



POCKET EMERGENCY TOOL

4th EDITION

March 2012

in collaboration with the Emergency and Humanitarian Action unit,
Regional Office for the Western Pacific, World Health Organization

This **POCKET EMERGENCY TOOL** belongs to:

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Abbreviations and Acronyms

ABC	Airway, Breathing, Circulation, revised to CAB (Circulation, Airway, Breathing) by the American Heart Association
AO	Administrative Order
ADPC	Asian Disaster Preparedness Center
AGE	Acute Gastroenteritis
AIDS	Acquired Immunodeficiency Syndrome
AMP	Advanced Medical Post
BEmONC	Basic Emergency Obstetric and Newborn Care
BMI	Body Mass Index
CAP	Community-Acquired Pneumonia
CDC	Centers for Disease Control and Prevention (USA)
CEmONC	Comprehensive Emergency Obstetric and Newborn care
CHD	Center for Health Development
CHO	City Health Office
CISD	Critical Incident Stress Debriefing
CFR	Case Fatality Rate
CMR	Crude Mortality Rate
COPD	Chronic Obstructive Pulmonary Disease
CP	Command Post
CPR	Cardiopulmonary Resuscitation
CR	Cardiac Rate
CSR	Communicable Disease Surveillance and Response
D5NM	5% Dextrose and Normosol-M
DaLA	Damage and Loss Assessment
DANA	Damage Assessment and Needs Analysis
DepEd	Department of Education
DFA	Department of Foreign Affairs



DILG	Department of Interior and Local Government
DM	Diabetes Mellitus
DND	Department of National Defense
DOB	Difficulty of Breathing
DOH-HEMS	Department of Health-Health Emergency Management Staff
DOTC	Department of Transportation and Communication
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
DVI	Disaster Victim Identification
ECPAT	End Child Prostitution Child Pornography and Trafficking of Children for Sexual Purposes
EHA	Emergency and Humanitarian Action
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPI	Expanded Program of Immunization
ER	Emergency Room
FAO	Food and Agriculture Organization
FDA	Food and Drug Authority
GAM	Global Acute Malnutrition
HAZMAT	Hazardous Materials
HEICS	Hospital Emergency Incident Command System
HEPRP	Hospital Emergency Preparedness, Response and Recovery Plan
HIMS	Health Information Management System
HIV	Human Immunodeficiency Virus
IASC	Inter-Agency Standing Committee
ICP	Incident Command Post
ICRC	International Committee of the Red Cross
ICS	Incident Command System



IDP	Internally Displaced Persons
IEC	Information, Education, and Communication
IFRC	International Federation of Red Cross and Red Crescent Societies
ILO	International Labour Organization
IMCI	Integrated Management of Childhood Illnesses
IOM	Internal Organization for Migration
ISDR	International Strategy for Disaster Reduction
IV	Intravenous
IVF	Intravenous Fluid
LCE	Local Chief Executive
LGU	Local Government Unit
LR	Lactated Ringer's Solution
MAM	Moderate Acute Malnutrition
MCI	Mass Casualty Incident
MDM	Management of the Dead and Missing persons
MHO	Municipal Health Office
MHPSS	Mental Health and Psychosocial Support
MMP	Multiple Micronutrient Powder
MOP	Manual of Operations
MS	Micronutrient Supplementation
MUAC	Mid-Upper Arm Circumference
NBI	National Bureau of Investigation
NCD	Non-Communicable Disease
NCDCPC	National Center for Disease Prevention and Control
NCHFD	National Center for Health Facilities and Development
NCHP	National Center for Health Promotions
NDCC	National Disaster Coordinating Council
NDRRMC	National Disaster Risk Reduction and Management Council or the National Council (formerly NDCC)



NEC	National Epidemiology Center
NEHK	New Emergency Health Kit
NGT	Nasogastric Tube
NGO	Non-governmental organization
NNC	National Nutrition Council
NPDEP	Nutrition Preparedness in Disasters and Emergencies Plan
OCD	Office of Civil Defense
OCHA	Office for the Coordination of Humanitarian Affairs
OpCen	Operations Center
OPT	Operation Timbang
ORS	Oral Rehydration Solution
PD	Presidential Decree
PDRRMC	Provincial Disaster Risk Reduction and Management Council or the National Council (formerly PDCC)
PFA	Psychological First Aid
PHC	Primary Health Care
PHEMAP	Public Health and Emergency Management in Asia and Pacific
PDNA	Post-Disaster Needs Assessment
PNP	Philippine National Police
pNSS	Plain Normal Saline Solution
PPE	Personal Protective Equipment
PSP	Psychosocial Processing
PRC	Philippine Red Cross
PWD	Persons with Disabilities
RA	Republic Act
RDCC	Regional Disaster Coordinating Council
RENI	Recommended Energy and Nutrient Intakes
RH	Reproductive Health



RR	Respiratory Rate
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SAR	Search and Rescue
SARS	Severe Acute Respiratory Syndrome
SEAMEO	Southeast Asian Ministers of Education Organization
SD	Standard Deviation
SF	Supplementary Feeding
SMS	Short-Messaging System
SPEED	Surveillance in Post-Extreme Emergencies and Disasters
START	SPEED Technical Assistance and Response Team
TB	Tuberculosis
U5MR	Under 5 Mortality Rate
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UN Habitat	United Nations Human Shelters Programme
UNHCR	Office of the United Nations High Commissioner for Refugees (UN Refugee Agency)
UNICEF	United Nations Children's Emergency Fund
VAC	Vitamin A Capsule
WASH	Water, Sanitation, and Hygiene Promotion
WFH or W/H	Weight for Height
WFP	World Food Program
WHO	World Health Organization
WHO-PAHO	World Health Organization – Pan American Health Organization
WHO-WPRO	World Health Organization – Office for the Western Pacific Region
WMD	Weapons of Mass Destruction



Introduction

In 2010, the Center for Research on the Epidemiology of Disasters ranked the Philippines as the third in the world in terms of being the most often hit country by natural disasters, while in 2009 it was first followed by China, United States, India, and Indonesia. The Philippines also ranked third in terms of disaster mortality (totaling 1,334 reported deaths) and second in terms of number of disaster victims (totaling 13.4 million).

The geographic location of the Philippines is in itself an important vulnerability to natural hazards highlighting the continuing need for improved capacities. In the last few years, significant events took place which further enriched the experiences of health emergency and disaster management in the Philippines – Influenza AH1N1 (April 2009), Typhoons “Ondoy” (Ketsana) and “Pepeng” (Parma) (September 2009), and the institutionalization of the Philippine Disaster Risk Reduction and Management Act of 2010 (May 2010). International events such as the earthquakes in Haiti (January 2010) and in Honshu, Japan accompanied by a secondary hazard of radio nuclear nature (March 2011) have renewed government interest in the findings of the Metro Manila Earthquake Impact Reduction Study¹. Recurring disasters throughout the years have made Filipinos realize that these emergencies are an integral part of their lives. Amidst these crises, human survival and health safety are among

¹ Also known as the MMEIRS, it was done in 2002-2004 through the collaboration of Japan International Cooperation Agency, Metropolitan Manila Development Authority and Philippine Institute of Volcanology and Seismology with two main goals: (1) Evaluate seismic hazards, damages and vulnerability of Metro Manila, and (2) prepare framework of master plan for earthquake disaster management.



the common goals and measures of success of all humanitarian endeavors.

The goal of the Department of Health (DOH) through the Health Emergency Management Staff (HEMS) is to prevent or minimize the loss of lives and illnesses during emergencies and disasters in collaboration with other government agencies, private institutions, civil society groups, and other local and international partners, particularly the Health Cluster.

The Pocket Emergency Tool (PET) was first created through the partnership of the World Health Organization (WHO) and the DOH-HEMS as a reference material for technical staff involved in health emergency management work following the development of the Public Health and Emergency Management for Asia and the Pacific (PHEMAP) Training Course in 2002. This booklet has since evolved to provide essential pointers and recent technical guidelines, from emergency preparedness to response to recovery, in a user-friendly format that will come in handy for both new and veteran health professionals in the Philippines when faced with tragedy.

For the fourth edition of the Pocket Emergency Tool, recent policies and procedures from the WHO, DOH, National Disaster Risk Reduction and Management Council (NDRRMC or the National Council, formerly National Disaster Coordinating Council or NDCC), and other local and international organizations involved in disasters and emergencies have been incorporated.

This pocket tool, however, neither provides nor claims to be the definite and only guide to follow in emergencies. Thus, references to



complementary documents and websites, where more details can be found, are provided. And, because every disaster is unique, some of the suggested procedures may need to be tailored to local conditions and particular situations.

In summary, the fourth edition of the Pocket Emergency Tool has been conceived from lessons learned from recent disasters and emergencies that affected the Philippines and the Western Pacific Region. The success of this guide depends largely on the dynamics of its use and the tireless efforts of its users to improve it. The latest edition ultimately aims to impart lessons learned to every individual who at some point has experienced adversity and for whom health emergency preparedness has become a way of life.

***“Emergencies are manageable while
disasters are preventable.”***



POCKET EMERGENCY TOOL

Part 1:

Health Emergency Management



1.1 GENERAL OVERVIEW

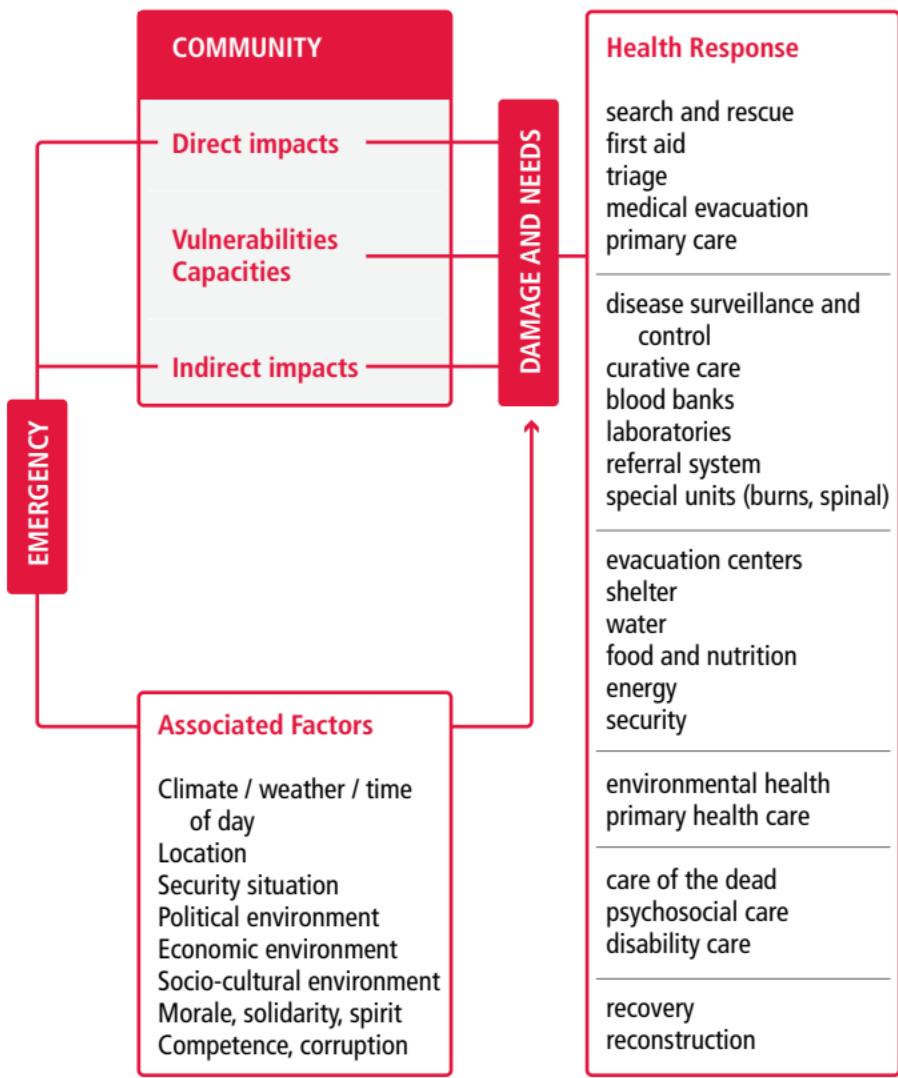
Emergency management is the organization and management of resources and responsibilities for dealing with all aspects of emergencies.

