

At the same time, Nepal is one of the world's most disaster prone countries ranking 11th in earthquake risk, -69th in climate change vulnerability and 30th in flood vulnerability. Recurrent disasters such as earthquakes, floods, landslides, droughts, and Glacial Lake Outburst Floods (GLOFs) continue to strain the already fragile health system, frequently disrupting routine health services. For people living with NCDs (PLWNCDs), such interruptions can be life-threating leading to medication shortages, treatment discontinuation, and preventable complications.

Historically disaster responses in Nepal have largely focused on acute conditions such as trauma and infectious diseases often overlooking the ongoing needs of individuals with chronic conditions. This reactive approach underscores the urgent need for a proactive, integrated framework that embeds NCD care within disaster preparedness, response, and recovery mechanisms.

2. NEED FOR THIS PACKAGE

Although Nepal PEN provides the clinical foundation for primary-level NCD care, routine clinical guidance and service-delivery arrangements do not by themselves provide a consolidated operational

framework for maintaining NCD care during disasters. With no dedicated national mechanism to ensure NCD service continuity in emergencies and disaster responses largely focused on trauma and communicable diseases a critical gap persists in protecting vulnerable populations. The PEN-D package is designated to address this operational gap by providing a structured framework for uninterrupted NCD services before, during, and after disasters through risk mapping, high-risk patient identification, preparedness planning, emergency stockpiling, strengthening health worker and FCHV capacity, improved coordination, and practical community-level self-care guidance.

3. PURPOSE OF PEN-D

The purpose of PEN-D is to connect NCD service delivery with health-emergency and disaster-risk-management systems so that people living with NCDs can maintain access to essential care across preparedness, early warning, anticipatory action, response and recovery.

It aims to:

- Minimize avoidable morbidity and mortality among PLWNCDs during disasters
- Integrate NCD care into Nepal's emergency health preparedness and response
- Complement existing frameworks by filling the gap in chronic care within disaster response
- Provide standardized, evidence-based interventions that can be rapidly deployed and scaled across disaster-prone and affected areas

4. SCOPE OF PEN-D

PEN-D is targeted for sudden-onset disasters which are triggered by a hazardous event that emerges quickly or unexpectedly. Sudden-onset disasters are the more typical situations that have a rapid onset and time-limited service disruption. The PEN-D is context-specific and tailored to Nepal's disaster-prone geography, especially seasonal floods and growing NCD burden.

5. TARGET USERS OF PEN-D

The PEN-D package is intended for a wide range of users involved in disaster preparedness, emergency response, healthcare service delivery, and policy planning.

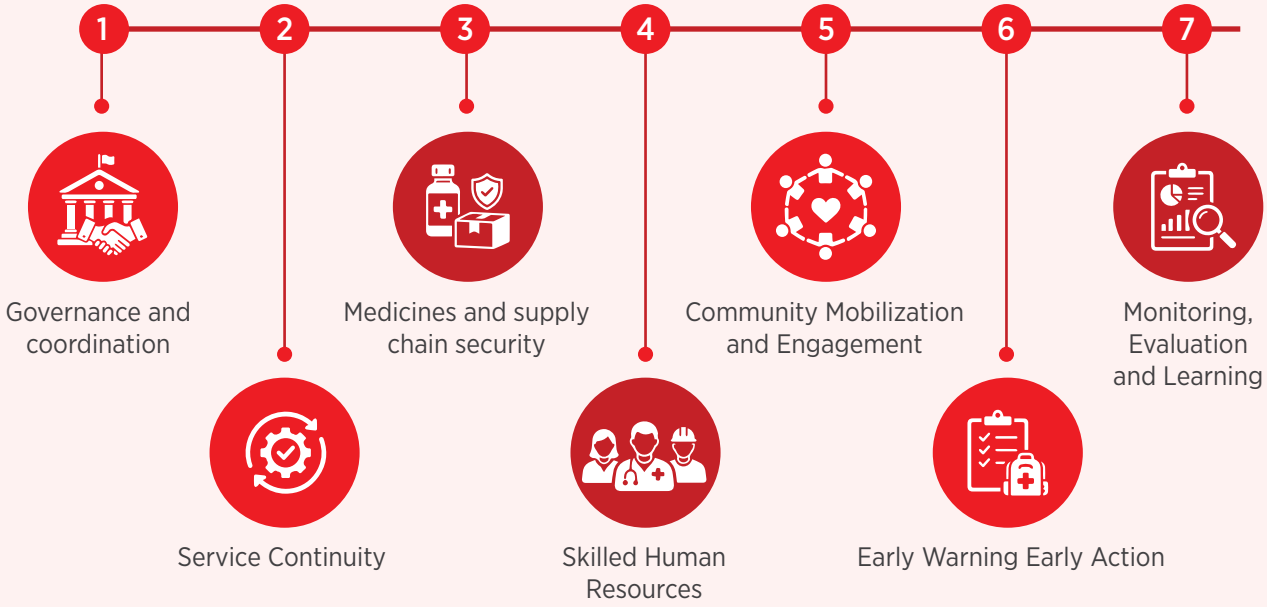
Target User Groups	Specific Users
Frontline Health Workers	FCHVs and trained community workers may support risk communication, identification of people requiring assistance, treatment-adherence support, follow-up and referral linkage. Clinical assessment, diagnosis, prescribing, treatment, stabilization and referral should be undertaken by authorized health workers according to national protocols and professional scope of practice.
Health Facility Managers	Medical Officers and Health facility in-charge ensuring integration of PEN-D into facility-level disaster preparedness and response.

Target User Groups	Specific Users
Emergency Health Teams	Mobile medical and rapid response teams managing both acute and chronic needs during disasters.
Federal, Local and Provincial Health and DRM Authorities, Policy Makers and Planners	MoHFS, DoHS, Ministry of Home Affairs (MoHA), NDRRMA and other national-level actors Federal, provincial and local level officials overseeing preparedness, resource mobilization, and monitoring.
Emergency Coordination Bodies	Local Emergency Operation Center (LEOC), Local Disaster Management Committee (LDMC), Health Emergency Operation Center (HEOC), District Disaster Management Committees (DDMCs), District Emergency Operation Center (DEOC), Provincial Emergency Operation Center (PEOC), National Emergency Operation Center (NEOC), Department of Hydrology and Meteorology (DHM), and National Disaster Risk Reduction and Management Authority (NDRRMA) for integrating PEN-D into disaster coordination mechanisms.
Community-Based Organizations (CBOs), Humanitarian Partners, Development Partners and Donors	Humanitarian actors supporting/funding disaster response and health system strengthening.
Academic and Training Institutions	Universities and training bodies integrating PEN-D into health workforce education.

6. KEY PRINCIPLES

1. Equity and Inclusiveness	Prioritizing vulnerable populations, including older adults, people with disabilities, and those with limited mobility, ensuring no one is left behind.
2. Continuity of Care	Maintaining uninterrupted access to essential NCD medicines, diagnostics, and follow-up care access during all phases of a disaster.
3. Patient Safety and Quality of Care	Assessment, prescribing, dispensing, treatment, monitoring and referral must be undertaken by appropriately trained and authorized personnel using current national protocols, supervision and escalation pathways.
4. Confidentiality and Responsible Information Use	Personal and health information must be collected only for defined purposes, minimized, securely stored and shared only with authorized personnel
5. Integration	Embedding NCD services within broader humanitarian health responses and existing disaster management frameworks, including the Minimum Initial Service Package (MISP).
6. Resilience	Strengthening systems, supply chains, and health workforce capacity to withstand shocks, sustain service delivery, and recover efficiently after disasters.
7. Community Engagement	Involving PLWNCDs, caregivers, and local networks in preparedness planning, communication and service delivery during crisis.
8. Evidence and Learning	Using monitoring, evaluation, and After-Action Reviews (AAR) to continuously refine approaches and embed lessons learned into future responses.

7. DOMAINS OF PEN-D



8. PRIORITIZED NCDs IN PEN-D

Based on national prevalence, emergency risk, and feasibility for primary-level management, prioritized NCDs include:

1. Cardiovascular diseases (including hypertension, heart disease)
2. Diabetes mellitus
3. Chronic respiratory diseases (asthma and COPD)
4. Cancer Screening (Breast and Cervical)
5. Mental health and psychosocial conditions

9. CLINICAL PROTOCOLS FOR PEN-D

PEN-D does not replace, modify, or supersede Nepal's existing clinical protocols. It provides an operational framework for maintaining access to nationally recommended NCD care when routine services are disrupted. Clinical assessment, prescribing, treatment, stabilization, and referral must follow current national protocols and the authorized scope of practice of each health-worker cadre.

The protocols and technical resources listed below provide the clinical standards underpinning PEN-D. Their application during disasters should take account of the hazard, emergency phase, available personnel, medicines, diagnostics, monitoring capacity and referral arrangements.

Protocol/Toolkit	Scope and Relevance
Nepal PEN Protocol	A localized adaptation of WHO PEN tailored to Nepal's health system. It is the standard protocol for primary-level NCD management in Nepal and remains the core clinical guidance.
PEN- Plus Clinical Protocol	Extends NCD care to more complex and chronic conditions at first-referral health facilities. This protocol ensures referral pathways and continuation of care for severe NCDs (e.g., type 1 diabetes, rheumatic heart disease, sickle cell disease) using PEN-Plus protocols.
Standard Treatment Protocol (STP) for Basic Health Services	Provides structured clinical guidance for routine services across primary healthcare. These protocols remain applicable during pre and post-disaster situations to maintain continuity and quality of care in Nepal.
Standard Treatment Protocol (STP) for Emergency Health Services	Offers protocols for the acute management of emergency conditions, including NCD-related crises such as stroke, hypertensive urgency, and diabetic ketoacidosis. These protocols can be used for the emergency condition during a disaster.

9.1 DISASTER-SPECIFIC PEN-D PROTOCOL

Specific Challenges for PLWNCDs during Disaster	Adaptive Techniques and Interventions	Primary Responsible Actors
Limited physical activity due to displacement, crowding, or lack of space	▪ Encourage indoor or low-space movement exercises (e.g., chair exercises, stretching, walking in place) ▪ Broadcast or distribute pictorial/ home-based exercise guides tailored for PLWNCDs with mobility issues ▪ Chest rehabilitation for CRD patients	FCHVs, Health workers, FCHVs, community volunteers
Unhealthy or limited food options in shelters or camps/ during disaster	▪ Provide NCD-appropriate food in relief packages ▪ Counseling for consumption of NCD friendly/heart healthy foods using available relief food (e.g., portion control, choosing low-salt options) ▪ Promote safe food substitution (e.g., choosing plain rice over instant noodles)	Volunteers, FCHVs, Health facilities, Relief agencies, logistics coordinators, local governments

Specific Challenges for PLWNCDs during Disaster	Adaptive Techniques and Interventions	Primary Responsible Actors
Disrupted daily health routines and increased stress	▪ Deploy trained mental health counselors or psychosocial first aid providers for psychosocial counseling and first aid ▪ Use locally available channels to share well-being messages for PLWNCDs ▪ Facilitate peer support groups in shelters and communities	Psychosocial counselors or psychosocial first aid providers, health facilities, FCHVs, Partner Agencies
Loss of medication/stock out of medicines, supportive services and assistive devices	▪ Distribute PEN-D kits with 2-4 weeks of medications and key instructions ▪ Deploy bronchodilators/inhalers, insulin and other emergency medicines with mobile teams ▪ Safeguards for pharmacy-based emergency refills ▪ Identify supportive services and assistive device needs and link with targeted humanitarian support	Volunteers, FCHVs, Health facilities, mobile medical teams, local pharmacies, local government, Partner Agencies, disability services
Missed clinical follow-up, interrupted NCD monitoring and screening	▪ Distribute emergency NCD cards ▪ Mobile medical camps/services for follow-up and screening services in shelters or camps ▪ Continuity of NCD services through alternative services like telemedicine ▪ Deploy portable NCD kits (BP sets, glucometers) with mobile medical teams ▪ Community-based screening points ▪ Train designated volunteers to assist in basic vital signs monitoring	FCHVs, Health facilities, Mobile clinics, Partner Agencies and local government
Unhealthy lifestyles (consumption of tobacco/alcohol, unhealthy diet, physical inactivity)	▪ Provide lifestyle counseling ▪ Provide Information, Education, and Communication (IEC) and Behavior Change Communication (BCC)	FCHVs, health workers, Partner Agencies and local government
Emergency NCD conditions	▪ Recognize and stabilize suspected NCD emergencies according to national emergency protocols, communicate with the receiving facility and arrange urgent, safe referral and transport.	Health facilities, Mobile clinics, Partner Agencies, and local government

10. ESSENTIAL MEDICINES AND TECHNOLOGIES

Pre-positioning essential medicines and technologies at health facilities and local warehouses in adequate quantity enables rapid response, timely diagnosis, and effective management of acute and chronic NCD needs during disasters.

10.1 LIST OF ESSENTIAL MEDICINES

Based on the Nepal PEN clinical protocol, and aligned with national standard treatment protocols (STP), the following essential medicines for NCD interventions in primary care to be prepositioned for disaster context are:

(This list supports preparedness, procurement and continuity planning and is not a stand-alone prescribing guide. Initiation, substitution, dosage adjustment, administration, and monitoring must follow current national protocols and authorized scopes of practice.)

SN	Name of Drug	Forms	Strength	Group
1	Metformin	Tablet	500 mg	Antidiabetic
2	Glimepiride	Tablet	1 mg	Antidiabetic
3	Enalapril	Tablet	5 mg	Antihypertensive (ACE Inhibitor)
4	Amlodipine	Tablet	5 mg	Antihypertensive (Calcium Channel Blocker)
5	Hydrochlorothiazide	Tablet	25 mg	Antihypertensive (Diuretic)
6	Atorvastatin	Tablet	10 mg	Lipid-lowering (Statin)
7	Salbutamol (MDI)	Inhaler (MDI)	100 mcg/dose	Bronchodilator
8	Salbutamol (DPI)	Inhaler (DPI)	200 mcg/dose	Bronchodilator
9	Losartan (as per BHS STP)	Tablet	50 mg	Antihypertensive (ARB)
10	Phenobarbitone	Tablet	60mg	Anti-epileptic
12	Chlorpromazine	Tablet	100mg	Anti-Psychotic
13	Amitriptyline	Tablet	Adults only: 5-75mg OD at night	Anti-depressants
14	Diazepam	Injection	5mg/2ml	Tranquilizer
15	Carbamazepine	Tablet	Tablets 100mg 200mg Oral Liquid 100mg/ 5ml	Antiepileptic
16	Risperidone	Tablet	1–2mg once or twice daily, maximum 10mg daily in total	Antipsychotic
17	Fluoxetine	Tablet	10/20 mg	Antidepressant
18	Valproic Acid (Sodium valproate)	Tablet	200/300mg	Antiepileptic
19	Trihexyphenidyl	Tablet	2 mg	Antipsychotic
20	Thiamine	Tablet	100mg	Vitamin
21	Diazepam	Injection/ Tablet	Injection 2ml amp (5mg/ ml) , Tablet 5mg	Tranquilizer

Note:

- Amitriptyline: Avoid in known heart disease, epilepsy, constipation; can cause drowsiness: During Pregnancy: Only use if no alternative
- Carbamazepine: Use cautiously in cardiac or hepatic disease, glaucoma, pregnancy (esp. 1st trimester: risk of foetal carbamazepine syndrome); observe for allergic reactions; During Pregnancy: Only use if no alternative
- Diazepam: Only in emergencies; May cause patient to stop breathing; During Pregnancy: Can use if no alternative; consider also giving glucose IV; Do not use for more than one week – causes dependence; Also causes drowsiness; Do not use in children
- Trihexyphenidyl and Risperidone: Use restricted to specialist/secondary or tertiary level health facilities. Prescription and initiation should be by an authorized medical officer/psychiatrist or other appropriately trained and authorized prescriber.
- Risperidone: Use with caution in dementia, CVD; During Pregnancy: Can use if no alternative

10.2 LIST OF ESSENTIAL DIAGNOSTICS AND TECHNOLOGIES

Based on the WHO recommendation, the list of diagnostics and technologies for essential NCD interventions in primary care to be prepositioned for disaster context are:

Essential	Optional (add when resources permit)
1. Thermometer	1. Blood cholesterol assay
2. Stethoscope	2. Lipid profile
3. Blood pressure measurement device	3. Serum creatinine assay
4. Measurement tape	4. HbA1c
5. Weighing machine	5. Liver function tests
6. Glucometer	6. Troponin test strips
7. Blood glucose test strips	7. Urine micro-albuminuria test strips
8. Urine protein test strips	8. Tuning fork
9. Urine ketones test strips	9. Electrocardiograph
10. Peak flow meter or Spacer	10. Defibrillator
11. DPI Device	11. Insulin PEN
12. Nebulizer	
13. Pulse-oximeter	
14. Standard IEC tools and pamphlets	

11. PEN-D KIT

The PEN-D kit is a ready-to-use package of essential medicines, diagnostics, and basic tools required for the immediate management and continuity of care for PLWNCDs during disasters. It is most relevant during the onset and immediate response phase of disasters, when regular health services are disrupted, supply chains are blocked, and PLWNCDs face urgent risks from treatment interruption. Its relevance is highest in sudden-onset disasters, protracted crises, and in hard-to-reach or displaced populations where continuity of NCD care would otherwise be compromised.

Thoughtful design, localized contents, safe packaging, and timely distribution during disaster preparedness and response phase are very important.

Types of PEN-D Kit:

1. PEN-D Kit for Health Workers
2. PEN-D Kit for PLWNCDs

11.1 PEN-D KIT FOR HEALTH WORKERS

The PEN-D kit ensures frontline responders, mobile medical teams, and health workers can deliver standardized, timely, and life-saving care even in resource-constrained or remote settings. It is particularly critical for frontline health workers who need standardized tools and medicines to provide rapid, consistent care in shelters, mobile clinics, or remote communities.

PEN-D Kit for Health Workers

Category	Items Included	Purpose/Use
Essential Medicines for Priority NCDs	▪ Essential NCD medication as per the Nepal PEN clinical protocol for major NCDs and essential drugs for Mental illness and related disorders	For treatment and stabilization of priority NCD conditions
Basic Diagnostics and Monitoring Tools	▪ Glucometers with test strips and lancets ▪ BP set ▪ Thermometers ▪ Stethoscope ▪ Urine dipsticks ▪ Peak flowmeter	For screening, diagnosis, and monitoring of blood pressure, blood glucose, temperature, and urine abnormalities
Treatment and Monitoring Aids	▪ NCD patient cards, forms ▪ Standard treatment protocols/clinical guidelines ▪ Referral, triage and follow-up forms	For patient management, referral, and standardization of care during disaster response
Basic Supplies	▪ Alcohol swabs ▪ Gloves ▪ Hand sanitizer or soap ▪ Sharps disposal containers	To maintain infection control, ensure hygiene, and preserve temperature-sensitive medicines
Community-Level Tools	▪ Job aids for health workers ▪ Emergency contact and referral directories ▪ IEC materials for patient education	For community outreach, patient awareness, and strengthening linkages with health facilities
Packaging	▪ Waterproof, dirt-resistant, durable carry bag or box ▪ Clearly labeled	Protects kit contents and ensures readiness during evacuation or disaster

11.2 PEN-D KIT FOR PLWNCDS

In disaster settings, the disruption of health services and supply chains, interruptions in medication, lack of monitoring tools, and limited access to health information can lead to complications, hospitalizations, and even death of PLWNCDs. As a vital tool, PEN-D Kit is designed to support the self-care and continuity of treatment for PLWNCDs during disaster.

PEN-D Kit for PLWNCDs

Category	Contents	Purpose
Essential Medicines (Based on the NCD Type)	▪ NCD medicines for 2-4 weeks as per the Nepal PEN clinical protocol	To ensure uninterrupted medication based on individual NCD conditions
Monitoring Equipment (only if the resources permit)	▪ Glucometer with test strips and lancets ▪ Peak flow meter or spacer ▪ Thermometer	For self-monitoring and early detection of deterioration
IEC Materials	▪ Medication schedule/instructions ▪ Diet and lifestyle tips ▪ Early warning signs info ▪ Stress management guide ▪ Visual aids for low literacy	For patient education and empowerment to manage their condition during disasters
Emergency Contact Information	▪ Emergency health hotlines numbers ▪ Contact details of nearest health facility, pharmacy, or mobile clinic	To ensure timely help, referrals, or medication replacement
Additional Useful Items	▪ Face masks ▪ Hand sanitizer or soap ▪ Reusable water bottle ▪ Flashlight or solar lamp ▪ Whistle or emergency alert tool ▪ Copies of medical records/NCD card	To support hygiene, safety, hydration, and emergency signaling
Packaging	▪ Waterproof, dirt-resistant, durable bag or box ▪ Clearly labelled with minimum necessary identification only. Diagnosis or NCD type should not be visibly displayed on the outside of the kit.	Protects kit contents and ensures readiness during evacuation or disaster

11.3 PREPOSITIONING AND DISTRIBUTION

To ensure timely readiness and rapid access during disasters, PEN-D Kit should be strategically prepositioned, safely stored, and efficiently distributed across all administrative levels of the health system.

Prepositioning and distribution guidelines:

- Prepositioned in safe warehouse/health facilities located in high-risk disaster-prone areas
- Maintain stocks at local health posts, primary health centers, or community warehouses under the supervision of designated health workers or FCHVs, who will be responsible for regular inventory checks, rotation and reporting.
- Distribute kits to PLWNCDs and frontline health workers as part of preparedness programs before the disaster season, ensuring familiarity with contents and usage.
- During the response phase, deploy kits through mobile health teams, relief centers, or temporary clinics, with replenishment facilitated in coordination with HEOC, Management Division (MD) coordination, PHLMC and local level.

12. LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Effective logistics and supply chain management are essential for ensuring uninterrupted access to NCD medicines, diagnostics, and technologies during disasters. Strong systems for storage, transport, and distribution preserve product quality and support timely service delivery, reducing morbidity among PLWNCDs during disaster.

Storage and Inventory Management	Health facilities and warehouses should maintain standardized inventory systems to track stock levels, expiry dates, and batch information. Pre-positioned PEN-D supplies must be regularly rotated and stored in clean, organized, and temperature-controlled spaces using First Entry First Out (FEFO) principles and routine physical verification.
Transportation and Distribution	Disaster-responsive logistics require flexible and decentralized delivery mechanisms. Transportation plans should incorporate alternative routes, local transport options, and community distribution points. Coordination with federal government, provincial government, local governments, NRCS chapters, security agencies, and humanitarian partners enables rapid last-mile delivery and replenishment.
Cold Chain Requirements	Although most PEN-D medicines do not require cold chain, insulin and test strips need temperature-controlled storage. Systems should include monitored refrigeration, cold boxes, ice packs, and contingency power solutions (e.g., solar, generators). Staff must be trained in proper handling and transport to prevent temperature excursions.
Quality Assurance and Risk Mitigation	Quality assurance mechanisms such as routine temperature monitoring, storage audits and reporting of stock outs or breaches are critical. Risk mitigation measures include identifying backup storage sites, preparing portable cooling options, and decentralizing essential stocks to enhance system resilience during sudden-onset disasters.
Integration with National Supply Chain Systems	PEN-D logistics should align with national supply chain systems such as Logistics Management Information System (LMIS). Integration improves forecasting, harmonizes procurement, supports timely replenishment, and ensures equitable distribution across federal, provincial, and local levels.

13. NCD FRIENDLY SAFE SHELTER

Safe shelters are often designed with a focus on immediate survival, yet they may overlook the specific needs of PLWNCDs. An NCD-friendly safe shelter is therefore essential to ensure continuity of care, accessibility, and protection for vulnerable populations during disaster.

13.1 SELECTION OF NCD FRIENDLY SAFE SHELTER FOR DISASTER

The selection of a safe shelter site during disasters is a critical component of emergency preparedness and response. For PLWNCDs, the choice of shelter location directly impacts their access to essential care, continuity of treatment, and overall safety.