Important terms:

- **Hazard** is any potential threat to public safety and/or public health.
- **Emergency** is an actual threat to public safety and/or public health.
- Disaster is a civil emergency in which humanitarian needs are beyond local capacity to meet.
- **Risks** are the potential consequences of hazard interacting with a community.
- **Vulnerability** refers to factors which determine the type and severity of the consequences (or risks).
- **Capacities** are abilities to manage the risk of an emergency (determinants of risks or risk modifiers). A combination of all strengths and resources available within a community, society or organization that can reduce the level of risk or effects of a disaster, or may also be described as capability if in terms of human resources.
- **Community** is composed of five elements:
 - ▶ People
 - ▶ Properties
 - ▶ Environment
 - ▶ Services
 - ▶ Livelihood



**Figure 1. Challenges and Roles for Health Emergency Managers
(from PHEMAP)**





References and further readings:

- ADPC WHO. (2009). *Module 1: Challenges and Roles of Health Emergency Managers in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.
- ADPC WHO. (2009). *Module 2: Health Emergency Risk Management in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.
- DOH. (2011). *Health Emergency Management Planning presentation in 10th National Training Course on Public Health and Emergency Management in Asia and Pacific*.
- NDRRMC. (2010). *Implementing rules and regulations of RA 10121*.
- WHO-WPRO. (2009). *Regional Training Course on Health Emergency Response Operations (HERO)*.

1.2 HEALTH EMERGENCY MANAGEMENT IN THE PHILIPPINES

The Philippines exercises a decentralized public health system managed by Local Government Units (LGUs) with the Department of Health (DOH) as the lead national level agency. During emergencies, health concerns are first addressed at the city and municipal levels, and then at the provincial level. Self-sufficiency among LGUs is highly promoted and the DOH maintains a proactive role to extend its services as needed (see Figure 2).

The DOH has a Central Office and regional offices called Centers for Health Development (CHD). Within the DOH system, the Health Emergency Management Staff (HEMS) is the point office that addresses health concerns in the context of emergencies and disasters. This is accomplished in close coordination with all other relevant offices within the DOH system in relation to the nature of the emergency, such as the National Epidemiology Center (NEC), National Center for Disease Prevention and Control (NCDPC), and National Center for Health Facility Development (NCHFD) to name a few. HEMS



also serves as the functional arm of the DOH that coordinates with other government as well as non-governmental partners and leads the health sector in the multi-sectoral response to any emergency or disaster. It has two component divisions: Preparedness and Response.

Figure 2. Health Emergency Management Set-up in the Philippines



1.2.1 Legal Mandates for Health Emergency Management

- Presidential Decree No. 1566 of 1978: Strengthening of Philippine disaster control capability and establishing the National Program on Community Disaster Preparedness
- Republic Act No. 7160: Local Government Code of 1991



- Executive Order No. 102 of 1999: Redirecting the Functions and Operations of the DOH
- DOH Administrative Order No. 6-B of 1999: Institutionalization of a Health Emergency Preparedness and Response Program within the Department of Health
- DOH Administrative Order No. 168 s2004: National Policy on Health Emergencies and Disasters
- Republic Act No. 10121: Philippine Disaster Risk Reduction and Management act of 2010

1.2.2 Vision, Mission, Goal, and Core Values of the HEMS

Vision

Western Pacific Region's model in Health Emergency Management: a responsive health emergency management system recognized in technical assistance, human resource development, quality health emergency management services, systems and governance with upgraded and updated equipment, appropriate logistical resources, and sustained competitive advantage

Mission

Institutionalization of a comprehensive, integrated, coordinated, dynamic, and proactive health sector emergency management system at all levels

Goal

Reduced morbidity and mortality during emergencies and disasters



Figure 3. Core Values of HEMS



1.2.3 General Functions of HEMS

HEMS aspires to institutionalize disaster risk reduction and management at all levels in the health sector from the national, regional to local levels by means of the following strategies and activities:



1. Technical assistance on the establishment of the health emergency management (HEM) organizational structures at all levels
2. Technical and financial support for the establishment of functional Operations Centers (OpCen) at all levels
3. Development of health emergency management systems by way of formulating policies, guidelines, procedures, and protocols related to health emergency management in the health sector, assistance in the development of preparedness, response and recovery plans, development of HEM programs, and enhancement of systems in information management, logistics, communications, etc.
4. Provision of material and financial resources needed in response – mobilization of drugs, medicines and other logistics, and deployment of medical teams with different response capabilities
5. Capacity building of health personnel by means of training to address different target levels in the health sector: leader, manager, trainer, OpCen staff, and responder. An example is an ongoing curriculum tie-up with the Bicol University (Masters in Public Administration – Major in Health Emergency Management)
6. Other preparedness strategies that are in place are partnership building, promotion and advocacy, and documentation of good practices

HEMS Preparedness Division Functions:

1. Develops plans, policies, programs, standards, and guidelines for the prevention and mitigation of health emergencies
2. Provides leadership in organizing and coordinating efforts of the health sector for health emergency preparedness



3. Provides technical assistance, capability building, and consultative and advisory services to implementing agencies
4. Conducts or coordinates studies and researches related to health emergencies

HEMS Response Division Functions:

1. Maintains an OpCen to serve as an alert system to monitor health and health-related emergencies
2. Provides leadership in the mobilization and deployment of health teams in anticipation of or in response to health emergencies
3. Coordinates and integrates health sector response to health emergencies

1.2.4 Roles of Hospitals in Health Emergency Management

1. Observe all requirements and standards (hospital emergency plan, hospital emergency incident command system, code alert system, etc.) needed to respond to emergencies and disasters
2. Ensure enhancement of their facilities to respond to the needs of the communities especially during emergencies
3. Network with other hospitals in the area to optimize resources and coordinate transferring of victims to the appropriate facility
4. Report all health emergencies to the OpCen, and document all incidents responded to



1.2.5 Roles of Centers for Health Development in Emergency Management

1. Serve as the DOH coordinating centers in their region
2. Maintain/Update hazard and vulnerability assessment of their catchment areas
3. Observe all requirements and standards needed to respond to emergencies (Regional Emergency Plan)
4. Organize health sector in the region and provide the mechanism for coordination and collaboration
5. Maintain an OpCen as a regional repository of events for the health sector and identify an official spokesperson to answer concerns of the public and the media
6. Report to the Central Office (HEMS) all monitored emergencies and disasters and any incident with the potential of becoming an emergency
7. Document all health emergency events and conduct researches to support policies and program development

At the CHD level, it is recommended that the following information be made readily available and be regularly updated:

- Regional disaster profile
- Population size and distribution
- Topography and communication line maps
- Epidemiologic profile
- Location of health facilities and their services (levels)
- Location of potential evacuation areas
- Location of stocks of food, medicine, health, water treatment, and other sanitation supplies from all stakeholders
- Directory of key people and organizations who would be responsible for active relief



- Directory of individuals with special competencies and experience who may be mobilized on secondment from their institutions or as consultations in case of need
- Roster of resource persons ready to translate technical information materials into local dialect (e.g. traditional healers, indigenous health workers, barangay captain, etc.)

It is ideal to have back-up files available at a separate location, like a CHD identified-alternate OpCen site or at the Central Office.

References and further readings:

- DOH. (2011). *Overview of Philippine Disaster Management System presentation in 10th Philippine National Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.
- DOH. (2008). *Guidelines for Health Emergency Management: Operations Center*.
- DOH. (2004). *Administrative Order No. 168 s2004: National policy on health emergencies and disasters*.
- WHO-WPRO. (2009). *Regional Training Course on Health Emergency Response Operations (HERO)*.



POCKET EMERGENCY TOOL

Part 2: Emergency Response



2.1 EMERGENCY RESPONSE OPERATIONS

2.1.1 Response Phase

2.1.1.1 Response Plan

1. Activation of Code Alert System
2. Activation of the plan
3. Activation of the Incident Command System (ICS)
4. Activation of the Operations Center
5. Implementation of the response standard operating procedures or protocols for emergencies
6. Initiation and maintenance of coordination and networking for referrals of cases, vis-à-vis Office of Civil Defense, Health Sector and Cluster approach activities
7. Initiation and maintenance of Mental health and psychosocial support for casualties, patients, hospital staff, other responders, and the bereaved
8. Management of information
9. Activation of plan in the event of complete isolation of CHD/hospital/community with regard to auxiliary power, water and food rationing, medication/dressing rationing, waste and garbage disposal, and staff and patient morale
10. Provision of public health services
11. Management of the dead



2.1.1.2 Steps in Responding to Emergencies

(Adapted from CDC's Public Health Emergency Response Guide)

Hours 0-2

Immediate Response:

1. Assess the situation
2. Contact key health personnel
3. Develop initial health response objectives and establish an action plan
4. Establish communication and maintain close coordination with the EOC
5. Ensure that the site safety and health plan is established, reviewed, and followed
6. Establish communication with other key health and medical organizations.
7. Assign and deploy resources and assets to achieve established initial health response objectives
8. Address health-related requests for assistance and information from other agencies, organization, and the public
9. Initiate risk communications activities
10. Document all response activities

Hours 2-12

Immediate Response:

1. Verify that health surveillance systems are operational
2. Ensure that the needs of special populations (e.g. children, disabled persons, elderly, etc.) are being addressed
3. Manage health-related volunteers and donations



4. Update emergency risk communications messages
5. Collect and analyze data that become available through health surveillance and laboratory systems
6. Periodically assess health resource needs and acquire as necessary

Hours 12-24

Extended Response:

1. Address psychosocial and mental health concerns
2. Prepare for transition to extended operations or response disengagement
3. Address risks related to the environment
4. Continue health services and epidemiologic surveillance
5. Ensure that local health systems are preserved and access to health care, including essential drugs and vaccines, is guaranteed

2.1.2 Operations Center (OpCen)

An OpCen is a central command, control, and coordination facility which performs the following:

- Collect and analyze data
- Make decisions that protect life and property, and maintain the continuity of the organization within the scope of applicable laws
- Disseminate those decisions to all concerned agencies and individuals under the supervision of the designated emergency manager

There should be a permanent 24/7 OpCen at the national level. Other levels as CHDs, DOH Hospitals, LGUs, and other members of the health sector have two options permanent or non-permanent



that can be activated based on A.O. 2008-0024: Adoption and Institutionalization of an Integrated Code Alert System within the Health Sector. (Also refer to A.O. No. 2010-0029: Policies and Guidelines on the Establishment of an Operations Center for Emergencies and Disasters)

In other countries, similar structures are the Emergency Coordination Center (ECC; national level), the Emergency Operations Center (EOC; provincial or city level), and the Incident Command Post (ICP; field command).

2.1.2.1 General Attributes

1. Safety from hazards and ease of security
2. Adequate electrical, water, and sewage systems
3. Sufficient space for all functions (a mix of open and closed work spaces)
 - ▶ Secure storage area
 - ▶ Secure space for staging materials and human resources pending deployment (optional)
 - ▶ Open work space for management, operations, logistics, and planning functions
 - ▶ Closed work space available for teleconferences, break-out groups, policy group meeting (can be located in nearby rooms)
 - ▶ Controllable space for media briefings (nearby or off-site)
 - ▶ Staff rest area with food preparation and storage, clean-up, and eating areas
4. Adequate wall space for big whiteboards or its equivalent
5. Adequate lighting, ventilation, heating, and cooling capacity
6. Toilet/personal hygiene area



7. Appropriate location
 - ▶ Accessible by public transportation
 - ▶ Reasonably close to partners, supporting, and cooperating agencies
 - ▶ Has adequate parking
 - ▶ Has access to all entrances, exits, and windows easily secured
8. OpCen minimum requirements:
 - ▶ Physical facility – work area for staff
 - ▶ General office and communication equipment – telephone, mobile phone, fax machine, television set, AM/FM transistor radio, computer with printer and internet connection, tables and chairs, generator set, and office supplies
 - ▶ Reference materials – policies, guidelines, procedures, plans, directories, forms, inventory files, maps, and database of health facilities and resources
 - ▶ Others – access to a vehicle for logistics movement

2.1.2.2 Functions of an OpCen

9. Monitors all health and health-related events or situations that have the potential to turn into an emergency
10. Receives all warning messages or information from all sources through all available means of communication
11. Validates all reports and data received, analyzes and prepares necessary reports to authorities
12. Follows the established protocols, alerts and notifies proper authorities and appropriate offices, health facilities, and other stakeholders in anticipation of emergencies/ disasters
13. Coordinates the conduct of rapid health assessment, mobilization



- of logistics and human resources including technical experts of the affected area/ regions
14. Networks with all other agencies involved in health emergency response
 15. Provides timely, appropriate information to media and the public upon clearance from proper authorities
 16. Documents all emergencies and disasters within its jurisdiction and submits final report to higher authorities

References and further readings:

- Center for Disease Control and Prevention. (2009). *Public Health Emergency Response Guide. Version 1.0*
- DOH. (2010). A.O. No. 2010-0029: *Policies and Guidelines on the Establishment of an Operations center for Emergencies and Disasters*
- DOH. (2008). A.O. 2008-0024: *Adoption and institutionalization of an integrated code alert system within the health sector*
- ADPC WHO. (2009). *Module 11: Emergency Response Center Management in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP).*

2.1.3 Health Information Management Systems (HIMS) in Emergencies

HIMS is vital to any humanitarian response. It generates the necessary health information critical to any and all coordination and decision-making to avoid the duplication of efforts and to optimize the use of all resources.