Key Considerations for NCD Friendly Safe Shelter Site Selection, Designing and Construction

Proximity to Health Facilities	▪ Shelters should be located near functioning health facilities or mobile medical units to allow for timely referral and access to care for NCD management.
	▪ Consider proximity to pharmacies or medical supply distribution points for quick replenishment of medications like insulin, inhalers, or blood pressure drugs.
Environmental Safety and Air Quality	▪ Prioritize areas with good ventilation, especially for PLWNCDs with cardiovascular or respiratory conditions.
	▪ Spacious and with proper ventilation to avoid overcrowding which can increase stress, risk of infections, and trigger complications among NCD patients.
Accessibility and Transportation	▪ Ensure easy access to road for ambulances, emergency vehicles, and persons with limited mobility, especially for elderly or those using wheelchairs, walking aids.
Elevation and Protection from Hazards	▪ Site should be away from high-risk zones such as floodplains, landslide-prone areas, or unstable structures.
	▪ Prioritize elevated areas when possible to prevent waterborne disruptions that could damage medical supplies or displace vulnerable patients.
Infrastructure and Basic Amenities	▪ Sites must have clean water, sanitation facilities, and electricity with back-up power to support medical equipment and cold-chain needs.
Space and Layout	▪ Select sites with sufficient space to create designated zones for PLWNCDs requiring privacy, calm environments, or frequent medical monitoring.
	▪ Set up NCD corner with communication points or help desks for PLWNCDs to report medical needs or request assistance.
Security and Protection	▪ Ensure physical security, lighting, and personnel to protect vulnerable groups (elderly, women, people with disabilities, and children).
Communication and Connectivity	▪ Ensure mobile network coverage or internet access at the site to facilitate telemedicine consultations, remote follow-up, or emergency communication.

Key Features of NCD-Friendly Safe Shelter

Key Feature	Description
Accessibility and Inclusive Design	Ramps, handrails, wide entrances, and designated spaces for individuals with mobility impairments or chronic conditions (e.g., stroke, amputations).
Safe Medication Storage	Secure, dry, and temperature-appropriate storage areas with refrigerators/ cold box and icepacks for NCD medicines
Health Monitoring Services	NCD corners for onsite basic health checks (e.g., blood pressure, blood glucose) and triage support from trained staff or volunteers.
Mental Health and Psychosocial Support	Quiet zones, counseling services, and support groups for individuals facing stress, anxiety, or co-morbid mental health conditions.
Power Supply and Charging Access	Reliable electricity or solar-powered charging points for medical devices.
Clean Water and Sanitation	Access to safe drinking water, hand washing stations, and gender-sensitive sanitation facilities to prevent infections and complications.
Safety and Security	Protected environment to prevent theft of medications and ensure safety of individuals with cognitive or psychological impairments.

14. ORGANIZING NCD SERVICE DELIVERY AT PRIMARY HEALTH CARE LEVEL

Effective NCD service delivery during disasters must be anchored in the primary health care system to ensure equitable and uninterrupted access for all, especially vulnerable groups. This require strong community-level preparedness and patient-centered approach emphasizing that communities not only recipients but also as active participants in planning, delivering, and sustaining essential NCD services. The PEN-D framework establishes six complementary approaches and corresponding actions that form the foundation for protecting and supporting PLWNCDs during disasters.

Approach and Key Actions:

Approach	Key Actions
Integration into PHC Services	Embed NCD screening, treatment, follow-up and clear referral pathways within routine PHC services using PEN protocols, ensuring that essential medicines and diagnostics are consistently available.
Referral and Linkages	Establish clear and efficient referral pathways from community and PHC levels to higher facilities for emergencies or specialized care.
Service model and Task-Sharing	Design and adapt appropriate NCD service models based on PHC approach. Adopt appropriate task sharing approaches.

Approach	Key Actions
Capacity building	Build the capacity of PHC staff, FCHVs, and volunteers through trainings and orientation
Patient Self-Management Support	NCD patients should be supported on managing their conditions, through adherence counseling, recognition of danger signs, and simple self-care practices suited to emergency contexts.
Coordination, Collaboration and Partnership	Establish effective coordination between health facilities, local governments, community health workers, and community networks ensuring that NCD care, referrals, and follow-up remain functional and consistent throughout all phases of disaster response and recovery.

15. NCD SERVICE MODELS

In disaster-prone and low-resource contexts such as Nepal, ensuring continuity of care for PLWNCDs requires innovative, decentralized, and community-driven service delivery models. The PEN-D emphasizes the importance of optimizing local human resources, adapting service delivery models, and utilizing digital technologies to sustain essential NCD care during disasters.

The following three approaches guide the design and implementation of feasible models for NCD service delivery, task shifting and sharing at the community level.

Approaches for NCD Service Model and Task sharing

1. Community-Based Task Sharing and Human Resource Mobilization
2. Decentralized and Integrated Service Delivery
3. Systems Strengthening and Digital Innovations

Service Models

1. Mobile NCD Clinics and home-based outreach
2. Pharmacy-based emergency refills
3. NCD Corners
4. Telemedicine and phone/SMS follow-ups

NCD Service Model and Task sharing Approach

Service model and Task sharing Approach	Key Strategies	Key Actions
Community-Based Task Sharing and Human Resource Mobilization	Utilize local human resources through task delegation, peer support, and volunteer engagement.	▪ Train FCHVs/CHWs for NCD screening, lifestyle counseling, and risk identification.
		▪ Delegate basic care, follow-up, and monitoring to nurses and mid-level providers.
		▪ Involve non-medical volunteers (teachers, shopkeepers, local leaders) in community outreach.
		▪ Establish peer support groups, buddy systems, and patient clubs for shared care and medicine distribution.
		▪ Empower youth, women's groups, and civil society for outreach and awareness.
		▪ Link NCD care tasks with ward disaster committees and other local structures.
Decentralized and Integrated Service Delivery	Deliver care closer to communities through mobile, virtual, and integrated approaches.	▪ Operate mobile NCD clinics through medical teams in disaster-affected areas.
		▪ Utilize telemedicine, mobile phones, apps, and remote counseling platforms.
		▪ Provide home visits and outreach for immobile or high-risk NCD patients.
		▪ Organize NCD-integrated health camps and set up NCD corners in facilities in shelters.
		▪ Establish pharmacy-based refill for continuity of medication.
		▪ Integrate NCD services into broader emergency health services.
Systems Strengthening and Digital Innovations	Build an enabling environment for sustainable NCD care through supportive systems and tools.	▪ Coordinate with local governments, LDMCs, and health disaster committees.
		▪ Strengthen primary health care with NCDs.
		▪ Use digital dashboards, monitoring tools, apps and alert systems

NCD Service Models

Models	Description	Key Actions
Mobile NCD Clinics and Home-Based Outreach	Facility-linked or stand-alone mobile teams that provide screening, follow-up, and treatment for PLWNCDs in shelters, camps, or remote areas, as well as home-based visits for high-risk patients.	▪ Deploy health workers with PEN-D kits and essential medicines. ▪ Conduct on-the-spot screening, stabilization, and referral. ▪ Reach home-bound patients (elderly, disabled, or severe NCD cases). ▪ Provide follow-up care and health education.
Pharmacy-Based Emergency Refills	A decentralized model using local pharmacies to ensure uninterrupted access to NCD medicines during disasters, especially when PHC services are disrupted.	▪ Engage local pharmacies to provide emergency refills for essential NCD drugs and drugs not in the government supply. ▪ Maintain small buffer stock for emergencies. ▪ Establish referral linkages with PHC facilities.
NCD Corners	Dedicated spaces within health facilities and shelters that provide one-stop NCD services during disasters.	▪ Allocate a space/station for NCD triage, treatment, and referral. ▪ Staffed by trained personnel using PEN protocols. ▪ Ensure availability of essential medicines, diagnostics, and IEC materials. ▪ Serve as focal points for PLWNCDs in camps and host communities.
Telemedicine and Phone/ SMS Follow-Ups	A digital support model to maintain NCD care continuity when in-person visits are not possible due to displacement, access barriers, or facility damage.	▪ Use mobile phones, SMS, hotlines or apps to follow-up patients, provide medical advice, refill reminders, and psychosocial support remotely. ▪ Establish telemedicine services for continuity of NCD care during disaster ▪ Track and monitor displaced patients using community-based registries.

16. TASK SHARING AND SHIFTING

In disaster-prone and resource-limited settings, task sharing and shifting are essential strategies to sustain NCD service delivery. By redistributing roles among available health workers, such as empowering nurses, health assistants, and community volunteers to carry out screening, monitoring, medication dispensing, and patient education, continuity of care can be maintained even when physicians are not available. Task shifting allows frontline and community-based providers to manage stable NCD cases using standardized PEN protocols, while complex or high-risk cases are referred to higher-level facilities. This approach maximizes limited human resources, expands service coverage, and ensures that PLWNCDs receive timely and appropriate care during disasters.

Task Sharing and Shifting Models

1. FCHV-led screening and follow-up
2. Non-medical volunteers trained in NCD emergencies
3. Peer support networks

16.1 TASK SHARING AND SHIFTING MODELS

Models	Description	Key Actions
FCHV-Led Screening and Follow-up	Community-based task-shifting model to engage Female Community Health Volunteers (FCHVs) and Community Health Workers (CHWs) as frontline providers to conduct screening, follow-up, and basic counseling for people living with NCDs before, during, and after disasters.	▪ Train FCHVs/CHWs in screening for hypertension, diabetes, asthma, and mental health using simple tools (e.g., BP cuffs, glucometers, and mental health checklists).
		▪ Equip them to provide lifestyle counseling, track medication adherence and preparation, and flag high-risk cases for urgent referrals.
		▪ Use household visits, community events, and group meetings to monitor patients.
		▪ Provide NCD checklists and emergency response protocols adapted for local languages.
Non-Medical Volunteers Trained for NCD Emergencies	Community-based task-sharing model to mobilize local volunteers including teachers, shopkeepers, local youth, social leaders, and ward-level disaster responders to support basic NCD care tasks and community communication during disaster.	▪ Orient volunteers on recognizing NCD emergencies
		▪ Train them to support medication refill processes, distribute PEN-D Kits, assist in evacuation and communication, locate displaced patients, and rescue (if needed).
		▪ Integrate them into ward disaster preparedness and health response committees.
		▪ Equip them with contact directories, and health hotline information.
		▪ Link them to HEOC/LEOC focal points and FCHVs.

Models	Description	Key Actions
Peer Support Networks	Community-based task-sharing model to facilitate peer support groups made up of PLWNCDs to encourage mutual support, self-management, and collective action in disaster preparedness and recovery.	▪ Organize patients with similar conditions (e.g., hypertension, diabetes, asthma) into small, ward-level support groups. ▪ Train group leaders on emergency preparedness, medication management, and peer counseling. ▪ Peer-support groups may support adherence, preparedness, communication and linkage to services. Medicines must not be shared between individuals. ▪ Promote exchange of knowledge, coping strategies, and mental health support. ▪ Use buddy systems to track and check on each other during early warning alerts and evacuation.

	FCHV/CHW: Screening & Follow-up	Volunteers	Peer Support Networks (PSNs)
1. Early warning	▪ Receive early warning ▪ Prepare screening tools	▪ Ward Disaster Committee alerts volunteers	▪ Peer leaders receive early warning message
2. Activation	▪ Start household visits ▪ Identify PLWNCDs	▪ Mobilize volunteer teams ▪ Identify displaced PLWNCDs	▪ Activate Peer Support Network/ buddy system ▪ Members check on each other
3. Assessment & monitoring	▪ Conduct NCD screening ▪ Check medication adherence ▪ Check Preparation Status	▪ Support refill communication ▪ Disseminate NCD Messages	▪ Assess medication stocks ▪ Share preparedness & coping messages
4. Referral & communication	▪ Flag high-risk cases for referral ▪ Provide counseling	▪ Link cases to FCHVs/HFs ▪ Inform HEOC/LEOC focal points	▪ Report high-risk members to FCHVs/ HFs ▪ Assist members in evacuation
5. Ward/HF coordination	▪ Submit screening data to HF/ward focal point ▪ High-risk list consolidated	▪ Provide community updates ▪ Facilitate logistics where needed	▪ Finalize group needs & risks ▪ Coordinate support for group members
6. Full activation of NCD response	▪ PEN-D kits deployed ▪ Referral pathways activated ▪ Continue during disaster	▪ Support distribution of supplies ▪ Assist PLWNCDs in accessing care	▪ Continue peer monitoring & adherence support

17. PEN-D SCALE-UP AND SUSTAINABILITY

Scaling up the PEN-D across Nepal requires a structured, phased, and system-integrated approach that ensures alignment with national policies, risk-informed planning, and strong local ownership. Ensuring the long-term sustainability requires embedding PEN-D into routine health governance, financing, and community systems. Sustainability must be rooted in national priorities, locally driven processes, and integrated into routine health and disaster governance structures.

Key approaches in a national roadmap to scale up PEN-D across disaster-prone areas in Nepal.

Key Approaches	Actions
Policy Integration and Multi-Sectoral Coordination	▪ Institutionalize PEN-D in federal, provincial, and local policy, plan and strategies
	▪ Establish formal coordination mechanisms among three tiers of government with designated NCD focal points
	▪ Integrate PEN-D in existing SOPs, contingency plans, guidelines, and disaster protocols
	▪ Designate NCD focal points and form PEN-D Task Force at all three tiers of government
	▪ Strengthen inter-tier government coordination mechanism
System Strengthening and Phased Implementation	▪ Strengthen overall system capacity for PEN-D implementation
	▪ Use BIPAD, DHIS-2, and NCD surveillance data to identify high-risk provinces, districts and local level for prioritized implementation
	▪ Pilot in vulnerable areas/local level before wider rollout, ensuring evaluation and refinement of operational tools.
	▪ Create scalable SOPs, costed work plans and clear roadmap for scale-up
Capacity Building and Community Engagement	▪ Train health workers, FCHVs, and volunteers on PEN-D operations and emergency NCD management.
	▪ Upgrade HMIS/DHIS2 to track PEN-D indicators and referral data
	▪ Raise community awareness and promote household level self-preparedness among PLWNCDs
	▪ Engage communities, caregivers and PLWNCDs in preparedness, early warning, and follow-up activities
	▪ Use locally appropriate media, communication channel and local leaders to enhance risk awareness and adherence.
	▪ Strengthen local disaster-health response systems and digital tools

Key Approaches	Actions
Sustainable Financing and Local Ownership	▪ Integrate PEN-D in federal, provincial, and local level's AWPB
	▪ Strengthen financial management, procurement and accountability
	▪ Empower local governments to lead planning and implementation

18. FINANCING MECHANISMS FOR PEN-D

Sustaining and scaling PEN-D requires a robust, multi-pronged, and system integrated financing mechanism. Given Nepal's federal structure and increasing disaster vulnerability, financing PEN-D should be embedded to routine health financing structures and emergency preparedness system. he aim is to ensure predictable, flexible, and accountable resources for preparedness, response, and recovery activities related to NCD care. The following approaches offer pathways to mobilize sustainable resources for PEN-D institutionalization and expansion:

Key Approaches	Actions
Integration into Government Health Financing and Budgets	▪ Institutionalize PEN-D within national, provincial, and local health budgets through inclusion Annual Work Plans and Budgets (AWPB) of all three tiers of government.
	▪ Utilize existing health sector budget lines and social health insurance programs to cover NCD services.
Mobilization of Disaster and Emergency Funds	▪ Tap into DRRM funds at the national, provincial, and local levels
	▪ Utilize emergency contingency and disaster insurance schemes for rapid financing during emergencies.
	▪ Local-level contingency funds for NCDs
Diversified & Innovative Financing: Donors, PPPs, and development partner	▪ Establishment of Pre-arranged Financing (PAF) mechanism
	▪ Engage donor agencies, development partners, and humanitarian organizations to co-finance PEN-D implementation and scale-up.
	▪ Promote Public-Private Partnerships (PPPs) and multi-sectoral investments
	▪ Mobilize Corporate Social Responsibility (CSR) and innovative financing mechanisms (such as pooled community health funds or micro-insurance schemes) to bridge funding gaps.

PART II

NCD Management and Service Continuity During Disaster

PART II

NCD Management and Service Continuity during Disaster

Flow chart: Disaster Phases and NCD Management

- Disaster mitigation, preparedness and response plan
- Strengthening NCD care
- Local capacity building and training
- Establishing early warning system
- Establishing NCD service model and task shifting

- Health facility, health worker and health facility mapping and readiness assessment
- NCD profiling and Prepositioning PEN-D kits and other essential logistics
- Community mobilization and engagement
- Building NCD friendly Safe Shelters

- After Action Review
- Linking temporary NCD services to long term facility care
- Restocking PEN-D kits and other essential logistics
- Rebuilding health facilities, shelters



- Early warning alert and dissemination of NCD specific messages
- Distribution of PEN-D Kits, Medicines and NCD friendly food
- Capacity Building
- FCHV and Volunteer mobilization

- Evacuation, Search and Rescue
- Disaster response activities
- Deployment of EMMT and Mobile Medical Camps
- Triage, NCD management and Referral
- IRA, Recording and reporting

A. DISASTER MITIGATION AND PREPAREDNESS PHASE

The mitigation and preparedness phase focuses on building resilient systems to ensure continuity of care for PLWNCDs before a disaster strikes.

1. EARLY WARNING AND EARLY ACTION (EWEA)

A disaster-responsive NCD care must be rooted in robust early warning and hazard monitoring mechanisms to transform hazard alerts into health-protective actions by linking NCD care with flood risk forecasting, hazard mapping, and real-time alerts. For rapid-onset disasters impacting health, such as flash floods and landslides triggered by heavy rainfall, early warning systems and timely messages are critical to saving lives and reducing health impacts. When early warnings indicate a high likelihood of an upcoming rapid-onset disaster, anticipatory actions for NCD care must be delivered within a few days following the available lead time to prevent acute health crises. Some preparedness and readiness measures for the identified early actions should be undertaken well before the activation phase. Proactive planning is essential, which includes establishing clear procedures and inclusive communication channels for NCD patient support, defining roles and responsibilities to health personnel and community actors, identifying specific early actions (EA) for NCD care, and pre-positioning essential NCD medications and supplies. Furthermore, health-related information, especially concerning vulnerable NCD patients and available services, needs to be regularly and reliably updated and disseminated.

An early warning system, including thresholds indicating AA activation, is needed to develop early warning triggers for the activation of anticipatory actions. Different warning levels can be linked to different anticipatory actions. It is crucial to assess which early warning information is available and can be used to trigger the implementation of pre-identified anticipatory actions.

1.1 DEVELOPING EARLY WARNING SYSTEM AND ANTICIPATORY ACTIONS

1.1.1 Identifying and Prioritizing Risks

Beyond just knowing flood-prone areas, it means identifying precisely where PLWNCD live within those areas. This includes knowing who requires specific, life-sustaining medications and who has mobility challenges. Understanding the fragility of local health posts and medication supply routes in a sudden flood scenario is vital so it is essential to first identify, analyze, and prioritize the risks to ensure NCD care during disasters. This involves identifying geographic areas highly prone to natural hazards, mapping the PLWNCDs within those areas, and assessing the vulnerabilities of health facilities, supply chains, and health workers. Risk stratification of patients based on disease severity and likelihood of complications enables targeted action. This step also includes facility assessments and contingency planning for medicine stock outs, workforce gaps, and service disruptions.

Key Actions

- Map high-risk geographical areas using historical disaster data (e.g., flood, earthquake, landslides) and identify PLWNCDs exposed to those risks.
- Analyze health system vulnerabilities (e.g., medicine supply chain, workforce gaps, and facility damage risks through health facility mapping) and classify and prioritize PLWNCDs cases based on severity and vulnerability.

1.1.2 Integrating NCD into Hazard Mapping and Flood Polygon Analysis

It involves overlaying NCD vulnerability and service availability data onto DHM's existing flood hazard mapping and flood polygons. This enables targeted planning and resource allocation to ensure continuity of NCD care in high-risk zones.

Key Actions

- Overlaying NCD vulnerability data
- Combine hazard mapping and flood polygons with:
  - NCD prevalence data
  - Locations of health facilities
  - NCD friendly safe shelters with medicine storage and cold-chain capacity
- Use GIS tools to identify communities with both high flood risk and high NCD vulnerability.
- NCD vulnerability mapping should be layered onto early warning dissemination systems.
- Operational Use of Hazard Maps
- Use these integrated maps to:
  - Pre-position emergency mobile medical teams, essential NCD supplies and PEN-D kits
  - Plan outreach in at-risk zones
  - Inform evacuation support for PLWNCDs

1.1.3 Setting up an Early Warning System

An early warning system for NCDs in PEN-D should be a forward-looking monitoring tool specifically designed to gather and analyze data that indicates the development and potential health impact of a disaster on NCD patients. It should also be end-to-end, meaning it covers the entire spectrum from initial risk identification to tangible community-level response. This goes beyond general hazard warnings to include indicators relevant to NCD care, such as anticipated disruptions to health facilities, supply chains for medication, or access to healthcare personnel.

An effective early warning system links real-time hazard forecasts with the triggers that activate anticipatory NCD care actions. This involves real-time monitoring of rainfall, river levels, and Flood/landslide risks. The critical step for NCDs is to have pre-determined "thresholds indicating AA activation" that directly links these environmental warnings to potential NCD health crises. For instance, a forecast of a river level exceeding a certain meter might trigger an alert for health facilities to activate NCD-specific actions.

This system should integrate existing early warning platforms with NCD-specific indicators such as risk-based patient lists and facility readiness. When threshold criteria are met (e.g., red flood warning), automated alerts should prompt health facilities and local levels to implement preparedness and readiness actions. Coordination across sectors and clear communication chains are crucial to ensure timely action.

1.1.4 Trigger Mechanism

The PEN-D activation mechanism aligns with hazard forecasting parameters endorsed by Nepal's Department of Hydrology and Meteorology (DHM). Operationalization of these triggers has been supported by OCHA's Centre for Humanitarian Data (CHD) in coordination with national and local stakeholders. The framework adopts a **two-stage trigger system** to ensure timely preparedness and response for NCD services during flood-related emergencies:

- **Stage I: Readiness Trigger**
  Readiness trigger is activated when the GloFAS forecast indicates a heightened flood risk, providing up to 7 days of lead time for pre-disaster preparedness and implement anticipatory actions such as dissemination of early warning messages and implementing capacity building activities.
- **Stage II: Action Trigger**
  This trigger is activated upon issuance of DHM's official flood bulletin or special flood warning, offering up to 3 days of lead time to implement anticipatory actions such as mobilization of FCHV, volunteers and response teams, distribution of PEN-D kits and NCD friendly foods.

Key Actions

- Use existing platform or set up a system for hazard monitoring and forecasting mechanisms (e.g., rainfall, river levels, and flood/landslide risks) with clear thresholds and triggers.
- Develop automated alert systems and communication chains to rapidly disseminate warnings from national to community levels.
- Set up end-to-end response protocols and coordination structures that link early warnings to timely preparedness and action.

1.1.5 Integrating PEN-D into Disaster Forecasting and Early Warning Systems

The PEN-D leverages Nepal's national systems for flood forecasting, hazard mapping, and a multi-hazard alert system to ensure risk mitigation and preparedness for PLWNCDs. PEN-D must be systematically embedded into the Department of Hydrology and Meteorology's (DHM) Flood Forecasting and Early Warning System (FFEWS), which provides three-day hydrological forecasts using rainfall and river gauge data, real-time river and rainfall monitoring reports from automated stations, community-based SMS alerts and, dissemination via the BIPAD portal, FM radio, television, social media, and a toll-free hotline (1155).

Key Actions

- Establish automatic NCD-specific alert triggers within DHM's FFEWS so that warnings automatically activate PEN-D anticipatory actions and response protocol/activities when river level forecasts, rainfall thresholds, or flash flood risks intersect with mapped health vulnerabilities.
- Formalize coordination with DHM and LEOCs to ensure NCD-specific alerts are timely, actionable, and linked to local health system readiness.

1.1.6 Identifying and disseminating Early Warning Messages

Developing and disseminating clear, actionable early warning messages is vital to ensure that PLWNCDs and health service providers can prepare ahead of a disaster. Warnings must be immediate and actionable for NCD patients and local health workers. This isn't just a general evacuation notice. These messages should be targeted and specific to both the nature of the hazard (e.g., floods, landslides) and the needs of people with NCDs, such as reminders to collect medication refills, store medicines and equipment safely, or prepare for evacuation. Messages should be localized/ accessible, easily understood, and communicated through appropriate locally acceptable multiple channels such as radio, SMS, IVR calls, mobile apps, social media, health workers, FCHVs, volunteers, and community leaders.

11.6.7 Anticipatory Actions

Anticipatory actions are short-term, time-bound, no-regret interventions taken between the issuance of an early warning alert and the onset or peak of a hazard. There's short time window for AA during disaster as PEN-D is more focused on rapid-onset disasters, so it emphasizes taking preventive steps based on hazard forecasts and early warnings to ensure uninterrupted NCD care. By integrating pre-disaster activation protocols and early actions, PEN-D shifts from reactive emergency care to proactive risk mitigation. The anticipatory actions aim to mitigate the impact of predicted hazards on the most vulnerable PLWNCDs, who are at higher risk of complications, hospitalization, or mortality if treatment and monitoring are disrupted during disasters, ensuring continuity of NCD care and preventing adverse health outcomes before a disaster fully unfolds.

Creating a crisis timeline, which brings together different layers of information collected throughout the anticipatory action implementation process, can help to identify windows of opportunity for AA. Once an alert is triggered, predefined anticipatory actions for NCD care must be implemented swiftly. These actions may include dispensing emergency medication supplies for 2-4 weeks, activating mobile health teams, and relocating high-risk patients to NCD-friendly shelters equipped with essential services. Community-based workers may deliver medications or assist patients in evacuation. Pre-assigned roles and clear activation protocols ensure that no time is wasted when disaster warnings are issued.

ANTICIPATORY ACTION IMPLEMENTATION MODALITIES FOR PEN-D

The anticipatory action system should have a detailed and specific implementation protocol or SOP in place, to ensure that, for example, procurement, contracts, long lists of potential beneficiaries and delivery modalities are prepared as much as possible in advance. Ideally, funds for each identified anticipatory action should be pre-allocated, to be released immediately after early warning thresholds have been surpassed. This is a particular requirement for rapid-onset events, where action needs to be taken immediately.

Anticipatory actions for NCD care in PEN-D can be delivered through multiple modalities based on context, feasibility, and the nature of the hazard.

Key AA modalities

1. Cash (only if resources and policy permit) In-Kind
2. Cash + In-Kind (cash support only if resources and policy permit)
3. Awareness and capacity building
4. FCHV, Volunteer, Mobile Medical Team and Peer Support Network mobilization

The anticipatory actions and modalities can vary between different scenarios and depend on the local context. It is important to identify the most feasible and cost-effective anticipatory actions. A list of eligible anticipatory action options can be identified prior to the occurrence or peak of the disaster impact. Different types of anticipatory action can be selected for different warning levels.

These actions are not routine preparedness but pre-emptive, just-in-time measures that are only triggered when a credible forecast indicates a high probability of a hazard impacting a vulnerable area. Their timely implementation can prevent acute health deterioration, reduce emergency hospitalizations, and safeguard lives in disaster-prone regions. If possible, these anticipatory actions can also be channeled from National Social Protection Measures like Health Insurance, Destitute treatment fund, social security fund etc.

Depending on the disaster context, implementation feasibility and resources availability, only selective anticipatory actions or additional anticipatory actions other than recommended above can be implemented.

Key Recommended Anticipatory Actions

Modality	Target	Key Anticipatory Actions
Cash (only if resources permit)	PLWNCDs	▪ Unconditional or conditional emergency cash transfers for medicine, transport, or evacuation through Partner Support or Mobilization of Social Security Fund or other Innovative Financing Mechanism or linking with Health Insurance ▪ Rapid fund release for each identified anticipatory action should be identified and pre-allocated, to be released immediately after early warning thresholds have surpassed. For floods, this is non-negotiable. Funds for emergency medication purchase, patient transport, or temporary shelter supplies must be instantly accessible without bureaucratic delays.
In-Kind	PLWNCDs, Health Facilities	▪ Distribution of PEN-D kits ▪ Distribution of NCD medicines and devices that are purchased directly by PLWNCDs from the market, but are not part of the government supply chain. ▪ Distribution of NCD friendly pre-packaged foods together with other relief items
Cash + In-Kind	PLWNCDs	Combined approach for flexible and lifesaving support
(cash support only if resources permit)		▪ In-kind distribution of PEN-D kits + cash for transportation or medication. ▪ NCD shelter support with cash for dietary needs or personal medical costs.
Awareness and Capacity Building	Health workers, FCHVs, volunteers, disaster responders, peer support networks, PLWNCDs	Dissemination of NCD-specific early warning messages with proactive health advisories: ▪ Secure a personal emergency supply of essential medications (e.g., for hypertension, diabetes, asthma) for at least 7-14 days. ▪ Understand how to safely store medications (e.g., insulin requiring refrigeration). ▪ Identify the nearest accessible PEN-D health post or temporary health camp in case of displacement. ▪ Recognize signs of NCD complications and when to seek urgent medical attention. ▪ Maintain basic hygiene to prevent infections, which can exacerbate NCDs. Community, peer-support network and patient Education on NCD self-care and emergency preparedness Capacity-building activities like training and orientation on ▪ NCD self-care and emergency preparedness: Guidance on preparing personal NCD kits, securing extra medicine supplies, maintaining treatment records, and adopting lifestyle measures (diet, exercise, stress management) to reduce risks during disasters.

Modality	Target	Key Anticipatory Actions
		■ Medication Adherence in Emergencies: Training on safe medication storage. Patients should not reduce, alter or substitute prescribed medicines without advice from an authorized health professional. Where supplies are interrupted, an authorized prescriber or pharmacist should assess safe refill or substitution options according to national guidance. ■ Dietary Management in Crisis: Simple, practical advice on maintaining appropriate diets for diabetes or hypertension using locally available foods during emergencies. Stress Management: Techniques for coping with disaster-related stress, which can significantly impact NCDs like hypertension and diabetes. ■ First Aid for NCD Complications: Basic training for family members or community volunteers on recognizing and responding to acute NCD complications (e.g., hypoglycemic episodes, chest pain) before
FCHV, Volunteer, Mobile Medical Team and Peer Support Network mobilization	PLWNCDS	**FCHVs** ■ Establish a rapid mobilization roster and alert system (SMS/ phone tree) to deploy FCHVs immediately after early warning. ■ Cluster FCHVs by ward/settlement for quick community coverage and assign designated mobilization points. **Volunteers** ■ Activate a pre-defined volunteer mobilization plan with assembly points and task assignments. ■ Ensure volunteers receive early warning notifications simultaneously through a coordinated messaging platform. **Mobile Medical Team** ■ Mobilize the team through an immediate standby activation call and assemble at the designated deployment hub. ■ Arrange pre-disaster transport and logistics (vehicle allocation, fuel, equipment loading) for rapid field movement. **Peer Support Network** ■ Trigger mobilization through group messaging channels, assigning peer leads to coordinate member check-ins. ■ Organize peer groups into response clusters for quick outreach once mobilized.

2. PRE-DISASTER NCD PROFILE

A Pre-disaster NCD Profile is a systematic record of the status, distribution, and vulnerabilities of PLWNCDs in a community before a disaster strikes. It establishes a baseline of NCD burden to guide anticipatory action and ensure continuity of care during disasters.

Preparing an NCD profile involves systematic collection and compilation of NCD related information on PLWNCDs at different levels. At the individual and household level, FCHVs collect data on NCD patients, including their condition, treatment needs, and preparedness status. This information should be compiled into a ward-level NCD profile by health facilities, which provides an overview of the burden and distribution of NCDs within each ward. Health facilities and local governments then consolidate these ward profiles into a comprehensive local-level NCD profile. To ensure that the information is available for anticipatory action and disaster preparedness, the process is completed before the onset of the monsoon season, enabling early warning, pre-positioning of medicines, and planning for continuity of care during disasters.

Information to be collected

1. Name, age, sex, address, emergency contact details.
2. Total number of PLWNCDS by type of NCD(s)
3. Current treatment and medications (including cold-chain dependent medicines).
4. Severity/risk level.
5. Preparedness status
6. Mobility or disability status.

The tools for preparing NCD profile is given in Annex 1, 2 and 3

3. CATEGORIZATION OF PLWNCDS

The categorization of PLWNCDs provides a structured way to assess the vulnerability and needs of people living with NCDs in disaster settings. Classification is based on their clinical risk, medication dependency, access to health services, preparedness status, and mobility. This enables prioritization of care, efficient allocation of resources, and rapid identification of high-risk patients.

PLWNCDs Categorization	Criteria
Clinical Risk Level	▪ **High:** Unstable condition (e.g., recent stroke, severe COPD, insulin-dependent diabetes) ▪ **Moderate:** Stable but needs regular care (e.g., controlled hypertension and diabetes) ▪ **Low:** Well-controlled with minimal intervention needed
Medication Dependency	▪ **Daily:** Daily life-sustaining medicines (e.g., insulin) ▪ **Intermittent:** only at certain intervals (e.g., weekly, monthly, or as needed) (e.g., Asthma patient who uses an inhaler only during flare-ups) ▪ **None:** No medication but managed by lifestyle
Access to Health Services	▪ **Good:** Within distance of 30 min of functioning PHC ▪ **Limited:** 30–60 min with poor transport ▪ **None:** Cut off, remote, no CHW support
Preparedness Status	▪ **Prepared:** with necessary medicines and diagnostic supplies for 2-4 weeks ▪ **Partial:** with necessary medicines and diagnostic supplies for at least l week ▪ **None:** Stock out or with necessary medicines and diagnostic supplies for less than 1 week
Mobility Status	▪ **Full Mobility:** No support needed ▪ **Partial Mobility:** Needs support with short term disability ▪ **No Mobility:** Bedridden/Needs support with long term disability

4. RISK PROFILING

Risk profiling further categorizes PLWNCDs into high, moderate, and low-risk groups based on their clinical condition, medication dependency, access to services, preparedness, and mobility. This helps prioritize action by ensuring critical support for high-risk patients, regular monitoring for moderate-risk patients, and maintaining care for low-risk patients. Such stratification enables to prepare individualized emergency plan for efficient use of resources and timely interventions during disasters.

Risk Profile	Categorization Criteria	Priority for Action
High-Risk (Category A)	**Unstable clinical condition** Any critical criterion, including clinical instability, life-sustaining treatment dependency, recent acute event, inability to access essential care or major evacuation-support need, may independently justify high-priority classification.	Critical Priority
Moderate-Risk (Category B)	**Stable but chronic condition requiring regular medication** Moderate risk + Intermittent medication + Partial access + Partial prepared + Partial mobility	Moderate Priority
Low-Risk (Category C)	**Well-controlled conditions with low need for urgent care** Low risk + No urgent needs + Good access to health facility+ Prepared+ Full mobility	Low Priority

Key Actions according to the Risk Category:

Category	Mitigation/ Preparedness Phase/AA	Response Phase	Post-Disaster Phase
High-Risk (Category A)	▪ Develop individualized emergency care plans with patient and caregivers ▪ Preposition personal medications, supplies, and PEN-D kits ▪ Include in early warning alerts and evacuation lists ▪ Conduct pre-disaster home visits for high-risk patients	▪ Conduct immediate triage and stabilization ▪ Ensure uninterrupted medication access at health posts, shelters, or via mobile teams ▪ Evacuate or provide medically supported shelter if needed	▪ FCHVs and health workers conduct follow-up visits ▪ Monitor recovery and adherence to treatment ▪ Update patient records and revise individual care plans

Category	Mitigation/ Preparedness Phase/AA	Response Phase	Post-Disaster Phase
Moderate-Risk (Category B)	▪ Provide preparedness education and early warning messaging ▪ Encourage advance medication refills ▪ Support self-care, medicine adherence and life style interventions through peer support network, FCHV and health workers	▪ Conduct immediate triage and ensure continuity of medication via mobile health team ▪ Monitor for clinical deterioration ▪ Prioritize outreach if patients are cut off from care ▪ Support self-care, medicine adherence and life style interventions through peer support network, FCHV and health workers	▪ FCHVs and health workers provide follow-up visits ▪ Support self-care, medicine adherence and life style interventions through peer support network, FCHV and health workers ▪ Assess ongoing risk and update preparedness plans
Low-Risk (Category C)	▪ Disseminate general community preparedness messages ▪ Encourage routine medication stockpiling and follow-up planning ▪ Support self-care and life style interventions through peer support network, FCHV and health workers	▪ Maintain routine care if services are operational ▪ Provide remote support via telemedicine or mobile health team if access is limited ▪ Support self-care and life style interventions through peer support network, FCHV and health workers	▪ Reinforce general awareness and self-care practices through peer support network ▪ Conduct routine follow-up and community education sessions ▪ Support self-care and life style interventions through peer support network, FCHV and health workers

5. INDIVIDUALIZED PREPAREDNESS PLAN

An Individualized Preparedness Plan (IPP) ensures that each PLWNCDs along with their caregivers, is adequately prepared to manage health needs during disaster. The IPP enables health workers, and families to plan, act, and coordinate effectively before, during, and after disasters. An Individualized Preparedness Plan for PLWNCDs, should be developed using the format in Annex 6, should clearly outline what actions are needed during a disaster, how to perform them, when they must be carried out, and who is responsible.

Key Components of Individualized Preparedness Plan for PLWNCDs

Personal Medical Profile	■ Record Diagnosis and comorbidities ■ Document Current medications and dosages ■ Note Allergies and contraindications ■ Note Primary healthcare provider and contact
Emergency Medication	■ Maintain 2-4 weeks of critical NCD medications ■ Storage instructions (e.g., insulin refrigeration needs)
NCD Emergency Card and PEN-D kits	■ Paper or digital card with essential medical information ■ Contact numbers of family, health worker, facility ■ Information on special needs (e.g., dialysis, oxygen)
Personal Action Checklist	■ Identify essential items to pack and evacuation routes. ■ Note the nearest health facility and alternate options ■ Outline steps to take when receiving an alert (e.g., SMS, siren, radio)
Monitoring Tools	■ Glucometer, BP monitor, asthma peak flow meter ■ Instructions for home monitoring
Transportation Plan	■ Plan for transport in case of evacuation or facility visits ■ Identify local support (community volunteer, FCHV, family) ■ Include mobility assistance options for those with disabilities.
Family and caregivers Instructions	■ Provide simple, written instructions on identifying danger signs (e.g., hypoglycemia, chest pain, asthma attack). ■ Specify when and how to seek medical help. ■ Encourage shared responsibility within families and support networks.
Communication Plan	■ Mobile phone with saved contacts ■ Emergency contact list shared with local responders ■ Instructions for communicating in disasters
Referral Plan	■ Referral facility mapped for specialized care ■ Known procedures for access during disaster ■ Update referral card (if used)
Training and Orientation	■ Briefing to patient and family ■ Practice sessions or drills ■ Instructions in local language/simple format

6. COMMUNITY MOBILIZATION AND ENGAGEMENT

Community mobilization and engagement in the context of PEN-D refers to the collective involvement of affected communities in planning, implementing, and monitoring NCD-related interventions before, during and after disasters. Engaging and mobilizing communities ensures that interventions are contextually appropriate, inclusive and trusted. By combining mobilization with participatory engagement, communities are empowered to act as first responders, strengthen resilience, support treatment adherence, and ensure disaster responses are equitable, timely, and responsive to the actual needs of PLWNCDs.

Key Actions:

- Mobilize local leaders, community health workers, volunteers, and peer networks to support NCD preparedness and response.
- Engage PLWNCDs in planning and adapting interventions to ensure services and messages are culturally appropriate and inclusive.
- Map and activate local resources such as transport options, shelters, safe medicine storage spaces, and community pharmacies.
- Conduct community awareness campaigns on NCD self-care, emergency medication management, and available services during disasters.
- Establish two-way communication and feedback mechanisms to identify gaps, adjust interventions, and ensure accountability.
- Strengthen community-led support systems to maintain treatment adherence, check on high-risk individuals, and provide rapid assistance during disruptions

7. HEALTH FACILITIES, NCD SERVICES AND HEALTH WORKFORCE MAPPING

Mapping of public and private health facilities, NCD services, and health workers enables local authorities to understand the existing capacities identify gaps, and plan targeted interventions to deliver NCD care during disaster. Public, private and community health facilities and workforce mapping can be done.

Mapping Process

Key Actions	Timeline	Responsible
Orientation to health facilities and stakeholders on mapping process	Disaster Preparedness phase	Local Level Health Section
Internal mapping by each health facility using mapping tool given in Annex 9	Disaster Preparedness phase/ Within 1 month after orientation	Health Facilities
Consolidation and Integration of mapping findings into Local Disaster Preparedness Plan	Disaster Preparedness phase/ Within 2 weeks after facility submission	Local Level Health Section
Periodic update and review of mapping (especially pre-disaster season)	Every 6 months or pre-disaster season	Health Facilities coordinated by Local Level Health Section

8. HEALTH FACILITY READINESS ASSESSMENT

Health Facility Readiness Assessment for NCDs during disasters evaluates the capacity of facilities to deliver uninterrupted NCD care before, during, and after disaster. It identifies gaps in staffing, supplies, infrastructure, and operational protocols, ensuring that facilities can sustain essential NCD services under emergency conditions. This assessment guide emergency planning, informs PEN-D implementation, and strengthens the resilience of local health systems.

Assessment Process

Key Actions	Timeline	Responsible
Orientation to health facility staff on PEN-D readiness standards and protocols	Disaster Preparedness phase	Local Level Health Section
Internal assessment of facility readiness using assessment checklist given in Annex 8	Disaster Preparedness phase / Within 2 weeks after orientation	Health Facility In-charge and facility staff
Consolidation of readiness data and Integration of readiness findings into Local Disaster Preparedness Plan	Disaster Preparedness phase / Within 2 weeks after facility submission	Local Level Health Section
Periodic review and update of health facility readiness (especially pre-disaster season)	Every 6 months or pre-disaster season	Health Facility In-charge coordinated by Local Level Health Section

9. HEALTH SYSTEM COORDINATION MECHANISM

Effective coordination is essential to ensure that NCD services are maintained and responsive during disasters. Health system coordination must integrate NCD care within broader disaster risk management (DRM) frameworks, linking local, provincial, and national disaster response mechanisms.

Key Approaches:

1. Establish and strengthen a multilevel coordination mechanism (HEOC/PHEOC/ local level emergency response entities) with designated NCD focal persons
2. Integrate NCD care into disaster preparedness and response plans at all levels
3. Strengthen local ownership, data systems, and resource coordination to ensure timely access to NCD medicine and continuity of care.

9.1 Establishment and Strengthening of Multilevel Coordination Mechanisms

Integrating NCDs into disaster policies, plans, and committees ensures that continuity of care for people living with NCDs is prioritized during emergencies. By embedding NCD considerations into existing national, provincial, and local disaster committees and action plans, PEN-D helps institutionalize chronic care within the broader disaster response system. This integration promotes coordinated action, strengthens accountability, and enhances information flow across all levels. It also supports multi-sectoral collaboration linking health services, logistics, and community structures to safeguard medication access, monitor high-risk patients, and reduce avoidable morbidity and mortality during disasters.

Key Actions:

- Designate an NCD focal point with clear TOR within the health unit at the local level, linked to the Local Disaster Risk Reduction and Management Committee (LDRRMC).
- Form a NCD Working Group within the local health coordination structure, involving representatives from:
  - Local health facilities (HPs, PHCCs)
  - Local Disaster Management Committee (LDMC)
  - Local level health coordinators
  - Local humanitarian or emergency response organizations (e.g., Red Cross/Red Crescent, NGOs, or community-based disaster response groups)
  - FCHV network
- Conduct regular multilevel coordination meetings (pre-disaster, during emergencies, and post-disaster) to review readiness and response gaps.
- Map all stakeholders involved in NCD service continuity (public, private, and community-based) and define clear roles during disasters.
- Develop and implement standardized coordination and communication protocols for timely data sharing and decision-making.
- Strengthen communication channels between local health facilities, municipal health sections, and community volunteers for timely information flow.

9.2 Integration of NCDs into Disaster Policies, Plans, and Committees

A multilevel coordination mechanism is a structured system connecting national, provincial, and local disaster response entities to ensure coordinated action across all levels. PEN-D emphasizes embedding NCD interventions within existing national and local disaster committees, strategies, and action plans. The objective is to institutionalize NCD care in all relevant emergency preparedness and response frameworks at the local level. This approach ensures that continuity of care, medication access, and monitoring of high-risk patients are prioritized alongside other emergency health interventions, reducing morbidity and mortality during disasters. Integration also promotes multi-sectorial collaboration, ensuring health services, logistics, and community support systems are aligned to address NCD needs. Strengthening multilevel coordination improves accountability, enables rapid dissemination of information, and allows for coordinated interventions, reducing service disruption for PLWNCDs.

Key Actions:

- Revise the Local Disaster Preparedness and Response Plan (DPRP) to include NCD continuity strategies.
- Integrate PEN-D activities into the Local level Health Emergency Preparedness and Response Plan and all-hazard contingency plans.
- Advocate for the inclusion of NCD issues and representatives in the Local Disaster Risk Reduction and Management Committee (LDRRMC).
- Ensure NCDs are addressed in simulation exercises, table-top drills, and mock response activities conducted with support from humanitarian partners, emergency response agencies, and security forces.
- Incorporate PEN-D in annual local health plans and include NCD resilience components in the Local Development Plan and local-level budget frameworks.

9.3 Enhancing Local Ownership and Resource Coordination

Enhancing local ownership and resource coordination in PEN-D focuses on empowering local health authorities to manage NCD resources, track patient needs, and maintain essential stockpiles for disaster response. By enabling local health teams to take responsibility for medicine availability, equipment readiness, and patient monitoring, PEN-D promotes faster, more coordinated action during emergencies. This includes strengthening data systems, providing targeted training, and improving coordination with community networks. Strong local ownership enhances preparedness, supports rapid response, minimizes care disruptions, and builds overall community resilience.

Key Actions:

- Build the capacity of local health authorities and staff on disaster-responsive NCD service delivery and resource management.
- Maintain updated inventories of essential NCD medicines, equipment, and cold-chain supplies at local health facilities.
- Build partnerships with community networks, ward disaster committees, and local NGOs to support medicine distribution and patient follow-up.
- Promote local government leadership in integrating NCD services into municipal disaster preparedness and response systems.
- Conduct joint review and coordination meetings with municipal health sections and disaster committees to align planning and resource allocation.
- Encourage local leadership engagement (mayors, ward chairs, and health coordinators) to champion PEN-D integration within local governance processes.

10. COMMUNICATION AND REFERRAL MECHANISM

Continuity of NCD care during disasters depends heavily on timely referrals, structured communication and accessible, locally adapted systems. In disaster-prone settings like Nepal, particularly at the local level, the integration of NCD referral and communication into broader emergency response systems is essential. Such referrals should be guided by the National Guideline on Patient Referral to ensure consistency, appropriateness, and continuity of care across all levels of the health system.

Key Approaches:

- Structured Multi-level Referral Pathways with Designated Focal Persons
- Multi-Channel, Locally Adapted Communication Systems
- Mapping, Training, and Guidelines for referral
- Strengthening Communication and Referral systems during Disasters

10.1 Structured Multi-level Referral Pathways with Designated Focal Persons

This approach focuses on creating a clear and functional referral system that works across all levels of the health system during disasters. In PEN-D, this means designating NCD referral focal persons at local health facilities and linking them with provincial and national health emergency operation centers. The objective is to establish clear, well-coordinated referral systems for NCD care that function during all phases of disaster and are aligned with existing emergency operation structures. Implementation requires defining roles, mapping referral hubs and satellite facilities, setting up standardized triage protocols, and ensuring transport options are linked with referral pathways. By doing so, health workers and communities know exactly where and how to refer patients, which helps reduce delays, prevent complications, and safeguard lives during disasters. This will also promote accountability across all levels.

Key Actions:

- Designate NCD referral focal persons at health facility, municipal, provincial, and national levels, ensuring they are linked to HEOCs, PHEOCs, and LEOCs.
- Define and document roles, responsibilities, and communication lines for each focal person to ensure clarity and avoid duplication.
- Implement hub-and-satellite referral models, where higher-level hospitals act as referral hubs and health posts or PHCCs as satellites for stabilizing units.
- Develop and disseminate referral flowcharts and contact directories that include focal persons, hospitals, ambulance providers, and local support actors.
- Coordinate with local transport providers, humanitarian partners, and emergency response agencies to ensure timely evacuation and transfer of NCD patients.
- Regularly review, test, and update referral pathways through simulation drills and coordination exercises.

10.2 Multi-Channel, Locally Adapted Communication Systems

A resilient communication system is essential for maintaining continuity of NCD care during crises. In PEN-D, this means using a mix of modern and community-based communication tools to reach patients, health workers, and families. The objective is to ensure all stakeholders including patients, families, health providers, and first responders have access to timely, accurate, and understandable information during a disaster. This can be achieved by establishing hotlines, using SMS and local FM radio, distributing IEC materials in local languages, and leveraging FCHVs, ward officials, and community leaders for face-to-face communication. Linking these channels to existing emergency response lines ensures information is reliable and coordinated. Such systems contribute by keeping patients informed, reducing panic, and enabling health providers to respond quickly and effectively.