- Information needs are different across the phases of an emergency/disaster.
- Information credibility is enhanced through collection, analysis, and delivery by known, credible persons, or organizations.
- Information credibility is enhanced by the use of standardized



methods of data collection, use of validated indicators, and use of best practices.

Characteristics of HIMS in emergencies:

- A robust health data management system should be in place, capable of storing the data, retrieving and updating it as required, and analyzing it to produce needed information.
- It should concentrate on mortality and key morbidities (diseases with high burden and/or outbreak potential).
- It must have definite disease control objectives, data categories, and practical case definitions.
- Methods used for collecting data should be flexible and simple to accommodate rapidly changing figures or situations, yet sensitive enough to detect potential outbreaks.
- Data and information produced by the HIMS should be communicated efficiently to stakeholders and decision makers.
- It should be assigned to one agency or individual if the service does not exist in the Ministry of Health.



Information is the basis for an effective and evidence-based decision-making.

Types of HIMS in emergencies:

- Rapid Health Assessment
- Damage Assessment and Needs Analysis
- Public Health Surveillance
- Risk Communication



Types of Reports in times of emergencies:

The information generated from the above HIMS types can be utilized by managers and decision-makers through different reports:

- Health Emergency Alert Reporting System (HEARS) Plus Report
- Flash Report
- Rapid Health Assessment Reports
- Health Situation Update
- Final Report
- Post-mission Report

2.1.3.1 Rapid Health Assessment

The following critical information required should be made available for reference within 24 hours from the event for timely and appropriate intervention (See section 6.2 for sample forms).

2.1.3.1.1 Key Questions

- Is there an emergency or not? If so, indicate:
 - ▶ Type
 - ▶ Date and time of emergency
 - ▶ Location of emergency
 - ▶ Magnitude and size of affected area and population
- What is the main health problem?
- What health facilities or services have been/may be affected?
Which are functional and non-functional?
- What is the existing response capacity (actions taken by the local authorities, by DOH-HEMS)?
- What decisions need to be made?



- What information is needed to make these decisions?
- What are the sources of that information?

2.1.3.1.2 Situation Report Outline

A. Executive Summary

B. Main Issue

1. Nature of the emergency (causative and additional hazards, projected evolution)
2. Affected area (administrative division, access)
3. Affected health facilities (functional and non-functional)
4. Affected population (sex/age breakdown)
5. Percentage of affected health workforce/workers
6. Percentage of health workers able to provide response services/operations

c. Health Impact

1. Direct impact: reasons for alert (3 main causes of morbidity/mortality, CMR, under-5 mortality rate, acute malnutrition rate)
2. Other reasons for concern (e.g. trauma, reports/rumors of outbreak)
3. Indirect health impact (e.g. damage to critical infrastructure/lifelines)
4. Pre-emergency baseline morbidity and mortality (when available)
5. Projected evolution of health situation: main causes of concern if the emergency will be protracted

D. Vital Needs (based on current situation):

1. Water
2. Waste disposal



3. Food
4. Shelter and environment on site
5. Fuel, electricity, and communication
6. Other vital needs (e.g. clothing and blankets)

E. Critical Constraints

1. Security: coordinate with the safety officer to identify hazards or unsafe conditions associated with the incident
2. Transportation and logistics
3. Social/political and geographical limits
4. Other constraints

F. Response Capacity (based on functioning resources):

1. Activities already underway
2. National protocols, contingency, and continuity plans
3. Operational support (command post, regional unit and referral system, external assistance, state of communications)
4. Operational coordination (lead agencies, mechanisms, flow of information)
5. Strategic coordination (local/international relationships)

G. Conclusions

1. Are the current levels of mortality and morbidity above-average for this area and this time of the year?
2. Are the current levels of morbidity, mortality, nutrition, water, sanitation, shelter, and health care acceptable by international standards?
3. Is a further increase in mortality expected in the next 2 weeks?



H. Recommendations for Immediate Action

1. What must be put in place as soon as possible to reduce avoidable mortality and morbidity?
 2. Which activities must be implemented for this to happen?
 3. What are the risks to be monitored?
 4. How can they be monitored?
 5. Which inputs are needed to implement all these?
 6. Who will be doing what and when?
- I. Emergency Contacts: local donor representatives, DOH counterparts, and neighboring regional directors
 - J. Annexes: include all detailed information that are relevant

References and further readings:

ADPC WHO. (2009). *Module 9: Health Assessments in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

ADPC WHO. (2008). *Module 9: Health Assessments in 8th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

2.1.3.2 Damage Assessment and Needs Analysis (DANA)

A multi-sectoral, team activity uses standard protocols to collect data that is analysed to define the following:

- Main problems in relief
- Causative factors of those problems (what needs to be done?)
- Extent of those problems (how much of which resources are needed?)
- Likely trends (for how long?)
- Constraints (climatic, geographic, political, social, logistical, organisational etc.)



The information is used to set priorities and targets for the relief operation and to allocate specific responsibilities to participating agencies.



Information necessary for the health response (health-related portions of the Rapid Damage Assessment and Needs Analysis checklist from the OCD)

3. Medical Health

3.1 Exact locations _____

(barangays, municipalities/cities, provinces regions)

3.2 Number of injured _____

_____ infants _____ children _____ adults (women)

3.3 Displaced families or persons who are in need of medical attention

_____ families _____ persons

_____ infants _____ children _____ adults (women)

3.4 Response status _____

(condition of medical facilities)

3.5 Unmet needs _____

(medicines, medical supplies & teams required from national sources)

3.6 What specific effects has the situation had on health of

survivors? _____

3.7 Are there any health-related cases prevailing in the area? If so, what health care facilities exist where and what? _____

3.8 Who is in charge of emergency health and medical services in the area? _____

3.9 Are there health workers in the community assessing the health and nutritional status of affected children in the evacuation centers? _____

6. Water

6.1 Exact locations _____

(barangays municipalities/cities, province, regions)



6. Number of people without potable water _____
_____ children _____ adults

6.3 Response status _____
(number of people being supplied with potable water by the local
DCCs; condition of supply system and repair status; availability of
surface water)

6.4 Unmet needs _____
(Number of people whom external supplies of water requested and
need for treatment supplies, container and trucks)

6.5 Are there any arrangement for water storage & distribution system in
the area? _____

6.6 Is there water shortage? _____ yes _____ no
_____ date _____ time _____ probable cause

6.7 Is it widespread or concentrated in one area? _____ yes _____ no

6.8 Are there alternate sources of water? _____ yes _____ no

If yes, specify _____

6.9 Did the service providers take immediate repairs?
_____ yes _____ no. If yes, how long will it take to restore the systems?
number of days _____

7. Environmental Sanitation

7.1 Are there enough latrines for sanitary disposal of feces that are
away from water sources, cooking and eating areas?

7.2 Are there washing facilities and adequate cleaning materials?

(Infants 0-1 years old; Children 2-12; Adolescent 13-17; Adults 18 and above)



In order to improve response in the early stage of an emergency, the following disaggregation of the affected population would be most helpful:

- Pregnant and lactating women
- Infants 0-5 months of age
- Infants 6-23 months of age
- Children 24-59 months of age
- Older persons > 60 years old

From the National Nutrition Cluster meeting, 17 May 2011.

Damage and Loss Assessment (DaLA)

Initially developed by the UN Economic Commission for Latin America and the Caribbean (UN-ECLAC) in 1972, DaLA has since been improved to capture the closest approximation of damage and losses due to disaster events. It includes:

- Damage as the replacement value of totally or partially destroyed physical assets
- Losses in the flow of the economy that arise from the temporary absence of the damaged assets
- The resultant impact on post-disaster macroeconomic performance, with special reference to economic growth/GDP, the balance of payments, and fiscal situation of the Government

The functions of DaLA include:

- Guidelines on planning for repair, rebuilding, and reconstruction
- Guidelines on the setting of relief priorities
 - ▶ Function and safety issues
 - Are services deliverable/are facilities being used safe and accessible?
 - Is there a need to repair or provide a temporary service?



- ▶ Needs caused by damage:
 - Direct needs e.g. treating the injured
 - Indirect needs – caused by damage (e.g. loss of access to water supply)

Information Needed

- The population
 - ▶ Demography, culture, geography, climate
 - ▶ Baseline causes of morbidity and mortality
- The support systems:
 - ▶ Information flows
 - ▶ Logistics
 - ▶ Coordination
 - ▶ Communication
 - ▶ Resource flows
- The basic needs:
 - ▶ Food
 - ▶ Water
 - ▶ Shelter
 - ▶ Energy / fuel
 - ▶ Security
 - ▶ Acute medical care
 - ▶ Hygiene and sanitation etc.

Pre-existing Database of Reference Information

- Updated database will help facilitate rapid data-gathering
- References include:
 - ▶ any existing national, provincial or district emergency profiles
 - ▶ local risk assessments



- ▶ local capacity assessments
- ▶ inventory of resources and deficits
- ▶ maps
- ▶ directory of local staff and experts (government and NGO)
- ▶ lists of emergency materials and supplies
- ▶ logistics arrangements for emergencies
- ▶ standing orders and administrative guidelines

Factors Affecting Level of Damage and Needs

- the vulnerabilities of the affected communities
- the readiness of response agencies
- the gaps in essential resources
- the impact, extent, and duration of the hazard

Types of Relief Needs/Services

1. Immediate relief needs
2. Short and medium-term relief needs
3. Logistics, Communications, Transport, Personnel
4. Epidemiology and Surveillance
5. Public Information and Community Participation
6. Monitoring, Evaluation, and Reporting
7. Rehabilitation and Reconstruction

Categories of Information

The assessment involves the collection of two key categories of information:

- Analysis of the damage to:
 - ▶ critical resources
 - ▶ critical infrastructure and fixtures
 - ▶ critical services



- Analysis of the needs of the victims:
 - ▶ immediate needs arising from the situation
 - ▶ future needs arising from damage/disruption to services/infrastructure

Information on Victims

A report describing the impact of a hazard will provide the following:

- Number of casualties
 - ▶ Killed, injured, sick, disabled
 - ▶ by age, sex, location, and probable cause of death
- Number of affected
 - ▶ Total, severe, critical

Classification Based on Severity

The following is used to describe the severity of the impact on people:

- **affected**
 - ▶ all those living within the geographical area involved
- **severely affected**
 - ▶ those who have lost one or more of their lifelines
- **critically affected**
 - ▶ those who have lost all of their lifelines
 - ▶ those who have been displaced (i.e. those totally dependent on others to support them)



Classification as per OCD Memorandum Circular No. 079 s.2011:
Guidelines and criteria in reporting of disaster incidents.

Mildly Affected – are those families who are affected but whose houses are not destroyed and families who do not need assistance;

Moderately Affected - are those families whose houses are not damaged but need assistance, hence they are being served outside evacuation centers;

Severely Affected - are those directly affected families whose houses are either totally or partially damaged and who urgently need immediate assistance;

Displaced Population - are part of the affected population who are uprooted from their original place of residence and employment and who stayed either inside or outside evacuation centers (relatives and friends)

Critical Services – Basic Needs and Lifelines

- Basic needs are the minimum requirements for the survival of the affected population (also called “pre-requisites for health”):
 - ▶ water
 - ▶ food
 - ▶ shelter (and clothing in cold climates)
 - ▶ energy (fuel)
 - ▶ (acute medical care)
- Lifelines are services required to deliver the basic needs:
 - ▶ Utilities (water, electricity, gas) – sources and networks
 - ▶ Communications systems



- ▶ Transport networks (air, sea, road)
- ▶ Distribution systems
- First priority of Government – restore lifelines and meet basic needs

Assessing Facilities and Services

- For each facility or service in the affected area, the assessment classifies facilities according to function:
 - ▶ destroyed / no function possible
 - ▶ more than 50% reduction in capacity
 - ▶ less than 50% reduction in capacity
 - ▶ undamaged / full function

References and further readings:

ADPC WHO. (2009). *Module 9: Health Assessments in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

ADPC WHO. (2008). *Module 9: Health Assessments in 8th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

DOH. (2011). *Health Assessments presentation in 10th Philippine National Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

OCD. (2011). *Memorandum Circular No. 079 s.2011: Guidelines and criteria in reporting of disaster incidents*.

OCD. (2011). *Rapid Damage Assessment and Needs Analysis checklist in Form I, II, III for local DCCs*.