Key Actions:

- Set up local-level communication channels to inform patients about medicine refills, service availability, and referral options.
- Disseminate emergency messages through local FM radios, community miking, and social media like WhatsApp/Viber groups, SMS platforms, and IVR (interactive voice response) systems for communicating with NCD patients about medicine pickup, service locations, and referral updates.
- Develop and distribute IEC materials (flyers, posters, audio messages) in local languages tailored to NCD patient needs.
- Use community-based communication approaches, such as:
  - Use local FM radio, community miking, and loudspeakers for mass communication in hard-to-reach areas.
  - Mobilize FCHVs, ward officials, and community leaders for door-to-door or face-to-face communication, especially with high-risk patients.
  - Community meetings coordinated by LDMCs
- Maintain updated contact directories for local pharmacies, health workers, referral hospitals and transport services
- Set up and publicize emergency hotlines linked with existing health system response lines, at municipal and provincial levels.
- Conduct regular drills and simulations to test communication flow and improve responsiveness

10.3 Mapping, Training, and Guidelines for referral

Preparedness for communication and referral is just as important as response. In PEN-D, this approach focuses on building systems and capacities before disasters strike so that referral and communication systems are functional and responsive when needed. The objective is to ensure that when a disaster happens, both patients and providers know the referral process, and the system can function without confusion or delay. This is done by maintaining updated lists of vulnerable patients, training FCHVs and ward disaster committees, and including referral guidelines in local disaster and resilience plans. Simulated drills and exercises also help to test and refine these systems. The benefit of this approach is that it ensures readiness, minimizes service disruption, and enables smoother coordination during real emergencies.

Key Actions:

- Conduct pre-disaster mapping of high-risk NCD patients, especially those on insulin, oxygen therapy, or with recent hospitalizations.
- Maintain a list of priority NCD patients at each health facility and ward level for early follow-up and evacuation planning.
- Develop and disseminate standardized referral and communication protocols across all levels of the local health system.
- Training:
  - Local health workers on NCD referral pathways and use of emergency communication tools
  - LDMC and Ward Disaster Management Committees on NCD-specific needs
  - FCHVs, mothers' groups and other peer network on how to support NCD patients during disasters
- Integrate NCD communication and referral components into Local Disaster and Climate Resilience Plan (LDCRP) and provincial and national disaster response plans
- Conduct simulation exercises and table-top drills, with local emergency responders and humanitarian partners.

10.4 Strengthening NCD Communication and Referral during Disasters

This approach emphasizes reinforcing referral and communication systems during emergencies through digital tools, community mobilization, and logistics coordination. In PEN-D, it means integrating referral systems with digital health platforms, while also keeping offline alternatives like triage cards for low-resource settings. Community volunteers including youth groups, teachers, and women's groups and local leaders are mobilized to provide support and disseminate information, while local transport providers are engaged to ensure patient evacuation and medicine delivery. The objective is to make communication and referral robust, adaptable, and inclusive, even under disrupted conditions. By combining technology with community networks and logistics planning, this approach contributes to rapid response, equitable access to care, and greater resilience of NCD services during disasters.

Key Actions:

- Integrate with digital health platforms (e.g., DHIS2-linked mobile apps) for real-time patient tracking, and coordination.
- Pre-identify, train and mobilize community volunteers (NRCS youth, teachers, women's groups, local leaders) to support NCD patients, disseminate information, and assist with referrals.
- Establish community-level peer network support groups or "watch networks" to monitor high-risk patients during crises.
- Develop agreements with local transport providers to guarantee patient transport and medicine delivery during emergencies.
- Stock and pre-position communication aids (e.g., referral forms, posters, contact lists) in health facilities and community centers.
- Conduct real-time monitoring and rapid feedback loops to identify bottlenecks and adapt communication and referral mechanisms during the disaster response.

11. EMERGENCY RESPONSE PREPAREDNESS

Emergency Response Preparedness (ERP) is a proactive approach designed to ensure timely and effective humanitarian response during disasters, specifically tailored to include the needs of PLWNCDs. The main objective of ERP is to optimize the speed and volume of critical assistance delivered immediately after a disaster, ensuring continuity of essential NCD services in the first 3-4 weeks when external support may not yet have arrived.

In PEN-D, ERP ensures that NCD care medication supply, monitoring, and continuity of treatment is integrated into emergency planning.

ERP is built on three interlinked elements:

1. Risk Analysis and Monitoring
2. Minimum Preparedness Actions (MPA)
3. Advanced Preparedness Actions (APA) and Contingency Planning (CP)

1. Risk Analysis and Monitoring

- Identify hazards that could disrupt NCD services or affect PLWNCDs.
- Disaster Scenarios (Best, most likely and worst-case scenarios)
- Rank risks by impact and likelihood (low, medium, high).
- Continuously monitor indicators to detect emerging risks early.
- Inform both minimum preparedness and contingency planning for NCD interventions.

2. Minimum Preparedness Actions (MPA)

These are a set of baseline activities implemented to establish a minimum level of readiness. MPAs are non-scenario-specific, generally resource-light, and foundational for any response.

- In PEN-D, MPAs may include:
  - Maintaining updated PLWNCD registries and medicine inventories.
  - Ensuring stock and cold chain readiness for essential NCD medications
  - Training healthcare staff on emergency NCD care and coordination.
  - Establishing coordination and referral mechanisms for NCD patients.
  - Preparing joint needs assessment tools for NCD service disruptions.

3. Advanced Preparedness Actions (APA) and Contingency Planning (CP)

These are activated when risks are medium or high.

APA: Risk-specific measures that build on MPAs to strengthen readiness for predicted emergencies.

Examples in PEN-D include:

- Pre-positioning NCD medication kits in high-risk areas.
- Establishing mobile NCD clinics for disaster-prone areas.
- Conducting scenario-based simulations and readiness drills.

Contingency Planning:

- Develops operational plans to meet differentiated NCD needs in the first 3-4 weeks.
- Defines roles, resources, gaps, and timelines for NCD interventions.
- Serves as the basis for flash appeals and inter-agency coordination during disa

ERP Element	Purpose	Key Actions
Risk Analysis & Monitoring	Identify hazards affecting PLWNCDs	Map disaster-prone areas, assess vulnerabilities of NCD patients, monitor medication supply and health facility functionality
Minimum Preparedness Actions (MPA)	Establish minimum readiness	Maintain NCD patient registry, pre-position essential medicines, train staff, ensure referral and coordination systems
Advanced Preparedness Actions (APA	Enhance readiness for specific risks	Pre-position extra medication, set up emergency NCD care protocols, conduct drills and simulations
Contingency Planning (CP)	Operationalize response in first 3-4 weeks	Develop NCD response plan, define responsibilities, identify gaps, plan supply chain, prepare for flash appeal

12. CONTINGENCY PLAN

Contingency plan for NCDs assesses disaster risks and establishes measures in advance to ensure timely, coordinated, and uninterrupted care for PLWNCDs during emergencies. It develops organized and coordinated action plans, clearly defining roles of health facilities, NCD focal points, community volunteers, and partners, while allocating essential resources, information systems, and operational procedures for NCD service continuity. By anticipating potential disaster scenarios contingency planning helps key stakeholders identify challenges, implement solutions, and maintain uninterrupted NCD care.

Key Actions:

- Assess local disaster risks, map PLWNCDs and essential resources (health facilities, pharmacies, volunteers, transport), and identify likely service disruptions.
- Develop the contingency plan before disaster seasons using a participatory approach involving local health offices, facilities, FCHVs, volunteers, leaders, and PLWNCDs.
- Define clear roles, coordination mechanisms, and communication pathways among all local actors to ensure timely and organized response.
- Plan for continuity of NCD care by identifying alternative service delivery options (mobile clinics, outreach posts, telehealth) and securing essential medicines and supplies.
- Establish backup systems for communication, NCD service, and medicine stock to function during outages.
- Regularly test, review, and update the contingency plan through drills/simulation and lessons learned from actual events.

Developing Contingency Plan for NCD

1. Define Assumptions

- Identify likely disaster scenarios and assess how each could disrupt NCD services, medicines, and access to care.
- Establish baseline assumptions for planning, including "worst-case" scenarios.
- Consider type, timing, and scale of potential disasters affecting NCD services (e.g., floods, earthquakes, epidemics).
- Account for available resources, healthcare facility capacities, patient evacuation, stranded personnel, and environmental factors (weather, temperature).
- Define emergency thresholds: minor, major, and disaster-level events.

2. Risk Assessment and Vulnerability Analysis

- Identify risks and vulnerabilities that may disrupt NCD services, such as medication shortages, damaged healthcare facilities, or limited staff availability.
- Include geographic and population-specific risks, e.g., PLWNCDs in remote or flood-prone areas.
- Assess health facility readiness and availability of NCD service supplies, and referral capacity.

3. Categorize Hazards

- Group hazards by type for planning efficiency:
  - Natural disasters: earthquakes, floods, storms
  - Health emergencies: epidemics, pandemics
  - Infrastructure failure: power outages, communication breakdowns
- Prioritize hazards based on likelihood and potential impact on NCD service continuity.

4. Identify Critical Processes for NCD Services

- Rank the most critical NCD services that must remain operational during disasters.
- Determine which processes must be restored first to minimize morbidity and mortality of PLWNCDs.

5. Conduct Service Impact Analysis

- Evaluate the impact of potential disruptions on NCD care delivery.
- Identify interdependencies: e.g., laboratory services, supply chains, patient transportation.
- Estimate maximum allowable downtime for each critical NCD service.

6. Develop Emergency Response Procedures

- Clearly define roles and responsibilities of all personnel, including healthcare staff, volunteers, and coordination teams.
- Document guidance for immediate actions during an emergency (triage, medication distribution, patient communication).
- Include procedures for evacuation, patient tracking, and facility lockdown if needed.

7. Establish Incident and Crisis Management Protocols

- Form a Crisis Management Team (CMT) responsible for NCD emergency response.
- Define incident commander, backup personnel, and clear decision-making authority.
- Activate a flexible escalation/de-escalation process for incidents that vary in scale and severity.

8. Incident/Event Analysis and Monitoring

- Continuously monitor the unfolding situation to inform response adjustments.
- Document immediate impacts on NCD services and risks for secondary effects.

9. Service Resumption/Service Recovery Planning

- Develop short-term recovery plans to restore essential NCD services rapidly.
- Plan long-term restoration for full recovery of healthcare services and supply chains.
- Establish priorities for restoring critical processes, infrastructure, and information systems.

10. Post-Event Evaluation and Learning

- Conduct a structured after action reviews to evaluate:
  - What worked well and what did not
  - Gaps in planning, coordination, and response
  - Lessons learned for improving future contingency plans
- Document findings in an after-action review report for continual improvement.

Contingency Plan should be prepared in the format given in Annex 8

13. 4W MAPPING NCD SERVICE PROVISION

Mapping NCD services in disaster settings is a critical component of effective planning, coordination, response and recovery. The 4W mapping approach "Who is doing What, Where, and When" provides structured method for identifying available services, visualizing coverage highlighting service gaps, and supporting rapid, evidence-based decision-making. When applied systematically, 4W mapping enables health authorities and partners to coordinate resources, prevent duplication, identify training, capacity building and deployment of health workers and volunteers to ensure PLWNCDs receive timely and equitable care. The 4W system should be integrated into national and local disaster response systems and adapted for decentralized use across health, disaster, and community actors.



Agencies
- Government agencies
- Humanitraian partners
- Private organization
- Community based organizations

Activities
- Provision of NCD related services and activities
- Disaster related activities
- Capacity building and training
- Community awareness and counseling
- Community engagement

Geographic Area
- Affected wards, local level, districts, province
- Hard-to-reach areas

Timing/ phases of disaster
- Preparedness and mitigation phase
- Within first 24–72 hours (emergency phase)
- Weekly during disaster response
- Monthly during recovery phase
- Ongoing during all phases of disaster

Process of 4W mapping

Planning and Preparation

- Identify the 4 W mapping team at national, provincial and local levels
- Review and adapt the standard 4W mapping tool to include NCD specific variables
- Prepare for 4 W mapping using the standard 4W mapping tool

Data collection

- Use the 4 W mapping tool for the data collection
- Gather inputs from government agencies, humanitarian partners, and community organizations.
- Collect data on Who(organization), What(service delivered, Where (location), and When (timing or phase of service).

Compilation, analysis and reporting

- Consolidate and validate data at local, district/provincial levels
- Cross-check to identify overlaps, service gaps and unmet needs.
- Analyze coverage of NCD care and resource allocation to support evidence-based coordination.
- Prepare the 4 W mapping report

Dissemination

- Share findings with health clusters, EOCs, and coordination platforms for action.
- Use the outputs to guide planning, logistics, and partner coordination.
- Display key results through GIS dashboards or summary tables for decision-making.

Update

- Regularly update the 4W map to reflect ongoing changes during the disaster cycle.
- Schedule periodic validation meetings to ensure data accuracy and accountability.
- Integrate updates into broader health information systems and local preparedness plans.

Timeline

- **During preparedness:** 4W for planning and coordinating disaster preparedness and response actions.
- **Within 72 hours of disaster onset:** Rapid 4 W mapping to identify operational health facilities, available NCD services, and immediate service gaps.
- **Weekly during emergency response:** Update and review data to capture evolving service delivery patterns and resource needs.
- **During recovery phase:** Consolidate data to track continuity of NCD care, evaluate service coverage, and guide long-term recovery and resilience planning.

B. DISASTER RESPONSE PHASE

1. ACTIVATION OF HEALTH/EMERGENCY OPERATIONS CENTER AND COORDINATION MECHANISMS

During the disaster response phase, depending on the scale of disaster, activation of Health/ Emergency Operations Centers (H/EOCs) at local, provincial, and national levels is essential for coordinating disaster-responsive NCD services. At the local level the LEOC serves as the central hub for decision-making, resource mobilization, and information sharing between health authorities, disaster management agencies, humanitarian partners, and community representatives. Through this mechanism, roles and responsibilities are clarified, gaps in service delivery are identified, and duplication is minimized. Strong coordination enables efficient deployment of essential medicines, continuity of care for PLWNCDs, and integration of NCD interventions into the broader health and humanitarian response.

2. INITIAL RAPID ASSESSMENT (IRA)

The Initial Rapid Assessment is a critical entry point for embedding NCD-sensitive disaster response under the PEN-D framework. By incorporating NCD-specific questions, deploying trained assessment personnel, and linking with health coordination mechanisms, IRA can directly support the timely identification and delivery of life-saving NCD care during the acute phase of disaster response. IRA is conducted within 24 hours of a disaster event to assess the immediate needs of affected populations, inform relief priorities, and guide coordinated response efforts.

Integration of NCD components into Initial Rapid Assessment (IRA)

The IRA, conducted within 24 hours of a disaster, should integrate key NCD components. NCD components should be embedded in both the data collection tools and analysis processes of the IRA to identify the impact of disaster on PLWNCDs and also identify their needs. This involves estimating affected PLWNCDs, identifying severe cases, assessing facility readiness and medicine availability, determining the need for PEN-D kits, and checking whether shelters and food relief are NCD-friendly.

NCD components to be incorporated in the Existing IRA Schedule-1 Form are:

1. NCD-Specific Indicators

- Number of PLWNCDs affected
- Number of severe NCD patients
- Number of health facilities with disrupted NCD services
- Number of health facilities with stockout of essential NCD medicines and diagnostic equipment
- Need for PEN-D kits for PLWNCDs
- NCD-friendly features of safe shelters:
  - Availability of refrigerator for insulin storage
  - Proper shelves/racks for medicine storage
  - Clean, spacious, and well-ventilated environment
- NCD-friendly food items in relief distribution:
  - Low salt, low sugar, refined carbohydrates, minimal saturated fats, cholesterol
  - Inclusion of fresh fruits and vegetables

2. Classification of NCD-Related Vulnerabilities

- Identification of individuals who:
  - Require daily medication
  - Are at high risk of complications
  - Rely on life saving medicine and devices
- Prioritization of these individuals for treatment, referral, evacuation, or support services.

3. Rapid Mapping of NCD Disruption

- Use of collected data to generate a rapid overlay of:
  - Flood/hazard zones,
  - Affected populations with NCDs,
  - Status of health facilities and stock availability.

Assessment Coordination for PEN-D Integration

IRA is led by the local disaster management committee at the ward or municipal level. The assessment team (IRA Team) includes ward officials, Nepal Red Cross Society representatives, and other designated local actors like Nepal Police. In larger-scale disasters affecting multiple municipalities, a District-Level Assessment Coordination Team (ACT) is formed under the Chief District Officer, including trained officials and technical focal persons to provide guidance and oversight

1. IRA Team Responsibilities:

Led by the Local Disaster Management Committee (LDMC) and include ward officials, representatives from humanitarian organizations, and other designated actors. At least one health representative familiar with NCD services should be included.

2. District-Level ACT Responsibilities:

- Ensure that NCDs are explicitly considered in the assessment guidance and training.
- Validate collected data and ensure rapid reporting to the Health Cluster, LEOCs, and relevant municipal authorities.
- Coordinate with local, provincial, federal government and relevant stakeholder's disaster response on IRA findings.

A sector-focused post-disaster assessment, Cluster Specific Detailed Assessment (CSDA) should be conducted after initial rapid assessments to generate detailed information on damages, service disruptions, and priority needs within specific clusters. It should typically be led by local governments in coordination with sectoral clusters as part of a tiered assessment approach. For PEN-D, CSDA should be adapted to systematically assess the status of NCD services by examining the availability of essential medicines, functionality of health facilities, continuity of care for chronic patients, and capacity of the health workforce. This should be implemented through standardized assessment tools, facility checklists, and community-level data collection, enabling local authorities to identify critical gaps and prioritize timely, targeted interventions to ensure continuity of NCD care during disaster response and early recovery phases.

3. MULTI-CLUSTER INITIAL RAPID ASSESSMENT (MIRA)

The Multi-Cluster Initial Rapid Assessment (MIRA) is a standardized approach used to assess humanitarian needs in the early days of a disaster, typically within the first 72 hours, and updated as new information becomes available. A Preliminary Scenario Definition (PSD) is typically developed within the first 24-48 hours, and a full MIRA report follows within one week.

MIRA brings together all relevant sectors (clusters), including health, nutrition, WASH, shelter, and protection, to ensure a coordinated and inclusive response. By modifying assessment tools, assigning health cluster responsibilities, and using disaggregated data and field-level insights, MIRA can effectively inform a coordinated and NCD-sensitive emergency response in Nepal.

Integration of NCD components into the MIRA:

1. Assessment Tool Modification:

- In addition to NCD components of IRA, incorporate NCD-specific questions into the health section of the MIRA tool, such as:
  - Disruption in access to NCD medications and diagnostic services
  - Functionality of health facilities delivering PEN-D services
  - Availability of cold-chain dependent medications and diagnostics

2. Cluster-Level Coordination:

- The Health Cluster should designate a PEN-D focal person to coordinate NCD data collection and reporting.
- Ensure collaboration between Health, Nutrition, Protection, and Logistics Clusters to capture NCD needs, especially for vulnerable groups (elderly, disabled, displaced PLWNCDs).

3. Data Disaggregation and Mapping:

- Analyze data by age, sex, disability, and chronic condition to prioritize interventions.
- Use GIS mapping to overlay NCD burden with disaster-affected zones, identify service gaps, and guide deployment of mobile NCD units or PEN-D kits.

4. Community Engagement:

- Engage FCHVs, local CBOs, and NCD peer groups to support identification and referral of PLWNCDs.
- Incorporate community feedback mechanisms to validate assessment findings and ensure interventions address real needs.

4. EMERGENCY RESPONSE ACTIONS

In the immediate aftermath of a disaster, emergency response actions for PLWNCDs focus on ensuring continuity of care and preventing acute complications. The objective is to minimize mortality and morbidity by maintaining essential NCD services even under disrupted conditions.

Emergency response actions:

- Search and Rescue/Evacuation
- Multi-sectoral Coordination & Integration with Other Clusters
- Community Mobilization and Deployment of Trained Health Workers and emergency Medical Mobile Teams
- Training and Capacity Building in Real-Time
- Triage, Treatment, Referral and Transportation
- Uninterrupted Access and Distribution of Essential Medicines and Supplies
- Psychosocial Support, risk communication and outreach
- Continuity of NCD care

4.1 Search, Rescue and Evacuation

Search, rescue and evacuation procedures prioritize the safe transfer of individuals, especially PLWNCDs, from disaster affected areas to safer locations where they can access medical care. Special attention should be given to elderly, disabled, multi-morbid patients and patients requiring oxygen, insulin, dialysis, or other critical treatments. Evacuation plans should integrate NCD-specific needs; ensuring patients are accompanied with their medications, medical records, and any necessary assistive devices to prevent deterioration of their conditions during transit.

Key Actions:

- **Rapid Search, Identification and Rescue of Vulnerable PLWNCDs:** Search, identify and prioritize elderly, disabled, multi-morbid, and critically dependent patients for immediate rescue.
- **Safe Evacuation:** Transport patients to safe locations where medical care is available as per the safe evacuation plan.
- **Medical Preparedness during Transit:** Ensure patients are accompanied with essential medications, medical records, and necessary assistive devices; oxygen, insulin, or other critical support as needed.
- **Integration of NCD-Specific Needs in Evacuation Plans:** Address critical requirements of NCD patients, including mobility support and emergency monitoring during evacuation.
- **Coordination with Community and Response Teams:** Collaborate with local volunteers, emergency responders, and health workers to optimize safe and timely evacuations

4.2 Emergency multi-sectorial Coordination & Integration with Other Clusters

Effective NCD management in disasters requires strong multi-sectorial coordination and integration with other humanitarian clusters such as health, nutrition, WASH, logistics, and mental health/ psychosocial support. Coordinated action ensures that the needs of people living with NCDs are addressed holistically. Regular joint planning and information sharing between different sectors, disaster response organizations and clusters help prevent service gaps or duplication, optimize resource use, and deliver a more resilient and people-centered emergency response.

Key Actions:

- **Multi-sector Coordination and Communication:** Hold regular meetings and communication channels among different sectors and clusters to review needs and actions.
- **Joint implementation, Monitoring and Adaptation of Response:** Collaboratively implement and regularly review coordination effectiveness and adapt strategies to emerging needs and evolving disaster conditions.
- **Integration of NCD Services into other Cluster Activities:** Embed NCD considerations into nutrition, shelter, WASH, and psychosocial programs for holistic care.

4.3 Community Mobilization and Deployment of Trained Health Workers and Emergency Medical Mobile Teams

Community engagement and mobilization are critical for effective and timely response. Trained health workers and emergency mobile medical teams are deployed to reach affected populations, particularly those in remote or inaccessible areas. These teams conduct outreach mobile camps, monitor patients with chronic conditions, provide emergency care, and facilitate referral pathways. Mobilization also involves community disaster volunteers and local organizations to ensure rapid dissemination of health information and support for NCD patients.

Key Actions:

- **Deploy Trained Health Workers and Emergency Mobile Teams:** Deploy teams to affected and hard-to-reach areas to provide essential NCD services and emergency care.
- **Conduct Community Outreach and Mobile Clinics:** Organize health camps, patient monitoring visits, and awareness sessions on NCD management.
- **Engage Volunteers and Local Organizations:** Mobilize volunteers for patient identification, medication delivery, health education, and support services.

4.4 Training and Capacity Building in Real-Time

Real-time training ensures consistent, standardized care even in resource-constrained and rapidly changing environments. During disasters, frontline responders often face unfamiliar NCD-related emergencies. On-the-spot orientation and refresher training on PEN protocols, triage methods, and emergency case management help strengthen their capacity to act effectively. In addition, non-health disaster response volunteers can be oriented on basic NCD care, distributing PEN-D Kits, and patient support. Their engagement expands the reach of health services and helps ensure timely assistance to vulnerable patients.

Key Actions:

- **Provide On-the-Spot Orientation for Health Workers:** Train frontline responders on PEN protocols, triage, and emergency NCD case management during the disaster.
- **Orient Non-Health Disaster Volunteers:** Guide community volunteers on basic NCD care, distributing PEN-D kits, and patient support activities.
- **Standardize Care Practices:** Ensure all responders follow consistent procedures for treatment, referral, and monitoring to maintain quality of care.
- **Assess Training Effectiveness:** Assess skills gained and identify gaps to provide additional support or supervision as needed.