World Bank. (2010). *Disaster Risk Management: Damage and Loss Assessment*. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/EXTDISMGMT/0,,contentMDK:20196047~menuPK:1415429~pagePK:210058~piPK:210062~theSitePK:341015,00.html>

WHO. (2007). *Health sector assessments in emergencies presentation in the 3rd annual regional training course on the management of public health risks in disasters for the Eastern Mediterranean. Cairo, 20-31 May 2007*.



2.1.3.3 Public Health Surveillance

Public Health surveillance is the ongoing and systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice. It is closely integrated with the timely dissemination of these data to those who need to know.

The final link in the surveillance chain is the application of these data to prevention and control. A surveillance system includes a functional capacity for data collection, analysis, and dissemination linked to public health programs.

Objectives of Public Health Surveillance

- Establish priorities, follow trends, identify vulnerable groups, and high risk situations and reassess priorities
- Detect and respond to epidemics as needed
- Ensure targeting of resources
- Evaluate program progress / effectiveness or quality of health care

Some examples of surveillance systems include:

1. **Case-based Surveillance** - It is defined as the collection of specific data on each case as determined by a national coordinating body;
2. **Event-based Surveillance** - This is the organized and rapid capture of information about events that are a potential risk to public health – either related to the occurrence of disease or to the potential exposure for humans;
3. **Early Warning Surveillance Systems** - An Early Warning Surveillance system is a type of Health Surveillance IMS that is



solely dedicated to collecting data on epidemic-prone diseases to trigger prompt and timely response; and

4. **Syndromic Surveillance** - A relatively new surveillance method that employs health-related data that precede a formal diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response.

References and further readings:

Aran, C. (January 2010). The Public Health Observer. *Types of Surveillance Systems*. Retrieved from: <http://publichealthobserver.com/types-of-surveillance-systems/>

Koo, Denise. (2000). *Overview of Public Health Surveillance*. Epidemiology Programme Office, Centers for Disease Control and Prevention. Retrieved from: <http://www.cdc.gov/ncphi/diss/nndss/phs/overview.htm>

DOH. (March 2008). *Manual of Procedures for the Philippine Integrated Disease Surveillance and Response. 1st Edition*. Department of Health – National Epidemiology Center, Philippines.

WHO-WPRO. (2008). *A Guide to Establishing Event-Based Surveillance*.

WHO. (7-8 December 2009). *Early Warning Surveillance and Response in emergencies: Report of the WHO technical workshop*. World Health Organization, Geneva.

2.1.3.4 Risk Communication

It is the process of bringing together various stakeholders to come to a common understanding about risks, their acceptability, and the actions needed to reduce the risks.



Clear communication with the public is essential **before, during, and after** an emergency or disaster.



Objectives:

- To advocate policy development and structural reforms
- To stimulate behavioral change through information and education of communities, health personnel, and decision-makers
- To facilitate the translation of information during emergencies into tangible action
- To prevent misallocation and wasting of resources
- To decrease illnesses, injuries, and deaths

2.1.3.4.1 Principles of Risk Communication

- Accept and involve the public as a legitimate partner
 - ▶ Exercise the fundamental right to information on risks
 - ▶ Share dilemmas
 - ▶ Share responsibilities to arrive at better choices
- Listen to and appreciate the public's concerns
 - ▶ Be sensitive to the public's emotions
 - ▶ Legitimize people's fears
 - ▶ Tolerate early overreactions but warn against their possible negative consequences
 - ▶ Keep in touch with your own humanity
 - ▶ Speak clearly and with compassion
- Be honest and open. Do not mislead by providing incomplete or false information
 - ▶ Never over-reassure
 - ▶ Err on the side of alarm
 - ▶ Acknowledge uncertainty and warn the public about it
 - ▶ Coordinate and collaborate with other credible sources



- ▶ Name a primary spokesperson and his alternate
- ▶ Establish a network and develop formal communication channels
- ▶ Carry out joint-planning and regular communication
- Plan carefully and evaluate your efforts
 - ▶ Gauge public's level of knowledge about risks and events
 - ▶ Consider "teachable moments"
 - ▶ Solicit feedback
- Meet the needs of the media to ensure that they provide accurate and useful information

2.1.3.4.2 Elements of Risk Communication

- WHO: The "Spokesperson"
 - ▶ In a key position
 - ▶ With media experience
 - ▶ Responsible, calm, and confident
 - ▶ Able to speak clearly and convincingly



What makes a "good" spokesperson?

- Media-savvy
- Confident at all times
- Competent (has sufficient knowledge and information)
- Fluent in the common languages
- Respected by the public
- Versatile (e.g. can project qualities of a statesman or a brawler, as needed)
- Always available (24 hours/day, 7 days/week).

**An equally good alternate exhibiting the above qualities should also be identified.*



What do Spokespersons need to effectively communicate risk?

- Up-to-date information and facts cleared for release
- Resources and contacts

- **WHAT:** The Message
 - ▶ What we know about the situation
 - ▶ What ‘we’ (ex. health authorities) are doing about the situation
 - ▶ What ‘you’ (the community) can do about the situation



What do the people want to know?

- What happened? (Incident and Scope)
- Why did it happen? (Cause)
- Who or what should be held responsible? (Accountability)
- What is being done about it? (Action)
- What will prevent it from recurring? (Result)

- **WHAT:** The Message Development
 - ▶ Bring it down to the basics: simplify
 - ▶ Provide recommended actions
 - ▶ Be positive: provide more “dos” than “don’ts”
 - ▶ Don’t lie
 - ▶ Be sympathetic
- **To WHOM:** The “Audience”
 - ▶ The audience will be the individuals and communities affected by the risk/emergency/disaster
 - ▶ Keep in mind the following:
 - People react differently to risks - real or perceived
 - How do we deal with the emotional component of how people respond?



- How do we help people to interpret the risk and respond to risk in constructive ways?
- WHY: The Purpose
 - ▶ Address the strong desire of the public for authoritative information
 - ▶ Clarify all the inaccurate information circulating about the effects of the emergency and public anxiety
 - ▶ Help assure the public and respond to the strong demand for a variety of services immediately
- HOW: Communication Channels
 - ▶ Mass media (TV, radio, newspaper, cinema, internet)
 - ▶ Stand-alone audio-visual (video, audio, public address system, loudspeakers, sirens)
 - ▶ Telephone (mobile, landline, SMS, facsimile)
 - ▶ Face-to-face (group meetings, seminars, workshops, conferences, marches, exhibitions, door-to-door knocking, community leaders)
 - ▶ Folk Media (story-telling, drama, dance, song, puppet show, street entertainment)
 - ▶ Stand-alone print (billboards, posters, banners, distributed print, leaflets, pamphlets, brochures)
 - ▶ Mail (postal, direct mailing)

2.1.3.4.3 Steps in Communicating Risks

1. Verify situation
 - ▶ Get the facts
 - ▶ Obtain information from additional sources to put the event in perspective



- ▶ Review and critically judge all information; Determine credibility
 - Acknowledge what you don't know
 - Acknowledge that information will/may change
 - ▶ Clarify information through subject matter experts
 - ▶ Begin to identify staffing and resource needs to meet the expected media and public interest
 - ▶ Determine who should be notified of this potential emergency
2. Conduct notifications
3. Activate crisis plan
- ▶ Ensure direct and frequent contact with the EOC
 - ▶ Determine what your organization is doing in response to the event
 - ▶ Determine what other agencies/organizations are doing
 - ▶ Determine who is being affected by this crisis:
 - What are their perceptions?
 - What do they want and need to know?
 - ▶ Determine what the public should be doing
 - ▶ Determine what is being said about the event(Is the information accurate?)
4. Organize assignments
- ▶ Identify the spokesperson for this event
 - ▶ Determine if subject matter experts are needed as additional spokesperson
 - ▶ Determine if the organization should continue to be a source of information to the media about this emergency, or



would some issues be more appropriately addressed by other government entities?

5. Prepare information and obtain approval/clearance
6. Release information to media, the public, and partners through arranged channels
 - ▶ Provide only information that has been approved by the appropriate managers; do not speculate
 - ▶ Repeat the facts about the event
 - ▶ Describe the data collection and investigation process
 - ▶ Describe what your organization is doing about the emergency
 - ▶ Describe what other organizations are doing
 - ▶ Explain what the public should be doing
 - ▶ Describe how to obtain more information about the situation
7. Conduct public education
8. Monitor events
9. Obtain feedback and conduct communication evaluation

2.1.3.4.4 Media Management

- One individual or organization should have overall responsibility for public comment and information
- Spokespersons are identified to speak to the media for specific topics
- Arrangements should be made with electronic and print media to advise the public of imminent or actual emergencies
- Activities are recommended to build relationships with the mass media, such as participation in planning seminars, exercises, and staff training



- Messages (and background information) are prepared in advance for specific types of risks and situations
- Authorities and organizations should inform the media and make them aware of their roles and responsibilities, national plans, preparedness activities, decision-making processes, and the operating practices of managing all types of risks
- Past experiences have shown the value of immediately implementing the following:
 - ▶ Control and limit access to the disaster site
 - ▶ Setup on-site facilities for issuing passes to media personnel (or accredit media representatives)
 - ▶ Establish a media liaison point
 - ▶ Nominate a media spokesperson
- Because reporters tend to look for survivors and emotional issues, always prioritize the needs and manage survivors first before allowing interviews
- Factual statements, especially those coming from emergency services' eye witness, are always welcomed by the media
- Authorities must be careful in releasing information about casualties to the media before details have been confirmed and next of kin have been informed
- Authorities must keep to the facts and remain objective to avoid influencing potential criminal prosecution



Working with the Media

- Stick to facts and put them in context
- There is no such thing as 'off-the-record'. Everything you say and do can be reported. Be careful with what you say in the presence of journalists even after a formal interview is finished and at social gatherings
- Never make disparaging or critical remarks about local authorities or international partners
- Do not mention weaknesses as these might be all that is reported

Press Releases:

- The titles and opening lines are the most important parts.
Make sure they effectively grab attention and provide relevant information.
- Put key points in the first paragraph.
- Be brief.
- Use language appropriate to the audience.
- Advocate health in general.
- Share credit and visibility with partners.

References and further readings:

- DOH. (2008). *Risk Communication presentation in 8th National Training Course on Public Health and Emergency Management in Asia and Pacific.*
- ADPC WHO. (2009). *Risk Communication module in 9th Inter-Regional Training Course on Public Health and Emergency Management in Asia and Pacific.*
- CDC. (2002). *Crisis and Emergency Risk Communication.*
- World Health Organization (Western Pacific Regional Office) and South East Asian Ministers of Education Tropical Medicine and Public Health (SEAMEO TROPMED) Network. (2009). *Regional Training Course on Health Emergency Response Operations (HERO). Module 6: Risk Communication.*
- Lanard, Jody (2009). *Regional Training Course on Risk Communication in Health Emergencies. Module 3: Implementation/Delivery of Risk Communication.*



2.1.4 Logistics Management

Logistics management refers to a system that provides the means to acquire and deliver resources:

- to the Right Place
- at the Right Time
- in the Right Quantity
- at the Right Quality
- at the Right Price

2.1.4.1 Basic Principles

- Centrally coordinated logistics management with standardized operating procedures (SOPs) should be in place
- Supply of goods and services meets specifications and is readily available when needed
- Source and delivery operations are simple, economical, equitable and transparent
- Transport and storage must have spare capacity

Key Functions in Logistics Management System:

1. Planning
2. Procurement, receiving/delivery, storage
3. Allocation, distribution,
4. Monitoring, tracking, inventory, utilization report
5. Evaluation



Figure 4. Logistics supply chain in normal times (from DOH-HEMS)

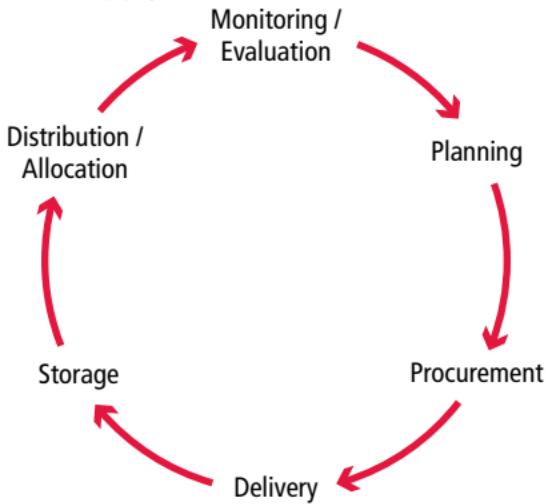


Figure 5. Logistics supply chain in emergencies or disasters (from PHEMAP)





2.1.4.2 Non-human Resources

2.1.4.2.1 Supplies and Equipment

- **In support of the emergency response operation:** Initial procurement of supplies and equipment should be completed early before – in anticipation of any emergency. Stockpile should be composed of:
 - ▶ PPEs
 - ▶ Medicines and vaccines
 - ▶ Medical and dental supplies and materials
 - ▶ WASH requirements (reagents for water testing, container, water purification, and disinfectants)
 - ▶ Different kits
- **In support of the deployed teams:** Make an inventory of resources and ensure its availability during an emergency
 - ▶ Transportation
 - ▶ Communication
 - ▶ Deployment kit for the teams
 - ▶ Administrative equipment(e.g. uniform, identification cards, money)
 - ▶ Food and water
 - ▶ Shelter or accommodations for the team
- Updated SOPs that describe all phases of emergency response operations must be distributed (and made known) to all partners:
 - ▶ Customs clearance facilitation
 - ▶ Recovery of unused items/waste management



- ▶ Delegation of authority
- ▶ Financial matters
- Make advance planning and establish a good relationship with all partners (dealers/suppliers). Consider emergency response simulation exercises.
- Ensure:
 - ▶ Availability and replenishment of supplies
 - ▶ Above minimum requirements at all levels
 - ▶ Good quality of supplies
 - ▶ Safe and secure supply chain

2.1.4.2.2 Transportation

- Consider the movement of team, patients, supplies, and samples
- Plan in advance for the **right** kind of transport necessary throughout the operation
- Include daily maintenance of vehicles, available spare parts, and fuel
- Choose routes according to security situation, road condition, distance, and urgency of delivery

Security related to logistics operation aims to avoid looting and wastage:

- Warehouse with a competent and reliable staff, security personnel, and security alarm system should be designated
- Warehouse must be clean, free from pests, and leaks
- Transport of supplies should be done at daytime



2.1.4.2.3 Communication

- Ensure the appropriate equipment for the place and situation
- Ensure proper installation, use, and maintenance of communication equipment
- Train team members, including drivers, on equipment use and maintenance
- Maintain updated contact numbers of agencies and suppliers

2.1.4.2.4 Donations

Donation refers to the act of liberality whereby a foreign or local donor disposes gratuitously cash, goods, or articles, including health and medically-related items to address unforeseen, impending, occurring or experienced emergency and disaster situations, in favor of the Government of the Philippines, which accepts them (A.O. 2007-0017: **Guidelines on the Acceptance and Processing of Foreign and Local Donations during Emergency and Disaster Situations**).

In close coordination with other offices, DOH-HEMS shall review, evaluate, and facilitate the formal acceptance of donations from both local and foreign donors during an emergency or disaster. The need for formal acceptance shall only be waived in situations of acute emergencies provided that the items for donations are well within the UN list of emergency relief items and that these adhere to the following acceptance guidelines.

Guidelines on Acceptance

- DOH shall limit its monetary obligations to the payment of logistics for the transfer of donated items to emergency and



disaster areas. Custom duties, brokerage fees, handling fees, warehousing fees, and others shall be borne by the Donor.

- Acceptance of donations shall be based on the expressed needs of the beneficiaries and be relevant to the disease pattern and health concerns that are prevailing in the area.
- Infant formula, breast milk substitutes, feeding bottles, artificial nipples and teats will not be accepted.
- Foodstuffs should have a shelf life of at least 3 months from the time of arrival in the Philippines.
- Drugs/medicines for donation should comply with the following:
 - ▶ Shelf life of at least 12 months from the time of arrival to the Philippines
 - ▶ Labeling with English translation or in a language that is understood by Philippine health professionals
 - ▶ Packaging that complies with international shipping regulations accompanied by a detailed packing list
 - ▶ Weight per carton not exceeding 50 kilograms
 - ▶ Exclusive packaging with regard to other supplies
 - ▶ Documentary proof of compliance with internationally accepted standards
 - ▶ Documentary proof that the items were obtained from reliable sources
- Medical equipment for donation should comply with the following:
 - ▶ Attached manual of instruction for installation or operation translated in English
 - ▶ Accompanied by a list of service centers in the Philippines where services/spare parts are available



Guidelines for Distribution

- The DOH shall distribute the donated items to emergency and disaster affected areas. The distribution of items for election purposes shall not be allowed nor the repackaging thereof in consideration of elective or appointive government officials
- The DOH reserves the right to distribute and utilize excesses of donated items that result from:
 - ▶ Situations wherein the donation exceeds the requirement in affected areas
 - ▶ Delays in the arrival of donated items to the Philippines

Donation Labeling and Marking



RED

Foodstuff

BLUE

Clothing and household items

GREEN

Medical supplies and equipment

- Labeling:
 - ▶ Label of donated drugs should contain generic name, dosage forms, strength, quantity in container, and expiry date
 - ▶ English should be used on all labels
- Size and weight: Goods should be in a 25-50 kg container, manageable by a single person
- Contents:



- Relief supplies must be packaged by type in separate containers
- An advanced notice to the health coordinator and supply information about the package (e.g., name and contact number of the donor, date, method of transport, details or contents, and other special requirements for handling) must be given

References and further readings:

ADPC WHO. (2009). *Module 10-D: Logistics Management in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

DOH. (2007). A.O. 2007-0017: *Guidelines on the acceptance and processing of foreign and local donations during emergency and disaster situations.*

2.1.4.3 Human Resources

There are three different types of teams for deployment:

1. Assessment teams – perform the DANA/DaLA, RHA
2. Response teams – perform services such as search and rescue, first aid, EMS, etc.
3. Expert (Special) teams – perform specialized services such as HAZMAT, toxicology, SPEED Technical Assistance and Resource Team (START), etc.

Security and Well-being

Security of deployed teams:

- Work and living space
 - ▶ Guarded environment, uncontaminated workplace
 - ▶ Sufficient supply of food and drinking water
- Safe work practices
 - ▶ Proper waste management and safe burials



- ▶ Proper distribution and correct use of PPE
- ▶ Correct isolation and disinfecting practices
- Safe travel
- Safe personal well-being with respect to local culture, religion, rules and regulations
- Health insurance of team members

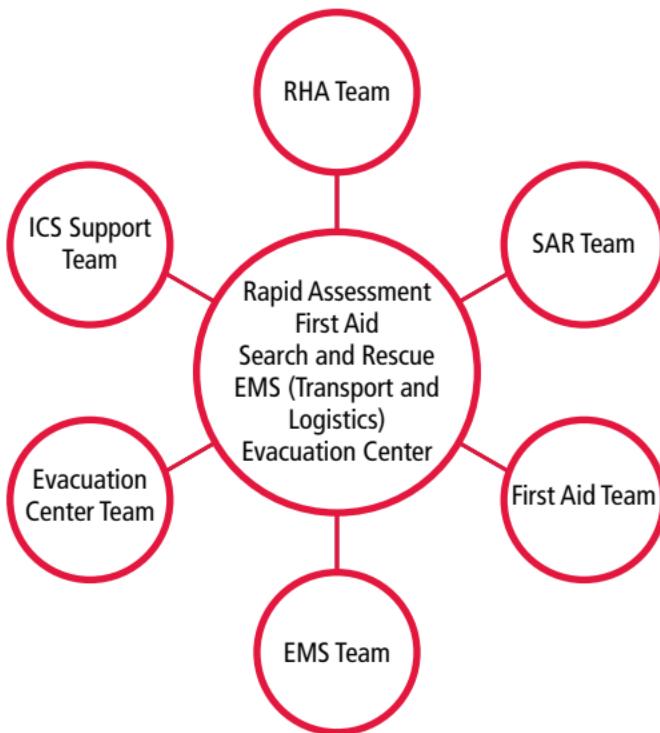
2.1.4.3.1 Organizing Teams

In organizing teams for deployment, consider the following:

1. Time of occurrence of the emergency
 - ▶ Immediately after the emergency
 - ▶ After 24, 72hours, etc.
2. Assessment/situation report as basis for creating teams
 - ▶ Nature of Incident (causative and additional hazards, projected evolution)
 - ▶ Affected area
 - ▶ Magnitude and size of affected population
3. Health impact
 - ▶ Direct impact (causes/rates of morbidity, mortality, malnutrition, etc.)
 - ▶ Other reasons (trauma, burn, disease outbreak, etc.)
 - ▶ Projected evolution of health situation
4. Expressed needs from the affected area
5. Other impacts in the community



- ▶ Lack of safe water
 - ▶ Environmental sanitation
 - ▶ Health facilities and services
6. Existing response capacities



2.1.4.3.2 Further Deployment of Teams

In further deploying teams to the affected area, consider the following:



1. Need to establish a health system
2. Need to support the treatment of injuries
3. Need to support the medical cases
4. Provision of public health services to include disease surveillance
5. Support for resource management
6. Support risk communication
7. Protection and safety of victims and responders

Response Teams for Further Deployment





2.1.5 Networking and Coordination

Networking is the exchange of information or services among individuals, groups, or institutions. It is a purposive engagement in a collaborative process to achieve a common goal.

Coordination is an ongoing process wherein the nature of the relationship depends on what is acceptable among the participating agencies. There is no single model that can be provided. It ensures:

- Information sharing
- Working together with a common goal
- Avoidance of overlapping services
- Regular communication of relevant data

Objectives of Networking and Coordination:

- Improve efficiency, effectiveness, and speed of response
- Provide a framework for strategic decisions
- Unify the strategic approach
- Reduce gaps and duplication in services
- Ensure appropriate division of responsibilities

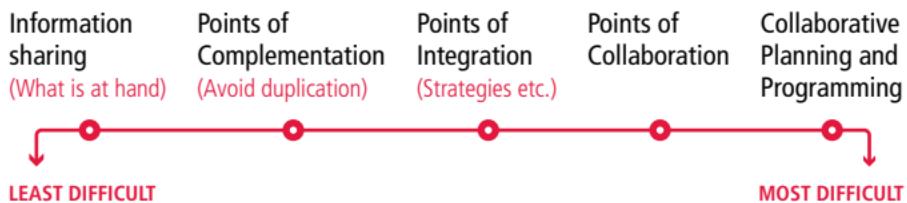
Preconditions to Coordination:

- Have all agencies commit to a common goal
- Develop clear group goals and a mission statement from the start of the engagement
- Define the parameters of coordination
- Enlist and maintain support of top-level management with decision-making authority
- Identify roles of own organization in relation to other participating organizations



- Identify priorities of the whole group
- Identify points of complementation, integration, and collaboration

Spectrum of Coordination Activities



Networking is a continuum of three stages namely:

1. Stakeholder analysis
2. Social mobilization
3. Sustained interaction

During a health emergency or disaster response, networking can both be an intra- (for example: within a hospital) and inter-agency activity (for example: among hospitals). It is also important to understand that these activities operate at different levels. These are local, regional, and national levels. There are several examples of networking and coordination activities. Examples of these are, but not limited to, the following:

- Health sector
- Cluster approach (see section 4.2.4 Ten Ps, Partnership building)
- Inter-local health zones
- Hospital networking and referral system



All activities at any level during a health emergency or disaster response should be coordinated with the national Health Cluster through DOH-HEMS or through the corresponding regional HEMS offices.

A group/agency/organization may directly conduct activities in the local levels only if the local government officially requested such an activity. However, the corresponding regional office of that local government should still be informed of the activity and whatever results or data were generated by the responsible group/agency/organization.

References and further readings:

DOH. (2008). *Guidelines for Health Emergency Management: Hospitals*.

2.1.6 Early Warning Systems

While earthquakes can occur without warning, some hazards such as typhoons, volcanic eruptions, and threats of civil disorders can be anticipated several hours before they impact a community.

Timely warning of an imminent or probable hazard with a potential to cause an emergency or a disaster will probably prevent the occurrence or lessen the severity of its consequences. The extent of such reduction depends upon the interaction of three elements, namely:

- Accuracy of warning
- Length of time between warning being raised/declared and the expected onset of the event
- State of emergency/disaster preparedness



Examples of alert signals and early warning systems are for typhoons signals, tsunami, flood, lahar, volcanic eruptions, the SPEED, and the Integrated Code Alert System for the Health Sector.

Integrated Code Alert System in the Philippines

On July 7, 2008, the DOH released A.O. No. 2008-0024: Adoption and Institutionalization of an Integrated Code Alert System within the Health Sector.