4.5 Triage, Treatment, Referral and Transportation

In disaster settings, timely treatment and referral of people living with NCDs is crucial to prevent life-threatening complications. During disaster, rapid triage using the ABCDE approach (Airway, Breathing, Circulation, Disability, Exposure) with NCD-specific overlays allows health teams to identify and prioritize high-risk patients. Patients in the shelter, evacuation camp, mobile camps or health facilities are managed according to the Nepal PEN protocol, with immediate stabilization for emergencies such as hypertensive and diabetic emergencies, or acute asthma. Those requiring specialized or advanced care are promptly referred to higher-level facilities, supported with proper documentation and clear communication between providers. Safe and timely transportation should be arranged, with medical supervision during transfer, to maintain continuity of care and prevent complications in transit.

Key Actions:

- **Rapid Triage Using ABCDE with NCD Overlay:** Identify and prioritize high-risk patients in shelters, camps, mobile clinics, or health facilities.
- **Immediate Stabilization and Treatment:** Manage NCD emergencies using Nepal PEN protocols.
- **Facilitate Timely Referral:** Refer patients requiring specialized or advanced care to higher-level facilities with proper documentation and clear communication.
- **Ensure Safe, Supervised Transportation:** Arrange supervised transport for patients, maintaining continuity of critical therapies such as insulin, oxygen, or other emergency medications.
- **Monitor Patient Outcomes During Transit:** Track and support patient status to prevent deterioration en route to referral centers.

4.6 Uninterrupted Access and Distribution of Essential Medicines and Supplies

Maintaining continuous availability of essential medicines and medical supplies is vital for NCD management in disasters. This includes ensuring sufficient stock of insulin, antihypertensive, inhalers, and diagnostic kits, and establishing mechanisms for their rapid distribution to health facilities, mobile teams, and temporary shelters. Cold-chain-dependent medications should be monitored carefully to maintain efficacy, while stock management systems are adapted for disaster settings.

Key Actions:

- **Maintain Emergency Buffer Stocks:** Ensure adequate reserves of insulin, anti-hypertensive, inhalers, and other life-saving NCD medicines and diagnostics.
- **Establish Rapid Distribution Mechanisms:** Deliver medicines quickly to health facilities, shelters, and mobile medical teams through coordinated logistics.
- P**rotect Cold Chain for Heat-Sensitive Drugs:** Use iceboxes, solar fridges, or portable coolers to preserve insulin and other temperature-sensitive supplies.
- **Adapt Stock Management for Disaster Settings:** Implement simplified tracking and reporting systems to prevent shortages and ensure timely replenishment.
- **Facilitate Simplified Access for Patients:** Use flexible refill procedures (emergency NCD card, verbal verification, prescription copy) to avoid treatment interruptions.

4.7 Risk Communication, Psychosocial Support, and Community Outreach

Risk communication should be continued to ensure that PLWNCDs receive timely, clear, and culturally appropriate information on managing their conditions, accessing services, and reducing health risks during disasters. Similarly, disasters can exacerbate stress, anxiety, and depression among PLWNCDs, affecting their adherence to treatment and overall well-being. Psychosocial support through counseling, peer groups, or trained volunteers addresses anxiety, depression, and trauma that may worsen NCD outcomes. Appropriate and timely psychosocial support, counseling, and clear risk communication tailored to the needs of NCD patients should be provided. Information include guidance on medication management, emergency contact points, disease-specific precautions, and coping strategies, which help patients maintain self-care and resilience during the crisis.

Community outreach is essential in disaster settings because many people living with NCDs may face barriers to accessing health facilities due to displacement, damaged infrastructure, or mobility limitations. It helps to identify high-risk patients early, maintain continuity of care, and strengthen community resilience through the involvement of local volunteers and networks.

Key Actions:

- **Deliver targeted, clear and culturally appropriate messages using multi-channel communication platforms:** Share timely information on medication use, disease-specific precautions, available services, and emergency contact points using multi- channel communication platform like radio, SMS, loudspeakers, posters, local FM, and social media.
- **Engage community-based structures:** Involve community leaders, locally recognized informal leaders to disseminate messages
- **Provide Psychosocial Support:** Offer counseling, peer support groups, and volunteer-based mental health assistance to address stress, anxiety, and depression among PLWNCDs.
- **Strengthen Community Outreach:** Conduct door-to-door visits, distribute PEN-D kits/essential medicines, and provide health education through health workers, FCHVs, and volunteers.
- **Organize Door to door visit, Mobile Health Camps and Information Sessions:** Organize door to door visit by health workers/FCHV/volunteers, set up temporary health and education points in evacuation centers, shelters, or community spaces to reach displaced populations.
- **Mobilize Community Networks:** Engage women's groups, youth clubs, and community-based organizations to extend outreach and ensure vulnerable households are not left behind.

4.8 Continuity of NCD Care

Continuity of NCD care is critical during disasters to prevent acute complications, hospitalizations, and deaths. Disruptions in treatment, medication, or monitoring even for a short duration can lead to life-threatening events.

Key Actions:

- **Rapid Restoration of NCD Services:** Reopen or repurpose damaged health facilities to resume outpatient NCD services. Provide telemedicine services in shelters or inaccessible areas for NCD care.
- **Support Self-Management and Adherence:** Distribute PEN-D Kits and activate peer support network, educate patients on medication adherence, warning signs, and what to do if they miss doses.
- **Utilize Health Workers and Volunteers:** Train and deploy health workers and volunteers to assist with patient tracking, education, and follow-up referrals.

Disaster Response Actions

Response Actions	Key Actions	Responsible
Search, Rescue & Evacuation	▪ Rapid search, identification and rescue of vulnerable PLWNCDs ▪ Safe evacuation ▪ Medical preparedness during transit (medications, records, devices) ▪ Integration of NCD-specific needs in evacuation plans ▪ Coordination with community and response teams	Rescue Teams, Local Authorities, Health Workers, Volunteers
Emergency Multi-sectoral Coordination & Integration	▪ Multi-sector coordination and communication ▪ Joint implementation, monitoring and adaptation of response ▪ Information sharing and reporting ▪ Integrate NCD services into other cluster activities	LEOC/LDMC, Cluster Leads
Community Mobilization & Deployment	▪ Deploy trained health workers and emergency mobile medical teams ▪ Conduct community outreach and mobile clinics ▪ Engage volunteers and local organizations	Health facilities, Local CBOs, FCHVs, Volunteers
Training & Capacity Building in Real-Time	▪ Provide on-the-spot orientation for health workers ▪ Orient non-health disaster volunteers on basic NCD care and PEN-D kit use ▪ Standardize care practices ▪ Monitor training effectiveness	Local Level, Health facilities, EMTs
Triage, Treatment, Referral & Transportation	▪ Rapid triage using ABCDE with NCD overlay ▪ Immediate stabilization of emergencies (hypertension, diabetes, asthma, COPD) ▪ Facilitate timely referral to higher-level facilities with documentation ▪ Ensure safe, supervised transport with continuous monitoring of patient outcomes during transit	Health Workers, EMTs, Referral Hospitals
Uninterrupted Access & Distribution of Medicines & Supplies	▪ Maintain emergency buffer stocks ▪ Establish rapid distribution mechanisms ▪ Protect cold chain for heat-sensitive medications ▪ Adapt stock management for disaster settings ▪ Facilitate simplified access for patients	Local level, logistics Teams, Health Facilities, Volunteers

Response Actions	Key Actions	Responsible
Risk Communication, Psychosocial Support & Community Outreach	▪ Deliver targeted, clear and culturally appropriate messages using multi-channel communication platforms ▪ Engage community-based structures ▪ Provide psychosocial support ▪ Strengthen community outreach ▪ Organize door-to-door visit, mobile health camps and information sessions ▪ Mobilize women's groups, youth clubs, and CBOs to extend reach to vulnerable households	Local level, health facility, Psychosocial Teams, CHWs, Volunteers, Local Leaders
Continuity of NCD Care	▪ Rapid restoration of NCD services in affected areas (including telemedicine options) ▪ Support self-management and adherence ▪ Utilize Health Workers and Volunteers	Local level, Health Facilities, FCHWs, Volunteers

5. ADAPTATION AND REORIENTATION OF EMERGENCY RESPONSE ACTIONS

As disasters evolve the severity, scale and distribution of impact may change, requiring dynamic adaptation of NCD response strategies. Emergency response should be flexible and continuously reassessed, with real-time data, resource allocation, triage protocols, supply distribution and feedback from field teams. Flexibility NCD emergency response ensures that actions remain aligned with changing population needs, mobility patterns, and the operational capacity of local health systems. Adaptive management enables the effective use of limited resources, prevents service disruption, and optimizes health outcomes for PLWNCDs throughout all stages of the disaster period.

Key Actions:

- Conduct regular situation updates and rapid needs assessments to identify emerging NCD-related risks.
- Reallocate human and material resources based on new information and changing service demands.
- Revise triage protocols, referral mechanisms, and medicine distribution plans as field conditions evolve.
- Integrate feedback from health workers, community networks, and coordination meetings to guide adjustments.
- Document and communicate all modifications to ensure alignment between field operations and coordination bodies.

C. POST-DISASTER PHASE

In the post-disaster phase, restoring essential NCD services is crucial, including resuming routine care, repairing supply chains, and ensuring the availability of key medicines and diagnostics. Health workers and disaster responders should receive refresher support, and coordination with government and partners must continue for equitable access. Collecting NCD data helps identify gaps and guide recovery. Long-term resilience should be strengthened by applying lessons learned, improving referral systems, and integrating NCD preparedness into broader disaster risk reduction and health system strategies.

1. AFTER-ACTION REVIEW

The After-Action Review (AAR) promotes continuous learning and improvement in disaster-responsive NCD care. It reflects on how services for PLWNCDs were planned, organized, and delivered during disasters, drawing on perspectives from health workers, authorities, partners, and PLWNCDs. The review examines continuity of treatment, availability of medicines and supplies, referral systems, staff capacity, coordination, and communication. Insights help identify best practices, gaps, and recommendations for improving response, training, supply chains, and preparedness. In doing so, PEN-D addresses immediate post-disaster needs while strengthening adaptable systems to safeguard NCD care during future disasters.

Key Actions:

- Conduct structured review meetings with health workers, authorities, partners, and PLWNCDs.
- Assess continuity of care, medication availability, and supply chain performance.
- Evaluate referral pathways, staff capacity, coordination, and communication during the response.
- Identify best practices, bottlenecks, and system gaps affecting NCD service delivery.
- Develop clear recommendations to improve preparedness, training, logistics, and protocols.
- Integrate lessons learned into future PEN-D planning, guidelines, and disaster response systems.

2. CONTINUITY OF CARE: TRANSITIONING FROM DISASTER RESPONSE TO LONGER-TERM FACILITY-BASED CARE

Ensuring continuity of NCD care for PLWNCDs requires a smooth transition from disaster response to sustainable, facility-based services. While immediate disaster response focuses on life-saving treatment and essential medicine supply, long-term management demands integration into routine health systems. Strengthening referral pathways, linking emergency records to facility-based follow-up, and maintaining consistent medication supply chains are critical to avoid treatment interruption. This transition not only restores stability for individuals but also reinforces the resilience of the health system in managing NCDs during and after disasters.

Key Actions:

- Establish a structured discharge/referral from discharge/referral from shelters/mobile teams to named facilities; give patients updated NCD cards.
- Integrate patient records from disaster response into routine facility-based systems.
- Run targeted "backlog clinics" (e.g., insulin titration, HTN stabilization, COPD/asthma reviews).
- Ensure uninterrupted supply of essential NCD medicines and diagnostics; restore cold-chain monitoring.
- Train health workers to provide follow-up care and counseling post-disaster.
- Engage communities to support adherence and follow-up for PLWNCDs.
- Where applicable, link patients to insurance/fee waivers/social protection.

3. REBUILDING HEALTH FACILITIES AND SAFE SHELTERS

Post-disaster reconstruction offers a critical opportunity to rebuild health facilities and shelters in ways that are safer, more resilient, and better suited to the long-term care needs of people living with NCDs (PLWNCDs). Beyond restoring damaged infrastructure, reconstruction should integrate disaster-resilient design, accessibility, and functionality to ensure continuity of essential NCD services in future shocks. Health facilities and shelters rebuilt with adequate space, utilities, infection prevention measures, and provisions for chronic care can reduce service disruption, protect vulnerable populations, and strengthen overall health system preparedness.

Key Actions:

- Reconstruct and retrofit health facilities using disaster-resilient standards, prioritizing primary health care facilities providing PEN-D services.
- Ensure rebuilt facilities and shelters are accessible for PLWNCDs, older persons, and people with disabilities (e.g., ramps, safe sanitation, adequate lighting).
- Integrate dedicated spaces for NCD consultations, medicine storage, and diagnostics, including cold-chain–compliant areas.
- Restore and strengthen essential utilities (water, electricity, oxygen, waste management) to support continuous NCD care.
- Rebuild and designate safe shelters with provisions for ongoing NCD management (secure medicine storage, privacy for care, referral linkages).
- Apply "build back better" principles by incorporating risk-informed planning, hazard mapping, and climate-resilient designs.
- Coordinate with local governments, communities, and development partners to align reconstruction with health system recovery and disaster preparedness plans.

4. RESTOCKING PEN-D KITS AND OTHER ESSENTIAL LOGISTICS

Post-disaster reconstruction requires timely and systematic restocking of PEN-D kits and essential logistics to restore routine NCD services and prepare the system for future shocks. During the response phase, stocks are often depleted, redistributed, or procured through emergency mechanisms that are not sustainable in the long term. Replenishing and standardizing PEN-D kits, diagnostics, and support logistics while realigning them with routine supply chains ensures continuity of care for PLWNCDs and strengthens readiness for subsequent emergencies. Effective restocking also supports normalization of service delivery and reduces reliance on ad-hoc emergency supplies.

Key Actions:

- Conduct post-disaster stock assessments to identify gaps, losses, expiries, and redistribution needs of PEN-D kits and NCD supplies.
- Replenish and standardize PEN-D kits in line with updated facility catchment needs and post-disaster NCD caseloads.
- Transition from emergency procurement to routine national and subnational supply chain mechanisms.
- Restore buffer stocks of essential NCD medicines, diagnostics, and consumables at facility and local levels.
- Ensure functionality of storage systems, including cold-chain equipment and temperature monitoring.
- Update logistics management information systems (LMIS) with post-disaster stock data and consumption trends.
- Coordinate with local governments and partners to preposition replenished PEN-D kits for future disaster preparedness.

MONITORING AND EVALUATION (M&E)

Monitoring and Evaluation (M&E) for the PEN-D tracks the effectiveness of NCD services across all phases of disaster management. Disaster-related indicators for recording and reporting should be integrated into the routine health information system, rather than creating a separate recording and reporting system for disaster contexts.

M&E FRAMEWORK

Objective	Major Indicators	Means of Verification (Data Sources)	Reporting Frequency	Responsible	Evaluation method
Ensure continuity of NCD care	Number of new NCD patients receiving NCD services during disaster	Health facility PEN register, outreach logs, HMIS/DHIS2	Monthly	Health facilities	Data verification, periodic reviews
	Number of old NCD patients receiving NCD services during disaster	Health facility PEN register, outreach logs, HMIS/DHIS2	Monthly	Health facilities	Data verification, periodic reviews
	Number of NCD patients referred during disaster	Referral log, Health facility PEN register	Monthly	Health facilities	Data verification, periodic reviews
Ensure availability of essential medicines and diagnostics	Number of PEN-D kits distributed to PLWNCDs during disaster	Logistics stock reports/ Distribution list	Monthly	Health facilities, Local government	Data verification, periodic reviews
	Number of PEN-D kits distributed to health workers during disaster	Logistics stock reports/ Distribution list		Health facilities, Local government	Data verification, periodic reviews

RECORDING AND REPORTING

Effective recording and reporting of NCD service delivery are essential to ensure continuity of care, monitor service coverage, and identify gaps during disasters. The timeline and frequency of recording and reporting can be done as per the M&E framework.

Key Actions:

- Modify standardized recording and reporting templates to integrate NCD services during disasters into existing health information systems (e.g., DHIS-2, PEN registers).
- Capture key indicators and ensure timely submission of reports through existing health information systems.
- Establish mechanisms for daily or weekly reporting based on the disaster phase and information needs.
- Use collected data to review performance, identify gaps, and improve NCD response strategies during disaster.

PEN-D OPERATIONAL MATRIX

Mitigation & Preparedness		Pre-Disaster / AA		During Disaster / Response		Post-Disaster / Recovery	
Major Actions	**Responsible**	**Major Actions**	**Responsible**	**Major Actions**	**Responsible**	**Major Actions**	**Responsible**
Integrate PEN-D into disaster management plans and health plans (national to local level)	MoHFS, DoHS, Provincial Health Directorates, Local level Health Section, LDMCs	Anticipatory Action: Disseminate early warning alerts & NCD-specific preparedness messages	DHM, NHEICC, HEOC, Local Governments, FCHVs, Media/ Telecom providers	Activate Health/ Emergency Operations Centers (H/ EOCs) & coordination mechanisms	HEOC, PHEOC, LEOC, MoHFS, DDMC	Restore routine facility-based NCD services & transition from mobile/ temporary care to long-term facility care	MoHFS, Provincial Health Directorate, Health Office, Health, Facilities
Establish multi-level NCD coordination & referral systems with focal points	HEOC, PHEOC, LEOC, Local level Health Section, NCD focal persons	Mobilize FCHVs, volunteers, and peer networks for household checks	Local level Health Section, Health Facilities, Ward Disaster Committees, FCHVs, Local NGOs, NRCS	Conduct Initial Rapid Assessment (IRA) and MIRA including NCD components	MoHFS, PHEOC, WHO, Health Cluster, Health Office, District Administration Offices, Local Level Health Sections, Health Facility Staff, NRCS	Restock essential medicines, diagnostics, and PEN-D kits	MoHFS Logistics, Provincial Warehouses, Local Level Health Sections, Health Facilities
Maintain updated NCD profiles, registries, and risk categorization	Health facilities, FCHVs, Municipal Health Sections	Pre-notify stakeholders for rapid activation & deployment	Local Governments, Health Facilities, NRCS, Community Volunteers	Deploy Emergency Medical Teams (EMMTs), mobile NCD clinics, and temporary service points	MoHFS, HEOC, Provincial Governments, PHEOC, Local government, NRCS, NGOs	Conduct follow-up care, monitoring, and psychosocial support for PLWNCDs	Health Workers, FCHVs, NRCS, Development Partners

Mitigation & Preparedness		Pre-Disaster / AA		During Disaster / Response		Post-Disaster / Recovery	
Major Actions	Responsible	Major Actions	Responsible	Major Actions	Responsible	Major Actions	Responsible
Conduct health facility, workforce, and NCD service mapping; readiness assessments, 4W mapping	Local level Health Section, Health Facility In-charge, Local Governments	Pre-arrange evacuation plans for high-risk PLWNCDs & prepare emergency cards	Health Facilities, Local level Health Section, NRCS	Conduct rapid triage (ABCDE + NCD overlay), stabilization, treatment, referral	Emergency Mobile Medical Teams, Health Facility Staff, NRCS Volunteers	Continue coordination and communication among government & humanitarian partners	All stakeholders
Develop and test contingency and emergency response P preparedness and Plan	MoHFS, DoHS, Provincial Health Directorates, Local level Health Section, LDMCs	Verify stock at facilities and safe shelters; distribute PEN-D kits	HEOC, PHEOC, Local level Health Section, NRCS	Ensure uninterrupted supply of essential NCD medicines & devices	MoHFS Logistics, Provincial Supply Chains, Local Pharmacies, NRCS	Conduct After-Action Review (AAR)	MoHFS, HEOC, Provincial, Health Office & Local level Health Section, NRCS, WHO, Development Partners and Civil Society
Preposition PEN-D kits, medicines, diagnostics, and cold-chain supplies	DoHS Logistics management section, PHLMC, local level, health facilities, NRCS	Anticipatory Action: Distribution of PEN-D kits, medicines, NCD friendly pre-packaged foods	Health Workers, FCHVs, NRCS, Community Volunteers, Local level Health Section	Distribute PEN-D kits to patients and providers	Local level Health Section ,Health Facilities, Mobile Teams, FCHVs, Community Volunteers, NRCS	Institutionalize leanings into updated SOPs & contingency plans	MoHFS, Provincial Health Directorates, Local Governments

Mitigation & Preparedness		Pre-Disaster / AA		During Disaster / Response		Post-Disaster / Recovery	
Major Actions	**Responsible**	**Major Actions**	**Responsible**	**Major Actions**	**Responsible**	**Major Actions**	**Responsible**
Identify and adapt NCD-friendly safe shelters	Local Government, NRCS, Shelter Cluster, Local level Health Section	Anticipatory Action: Trainings & Capacity Building	Provincial Health Training Centers, MoHFS, NGOs, NRCS	Strengthen risk communication, psychosocial support, and community outreach	Health Workers, FCHVs, NRCS, Community Volunteers, Local Leaders	Strengthen long-term resilience (scale-up PEN-D, financing, integration into DRR)	MoHFS, NDRRMA, Donors, Development Partners, Local Governments
Train health workers, FCHVs, CHWs, and volunteers on NCD emergency management, Simulation and drills	National Health Training Center, Provincial Health Training Centers, Health Office, Local level Health Section, NRCS, Development Partners	Continue coordination and communication among government & humanitarian partners	All stakeholders	Record and report NCD service delivery	Health Facility Staff, Local level Health Section, Provincial Health Directorate, IHMIS Section, DoHS		
Establish early warning systems with NCD-specific anticipatory actions (EWEA)	Department of Hydrology & Meteorology (DHM), HEOC/ PHEOC, Local level Health Section			Adapt response actions dynamically	HEOC/PHEOC, Local level Health Section, NGOs, NRCS		

Mitigation & Preparedness		Pre-Disaster / AA		During Disaster / Response		Post-Disaster / Recovery	
Major Actions	Responsible	Major Actions	Responsible	Major Actions	Responsible	Major Actions	Responsible
Mobilize communities, peer networks, and volunteers for preparedness & awareness	Local level Health Section, Health Facilities, FCHVs, Ward Disaster Committees, NRCS volunteers, community leaders			Continue coordination and communication among government & humanitarian partners	All stakeholders		
Strengthen long-term resilience (scale-up PEN-D, financing, integration into DRR)	MoHFS, NDRRMA, Donors, Development Partners, Local Governments						
Coordination and communication among government & humanitarian partners	All stakeholders						

PEN-D RESPONSIBILITY MATRIX

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Ministry of Health and Food Safety (MoHFS)	▪ Integrate PEN-D into national health and DRM policies, plans, and guidelines ▪ Approve national contingency and emergency response plans including NCDs ▪ Allocate budget for PEN-D preparedness, training, and stockpiling ▪ Institutionalize PEN-D within health system resilience strategies	▪ Authorize anticipatory actions based on EWEA triggers (medicine pre-distribution, preparedness messaging) ▪ Enable early release of funds and logistics for PEN-D activation	▪ Lead national coordination for NCD-inclusive health response ▪ Oversee deployment of EMMTs, mobile NCD clinics, and temporary service points ▪ Ensure coordination with HEOC, provinces, and partners	▪ Lead restoration of routine facility-based NCD services ▪ Institutionalize lessons learned into updated SOPs and policies ▪ Support scale-up and financing of PEN-D for future disasters
Department of Health Services (DoHS), EDCD, NCD Mental Health Section)	▪ Lead development, updating, and dissemination of PEN-D, SOPs, and simplified protocols ▪ Integrate PEN-D components into national PEN program including preparedness, contingency plans, and simulations ▪ Develop training curricula, job aids, and supervision tools for NCD emergency management ▪ Support integration of PEN-D indicators into national HMIS and surveillance systems	▪ Issue technical advisories and guidance for anticipatory NCD and mental health actions (e.g., early refills, follow-up of high-risk patients) ▪ Support readiness of provincial and district health systems through technical backstopping ▪ Coordinate with HEOC to align anticipatory actions with health response plans	▪ Provide technical oversight and guidance for NCD and mental health service delivery during disaster ▪ Support rapid assessments (IRA/MIRA) and monitoring of NCD service continuity ▪ Advise on triage, referral, and adaptation of protocols in crisis settings ▪ Coordinate with partners (WHO, Health Cluster) for technical harmonization	▪ Review data and evidence to refine PEN-D protocols and tools ▪ Lead documentation of lessons learned and best practices ▪ Support After-Action Reviews and incorporation of findings into national policies and SOPs ▪ Strengthen long-term integration of NCD and mental health services into DRM and health system resilience