2.1.6.1 General Guidelines in Implementing the Code Alert

	Code Declaration/Suspension		Dissemination
	External Emergencies	Internal Emergencies	
HEMS Central Office	HEMS Director or Division Chief (Response/Preparedness)		<ul style="list-style-type: none">• Telephone brigade• Office order (c/o Admin Office)
DOH Hospitals	<ul style="list-style-type: none">• Secretary of Health• HEMS Director	<ul style="list-style-type: none">• Chief of Hospitals/Medical Center Chiefs*• HHEMS Coordinator• Head of the Disaster Committee	<ul style="list-style-type: none">• Procedures c/o hospital concerned
Center for Health Development		<ul style="list-style-type: none">• Regional Director*• RHEMS Coordinator	<ul style="list-style-type: none">• Procedures c/o region concerned
DOH Central Offices	DOH Sec upon recommendation of HEMS Director (for national emergencies) OR Directors of NEC and NCDPC (for epidemics/reemerging diseases)		<ul style="list-style-type: none">• Dept. Memo• Telephone brigade by HEMS OpCen

*Automatic declaration of Code White during national events, especially with potential of a mass casualty incident (MCI)



2.1.6.2 Conditions for Code Alert Activation

	Code White	Code Blue	Code Red
HEMS Central Office	<ul style="list-style-type: none">Strong possibility of military operation (e.g., coup attempt, armed conflict)Mass action or demonstrationForecast typhoons (signal 2 up)National or local electionsNational event/ holidays with potential for MCIEmergency w/ potential 10-50 casualtiesTerrorist attackUnconfirmed report of reemerging diseases (SARS/ bird flu)Any hazard that may result in emergency	<p>Any condition in Code White plus 2 below:</p> <ul style="list-style-type: none">Mobilization of DOH resources30-50% health facilities affected Incapability of LGU to respondGeographic coverage and affected population >30%MCI with 50-100 casualtiesHigh case fatality rate for epidemicsConfirmed human-human transmission of Avian flu/ SARS	<p>Any natural, manmade, technological or societal disorder, with all present:</p> <ul style="list-style-type: none">Declaration of disaster in area≥100 casualties in 1 areaRegional health personnel incapable of handling entire operationMobilization of health sector neededMobilization of DOH key officesUncontrolled human-human transmission of Avian flu/SARS
DOH Hospitals		<p>Conditions similar to HEMS Central Office plus:</p> <ul style="list-style-type: none">20-50 casualties (red tags) brought to the hospitalInternal emergency in hospital bringing down operating capacity to 50% and evacuation of patients to a Field Hospital	<p>Conditions similar to HEMS Central Office plus:</p> <ul style="list-style-type: none">>50% (red tag) casualties brought to the hospitalHosp services paralyzed due to 50% manpower are victimsHosp damaged structurally requiring patient evacuation



	Code White	Code Blue	Code Red
Center For Health Development		Conditions similar to HEMS Central Office plus: <ul style="list-style-type: none">• Presence of evacuation centers >1 week w/ public health implications• Condition requiring mobilization of entire region	Conditions similar to DOH Hospitals plus: <ul style="list-style-type: none">• Event resulting in mass dead and missing• Disaster declared in ≥ 2 provinces or 30% of Metro Manila cities• Uncontrolled epidemic or outbreak
DOH Central Offices		Conditions similar to HEMS Central Office	Conditions similar to HEMS Central Office

Legend:

Code White is an early warning or standby alert status to prepare for an impending threat or incident. Hospitals are already operating 24/7. However, they must be made aware that there is an impending threat so that preparedness activities will be activated

Code Blue is a response level alert for fifty percent agency resource mobilization. This means that teams have been mobilized to augment existing regular day-to-day resources

Code Red is a response activation alert for full agency resource mobilization. This means that all resources have been mobilized.



2.1.6.3 Human Resource Requirements for Code Response

	Code White	Code Blue	Code Red
HEMS Central Office	<ul style="list-style-type: none">Emergency Officer on Duty (EOD) 1 & 2Driver and security guard to assist at OpCenReliever of EODs 1 and 2 on stand byResponse Division Chief (to serve as MCI Medical Controller)	<ul style="list-style-type: none">HEMS Director or Response Div Chief present at OpCenEOD 1 and 2Driver and security guard assist at OpCenIncoming EOD on callLogistics≥1 DOH rep to go on duty at NDCC if requested	HEMS divided into 3 teams going 24-hr duty every 3 days. Each team with: <ul style="list-style-type: none">Team leader2 Data Collector/ EncoderLogisticsCommunicationAdmin OfficerSupport staffDriver≥1 staff on 24-hr duty OCD OpCen
DOH Hospitals	<p>1st Response Team (ready for dispatch):</p> <ul style="list-style-type: none">2 Doctors (pref. Surgeon, Internist, Anesth)2 NursesFirst aider/ EMTDriver <p>2nd Response Team (on call)</p> <ul style="list-style-type: none">On stand-by:Gen surgeonsOrthopedicAnesthInternistsOR nursesOphthaENTInfectious specialists <p>ER, Nursing & Admin staff residing at hosp dorm on call</p>	<ul style="list-style-type: none">HEMS Coordinator present at hospitalOn-scene response teamER and OR officer-in-chargeAll Ortho & Anesth residentsAll 3rd& 4th year residentsPost duty & on duty surgical teamMental health professionalsToxicologists & chem. experts for poisoningAdmin OfficerNursing supervisorAll OR NursesSocial workersDietaryCSR supplies officerEntire security forceInstitutional workers on duty	<ul style="list-style-type: none">All personnel enumerated under Code BlueAll medical interns and clerksAll nursesAll nursing attendantsAll institutional workersAll admin staff



	Code White	Code Blue	Code Red
Center For Health Development	<ul style="list-style-type: none">• 2 EODs• Driver• Regional HEMS Coordinator on call• 1 Rapid Assessment Team (RAT) ready for dispatch:<ul style="list-style-type: none">▶ DOH rep▶ Nurse▶ Driver	<ul style="list-style-type: none">• RHEMS Coordinator present at OpCen• RAT• 3 Teams on standby:<ul style="list-style-type: none">▶ environmental▶ surveillance▶ medical• EOD 1 & 2• Finance officer Logistics• Health promotions• Driver• All regional staff on standby• All DOH reps in affected area standby at LGU	<ul style="list-style-type: none">• Mobilize all regional staff as needed on rotation basisEstablish surveillance system in all evacuation centers• All other teams deployed in affected area
DOH Central Offices	<p>Concerned directors or designates on stand-by (for code white) or present at respective offices (for code blue):</p> <ul style="list-style-type: none">• Material Management Division• Finance Service• Administrative Service• Procurement and Logistics• NEC• NCHP• Media Relations Unit• NCDPC• NCHFD• Bureau of Quarantine & International Health Surveillance• BFAD		All services should ensure the availability of staff for 24 hours to address all requests for technical and logistical support



If there is a strong possibility for a need to change the alert status from code white to blue to red, the Chief of Hospital is authorized to:

1. Cancel all leaves of personnel and direct them to report to the hospital.
2. Put back-up teams on stand-by within the hospital for rapid deployment.
3. Take other steps necessary to respond to the emergency situation (e.g. cancel elective surgeries, etc.)

References and further readings:

DOH. (2008). A.O. 2008-0024: *Adoption and institutionalization of an integrated code alert system within the health sector*.

DOH. (2008). *Guidelines for health emergency management: Hospitals*.

2.1.7 Documentation: Post-Incident Evaluation (PIE)

Key elements in defining evaluation are:

1. Need for a systematic collection of information
2. Wide range of topics to which evaluation can be applied
3. Identified end-users
4. Wide variety of purposes:
 - ▶ Inform planning sectors
 - ▶ Define progress
 - ▶ Examine efficiency
 - ▶ Examine achievement or effectiveness
 - ▶ Inform decision-making agencies

Post-incident evaluations in the context of health emergency management are conducted during the debriefing of the deployed



teams at the end of the response phase. These usually center on the following questions:

1. What worked well? Why did these work well?
2. What did not work well? Why not?
3. What are the insights from these experiences in the context of the present as well as past events?
4. What are the recommendations for future response work?

PIE is different from debriefing of responders. PIE includes representatives from all stakeholders (multi-sectoral and/or multi-disciplinary) and is a more in-depth evaluation of the whole response operation. Debriefing result is just part of a PIE.

References and further readings:

ADPC WHO. (2009). *Module 13: Evaluation in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

DOH. (2008). *Guidelines for health emergency management: operations center*.

DOH. (2008). A.O. No 2008-0024: *Adoption and Institutionalization of an Integrated Code Alert System within the Health Sector*

2.2 EMERGENCY RESPONSE SERVICES AND ACTIVITIES

2.2.1 Epidemiology and Surveillance

2.2.1.1 Epidemiologic Methods of Emergency Management

In most cases, available data in the field during emergencies and disasters are usually in the form of absolute numbers. These, however, when used on their own without the knowledge of baseline statistics or local conditions (i.e. endemic diseases), may lead to



invalid conclusions. The following methods can help determine the significance of such numbers during emergencies and disasters.

Generating Trends

- Mortality and morbidity can be tabulated to help organize data and monitor the trends of cases during definite time periods
- Data can also be plotted in bar or line graphs to provide a visual representation of the cases.



Any disease outbreak which occurs outside the disaster should be reported and monitored using the regular surveillance system.

Epidemiology in emergencies goes beyond simply understanding how diseases are contracted and spread. It is used to help managers decide the need for, type, and degree of humanitarian assistance.

Calculating rates and proportions (see section 6.3.18 Formulae for Calculating Key Health Indicators)

Some commonly used rates and proportions are discussed below:

- **Incidence.** The number of new cases or events that occur within a defined population that is divided by the total population at risk in which the cases or events occurred in a specific period
- **Mortality rate.** The number of deaths occurring in a population in a specific period (usually a year) divided by the number of persons at risk of dying during that period
 - ▶ **Crude Mortality Rate.** The ratio of the number of deaths occurring within one year to the mid-year population expressed per 1,000 population
 - ▶ **Under Five Mortality Rate (U5MR).** The probability of dying



between birth and age five, expressed as the number of deaths below age five per 1,000 live births during a given period

- ▶ **Case-Fatality Rates (CFR).** The proportion of persons with a disease in a specified period that dies from the disease. It is reported as a percentage.
- **Health Facility Utilization Rate.** The number of outpatient visits per person per year. Whenever possible, a distinction should be drawn between new and old visits. New visits should be used to calculate this rate
- **Number of consultations per clinician per day.** Average number of total consultations (new and repeat cases) seen by each clinician per day

Main uses of the Epidemiologic Methods

- Decide if humanitarian assistance is needed
- Decide if humanitarian assistance is adequate or should change
- Promote advocacy

2.2.1.2 Surveillance System Development

Objectives of Surveillance

- Assess the urgent needs of human populations
- Match available resources to needs
- Prevent further adverse health effects
- Monitor and evaluate program effectiveness
- Improve contingency planning
- Optimize each component of emergency management



Applications

- Hazard mapping
- Analysis of vulnerabilities
- Assessment of the flexibility of the existing local system for emergency
- Assessment of needs and damages
- Monitoring of health problems
- Implementation of disease-control strategies
- Assessment of the use and distribution of health services
- Etiological research on the cause of mortality and morbidity
- Follow-up on long-term impacts of health, etc.
- Operational research

Surveillance System Development

5. Establish Objectives

- ▶ Detect epidemics and unusual clusters or increases of non-communicable disease cases
- ▶ Monitor changes in the population
 - Numbers
 - Health status including nutritional conditions
 - Security
 - Access to food
 - Access to water
 - Shelter and sanitation
 - Access to health services
- ▶ Facilitate the management of relief

6. Develop Case Definitions

- ▶ Standard case definitions of health conditions simplify reporting and analysis from the Department of Health



7. Choose the Indicators

- ▶ Indicators must:
 - Illustrate the status of the population (ex. death rates)
 - Measure the effectiveness of relief (ex. immunization coverage)

8. Determine Data Sources

- ▶ Data can come from health-care facilities ("passive surveillance") and from surveys in the community ("active surveillance")
- ▶ Involve those who provide health care
- ▶ Health surveillance in an emergency requires input from all sectors

9. Develop Data Collection Tools and Flows

- ▶ Use pre-existing local formats and/or international standards
- ▶ Use formats that facilitate data entry (EpiInfo, SPEED)
- ▶ Utilize existing process flows

10. Field-Test and Conduct Training

- ▶ Can these data produce the information required?
- ▶ Training field workers will improve data facility and local analysis

11. Develop and Test the Strategy of Data Analysis

- ▶ Define data entry and analysis methods
- ▶ Data analysis should cover:
 - Hazards and impact on the population's health
 - Quality and quantity of services provided
 - Impact of services on population's health
 - Relation between services provided to different groups (evacuees and hosts)
 - Deployment and utilization of resources



- ▶ Major operations may require a central epidemiological unit
12. Develop Mechanisms for Disseminating Information (Risk Communication)
- ▶ Who will receive the information?
 - ▶ For the information to be useful, it must be disseminated widely and in a timely fashion:
 - Feedback will sustain data collection and the performance of field workers
 - Health information is important for the activities of other sectors.
 - ▶ Sharing information is good coordination
 - ▶ Share information with authorities who manage the cases and the incident
13. Monitor and Assess Usefulness of the System
- ▶ Evaluate the system periodically
 - ▶ Is everybody reporting on time? Which data are missing?
 - ▶ Is there a lack of information in areas or programs that have problems?
 - ▶ Is the system useful?
 - ▶ Is the information generated by the system being used for decision-making?
 - ▶ If not, readjust the system

2.2.1.3 Surveillance in Post-Extreme Emergencies and Disasters (SPEED)

Surveillance in Post-Extreme Emergencies and Disasters (SPEED) is an early warning tool developed by the DOH-HEMS, in collaboration with the WHO after the leptospirosis outbreak during the disaster



caused by Typhoon “Ondoy” (Ketsana) had highlighted the need for getting vital information to effect appropriate and timely response during emergencies and disasters.

2.2.1.3.1 Overview

- SPEED is an early warning system and is activated only during emergencies and disasters.
- The SPEED System makes use of simple, standardized reporting forms as the default mode of data submission from the field.
- Health workers can use Short-Messaging System (SMS or text messaging via mobile) or the web-based SPEED software to submit their collected data to the SPEED system to provide real-time information to decision-makers.
- SPEED monitors a total of 21 identified disease entities (15 communicable diseases as syndromes and 6 non-communicable disease conditions) in evacuation centers and affected communities, while it monitors the same with the corresponding initial diagnoses in hospitals.
- SPEED is built upon the existing recording and reporting mechanisms used by health care workers.
- SPEED focuses only on descriptive analysis and is not confirmatory to warrant the declaration of outbreaks.
- SPEED has identified Immediate Notification Alert Thresholds that may signify possible outbreaks that require immediate investigation.
- Data analysis and generation of reports are automated for rapid feedback to programs.
- SPEED should ideally be activated by health emergency managers through the MHO/CHO within the first 24 hours post-disaster



- Reports are expected within 48-72 hours upon activation but no later than one week post disaster under certain conditions.
- The MHO/CHO acts as the SPEED Team Leader and ensures that data from his governed health facilities are validated and submitted into the system.
- The SPEED system is online 24/7.
- All reports made should be ideally submitted by 5:00PM daily via SMS or encoded online.
- Reporting is done daily for the first three weeks and shifts to weekly reporting (unless terminated)
- Higher levels (Provincial, Regional, and National) shall monitor lower levels to make sure that data are validated and submitted on time.
- The SPEED Technical Assistance and Response Team (START) is a specialized rapid deployment group equipped with technical skills and resources that can be mobilized in situations where RHU or the CHO is affected by the disaster to such a degree that it is unable to activate SPEED.

2.2.1.3.2 Suggested Outline for SPEED Daily/Weekly Reports

A. Background

1. Nature of Emergency
2. Date
3. Affected Area

B. Health Consequences

1. Affected Health Facilities
2. Affected Population
3. Daily/weekly updates of syndromes/events under SPEED with tables/charts/maps generated
4. Significant information (ex. relationship of the significant



diseases reported in relation to the environmental condition/ health status, like vaccination coverage.)

- c. Actions Taken (response by the health facility (MHO/CHO), the LGU, other agencies)
- D. Recommendations (specify according to the levels and agencies to which they are directed)

References and further readings:

The Johns Hopkins and the International Federation of Red Cross and Red Crescent Societies. (2008). *Public Health Guide for Emergencies*, 2nd ed.

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2.2.2 Mass Casualty Management

2.2.2.1 Mass Casualty Incident (MCI)

MCI refers to any event resulting in a number of victims significant enough to disrupt the normal course of emergency and healthcare services.

Different Approaches to MCI:

1. "Scoop and Run" Approach
 - ▶ Most common approach
 - ▶ Does not require specific technical expertise of rescuers
 - ▶ Justified for incidents involving small numbers occurring near a hospital
 - ▶ Cases may just be transferred to the hospital
2. Classical Approach
 - ▶ First responders are trained (basic triage and field care)
 - ▶ No coordination between the field and receiving hospitals
 - ▶ Use of this approach quickly results in disorganization and chaos
3. Mass Casualty Management Approach
 - ▶ Most sophisticated approach which includes pre-established procedures for resource mobilization, field management, and hospital reception
 - ▶ Involves training of responders at various levels
 - ▶ Incorporates clear coordination between field and health care facilities
 - ▶ Integral concepts include setting up a command post and dealing with multi-sectoral response



- ▶ Approach is dependent on the availability of large amounts of human and material resources

2.2.2.2 Components of Field Management

Field Organization Checklist

- Situation Assessment
- Report to Central Level
- Pre-identification of Work Areas
- Safety
- Primary Area: Impact Zone
- Secondary Area Units: Command Post (CP)/ Advanced Medical Post (AMP)/ Evacuation (EVAC)/ Transfer (TRANSFER)
- Radio Communications
- Crowd and Traffic Control
- Search and Rescue
- Triage and Stabilization
- Controlled Evacuation

Field Management

- Encompasses procedures used to organize the disaster area in order to facilitate the management of victims
- Components:
 - ▶ Alerting process
 - ▶ Pre-identification of field areas
 - ▶ Safety/security
 - ▶ Establishment of Command Post (CP)
 - ▶ Search and Rescue (SAR)
 - ▶ Field care
 - ▶ Evacuation Management Center (EMC)



Alerting Process

- Sequence of activities implemented to achieve the efficient mobilization of adequate resources
- Aims to confirm the initial warning, evaluate the extent of the problems, and ensure that appropriate resources are informed and mobilized
- Dispatch center:
 - Core of the alerting process (Operation/Communication Center)
 - Functions to receive all warning messages (radio/phone) and to mobilize a small assessment team (Flying Team) from police, fire, or ambulance services

Initial Assessment

- Determine precise location, time, and type of the event
- Estimate number of casualties
- Evaluate added potential risk
- Determine exposed population
- Estimate resources needed

Pre-identification of Affected Areas

- Impact zone
- Command post
- Collecting area in unstable location
- Advance Medical Post area (3-T Principle)
- Evacuation area
- VIP and press area (Information officer)
- Access roads (geographical presentations if available)
- Checkpoint for resources (Staging area)



Safety/Security

- Use best practices and techniques to protect victims, responders, and exposed population from immediate/potential risks
- Direct action measures:
 - ▶ Risk reduction (firefighting)
 - ▶ Containment of hazardous material
 - ▶ Evacuation of exposed population
- Preventive actions: establish designated field areas
 - ▶ Primary - Impact zone
 - ▶ Secondary - Rescue/Incident Command Post (ICP)/Advance Medical Post (AMP)
 - ▶ Tertiary- "buffer zone"; tri-media
- Personnel safety: fire services; specialized units for hazardous materials and explosives (bio-nuclear and radioactive materials) experts, airport manager, and chemical plant experts, etc.
- Security measure for non-interference of external elements (crowd/traffic control)
- Special safety considerations:
 - ▶ Protect workers from external influence (additional stress)
 - ▶ Free flow: victims/resources
 - ▶ Protect general public from risk exposure (ensured by police officers/special units or security in airports, buildings, hospitals, establishments, etc.)

Command Post/Incident Command Post (CP/ICP)

- Multi-sectoral control unit:
 - ▶ Coordinate sectors involved in field/scene management



- ▶ Linked with back-up system: provide information and mobilization resources
- ▶ Supervise victim management
- Requisite: Radio communication network is essential for CP to be effective
- Purpose: Coordination and communication hub of people who do not work routinely (pre-hospital setting)
- Location: External boundary of restricted area (impact zone) close to AMP/ Evacuation Area; accessible and easily identified; and can accommodate visuals, maps, and boards
- Personnel:
 - ▶ High-ranking officer (government, police, fire, health, defense)
 - ▶ Identified by name/position, coordinator / commander
 - ▶ Selection of personnel dependent on type of incident
 - ▶ Must be familiar with each other's roles during previous meetings, drills, simulation exercises, and policies
 - ▶ Core group cooperates with volunteer organizations
- Method: As the communication and coordination hub of the pre-hospital organization, the CP will identify needs to increase or decrease resources through constant reassessment:
 - ▶ Organize timely rotation of rescue workers exposed to stressful/exhausting conditions, in close coordination with back-up system
 - ▶ Ensure adequate supply of equipment / manpower
 - ▶ Ensure welfare / comfort of rescue workers
 - ▶ Provide information to back-up system, other officials, and tri-media through an Information Officer



- ▶ As soon as situation allows, emergency staff is released and normal operations reestablished
- ▶ Determine termination of field operations

Search and Rescue Team

- Under supervision of the CP/IC/or Commander/Coordinator
- May require trained medical personnel in special situations
- Roles:
 - ▶ Locate victims
 - ▶ Remove victims from unsafe locations – collecting area
 - ▶ Assess victims' status (on-site triage)
 - ▶ Provide first aid, if necessary (no CPR on-site in MC Event)
 - ▶ Stabilize/resuscitate/amputate (trapped) victims before extrication
 - ▶ Transfer victims to AMP thru entry triage (medical triage)

Field Care

- Pre-established capabilities/inventory: **Pre-planning**
- Integrated community plan: **Practiced with policy support**
- The “Golden Hour” Principle
- Establish advanced medical post with skilled and disaster-trained field medical teams capable of good triage/stabilization, and with efficient (radio) communications between the field scene and medical facility

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ADPC WHO. (2009). *Module 7-B: Mass Casualty Management in 9th Inter-Regional Training Course on Public Health and Emergency Management in Asia and Pacific.*

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2.2.2.3 Triage and Stabilization

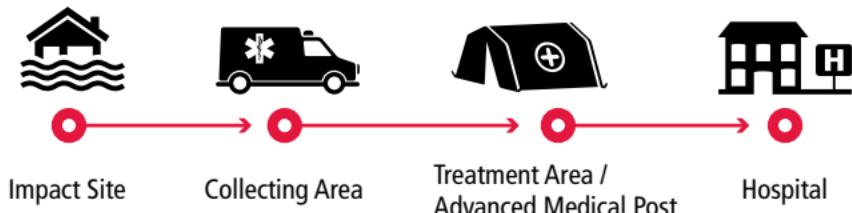
Triage

- Objective: to quickly identify victims in need of immediate stabilization or transport, and the level of care needed by these victims by assessing circulation, airway, and breathing (CABs)
- Basis:
 - ▶ Urgency (victims' status)
 - ▶ Survival (chance or likelihood)
 - ▶ Care resource availability and capability
- **On-Site Triage** ('where they lie')
 - ▶ Acute
 - ▶ Non-acute
- Secondary to mass casualty events, the triage is a system of prioritizing victims who need medical or surgical attention. It can be observed in as much as four locations:
 - ▶ Impact Site – **reverse triage** where all victims who can evacuate without assistance should go first, followed by the rest whose evacuation would require the use of any rescue equipment
 - ▶ Collecting Area – triage here identifies those who should go first to the treatment area
 - ▶ Treatment Area/Advance Medical Post – see next section



- ▶ Hospital – triage here identifies those who should go first to the operating room or to the respective services/specialties as appropriate

Figure 6. Possible Triage Locations



Medical Triage (at Advance Medical Post)

1. Priority One (Highest Priority)

RED TAG

- ▶ Immediate care and transportation
- ▶ Patients receive treatment at the scene for life-threatening injuries
- ▶ First to be sent to available medical facilities

2. Priority Two (Intermediate Priority)

YELLOW TAG

- ▶ Urgent care
- ▶ May delay treatment and transport up to one hour



3. Priority Three (Delayed or Low Priority)

GREEN TAG

- ▶ “Walking-wounded”
- ▶ May delay treatment and transport up to 3 hours

4. Priority Four (Lowest Priority)

BLACK TAG

- ▶ No care required; patient is dead or near-death
- ▶ Hardest priority to deal with emotionally
- ▶ Necessary to triage for others to survive

Evacuation Triage (for transport)

1. **RED TAG**

- ▶ Transfer as soon as possible to tertiary facilities in an equipped ambulance with a medical escort

2. **YELLOW TAG**

- ▶ Transfer after evacuation of red-tagged patients; without life-threatening problem