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Department of Health Services (DoHS), Management Division, Logistics Management Section & IHMIS	▪ Specification preparation, quantification, forecasting and procurement of PEN-D kits and essential medicines ▪ Maintain national buffer stocks of essential NCD medicines, diagnostics, devices, and PEN-D kits and monitor expiry and storage conditions ▪ Integrate PEN-D indicators into HMIS	▪ Verify stock readiness at federal, provincial, district, and facility levels ▪ Support anticipatory distribution to high-risk locations	▪ Ensure uninterrupted supply of essential NCD medicines and devices ▪ Track distribution and utilization of PEN-D kits	▪ Replenish stocks and repair supply chain disruptions ▪ Analyze reporting data to inform recovery planning
Health Emergency Operation Center (HEOC)	▪ Establish NCD coordination and referral mechanisms within EOC structures ▪ Include NCDs in preparedness planning and drills ▪ Operation of Emergency Medical Logistic warehouse	▪ Activate H/EOCs and coordination mechanisms upon early warning triggers ▪ Pre-notify stakeholders for rapid deployment	▪ Coordinate emergency health response including NCD services ▪ Facilitate rapid assessments (IRA/MIRA) with NCD components	▪ Lead After-Action Reviews (AAR) with health partners ▪ Strengthen coordination SOPs for future responses

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
NDRRMA	▪ Mainstream NCDs and PEN-D into national DRM policies, frameworks, and contingency plans ▪ Ensure NCDs are included in multi-hazard risk assessments and simulation exercises ▪ Promote inter-sectoral coordination for NCD-sensitive DRM ▪ Activate Incident Command System (ICS)	▪ Support activation of anticipatory action based on risk triggers ▪ Facilitate early mobilization of DRM financing and logistics that include PEN-D components	▪ Coordinate multi-sectoral disaster response ensuring health and NCD services are prioritized ▪ Support rapid mobilization of resources across sectors for PLWNCDs	▪ Integrate NCD considerations into recovery, reconstruction, and resilience programs ▪ Promote institutionalization of PEN-D within national DRR strategies
NEOC	▪ Establish coordination mechanisms linking DRM and health EOCs (HEOC, PHEOC, DEOC, LEOC) ▪ Include NCD service continuity in emergency coordination SOPs ▪ Activate Incident Command System (ICS)	▪ Activate national-level coordination upon early warning triggers ▪ Pre-notify line agencies, provinces, and security forces for rapid deployment	▪ Coordinate real-time information sharing, logistics, and inter-agency support ▪ Facilitate transport, access, and security for PEN-D supplies and health teams	▪ Support documentation of response coordination gaps ▪ Strengthen national EOC systems based on lessons learned
Department of Hydrology and Meteorology (DHM) & Risk Information Agencies	▪ Develop and maintain multi-hazard early warning systems (floods, landslides, extreme weather) ▪ Support integration of hazard maps with NCD vulnerability data ▪ Establish EWEA systems with NCD-sensitive triggers	▪ Disseminate timely, location-specific early warning alerts to trigger anticipatory PEN-D actions ▪ Share forecasts with HEOC, NEOC, local governments, and media	▪ Provide real-time hazard updates to support response planning and safe deployment	▪ Review performance of early warning dissemination ▪ Support refinement of NCD-sensitive EWEA

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
National Health Training Center (NHTC)	▪ Integrate PEN-D, emergency NCD care, MHPSS basics, PGI, and CEA into PEN Training and national pre-service and in-service training curricula ▪ Develop standardized training modules, job aids, and SOPs for disaster-responsive NCD care ▪ Build a national roster of trained trainers and health workers for surge deployment ▪ Support simulation exercises and preparedness trainings in coordination with MoHFS and provinces	▪ Activate rapid refresher trainings and virtual learning for health workers in at-risk areas ▪ Disseminate updated guidance and job aids linked to anticipatory action triggers ▪ Support readiness of trainers and training institutions for rapid deployment	▪ Provide technical support to provinces and districts on just-in-time training, mentoring, and supervision ▪ Update training content based on evolving response needs and field feedback ▪ Support coordination of training surge support during large-scale emergencies	▪ Review and update national training curricula based on lessons learned ▪ Institutionalize PEN-D and emergency NCD competencies in routine health workforce development ▪ Support evaluations and documentation of training effectiveness

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
National Health Education, Information and Communication Center (NHEICC)	▪ Develop and disseminate NCD- and PEN-D-related IEC/BCC materials for disaster preparedness ▪ Integrate PGI, CEA, and MHPSS principles into health risk communication strategies ▪ Pre-test, adapt, and translate materials for diverse populations and vulnerable groups ▪ Coordinate health communication preparedness with NDRRMA, DHM, and media partners	▪ Activate risk communication and community engagement plans linked to early warning triggers ▪ Disseminate anticipatory messages on medicine preparedness, service access, and self-care for PLWNCDs ▪ Coordinate consistent messaging across federal, provincial, and local levels	▪ Disseminate timely, accurate information on service availability, referral pathways, hotlines, and NCD care during emergencies ▪ Counter misinformation, stigma, and harmful practices related to NCDs and mental health ▪ Support two-way communication and feedback mechanisms with communities	▪ Support recovery-phase communication on restoration of NCD and mental health services ▪ Promote continuity of care, follow-up, and adherence to treatment ▪ Document communication lessons learned and update IEC/ BCC strategies for future preparedness
National Public Health Laboratory (NPHL)	▪ Develop and standardize protocols/SOPs for essential NCD diagnostics aligned with PEN-D ▪ Ensure capacity and stock preparedness (reagents, kits, QA systems) across laboratory networks	▪ Pre-position essential diagnostic supplies and activate emergency lab preparedness plans ▪ Provide technical guidance to sub-national labs for continuity of key NCD testing	▪ Ensure continuity of essential NCD laboratory services and prioritization of critical tests ▪ Provide referral/ confirmatory testing and support mobile or temporary lab services	▪ Restore routine laboratory services and replenish supplies ▪ Assess gaps and strengthen resilient laboratory systems for future PEN-D response

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Provincial Health Directorate / PHEOC	▪ Integrate PEN-D into provincial health sector plans, disaster preparedness plans, and SOPs ▪ Conduct provincial-level health facility, workforce, and NCD service mapping and readiness assessments ▪ Establish and maintain provincial NCD coordination and referral mechanisms ▪ Build surge capacity by training provincial RRTs, EMTs, and health workers on PEN-D protocols ▪ Ensure provincial stockpiling and cold-chain readiness for essential NCD medicines and diagnostics	▪ Activate PHEOC based on early warning triggers and pre-notification from HEOC/NEOC ▪ Mobilize provincial resources, rapid response teams, and supplies to high-risk districts ▪ Coordinate anticipatory actions such as medicine pre-positioning and preparedness messaging	▪ Coordinate and oversee NCD-inclusive emergency health response across affected districts ▪ Support deployment of RRTs, EMTs, mobile NCD clinics, and referral services ▪ Monitor continuity and quality of NCD services and address gaps ▪ Compile and report NCD service delivery and response data to MoHFS/ HEOC	▪ Support transition from emergency/mobile services to routine facility-based NCD care ▪ Lead provincial-level After-Action Reviews and documentation of lessons learned ▪ Update provincial plans, SOPs, and training packages based on response experience ▪ Strengthen long-term provincial health system resilience for NCDs

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Provincial Health Training Centers (PHTCs)	▪ Adapt national PEN-D and emergency NCD training packages to provincial and local contexts ▪ Train provincial, district, and municipal health workers, including MHPSS and PGI-sensitive care ▪ Maintain provincial rosters of trained health workers and trainers for emergencies ▪ Coordinate preparedness trainings with PHEOC, Health Offices, and local governments	▪ Conduct rapid refresher trainings for frontline health workers in high-risk districts ▪ Support anticipatory deployment readiness of trained personnel ▪ Disseminate provincial-level technical updates and guidance	▪ Deliver just-in-time training, coaching, and supportive supervision at health facilities and mobile service points ▪ Support quality assurance and adherence to PEN-D protocols during response ▪ Coordinate with PHEOC and Health Offices to address emerging training gaps	▪ Support post-disaster capacity strengthening and refresher trainings ▪ Document provincial lessons learned and training gaps ▪ Feed evidence and recommendations into national curriculum updates

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Provincial Health Logistics Management Center (PHLMC)	▪ Specification preparation, quantification, forecasting and procurement of PEN-D kits and essential medicines ▪ Maintain provincial buffer stocks of essential NCD medicines, diagnostics, devices, and PEN-D kits and monitor expiry and storage conditions ▪ Ensure cold-chain readiness for insulin and temperature-sensitive commodities ▪ Conduct routine stock monitoring, forecasting, and expiry management ▪ Coordinate logistics preparedness planning with Provincial Health	▪ Verify stock availability and readiness at provincial warehouses and district stores ▪ Pre-position medicines and PEN-D kits to high-risk districts based on early warning triggers ▪ Coordinate transport arrangements for rapid dispatch	▪ Dispatch and distribute NCD medicines, diagnostics, and PEN-D kits to affected districts and facilities ▪ Coordinate with security forces, NRCS, and local governments for last-mile delivery ▪ Monitor stock utilization, shortages, and cold-chain integrity during response	▪ Replenish provincial and district stocks post-response ▪ Document supply chain bottlenecks and losses ▪ Strengthen logistics systems and contingency stock policies based on lessons learned
Provincial Public Health Laboratory (PPHL)	▪ Strengthen provincial laboratory capacity for essential NCD diagnostics and ensure quality standards ▪ Support forecasting and stock management of reagents and diagnostic supplies at provincial and local levels	▪ Pre-position essential laboratory supplies in high-risk areas and ensure readiness of provincial labs ▪ Provide technical support and guidance to local laboratories for continuity of NCD testing	▪ Ensure uninterrupted essential NCD diagnostic services and prioritize urgent tests at provincial level ▪ Support referral testing and coordination with peripheral labs and mobile health teams	▪ Restore and normalize laboratory services across the province and replenish supplies ▪ Assess system gaps and strengthen provincial laboratory preparedness for future emergencies

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Health Office (HO)	▪ Integrate PEN-D into district health plans, contingency plans, and standard operating procedures ▪ Maintain updated district-level NCD profiles, patient registries, and risk categorization ▪ Conduct health facility, workforce, and service readiness assessments (including 4W mapping) ▪ Ensure availability and prepositioning of essential NCD medicines, diagnostics, and PEN-D kits ▪ Train and orient health workers, RRT members, and FCHVs on PEN-D protocols ▪ Support contingency planning	▪ Coordinate early preparedness actions such as medicine refills and patient follow-up in high-risk areas ▪ Pre-notify health facilities, RRTs, and partners for rapid activation ▪ Support anticipatory distribution of medicines and PEN-D kits ▪ Disseminate early warning messages	▪ Lead district-level implementation of NCD-inclusive emergency health services ▪ Deploy and supervise RRTs, EMMTs, and mobile clinics • Ensure functioning referral pathways and continuity of NCD care ▪ Collect, compile, and report NCD service delivery data to province and HEOC	▪ Coordinate restoration of routine NCD services across facilities ▪ Support follow-up care, monitoring, and psychosocial services for PLWNCDs ▪ Participate in After-Action Reviews and document lessons learned ▪ Update district health preparedness and response plans based on findings

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
District Disaster Management Committee (DDMC)	▪ Integrate PEN-D and NCD-sensitive actions into district disaster preparedness and contingency plans ▪ Coordinate multi-sector preparedness activities ▪ Coordinate district-level risk mapping, including identification of high-risk PLWNCDs and vulnerable locations ▪ Ensure health facilities, RRTs, and partners are included in preparedness planning and simulations ▪ Pre-arrange multi-sector referral, evacuation, and transport mechanisms	▪ Activate district coordination mechanisms upon early warning triggers ▪ Coordinate anticipatory actions such as early evacuation, medicine pre-distribution, and preparedness messaging ▪ Mobilize district resources and request provincial or national support as needed	▪ Lead multi-sectoral disaster response coordination at district level ▪ Ensure continuity of essential health and NCD services during disaster ▪ Coordinate evacuation, transport, and access for PLWNCDs ▪ Facilitate rapid assessments (IRA/ MIRA) including NCD components	▪ Lead district-level recovery planning ensuring restoration of routine NCD services ▪ Review response performance and service gaps affecting PLWNCDs ▪ Support After-Action Reviews and update district contingency plans ▪ Promote integration of NCD considerations into long-term resilience and recovery programs
District Rapid Response Team (RRT)	▪ Participate in preparedness planning, simulations, and drills ▪ Support facility and service readiness assessments	▪ Standby for rapid deployment based on early warning and pre-notification ▪ Support anticipatory distribution of PEN-D Kits, medicines and preparedness messaging	▪ Conduct rapid triage (ABCDE + NCD overlay), stabilization, and referral ▪ Support mobile clinics, outreach, and temporary service points ▪ Assist in IRA/MIRA including NCD components	▪ Support follow-up care, monitoring, and referral continuity ▪ Contribute to After-Action Reviews and documentation of lessons learned

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Local Government (Municipality/ RM, LEOC, Health Section)	▪ Lead local-level integration of PEN-D into DRM plans, health plans, and AWPBs ▪ Allocate local budget for NCD preparedness, PEN-D kits stockpiling, and training ▪ Identify and adapt NCD-friendly safe shelters ▪ Conduct facility, workforce, and service readiness assessments ▪ Mobilize and train FCHVs, volunteers, and peer networks ▪ Quantification, forecasting and procurement of PEN-D kits and essential medicines ▪ Maintain local level buffer stocks of essential NCD medicines, diagnostics, devices, and PEN-D kits and monitor expiry and storage conditions ▪ Form Peer Support Network in the ward level and engage local communities	▪ Activate LEOC and local coordination mechanisms based on early warning triggers ▪ Disseminate NCD-specific early warning and preparedness messages ▪ Coordinate anticipatory distribution of PEN-D kits, medicines, and supplies ▪ Pre-arrange evacuation and referral support for high-risk PLWNCDs	▪ Coordinate delivery of NCD-inclusive emergency health services (mobile clinics, outreach) ▪ Verify stock availability at facilities and shelters ▪ Ensure functioning referral, transport, and communication systems ▪ Coordinate with DDMC, HEOC, NRCS, and partners	▪ Restore and strengthen routine NCD services at local level ▪ Replenish medicines and repair service disruptions ▪ Institutionalize lessons learned into updated contingency plans ▪ Strengthen long-term resilience and continuity of NCD care

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Ward Offices / Ward Disaster Management Committee (WDMC)/ Rapid Response Committee (RRC)	▪ Identify and maintain ward-level lists of vulnerable households, including PLWNCDs, elderly, persons with disabilities, and pregnant women ▪ Support community-level risk mapping and identification of high-risk locations ▪ Promote household preparedness planning and awareness on NCD needs during disasters ▪ Coordinate with FCHVs, peer support groups, and community volunteers ▪ Form Peer Support Network in the ward level and engage local communities	▪ Disseminate early warning alerts and NCD-specific preparedness messages at ward level ▪ Support household checks for high-risk PLWNCDs ▪ Facilitate evacuation readiness and transport arrangements	▪ Coordinate ward-level support for evacuation, transport, and referrals of PLWNCDs ▪ Support operation of NCD-friendly safe shelters ▪ Liaise with LEOC, health facilities, and volunteers for rapid response	▪ Support follow-up visits and social support for affected households ▪ Document ward-level needs, gaps, and feedback ▪ Support community participation in After-Action Reviews

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Health Facilities and Health Workers	▪ Integrate PEN-D into facility disaster preparedness and continuity plans ▪ Maintain updated NCD patient registries, risk categorization, and contact lists ▪ Preposition essential NCD medicines, diagnostics, devices, and PEN-D kits ▪ Ensure cold-chain readiness for insulin and temperature-sensitive supplies ▪ Identify referral pathways and evacuation needs for high-risk PLWNCDs ▪ Maintain health facility-level buffer stocks of essential NCD medicines, diagnostics, devices, and PEN-D kits and monitor expiry and storage conditions	▪ Provide early refills and multi-month dispensing of NCD medicines where feasible ▪ Issue emergency cards and counseling for high-risk PLWNCDs ▪ Pre-notify staff and activate facility emergency SOPs	▪ Deliver uninterrupted NCD services using simplified PEN-D protocols ▪ Conduct rapid triage (ABCDE + NCD overlay), stabilization, treatment, and referral ▪ Operate extended hours, mobile or temporary service points as required ▪ Coordinate referrals with EMMTs, RRTs, and higher-level facilities	▪ Transition services from emergency/mobile care to routine facility-based NCD care ▪ Update patient records and registries post-disaster ▪ Restock medicines, repair infrastructure, and restore full service capacity ▪ Participate in After-Action Reviews and quality improvement
FCHVs	▪ Support community mapping and preparedness education ▪ Support household-level mapping and listing of PLWNCDs ▪ Educate PLWNCDs and caregivers on disaster preparedness, medicine storage, and emergency plans ▪ Support in preparation of individual preparedness plan for high risk PLWNCDs ▪ Support Peer Support Network in the ward level and engage local communities	▪ Conduct household checks and medicine preparedness support ▪ Conduct household checks for PLWNCDs following early warning alerts ▪ Disseminate NCD-specific preparedness and early warning messages ▪ Support early medicine refills and readiness for evacuation	▪ Support referrals, adherence, psychosocial care, and tracking ▪ Identify PLWNCDs requiring urgent care and facilitate referrals ▪ Support adherence to medicines and basic monitoring (e.g., symptom checks) ▪ Provide basic psychosocial support and risk communication	▪ Continue follow-up care and community-based monitoring ▪ Support follow-up visits for PLWNCDs ▪ Reinforce treatment adherence and continuity of care ▪ Report unmet needs and service gaps to health facilities and local government

Federal Level Stakeholder	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
NCD Peer Support Networks / Patient Groups	▪ Support identification and self-registration of PLWNCDs within communities ▪ Promote peer-to-peer education on preparedness, self-care, and emergency planning ▪ Advocate for inclusion of NCD needs in local preparedness plans	▪ Share early warning information within peer networks ▪ Support members to secure medicines, devices, and emergency cards ▪ Assist high-risk members to prepare for evacuation or sheltering	▪ Provide peer-to-peer support for medication adherence, self-management, and emotional wellbeing ▪ Support navigation of referral pathways and service access ▪ Flag service disruptions or access barriers to local authorities	▪ Support long-term follow-up, rehabilitation, and psychosocial recovery ▪ Participate in community feedback and accountability processes ▪ Advocate for improved NCD services in recovery plans
Volunteers (Youth Volunteers, NRCS Volunteers, Local Volunteers) and CHWs	▪ Support community awareness, preparedness campaigns, and simulations ▪ Assist in mapping vulnerable households including PLWNCDs ▪ Support preparation of NCD-friendly safe shelters	▪ Assist in dissemination of early warning alerts ▪ Support anticipatory distribution of PEN-D kits, medicines, and NCD-friendly supplies ▪ Support evacuation preparedness for vulnerable households	▪ Assist in transport of PLWNCDs to health facilities or shelters ▪ Support mobile clinics, outreach, and temporary service points ▪ Support crowd management and basic logistics at shelters	▪ Support recovery outreach, follow-up visits, and community mobilization ▪ Assist in restoring access to routine health services ▪ Participate in After-Action Reviews and community feedback

UN Agencies, Development Partners and Other Stakeholders	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
UN Agencies, Health Cluster & DRR-Focused Development Partners and Donors (UN OCHA / Health Cluster, WHO, UNICEF, UNFPA, WFP, UNDP and Donor agencies)	▪ Provide technical guidance on PEN-D and global best practices and innovations ▪ Ensure PEN-D and NCDs are reflected in Health Cluster preparedness plans, Humanitarian Response Plans, and sectoral preparedness strategies ▪ Advocate inclusion of NCD indicators in preparedness, assessment, and monitoring tools ▪ Integrate NCD-sensitive approaches into MCH, nutrition, adolescent health, reproductive health, and DRM preparedness ▪ Support simulation exercises, early warning systems, and health system resilience initiatives ▪ Finance PEN-D preparedness, capacity building, and prepositioning	▪ Support coordination for anticipatory action financing and partner readiness ▪ Provide technical advisories for anticipatory NCD actions (e.g., early refills, targeted protection of children and women with NCDs) ▪ Adjust anticipatory nutrition, food assistance, and RH supplies to meet NCD-specific needs ▪ Support systems and triggers for early action within DRM and health coordination mechanisms ▪ Enable flexible funding for anticipatory actions	▪ Coordinate health partners to ensure continuity of NCD services during disaster ▪ Integrate NCD components into IRA/ MIRA, health cluster dashboards, and surveillance systems ▪ Support quality assurance, supervision, and technical harmonization of NCD service delivery ▪ Ensure continuity of care for children, adolescents, women, and other vulnerable groups with NCDs ▪ Support logistics, coordination, and system strengthening during response	▪ Support inter-agency After-Action Reviews and joint learning processes ▪ Support evaluation, documentation of lessons learned, and updates of technical guidelines and standards ▪ Advocate for recovery and reconstruction funding that includes NCD services ▪ Support restoration of routine services and long-term resilience, including institutionalization and scale-up of PEN-D ▪ Support scale-up, financing, and sustainability of PEN-D

UN Agencies, Development Partners and Other Stakeholders	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
NRCS & Humanitarian Organizations	▪ Conduct multi-hazard risk, vulnerability, and capacity assessments incorporating PGI and NCD vulnerability analysis (gender, age, disability, chronic illness) ▪ Develop and update contingency and preparedness plans aligned with PEN-D, PGI minimum standards, CEA approaches, and MHPSS preparedness ▪ Pre-position essential supplies including PEN-D kits, NCD medicines, diagnostics, assistive devices, dignity kits, and cold-chain items ▪ Train staff, volunteers, and communities on PEN-D protocols, PGI-sensitive service delivery, psychological first aid (PFA), and safe referral pathways ▪ Strengthen early warning dissemination and preparedness messaging using CEA principles (two-way communication, trusted channels, local languages)	▪ Monitor forecasts and early warning information from DHM and authorities with attention to differential risks for women, children, elderly, and PLWNCDs ▪ Activate anticipatory response plans and early action triggers, prioritizing PGI-sensitive targeting ▪ Mobilize pre-positioned stocks, logistics, and financial resources, including MHPSS and protection supplies ▪ Alert and deploy trained volunteers with orientation on safe, inclusive, and accountable engagement ▪ Conduct pre-disaster awareness, preparedness messaging, and household outreach using CEA approaches	▪ Support in deployment of rapid response teams, mobile clinics, and outreach services delivering NCD, MHPSS, and protection-sensitive care ▪ Coordinate and provide emergency medical care, first aid, and ensure continuity of care for PLWNCDs using PEN-D protocols ▪ Deliver Psychological First Aid (PFA) and basic MHPSS, and establish referral pathways for specialized care ▪ Support evacuation, referral, and transport with attention to safety, privacy, and inclusion ▪ Distribute PEN-D kits, relief items, medicines, and NCD-friendly supplies in a dignified, equitable, and accountable manner	▪ Support restoration of health services including NCD and mental health care ▪ Assist rehabilitation and re-functioning of damaged health facilities and safe community spaces ▪ Monitor recovery progress, service gaps, and equity of access for PLWNCDs and vulnerable groups ▪ Provide continued and long-term MHPSS, including community-based psychosocial support ▪ Strengthen CEA systems to support accountability during recovery and transition ▪ Conduct evaluations, After-Action Reviews, and document PGI, CEA, and MHPSS lessons learned

UN Agencies, Development Partners and Other Stakeholders	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
	▪ Support development of individualized preparedness plans for high-risk PLWNCDs, elderly, persons with disabilities, and people with pre-existing mental health conditions ▪ Coordinate preparedness activities with government authorities and humanitarian partners, ensuring inclusion and accountability mechanisms are in place	▪ Support early medical care, medicine refills, and preparedness counseling for PLWNCDs, including those with mental health conditions ▪ Coordinate anticipatory evacuation and transport ensuring accessibility, dignity, safety, and protection	▪ Implement CEA mechanisms (feedback, complaints, information sharing) and adapt services based on community input ▪ Maintain staff and volunteer safety, protection standards, and coordination with authorities ▪ Collect and share real-time data on impacts, service delivery, protection concerns, and emerging MHPSS needs	▪ Update preparedness and contingency plans incorporating protection, accountability, and psychosocial learning ▪ Support resilience-building, livelihoods recovery, social cohesion, and inclusive community recovery ▪ Document and disseminate best practices on inclusive, accountable, and people-centered PEN-D implementation
Media / Telecom & Local Communication Platforms (Print, radio, TV, digital, telecom, community media)	▪ Promote preparedness messaging for PLWNCDs, caregivers, and communities ▪ Support inclusive risk communication planning using trusted and accessible channels ▪ Raise awareness on NCD rights, preparedness, and available services	▪ Disseminate early warning alerts and NCD-specific preparedness messages rapidly and widely ▪ Support targeted messaging for high-risk groups (elderly, PWDs, PLWNCDs)	▪ Share timely information on service availability, hotlines, referral pathways, and medicine access ▪ Counter misinformation, stigma, and rumors related to chronic illness and mental health ▪ Support two-way communication and community feedback	▪ Promote public awareness on recovery services and continuity of NCD and mental health care ▪ Highlight recovery progress, remaining gaps, and community voices ▪ Support transparency and accountability in recovery efforts

UN Agencies, Development Partners and Other Stakeholders	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Security Forces (Nepal Army, Nepal Police, Armed Police Force)	▪ Integrate NCD-sensitive considerations into disaster preparedness, evacuation, and logistics planning ▪ Participate in multi-sector disaster simulations and drills involving health and PEN-D actors ▪ Pre-identify transport and access routes to health facilities, safe shelters, and remote communities	▪ Standby for deployment based on early warning and pre-notification from NEOC/HEOC ▪ Support anticipatory evacuation planning for high-risk PLWNCDs (e.g., insulin-dependent, dialysis patients) ▪ Support anticipatory PEN-D Kits distribution ▪ Pre-position transport and logistics assets in high-risk areas	▪ Conduct search, rescue, and safe evacuation operations prioritizing vulnerable groups including PLWNCDs ▪ Facilitate secure transport of PEN-D kits, medicines, diagnostics, and cold-chain supplies ▪ Support access to affected areas for health workers, EMMTs, and mobile clinics ▪ Maintain security of health facilities, warehouses, and service points	▪ Support continued access to health services during early recovery ▪ Assist in transport of supplies and patients during service restoration ▪ Participate in After-Action Reviews to improve coordination with health and DRM actors
NCD Advocacy Groups (NCD Alliance, patient associations, CSOs)	▪ Advocate inclusion of NCDs and PEN-D in DRM and health sector plans and budgets ▪ Support community awareness, preparedness education, and rights-based messaging for PLWNCDs ▪ Contribute community perspectives to preparedness planning, PGI, and CEA processes	▪ Support dissemination of early warning and preparedness messages to PLWNCDs through networks ▪ Assist peer support networks in preparing emergency plans, medicine readiness, and referral information	▪ Monitor equity, PGI, and access to NCD services during response ▪ Collect community feedback and report access, protection, or service gaps to authorities and partners ▪ Support accountability and transparency in service delivery	▪ Advocate for recovery support and financing for NCD and mental health services ▪ Participate in After-Action Reviews and accountability processes ▪ Support long-term advocacy for resilient and inclusive NCD systems

UN Agencies, Development Partners and Other Stakeholders	Mitigation & Preparedness	Early/Anticipatory Action (AA)	During Disaster/ Response	Post-Disaster / Recovery
Professional Associations (Medical, Nursing, Pharmacy, Public Health, Mental Health Associations)	▪ Develop, endorse, and disseminate simplified clinical guidance and SOPs for NCD care in disaster ▪ Support preparedness training, simulations, and drills ▪ Promote ethical, inclusive, and patient-centered standards of care	▪ Mobilize professional volunteers for early deployment and technical backstopping ▪ Provide expert input to anticipatory action planning and readiness advisories	▪ Provide clinical expertise, mentoring, and surge support to health facilities and response teams ▪ Support quality assurance, supervision, and adaptation of clinical protocols	▪ Support continuing professional education based on lessons learned ▪ Contribute to guideline refinement and institutional learning ▪ Advocate for strengthening health workforce capacity and resilience
Academic & Research Institutions (Universities, research centers, think tanks)	▪ Generate evidence on NCD risks, vulnerability, and service gaps in disaster contexts ▪ Support development and validation of PEN-D tools, indicators, and assessment frameworks ▪ Build national research capacity on disaster-responsive NCDs and mental health	▪ Provide analytical and modeling support to anticipatory action design and targeting ▪ Support development of evidence-based risk thresholds and triggers	▪ Support rapid studies, monitoring, and documentation during response ▪ Assist in analysis of service delivery data and emerging trends	▪ Conduct evaluations and operational research to inform system strengthening ▪ Document and disseminate best practices and lessons learned ▪ Inform policy reform and future preparedness

PART III
MINIMUM INITIAL SERVICE PACKAGE (MISP) FOR DISASTER-RESPONSIVE NCD CARE (PEN-D)

PART III

Minimum Initial Service Package (MISP) for Disaster-responsive NCD Care (PEN-D)

1. INTRODUCTION

During disasters, disruption in treatment, monitoring, and follow-up care can rapidly lead to severe complications, disability, and preventable deaths among PLWNCDs.

The Minimum Initial Service Package (MISP) Prototype for Disaster-responsive NCD Care (PEN-D) is an adapted model from the globally recognized Reproductive Health MISP. This prototype serves as the first structured, testable package to guide coordinated, timely, and essential NCD service delivery during disaster. It outlines priority actions for the onset of a disaster through early action, ensuring continuity of life-saving NCD care while laying the groundwork for comprehensive service restoration. This prototype is designed for immediate deployment within national and local disaster response systems, ensuring the continuity of NCD care and laying the foundation for longer-term recovery and resilience.

2. GOAL

To reduce preventable mortality, morbidity, and disability from prioritized NCDs (CVD, diabetes, CRDs, cancer, and mental health conditions) during disaster by ensuring timely, coordinated, and uninterrupted NCD care across all disaster phase.

3. OBJECTIVES

Objective 1: Strengthen Governance, Leadership, and Multi-Sectoral Coordination

Ensure effective governance and leadership for disaster-responsive NCD care by integrating PEN-D into disaster management plans, designating NCD focal persons, establishing multi-level coordination and referral systems, and maintaining functional coordination before, during, and after disasters.

Objective 2: Enhance Service Readiness, Early Warning, and Anticipatory Action

Maintain updated NCD registries, patient risk categorization, and facility readiness; establish automated early warning systems linked with NCD care; implement anticipatory actions for high-risk PLWNCDs, and ensure shelters and health facilities are accessible, NCD-friendly, and equipped for disaster response.

Objective 3: Ensure Access to Essential Medicines, Devices, and Supply Chain Continuity

Secure uninterrupted availability of essential medicines, PEN-D kits, and diagnostic tools through prepositioning, cold-chain management, pharmacy-based refill mechanisms, and resilient supply chain systems, ensuring timely distribution during disasters and replenishment post-disaster.

Objective 4: Ensure Life-Saving NCD Case Management and Continuity of Services

Provide rapid search, rescue, triage, stabilization, referral, and follow-up of high-risk PLWNCDs through mobile NCD clinics, emergency medical teams, and facility-based services; integrate telemedicine, referral systems, and psychosocial first aid to guarantee continuity of NCD care across all phases of disaster.

Objective 5: Strengthen Risk Communication, Health Promotion, and Psychosocial Well-being

Deliver multi-channel disaster risk communication with an NCD focus; promote self-care, safe diets, and physical activity; mobilize peer networks and FCHVs for community engagement; and integrate mental health and psychosocial support into NCD care to reduce stress, stigma, and disaster-related vulnerability.

Objective 6: Promote Community-Based Service Models, Task Sharing, and Capacity Building

Deploy mobile NCD clinics, NCD corners, and pharmacy refill systems during disasters; engage FCHVs, volunteers, and peer networks for screening, follow-up, and adherence; and strengthen local capacities through training, mentorship, job aids, and regular simulation drills for health workers and responders.

Objective 7: Institutionalize Data, Monitoring, Evaluation, and Financing for Resilient NCD Care

Integrate NCD indicators into disaster information systems and assessment, conduct after-action reviews, update PEN-D tools, and advocate for sustained government and donor financing, social safety nets, and contingency funds to ensure equitable access to NCD services during and after disasters.

4. ALERT-LEVEL ACTIVATION MATRIX

Tie hazard alerts to pre-agreed NCD actions. Use color levels defined by government early warning systems.

Alert Level	Timeframe	Triggers	Key NCD Actions (Minimum)
Yellow (Watch)	48-72 hrs lead	Elevated flood/ landslide/heat alert; DHM notice	▪ Verify medicine & kit stock levels (insulin, inhalers, antihypertensive). ▪ Send SMS/IVR alerts to PLWNCDs for refill and preparedness. ▪ Confirm cold-chain readiness. ▪ Activate NCD Service Models Update A/B/C registry and confirm contacts.
Orange (Likely)	24-48 hrs	Impact probable; local alert	▪ Dispense 14-day refills to Category A & B patients. ▪ Pre-position PEN-D kits at shelters and health posts. ▪ Move cold-chain boxes to safe facilities. ▪ Activate hotline and referral directory.
Red (Imminent)	0-24 hrs	Disaster onset	▪ Activate mobile NCD clinics and NCD corners in shelters. ▪ Enable emergency pharmacy refills using NCD ID cards. ▪ Evacuate Category A patients to safe NCD-friendly shelters. ▪ Begin response reporting in DHIS2 and 4W mapping.

Each facility and LEOC should maintain a one-page activation checklist with names, roles, and time stamps for all Yellow, Orange, and Red actions.

5. PEN-D MISP CHEAT SHEET

Specific Area	Preparedness and Mitigation Phase	Pre-Disaster Phase	During Disaster Phase	Post-Disaster Phase
1. Governance, Leadership and Multi-sectoral Coordination	■ Integrate PEN-D into disaster management plans (national to local). ■ Establish multi-level NCD coordination and referral systems. ■ Designate NCD focal points at all levels. ■ Prepare a multi-sectoral deployment plan with clear roles and responsibilities	■ Convene coordination meetings for response. ■ Ensure all systems and stakeholders are well positioned and ready for immediate action when a disaster strikes. ■ (4W) Mapping	■ Activate multi-sectoral NCD coordination at all levels. ■ Continue coordination meetings and actions for disaster response and continuation of NCD services. ■ Deploy health workers, disaster personnel and volunteers as per the deployment plan with clear roles and responsibilities ■ (4W) Mapping and planning coordination and service provision	■ Review coordination mechanisms and update SOPs. ■ Incorporate lessons into future plans. ■ Strengthen inter-agency collaboration.
2. Service Readiness, Early Warning and Anticipatory Action	■ Maintain updated NCD profiles and patient risk categorization and issue/update emergency NCD card. ■ Map Health facilities, NCD Services and Health Workers ■ Conduct health facility readiness assessments/ MSS of facilities and workforce. ■ Identify/adapt gender, disability and NCD-friendly shelters (NCD facilities, well ventilation, dust-free, disability access). ■ Dissemination of NCD-Specific Early Warning Messages	■ Activate alert system for early warning ■ Mobilize FCHVs and volunteers for preparedness checks. ■ Ensure PLWNCDs have sound emergency preparedness with essential medicines, devices and updated emergency NCD card. ■ Assess and categorize high-risk patients. ■ Pre-notify stakeholders for EWEA activation. ■ Pre-arrange evacuation and transport plans.	■ Transition of anticipatory actions to NCD service and disaster response ■ Continuation of NCD service	■ Link NCD services and follow-up from shelters to permanent health facilities. ■ Continue follow up ■ Review service readiness, early warning and anticipatory action and improve for future responses

Specific Area	Preparedness and Mitigation Phase	Pre-Disaster Phase	During Disaster Phase	Post-Disaster Phase
	■ Identify and plan NCD-specific anticipatory actions. – In-kind support: distribute PEN-D Kits – In-kind support: distribute NCD-friendly pre-packaged foods – Training and awareness raising for NCD care	■ Set up basic NCD service points in shelters. ■ Recheck service readiness of health facilities and health workers. ■ Stock shelter-based NCD equipment and supplies. ■ Implement anticipatory actions. ■ Map NCD services provision and disruptions (4W)		
3. Essential Medicines, Devices and Supply Chain	■ Forecast and procure PEN-D kits based on NCD profiles. ■ Preposition essential medicines and diagnostic tools for at least 4 months. ■ Establish pharmacy-based emergency refill systems for NCD drugs other than from regular government supply. ■ Integrate NCD stock tracking into logistics systems.	■ Verify stock levels at facilities and shelters. ■ Alert health facilities and local Pharmacies for refilling NCD medicines. ■ Distribute PEN-D kits to health workers and patients at shelters and in the community. ■ Reconfirm functionality of cold-chain systems.	■ Distribute PEN-D kits to health workers and patients. ■ Maintain cold chain for temperature-sensitive medicines.	■ Review supply chain and improve for future responses.
4. NCD Case Management and service continuation	■ Integrate NCD care into PHC and hospital emergency plans. ■ Expand diagnostic capacity (ECG, HbA1c, peak flow, labs). ■ Establish telemedicine and referral systems for disaster context. ■ Establish Emergency Medical Mobile Team (EMMT) ■ Establish/update emergency triage and referral protocols.	■ Pre-identify high-risk PLWNCDs needing priority rescue. ■ Keep health workers, disaster volunteers and Emergency Medical Mobile Team (EMMT) in a ready position ■ Provide NCD services and psychosocial first aid in shelters.	■ Search, rescue, and evacuate high-risk PLWNCDs. ■ Provide triage, stabilization, and referral. ■ Monitor BP, blood sugar, and respiration at shelters/mobile clinics. ■ Deploy Emergency Medical Mobile Team (EMMT) for mobile NCD clinics. ■ Continue basic NCD services and psychosocial first aid. ■ Provide telemedicine services	■ Continue follow-up and stabilization of acute NCD cases. ■ Transition mobile NCD services back to regular NCD services. ■ Review emergency management and referral and improve for future responses

Specific Area	Preparedness and Mitigation Phase	Pre-Disaster Phase	During Disaster Phase	Post-Disaster Phase
5. Disaster Risk Communication, Health Promotion, and Psychosocial well being	■ Establish automated multi hazard alert system for early warning linked with NCD care. ■ Develop locally adapted disaster communication plans with NCD component. ■ Pre-produce and test IEC and audio-visual materials for early warning and disaster-related messages with NCD component. ■ Identify and set up appropriate channels for early warning and disaster communication	■ Disseminate early warning message channels (SMS, IVR, radio, loudspeakers). ■ Mobilize FCHVs/volunteers to disseminate early warning messages for preparedness. ■ Disseminate IEC materials for self-care and stress management ■ Utilize locally established communication channels ■ Conduct brief community campaigns on disaster preparedness and self-care during disaster	■ Continue the dissemination of NCD-specific messages via multiple channels. ■ Disseminate IEC materials for self-care and stress management ■ Support peer networks ■ Continue health promotion and counseling on avoiding NCD risk factors ■ Provide psychosocial first aid and counseling.	■ Sustain community campaigns. ■ Evaluate message effectiveness. ■ Maintain peer-support structures.
6. NCD Service Models and Task Sharing and community Engagement	■ Plan for mobile NCD clinic deployment. ■ Develop engagement model of FCHVs and non-medical volunteers for NCDs during disaster. ■ Form peer support groups/network for self-care and identify leaders/moderators. ■ Prepare NCD corner kits for facilities and shelters.	■ Activate and mobilize peer networks for risk communication, preparedness and self- care. ■ Activate pharmacy-based refill mechanisms. ■ Ensure and verify readiness of NCD corners. ■ Set up temporary NCD corners in shelters/camps.	■ Deploy mobile NCD clinics. ■ Deploy FCHVs for ward-level screening. ■ Engage non-medical volunteers. ■ Engage peer networks.	■ Review the NCD service models, task sharing and community engagement and improve for future responses
7. Capacity Building	■ Integrate PEN-D into PEN trainings ■ Train health workers on PEN, PEN-D and disaster response and management. ■ Train disaster personnel and volunteers on PEN-D ■ Train staff and volunteers in mental health during disasters and psychosocial first-aid. ■ Train FCHVs, community leaders, elected bodies, peer networks and other stakeholders in PEN-D. ■ Train staff on stock/logistics management. ■ Conduct Simulation/drill exercise at least once a year ■ Develop simplified Job Aids	■ Refresh/ brief orientation to non-medical volunteers ■ Provide mentorship and just-in-time training ■ Use Job Aids	■ Provide mentorship and just-in-time training ■ Use Job Aids	■ Review the skills, capacity and challenges of health workers, volunteers and disaster response personnel and improve for future responses

Specific Area	Preparedness and Mitigation Phase	Pre-Disaster Phase	During Disaster Phase	Post-Disaster Phase
8. Data, Monitoring and Evaluation	■ Maintain updated NCD registry and risk maps. ■ Integrate NCD data into IRA/MIRA. ■ Update M&E tools with PEN-D indicators.	■ Ensure the functionality of M&E tools	■ Conduct IRA/MIRA with NCD-related data ■ Continue recording and reporting of NCD data	■ Conduct After-Action Reviews (AAR) and disseminate reports with stakeholders.
9. Health Financing and Access Support	■ Integrate NCD response into government financing. ■ Secure local contingency budgets for NCD response. ■ Link with Health Insurance and other social safety nets.	■ Mobilize emergency funds, DRR funds, donor support, Public Private Partnership (PPP).	■ Provide emergency funding/waivers for NCD treatment. ■ Financial support to PLWNCDs for emergency services, drugs and transport for high-risk vulnerable PLWNCDs and PLWNCDs from marginal, communities, and vulnerable groups.	■ Document and advocate for sustained financing.

6. MINIMUM KIT SPECIFICATIONS

- **PEN-D kit for Health Worker (Minimum):** BP device, glucometer and strips, thermometer, Peak flow meter, urine dipsticks, pulse oximeter, spacer and salbutamol MDI, core antihypertensive, metformin, statin, bronchodilator, emergency NCD cards, referral forms, PPE, basic psychosocial first aid guide.
- **PEN-D kit for PLWNCD (Minimum):** 14 to 28 days of current medications by regimen, emergency NCD card, pictorial instructions, key contacts.
- **Optional:** Glucometer or peak flow per condition, light or whistle, prescription copies.
- **Cold chain required:** Insulin and other heat-sensitive items must have defined storage and transport with ice packs or solar refrigeration at all times.

7. MONITORING SET FOR MISP

Indicator	Definition / Purpose	Source / Verification	Frequency	Responsible Entity
Percentage of high-risk PLWNCDs receiving 14-day refills within 48 hours of orange alert	Measures timeliness of anticipatory actions	DHIS2 emergency module, pharmacy logs	Event-based	Health Facility / LEOC
Percentage of facilities maintaining uninterrupted NCD services during disaster	Tracks service continuity	Facility daily reports, supervision checklists	Weekly	Local level Health Section
Number of PEN-D kits distributed to PLWNCDs and health workers	Monitors supply chain performance	LMIS/ stock reports	Event-based	Health Facility / Local Level Health Section
Stock-out rate of essential drugs and equipment	Measures essential commodity availability	LMIS / stock reports	Weekly	Health Facility / Local level Health Section /PHLMC
Median time to first mobile NCD clinic activation	Assesses operational responsiveness	Field deployment logs	Event-based	LEOC / EMMT Lead
Percentage of facilities submitting complete PEN-D MISP reports in DHIS2	Evaluates reporting compliance	DHIS2 dashboard	Monthly	Local level Health Section/District Health Office
Number of After-Action Reviews completed within one month	Tracks learning and accountability	AAR report database	Post-event	MoHFS / Provincial Health Directorate/ Local level

ANNEXES

Confidential health information: Complete this form only for an authorized PEN-D purpose. Collect only necessary information, restrict access, store securely and follow the information-governance requirements.

ANNEX 1: INDIVIDUAL NCD PROFILE

Individual NCD Profile

Name of Province

Name of District

Name of Local Level

Ward No.:

Address/Location:

House number:

Date:

Name of patient:	
Age:	
Sex:	☐ Male
	☐ Female
	☐ Other
Disability:	☐ Yes
	☐ No
Contact number:	☐ No
	☐ Short-term
	☐ Long-term

Name of patient:	
Contact number:	
Emergency contact person:	
Name of health facility currently seeking care from	
Access to the nearest health facility	☐ Within 30 minutes of walking
	☐ More than 30 minutes of walking
Type of NCD(s):	☐ Hypertension
	☐ Diabetes
	☐ Asthma/COPD
	☐ CVD
	☐ Cancer
	☐ Mental illness
	☐ Other: _____
NCD Severity/risk category:	☐ Low
	☐ Moderate
	☐ High
Current treatment/medications:	
Medication Dependency:	☐ Daily
	☐ Intermittent
	☐ No medication
Cold-chain dependent medicines (Insulin) required:	☐ Yes
	☐ No
Medication obtained from:	☐ Government health facility
	☐ Private pharmacy
	☐ Other: _____
Preparedness Status:	☐ Prepared (with necessary medicines and diagnostic supplies for 2-4 weeks)
	☐ Partial (with necessary medicines and diagnostic supplies for at least I week)
	☐ None (stock-out of medicines or with necessary medicines and diagnostic supplies for less than 1 week)
Mobility status:	☐ Full Mobility
	☐ Needs support with short term disability
	☐ Needs support with long term disability
	☐ Bedridden

ANNEX 2: WARD LEVEL NCD PROFILE

Ward Level NCD Profile

Name of Province

Name of District

Name of Local Level

Ward No.:

Date:

Total Number of PLWNCDs	
Total Number of PLWNCDs by Age:	60 years and above _____
	Below 60 years _____
Total Number of PLWNCDs by Sex:	Male _____
	Female _____
	Other _____
Total Number of Pregnant PLWNCDs:	
Total Number of PLWNCDs with disability:	Short-term _____
	Long-term _____
Total Number of PLWNCDs with access to health facility at a distance of more than 30 minutes of walking	
Total Number of PLWNCDs by NCD(s) Type:	Hypertension _____
	Diabetes _____
	Asthma _____
	COPD _____
	CVD _____
	Cancer _____
	Mental illness _____
	Other: _____
Total Number of PLWNCDs by Severity/risk category:	Low _____
	Moderate _____
	High _____
Total Number of PLWNCDs by Medication Dependency:	Daily _____
	Intermittent _____
	No medication _____

Total Number of PLWNCDs	
Total Number of PLWNCDs dependent on insulin:	
Total Number of PLWNCDs getting medication from:	Government health facility _____
	Private pharmacy _____
	Other: _____
Total Number of PLWNCDs by preparedness status:	☐ Prepared (with necessary medicines and diagnostic supplies for 2-4 weeks)
	☐ Partial (with necessary medicines and diagnostic supplies for at least l week)
	☐ None (stock-out of medicines or with necessary medicines and diagnostic supplies for less than 1 week)
Total Number of PLWNCDs by mobility status:	Full Mobility _____
	Needs support with short term disability _____
	Needs support with long term disability _____
	Bedridden _____

ANNEX 3: LOCAL LEVEL NCD PROFILE

Local Level NCD Profile

Name of Province

Name of District

Name of Local Level

Ward No.:

Date:

	Ward no. 1	Ward no. 2	Ward no ...	Total
Number of PLWNCDs				
Number of PLWNCDs 60 years and above				
Number of PLWNCDs Below 60 years				
Number of Male PLWNCDs				
Number of Female PLWNCDs				
Number of Other PLWNCDs				
Number of Pregnant PLWNCDs				
Number of PLWNCDs with Short-term disability				
Number of PLWNCDs with long-term disability				
Number of PLWNCDs with access to health facility at a distance of more than 30 minutes of walking				
Number of PLWNCDs with Hypertension				
Number of PLWNCDs with Diabetes				
Number of PLWNCDs with COPD				
Number of PLWNCDs with Asthma				
Number of PLWNCDs with CVD				
Number of PLWNCDs with Cancer				
Number of PLWNCDs with Mental illness				

Number of PLWNCDs with Other NCDs				
Number of PLWNCDs with Low NCD Severity/risk				
Number of PLWNCDs with Moderate NCD Severity/ risk				
Number of PLWNCDs with High NCD Severity/risk				
Number of PLWNCDs on Daily Medication				
Number of PLWNCDs on Intermittent Medication				
Number of PLWNCDs on No Medication				
Number of PLWNCDs dependent on insulin:				
Number of PLWNCDs getting medication from Government health facility				
Number of PLWNCDs getting medication from Private pharmacy and other				
Number of Prepared PLWNCDs (with necessary medicines and diagnostic supplies for 2-4 weeks)				
Number of partially prepared PLWNCDs (with necessary medicines and diagnostic supplies for at least l week)				
Number of not prepared PLWNCDs (stock-out or with necessary medicines and diagnostic supplies for less than 1 week)				
Total Number of PLWNCDs with full mobility				
Total Number of PLWNCDs needing partial support				
Total Number of bedridden PLWNCDs needing full support				

ANNEX 4: INDIVIDUALIZED PREPAREDNESS CHECKLIST

Individualized Preparedness Checklist

जिल्लाको नाम :

स्थानीय तहको नाम :

वडा नं. :

मिति :

1. Personal Medical Profile	
Full Name	
Age	
Primary Diagnosis	
Comorbidities	
Current Medications & Dosages	
Allergies / Contraindications	
Primary Healthcare Provider (Name & Contact)	
Health Facility Name & Address:	
2. Emergency Medication	
2–4 week stock of medications stored:	☐ Yes
	☐ No
Storage needs addressed (e.g., refrigeration):	☐ Yes
	☐ No
3. NCD Emergency Card	
Emergency NCD card created/updated	☐ Yes
	☐ No
4. Personal Action Checklist	
List of emergency items packed in a Go bag	☐ Yes
	☐ No
Nearest and alternate health facility identified	☐ Yes
	☐ No
Action steps listed for hazard alert	☐ Yes
	☐ No
Evacuation point identified	☐ Yes
	☐ No
5. Monitoring Tools	
Glucometer available	☐ Yes
	☐ No
	☐ NA
BP monitor available	☐ Yes
	☐ No
	☐ NA

Monitoring instructions provided	☐ Yes
	☐ No
	☐ NA
6. Transportation Plan	
Primary transport identified	☐ Yes
	☐ No
Support contact available (volunteer/FCHV/family)	☐ Yes
	☐ No
Accessibility needs addressed	☐ Yes
	☐ No
7. Instructions to Family Members	
Simple guidance shared with family members:	☐ Yes
	☐ No
Emergency signs explained:	☐ Yes
	☐ No
Emergency help-seeking steps provided:	☐ Yes
	☐ No
8. Communication Plan	
Emergency Contact list saved and shared with responders	☐ Yes
	☐ No
Special communication needs addressed	☐ Yes
	☐ No
9. Referral Plan	
Referral facility identified	☐ Yes
	☐ No
Referral procedures explained	☐ Yes
	☐ No
10. Training and Orientation	
Patient/family briefed on plan	☐ Yes
	☐ No
Practice drills/Simulation conducted	☐ Yes
	☐ No
Checked By:	
Date:	
Signature:	

ANNEX 5: INDIVIDUALIZED PREPAREDNESS PLAN FOR PLWNCDS

Individualized Preparedness Plan for PLWNCDs

Name of the Patient	Risk Category	NCD Type	What to Do	How to Do	When to Do	Who Will Do

ANNEX 6: PEN-D HEALTH FACILITY, NCD SERVICE AND HEALTH WORKER MAPPING TOOL

PEN-D Health Facility, NCD Service and Health Worker Mapping Tool

Health Facility Mapping

Item	Response	Instruction
Facility Name		Text
Facility Code/ID		Text
Province		Text
District		Text
Municipality/Rural Municipality & Ward		Text
GPS Coordinates Available	☐ Yes	Tick one
	☐ No	
If Yes, Latitude / Longitude		Text
Accessibility	☐ All-weather Road	Tick one
	☐ Seasonal Access	
	☐ Remote	
Catchment Area		Text
Catchment Population		Text

Item	Response	Instruction
Type of Facility	☐ Hospital	Tick one
	☐ PHCC	
	☐ HP	
	☐ Clinic	
	☐ Outreach	
Category	☐ Government	Tick one
	☐ Private	
	☐ NGO	
	☐ Other	
Level of Care	☐ Primary	Tick one
	☐ Secondary	
	☐ Tertiary	
	☐ Others (Specify)	
Located in Hazard Zone	☐ No Known Hazard	Tick all that apply
	☐ Earthquake	
	☐ Flood	
	☐ Landslide	
	☐ Other (Specify)	
Seismic/Earthquake Resilience Building	☐ Yes	Tick all that apply
	☐ No	
	☐ Unknown	

NCD SERVICE MAPPING

Item	Response	Instruction
NCD Services Offered	☐ Hypertension	Tick all that apply
	☐ Diabetes	
	☐ CRDs	
	☐ Cancer Screening	
	☐ Mental Health	
	☐ Others (Specify)	
Regular OPD Days for NCD Service	☐ Daily	Tick one
	☐ Weekly	
	☐ Special days/week	
	☐ Others (Specify)	
24/7 Emergency Service	☐ Yes	Tick one
	☐ No	
Laboratory service	☐ Yes	Tick one
	☐ No	
Blood Center or Blood Bank Services	☐ Yes	Tick one
	☐ No	
Ambulance Services	☐ Yes	Tick one
	☐ No	
If Yes, Number and Types of Ambulance		Text
Disaster-period service continuity/response Plan	☐ Yes	Tick one
	☐ No	
	☐ In Development	
Referral Linkage Established	☐ Yes	Tick one
	☐ No	
Name of nearest referral center		Text

HUMAN RESOURCES MAPPING

Category of Human Resources in the facility	Available human resources (in Number)	Category of Human resources (in Number)	Trained in PEN/ NCD Management (in Number)	Trained in Disaster/ Emergency Response (in Number)
Specialist Physician		Full Time / Sanctioned: Contract/Part time: Others:		
Medical Officer		Full Time / Sanctioned: Contract/Part time: Others:		
Health Assistant				
Sr. AHW/AHW				
Staff Nurse				
Sr ANM/ANM				
Lab Technician				
Lab Assistant				
Pharmacist				
Pharmacy Assistant				
Physiotherapist				
Mental Health Worker / Counselor				

	Response	Instruction
Number of deployable staff for disaster		Number
Designated NCD Focal Point	☐ Yes ☐ No	Tick one
If Yes, Name and Contact number		Text

Additional Comments (if Any)		
Name of assessor:		
Designation:		
Date:		

ANNEX 7: HEALTH FACILITY ASSESSMENT CHECKLIST FOR PEN-D

Health Facility Assessment Checklist for PEN-D

Name of Health Facility: _____

Ward/Palika: _____

Date of Assessment: _____

Tick the appropriate boxes and add notes where applicable.

Domain	Checklist Items	Comments / Notes
1. Current NCD Management	☐ Priority NCDs identified (e.g., HTN, DM, COPD, asthma, epilepsy)	
	☐ Emergency NCD response plan exists (PEN-D)	
	☐ Adjustments made for disaster periods	
2. Patient Flow & Triage	☐ Triage system in place for NCDs	
	☐ ABCDE + NCD overlay algorithm used	
	☐ BP, SpO2, and glucose taken routinely, including during disaster	

Domain	Checklist Items	Comments / Notes
3. NCD Care Services	☐ Dedicated NCD corner/space available	
	☐ Essential NCD services continue during disasters	
	☐ Follow-ups and refills arranged during disruption	
4. Staffing and Training	☐ Staff designated for NCD care	
	☐ Staff trained on PEN Package + disaster response	
	☐ CHWs/FCHVs involved in patient tracking	
5. Equipment	☐ Functional BP machine	
	☐ Glucometer + test strips	
	☐ SpO2 monitor	
	☐ Weighing scale	
	☐ Height/waist tape	
	☐ Backup power/manual equipment	
6. Laboratory Services	☐ Urine tests (sugar, albumin, ketones)	
	☐ Blood sugar testing	
	☐ Lipid profile available or accessible nearby	
	☐ Rapid test kits available	
7. Medicines & Supplies	☐ Emergency buffer stock of essential NCD drugs	
	☐ Cold chain available for insulin	
	☐ Inhalers, aspirin, metformin, etc. stocked	
8. Health Records	☐ Unique ID/folder for NCD patients	
	☐ Portable health card provided	
	☐ Digital or backup records maintained	
	☐ SMS/follow-up system in place	

Domain	Checklist Items	Comments / Notes
9. Risk Communication	☐ At-risk NCD patients identified	
	☐ Patients oriented on disaster preparedness	
	☐ Messages through FCHVs/SMS/radio used	
10. Referral & Continuity	☐ Secondary referral center identified (_____ km)	
	☐ Tertiary referral center identified (_____ km)	
	☐ Referral/transport pathways planned	
11. Coordination Mechanisms	☐ Coordination with local emergency authorities	
	☐ Part of health cluster or local disaster committee	
	☐ NCD focal point designated	

ANNEX 8: CONTINGENCY PLAN FORMAT

Contingency Plan Format

1. General Information
Local Government Name: Province/District: Plan Title: PEN-D Contingency Plan Sector: Health Plan Coverage Area: Plan Period: Date Prepared: Date Updated (if any): Prepared by: Approved by (Authority):
2. Hazards, Context and Assumptions
Hazards considered: Assumptions: Worst-case scenario:
3. Objectives
Objectives of the Plan:
4. Risk & Vulnerability Assessment
Vulnerable populations: Critical facilities/services at risk: Potential disruptions:
5. Emergency Thresholds
Minor Emergency (manageable locally): Major Emergency (requires provincial/national support): Disaster Level (requires national/international support):
6. Roles & Responsibilities
List of Actors and their Roles & Responsibilities:
7. Preparedness Measures
List of preparedness measures:

8. Emergency Response Procedures
Activation: Immediate Actions: Communication Channels:
9. Continuity & Recovery Plan
Short-term: Medium-term: Long-term:
10. Monitoring & Evaluation
Major Indicators: Reporting Frequency: (daily, weekly, monthly) Reporting to:
11. Post-Disaster Review
After-Action Review findings: Lessons learned: Improvement actions for next plan/period:

ANNEX 9: EMERGENCY NCD CARD

Emergency NCD Card Design Template (for PLWNCDs)

Front Side:

Patient Name:	
Date of Birth:	
Address:	
Emergency Contact Name:	
Number	
Primary NCD Condition(s):	
Comorbidity:	
Current Medications:	

Back Side:

Emergency Instructions:
- Carry this card during disasters.
- Inform health workers about your condition.
- List of allergies or special notes:
Health Facility Name and Contact Info:

ANNEX 10: NCD COMPONENTS CHECKLIST IN IRA

Additional checklist for Assessing NCD Needs in Disaster-Affected Areas during IRA

Number of PLWNCDs affected	
Number of severe NCD patients	
Number of Health facility with disrupted NCD services	
Number of Health facility with stock out of essential NCD medicines and diagnostic equipment	
Need of PEN-D Kits for PLWNCDs	☐ Yes
	☐ No
	If, yes, how many _____

Is the safe shelter have NCD friendly	
Refrigerator for Insulin Storage	☐ Yes
	☐ No
Shelves/Rack for Medicine Storage	☐ Yes
	☐ No
Clean, Spacious and well ventilated	☐ Yes
	☐ No
Is the food items in the relief item for PLWNCDS NCD Friendly (Food with less salt, less sugar, less refined carbohydrate, less unsaturated fats, less cholesterol, fresh fruits and vegetables)	☐ Yes
	☐ No

ANNEX 11: TRIAGE (ABCDE WITH NCD OVERLAY)

Triage: ABCDE with NCD overlay

Step 1: History Taking

Brief history of present problem from patient or family	
Major Complaint/Observation: **e.g. chest pain, breathlessness, dizziness, blurred vision, fever etc.**	
Past history of NCD **(e.g. diabetes, hypertension)**	
Walking or Unable to walk	

Step 2: Triage

Step	Primary Assessment (ABCDE)	NCD Consideration / Overlay	Immediate Actions
A: Airway with C-spine control	Check airway patency. Look for obstruction.	▪ Risk: Stroke (reduced consciousness) ▪ Neuropathy or anatomical distortion (e.g., head/neck cancers) may impair airway.	▪ Position airway ▪ Clear obstruction ▪ Consider need for O_2 or airway adjuncts ▪ Refer if airway not secure
B: Breathing	Look, listen, and feel for breathing effort, rate, and oxygen saturation.	▪ COPD, asthma: risk of bronchospasm or exacerbation ▪ Heart failure: pulmonary edema ▪ Hypoxia due to anemia (in cancer)	▪ Give O_2 if SpO_2 < 92% ▪ Inhalers or bronchodilators (as per PEN-D) ▪ Position upright ▪ Monitor RR, work of breathing
C: Circulation	Check pulse, blood pressure, skin perfusion, and capillary refill.	▪ Hypertension crisis ▪ Heart failure ▪ Arrhythmia (from CVD or medications) ▪ Dehydration in diabetic patients	▪ Control bleeding (if trauma) ▪ Manage BP (urgent if >180/110 with end-organ damage) ▪ Start IV fluids cautiously in HF ▪ Prioritize antihypertensive/ diuretic medicine
D: Dehydration	Dry skin, dry tongue	▪ Dehydration in diabetic patients	▪ Start IV fluids cautiously in HF
D: Disability (Neuro status)	Weakness of face, arms, legs, paralysis AVPU scale or GCS to assess consciousness. Check pupils, glucose.	▪ Hypoglycemia/ hyperglycemia ▪ Stroke (new neurological deficit) ▪ Seizures (metabolic or cancer-related)	▪ Check blood glucose: <70 mg/dl = treat with sugar/glucose ▪ Refer for stroke signs (FAST) ▪ Seizure protocols (consider anti-epileptics)
E: Exposure / Environment	Check for injuries, rashes, edema, and temperature.	▪ Diabetic foot ulcers ▪ Cancer lesions ▪ Skin changes from peripheral vascular disease or medication reactions	▪ Prevent hypothermia ▪ Treat wounds (especially in diabetics) ▪ Note signs of chronic disease decompensation

Step 3: Take immediate lifesaving intervention based on findings of examination and other clinical features listed

- Administer oxygen for respiratory distress
- Provide glucose or glucagon for hypoglycemia if trained and equipped
- Control severe hypertension as per protocols if feasible
- Stabilize airway and breathing as needed

Parameter	Urgent (Immediate) Criteria	Action
Airway & Breathing	Severe respiratory distress, asthma attack	Immediate care
Circulation & Pulse	Signs of shock, severe hypertension crisis	Immediate care
Consciousness	Altered mental status, confusion, unconscious	Immediate care
Disability	Weakness of face, arms, legs, paralysis	Immediate care
Blood Glucose (if available)	<70 mg/dl (hypoglycemia) or >300 mg/dl (hyperglycemia)	Immediate care
Medication status	No access to critical medicines (e.g., insulin)	Prioritize for urgent refill

Step 4: Treatment & Transport Priority based on color coding

- Immediate (Red Tag): Patients meeting any urgent NCD emergency criteria above
- Delayed (Yellow Tag): Stable NCD patients needing medication refills or monitoring
- Minor (Green Tag): Walking wounded with no urgent NCD issues
- Expectant (Black Tag): Those unlikely to survive despite interventions

Condition	Main Presenting Features	Main Physical Signs
Acute Coronary Syndrome	▪ Severe chest pain ▪ May have sweating, and/or nausea	▪ Blood pressure: normal, low or high ▪ Pulse: tachycardia
Acute Heart Failure	▪ Breathlessness ▪ May have coughing and wheezing ▪ Difficulty in lying flat	▪ May have cyanosis and bilateral pitting oedema of feet ▪ Blood pressure: normal, low or high. Jugular venous pressure may be raised ▪ Pulse: tachycardia
Hypertensive Emergency	▪ Severe headache ▪ Blurred vision ▪ Chest pain	▪ Nausea and vomiting ▪ Shortness of breath ▪ Seizures
Stroke	▪ Difficulty in speech ▪ Weakness of one side of body	
Diabetic Ketoacidosis	▪ May give history of diabetes ▪ Rapid weight loss ▪ Excessive urination	▪ Thirst ▪ Abdominal pain
Hypoglycemia	▪ Sweating ▪ Hunger ▪ Palpitations ▪ Confusion	▪ Dizziness ▪ Unconsciousness ▪ History of diabetes and on insulin or sulfonylurea
Acute Severe Asthma or COPD	▪ Wheezing and cough ▪ History of asthma or COPD	
Shock	▪ Dizziness ▪ Sweating ▪ Confusion	

ANNEX 12: AFTER-ACTION REVIEW STRUCTURE

After-Action Review Structure

A. Planning the AAR

- Define objectives and scope (geography, time window, services).
- Identify participants:
  - Health workers
  - PLWNCDs
  - NCD focal points
  - Government agencies involved in disaster management
  - Local/Provincial/ National government
  - Development partners involved in disaster management
- Collect relevant data

B. Core Questions

1. What was supposed to happen?
- What did the disaster preparedness, response and contingency plan and SOPs specify?

2. What actually happened?
- Describe the NCD-related actions (service delivery, logistics, referrals, coordination) taken during the disaster.

3. What went well and why?
- Identify successful practices, innovations, or teamwork.

4. What did not go well and why?
- Explore breakdowns in supply, care continuity, communication, etc.

5. What can be improved and how?
- Actionable recommendations for systems, coordination, and training.

C. Methodology Options

- Focus group discussions (FGDs)
- Structured debriefing workshops
- One-on-one interviews
- Document reviews (plans vs. actions)
- Rapid data analysis

D. Timeline and Outputs

- Conduct within 4-6 weeks of the acute response (earlier if feasible).
- Deliver a concise AAR report plus a Corrective Action Plan with owners, deadlines, and resources; share with coordination bodies.

ANNEX 13: PEN-D MISP IMPLEMENTATION CHECKLIST

PEN-D MISP Implementation Checklist

Purpose:

This checklist is used to monitor the implementation of the Minimum Initial Service Package (MISP) for Non-Communicable Diseases (PEN-D) in disaster settings. Monitoring should be conducted weekly during the onset of a disaster response and monthly once services are established. Gaps or overlaps should be discussed with coordination bodies to identify solutions.

Reporting Information:

Start date of disaster response:	Geographic area:
Reporting period:	Reported by:
1. Governance, Leadership & Multi-sectorial Coordination	
Preparedness & Mitigation	
PEN-D integrated into disaster management plans at all levels.	Yes ☐ No ☐
Multi-level NCD coordination/referral mechanisms established.	Yes ☐ No ☐
NCD focal persons designated at national/provincial/local levels.	Yes ☐ No ☐
Pre-Disaster	
Coordination meetings held with NCD stakeholders.	Yes ☐ No ☐
4W mapping of NCD services, facilities, and workforce updated.	Yes ☐ No ☐
During Disaster	
Multi-sectoral coordination mechanisms activated.	Yes ☐ No ☐
Health workers, volunteers, and responders deployed as per plan.	Yes ☐ No ☐
Post-Disaster	
Coordination mechanisms reviewed and SOPs updated.	Yes ☐ No ☐
After Action Reviews conducted and lessons integrated.	Yes ☐ No ☐

2. Service Readiness, Early Warning & Anticipatory Action	
Preparedness & Mitigation	
PEN-D integrated into disaster management plans at all levels.	Yes ☐ No ☐
Health facility, health workers and NCD service mapping completed	Yes ☐ No ☐
Health facility readiness assessments completed.	Yes ☐ No ☐
NCD-friendly shelters identified/built/adapted.	Yes ☐ No ☐
Pre-Disaster	
Early warning systems activated and linked to NCD care.	Yes ☐ No ☐
FCHVs/volunteers mobilized for preparedness checks.	Yes ☐ No ☐
High-risk PLWNCDs assessed and evacuation plans prepared.	Yes ☐ No ☐
During Disaster	
Anticipatory actions transitioned into disaster response.	Yes ☐ No ☐
Emergency Mobile Medical Teams formed and trained.	Yes ☐ No ☐
Post-Disaster	
NCD services linked back to permanent facilities.	Yes ☐ No ☐
Service readiness reviewed for improvement.	Yes ☐ No ☐
3. Essential Medicines, Devices & Supply Chain	
Preparedness & Mitigation	
PEN-D kits, essential NCD medicine and diagnostics forecasted and quantified.	Yes ☐ No ☐
PEN-D kits, essential NCD medicine and diagnostics procured and prepositioned.	Yes ☐ No ☐
Pharmacy-based refill systems established.	Yes ☐ No ☐

Pre-Disaster	
Stock levels at facilities/shelters verified.	Yes ☐ No ☐
Distribution of PEN-D kits to health workers.	Yes ☐ No ☐
Distribution of PEN-D kits to PLWNCDs.	Yes ☐ No ☐
During Disaster	
Distribution of PEN-D kits to health workers.	Yes ☐ No ☐
Distribution of PEN-D kits to PLWNCDs.	Yes ☐ No ☐
Post-Disaster	
Stock reviewed and restocking of PEN-D kits, essential medicine and diagnostics	Yes ☐ No ☐
Supply chain system reviewed and strengthened.	Yes ☐ No ☐
4. NCD Case Management & Service Continuity	
Preparedness & Mitigation	
NCD profiling completed	Yes ☐ No ☐
Pre-Disaster	
High-risk PLWNCDs pre-identified and flagged.	Yes ☐ No ☐
During Disaster	
Identification, communication, safe evacuation support and handover for high-priority PLWNCDs are operational through trained evacuation/ search-and-rescue teams, with health workers and volunteers supporting continuity of medicines, records and referral information.	Yes ☐ No ☐
Triage, stabilization, and referral functioning.	Yes ☐ No ☐
Post-Disaster	
Follow-up and stabilization of acute NCD cases ongoing.	Yes ☐ No ☐
Transition of services from mobile to fixed facilities completed.	Yes ☐ No ☐

5. Risk Communication, Health Promotion & Psychosocial Well-being	
Preparedness & Mitigation	
Multi-hazard early warning system in place.	Yes ☐ No ☐
Disaster communication plan prepared.	Yes ☐ No ☐
IEC materials for risk communication and health promotion produced.	Yes ☐ No ☐
Pre-Disaster	
Early warning messages disseminated.	Yes ☐ No ☐
FCHVs/volunteers mobilized for community messaging.	Yes ☐ No ☐
During Disaster	
Ongoing dissemination of NCD/disaster messages.	Yes ☐ No ☐
Peer networks and psychosocial support active.	Yes ☐ No ☐
Post-Disaster	
Effectiveness and appropriateness of early warning messages reviewed	Yes ☐ No ☐
6. NCD Service Models, Task Sharing & Community Engagement	
Preparedness & Mitigation	
Mobile clinic and NCD corner models prepared.	Yes ☐ No ☐
Peer network/groups formed	Yes ☐ No ☐
FCHVs, volunteers, and peer network/groups trained.	Yes ☐ No ☐
Pre-Disaster	
Peer networks mobilized for preparedness and self-care.	Yes ☐ No ☐
Pharmacy refill systems activated.	Yes ☐ No ☐
During Disaster	
NCD corners in shelters/camps functional.	Yes ☐ No ☐
FCHVs/volunteers mobilized in community-level follow-up.	Yes ☐ No ☐

Post-Disaster	
Service models reviewed and institutionalized.	Yes ☐ No ☐
7. Capacity Building	
Health workers trained on PEN-D and disaster response	Yes ☐ No ☐
National, Provincial, Local government, FCHVs, volunteers, disaster responders and peer networks oriented on PEN-D	Yes ☐ No ☐
Simulation/drill exercises conducted annually.	Yes ☐ No ☐
Training gaps reviewed and improved.	Yes ☐ No ☐
8. Monitoring & Evaluation	
NCD indicators included in IRA/MIRA	Yes ☐ No ☐
Post-disaster After Action Reviews conducted.	Yes ☐ No ☐
Disaster specific NCD indicators integrated in routine PEN recording reporting system	Yes ☐ No ☐
Disaster specific NCD indicators recorded reported through routine health information system	
9. Health Financing & Access Support	
Allocate specific funding in Annual Work Plans and Budgets (AWPB)	Yes ☐ No ☐
Allocate local contingency funds for NCDs	Yes ☐ No ☐
Adopt diversified & Innovative Financing Mechanism	Yes ☐ No ☐
10. Action Points	
For any "No" responses, describe barriers and planned solutions.	
Barrier	**Proposed Solution**

Scan to Explore
NCD Resources

Nepal Red Cross Society

DANISH RED CROSS

Canadian Red Cross

IFRC

AARHUS UNIVERSITY

Novo Nordisk Foundation