3. **GREEN TAG**

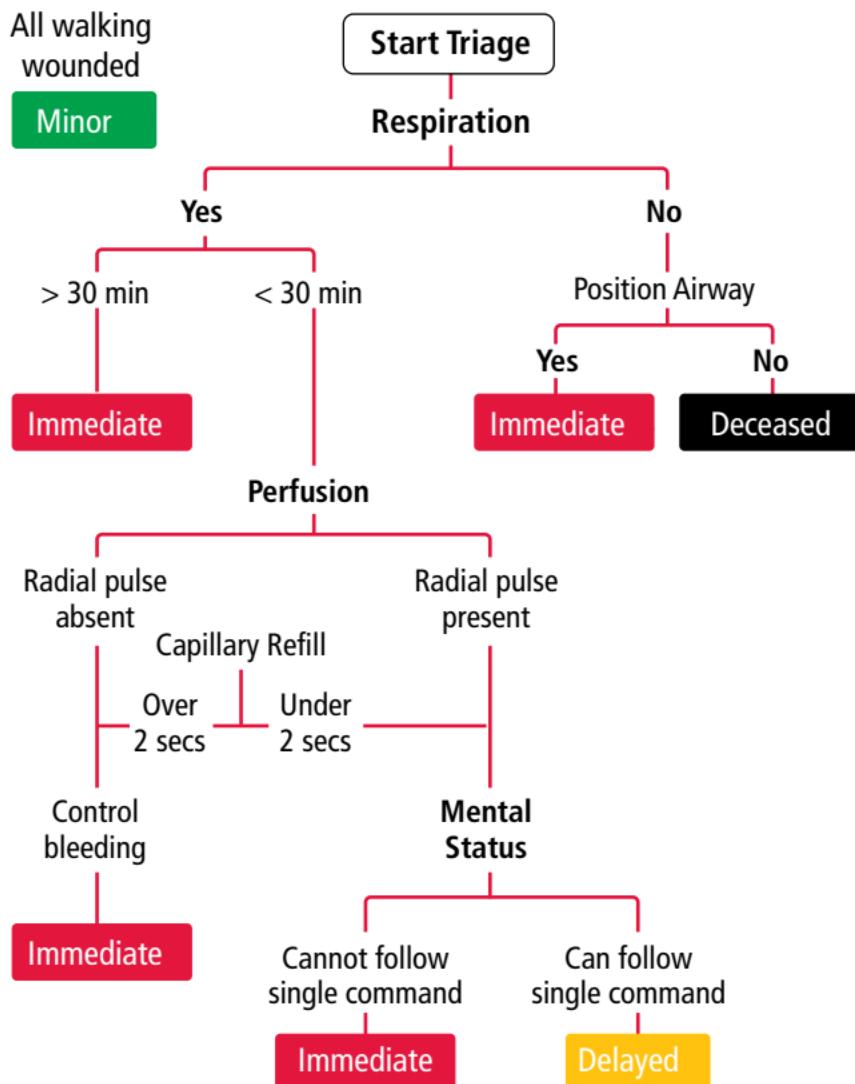
- ▶ Transfer to AS/OPD

4. **BLACK TAG**

- ▶ Transfer to morgue for forensic services
- ▶ Give public health and psychosocial intervention for relatives and kin



Figure 7. Triage Flowchart at the Advanced Medical Post





Patient Assessment

1. Respiration

- ▶ Greater than 30/min > **RED TAG** (priority one)
- ▶ Less than 30/min > move on to assessing pulse
- ▶ If not breathing:
 - Quickly make sure mouth is clear.
 - Open airway with head tilt method.
 - If patient does not start to breathe with simple airway maneuvers > **BLACK TAG** (priority four)

2. Circulation

- ▶ Check pulse rate and quality (radial area) in no more than 5 seconds
- ▶ If pulse is strong, move on to assess mental status
- ▶ If pulse is weak/irregular > **RED TAG** (priority one)
- ▶ If no pulse > **BLACK TAG** (priority four)

3. Mental Status

- ▶ Have patient respond to simple commands such as “open your eyes” or “squeeze my hand”
- ▶ If patient can perform this function, is breathing and has a pulse > **YELLOW TAG** (priority two)
- ▶ If patient is unresponsive and cannot follow simple commands > **RED TAG** (priority one)

First Aid

1. Personnel: volunteers, fire, police staff, special units, EMTs, and medical personnel



2. Location:
 - On-site, before moving victim
 - At collecting point or area in an unstable environment
 - “Green Area” of AMP
 - Ambulance in transit to facility
3. Action: Primarily to transfer with consideration of the CABs order of priority

Advance Medical Post

1. Purpose:
 - ▶ Reduce loss of life and limb
 - ▶ Save as many as possible in the context of existing and available resources or situation
2. Location:
 - ▶ 50-100 meters from Impact Zone (within walking distance)
 - ▶ Direct access to the Evacuation Road and Command Post
 - ▶ Safe and clear Radio Communication Zone
3. Role:
 - ▶ Provide “entry” medical triage
 - ▶ Effect stabilization for victims of an MCI (capable of handling intubation, tracheostomy, chest drainage, shock management, analgesia, fracture immobilization, fasciotomy, control external bleeding, and dressing)
 - ▶ Convert red to yellow category as maybe possible
 - ▶ Organize patient transfer to designated care facility/ties
 - ▶ Implement AMP 3-T principle: Tag – Treat – Transfer



4. Personnel:

- ▶ ER (A&ED), physicians/ nurses (trained and skilled)
- ▶ Support: Anesthetists, surgeons, EMTs, nurses, aiders, etc.

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2.2.2.4 Transfer Organization and Evacuation

Refer to procedures used to ensure that victims of an MCI are safely, quickly, and efficiently transferred by appropriate vehicles to the correct and prepared facility

Preparation for Evacuation

1. Single Reception Facility
2. Multiple Reception Facilities
 - ▶ Type of vehicle required
 - ▶ Type of escort required
 - ▶ Destination

Transport and Evacuation Procedures

- Evacuation Officer must ensure the following:
 - ▶ Assessment of patient's status (vital signs, ventilation,



- hemostasis)
- ▶ Security of equipment and accessories
- ▶ Efficiency of immobilization measures
- ▶ Triage tags are secured and clearly visible
- Main principle is not to overwhelm care facility and to avoid spontaneous evacuation of unstable patients
- Victim should be in the most stable condition possible and transport should be adequately equipped for transfer
- Receiving facility must be correctly informed and ready
- Use of the best possible available vehicle and escort must be ensured

Victim Flow

- Ambulance Traffic Control
 - ▶ Radio links to Transport Officer at AMP, Hospital Admission/ER Dept, Command Post, and Ambulance Headquarters
 - ▶ Responsibility of Ambulance Driver to take orders from the Transport Officer
- Police Officers to manage crowd and traffic control
- Use of available mass transport to evacuate and transfer non-acute victims to primary care centers as much as possible

2.2.2.5 Incident Management System

- A standardized, all-hazards incident management concept that allows users to adopt an integrated organization structure to match the complexities and demands of single or multiple incidents without hindrance from jurisdictional boundaries



- Allows for multi-agency operations and response based on incident type
- Shows clear lines of accountability and authority
- Clearly defines roles and responsibilities consistent with normal roles and supported by training
- Creates an Incident Command Post to deal with any incident in an organized manner
- Manages resources, personnel, and equipment to mitigate the incident
- Builds from first responder
- Expands to manage hundreds
- Underscores that implementation is critical for safe and effective operation

Basic Command Types

- **Single**

- Used by emergency units arriving first on the scene
 - Initial incident commander begins assessment of incident
 - Rescue, triage, treatment, transport

- **Unified**

- Multi-agency operations require jurisdiction over agencies involved in the decision-making and planning process
 - Ensures plan is communicated to all involved and supported by all resources assembled

Overview of Incident Command Process

- **Size-up**

- Rapid mental evaluation of factors influencing an incident
 - Continuation throughout the incident with ongoing evaluation



- ▶ Determination of incident situation, incident cause, and incident status
- **Setting Incident Priorities**
 - ▶ Determination of a course of action is determined
 - ▶ Incident stabilization
 - ▶ Protection of critical systems
 - ▶ High-priority life safety for the public and responders
- **Predicting incident course and harm**
 - ▶ Prediction done by responder on what will likely occur during the incident
 - ▶ Use of information available from responder's own experience
- **Strategic goals and tactical objectives**
 - ▶ Broad general statements of desired outcome of the incident

Organization

Comprised of two major categories which assist in organizing functions into an effective design:

- Command Staff
 - General Staff
1. Command Staff
 - ▶ Incident Commander
 - First person on the scene with communications capability
 - Remains in command until transferred or incident is terminated
 - Exercises complete authority and responsibility
 - Must assume and announce command, rapidly evaluate incident, identify resources on hand, request additional resources, and establish incident action plan



- Fills command staff and functional areas
 - Must approve all information releases to the media
-
- ▶ Safety Officer
 - ▶ Liaison Officer
 - ▶ Public Information Officer
 - ▶ Transfer of Command
 - Assessment is based on the initial responders' experience and comfort level
 - Higher ranking officer does not need to assume command
 - Transfer procedures should be predetermined
 - Detailed briefing is required
 - Face to face is the best method
 - Briefing should include:
 - * Current status
 - * Strategies and tactics employed
 - * Progress
 - * Safety
 - * Accountability
 - * Resources assigned or needed
2. General Staff
- ▶ Operations Section
 - Operations officer functions under direction of the Incident Commander
 - Deploys tactics to control and resolve the incident
 - Is responsible for execution of the incident action plan
 - Makes recommendations for changes to plan based on incident status
 - Oversees and maintains direct contact with the Staging Manager
 - Task supervisors should report to Operations not Incident Command
 - Disaster arena operations functions include:



- * Fire and rescue
- * Law enforcement
- * Public works
- * Mass feeding and sheltering
- * Public health and emergency medical care

► **Planning Section**

- Is responsible for the collection, evaluation, distribution and use of information about the incident
- Forecasts and develops plans to contain and resolve incident
- Communicates with logistics section
- Tracks all resources
- Does reconnaissance and surveillance
- Conducts proper documentation and holds daily briefings

► **Logistics Section**

- Is responsible for providing facilities, services, and materials in support of incident
- Manages equipment, personnel, and associated materials and tools
- Includes Support branch and Services branch
- In IMS, also oversees communications
 - * Coordination with government and local agencies
 - * Supply-ordering and tracking of equipment
 - * Relationship with media and public

► **Administrative / Finance Section**

- Is responsible for financial, administrative, and cost analysis
- Is divided into four units: time, procurement, compensation/claims, and cost
- Handles personnel records, payroll, and finances
- Generally is not located at incident site



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- ADPC WHO. (2009). *Module 10-A: Operations Management IMS in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.
- ADPC WHO.(2008). *Module 10-A: Operations Management medical care pre-hospital in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.
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2.2.2.6 Critical Incident Management

- Demands a coordinated response from all agencies to prevent incident from worsening
- Includes unresolved elements of danger that pose a threat to both citizens and responders
 - Secondary incidents (e.g. additional bomb, or any unusual incident) may be more destructive and damaging than initial incident
- MCIs classify as a critical incident

Initial Response

- Must establish control and command at onset
- Crucially develop a team and place a plan in action
- Protect citizens and rescue victims
- Protect arriving responders
- Limit incident 'growth'
- Identify ingress and egress routes



- Set immediate priorities:
 - ▶ Gain control of the scene
 - ▶ Restore order
 - ▶ Prevent target opportunities

Incident Control (Six-Step Response)

1. Assume Command
 - ▶ The first responder must provide order to the incident
 - ▶ Prevent independent and multiple commands, and reassure responders that someone is in charge
 - ▶ Must advise incoming responders of incident location
 - ▶ Secure tactical frequency (communications)
 - ▶ Request supervisory support
2. Assess the situation
 - ▶ Size up the incident as to type of threat, approximate number of injured, size of threatened area, and possibility of secondary event
 - ▶ Ask questions:
 - What do you have?
 - What are you doing?
 - What do you need?
3. Identify and Set Parameters
 - ▶ Divide the incident into manageable divisions (geographical areas)
 - ▶ Allow command to provide resources where they are needed
 - The Hot Zone
 - * Defines area in which incident occurred
 - * Is secured by placing responders in controlling positions of ingress and egress



- Inner Perimeter
 - * Protects responders in hot zone
 - * Functions as decontamination area, treatment area, and evacuation area for walking wounded
 - * Is accessible to uniformed personnel only
 - Outer Perimeter
 - * Provides last line of defense from internal incident acceleration
 - * Provides first line of defense from external incident acceleration
 - * Secures area for command post, resources and control of media
4. Establish Command Post
- ▶ Typically begin at first responder's vehicle
 - ▶ Incident dynamics will require Incident Commander to shift to a fixed command post
 - ▶ Must be away from hot zone
 - ▶ Ensure support for field personnel, create a controlled environment, and improve communications
5. Assign Safety Officer
- ▶ Base selection on operational experience and ability to recognize acceptable and unacceptable risks
 - ▶ Assign as soon as possible
 - ▶ Know that operations can be stopped or modified
6. Establish Staging Area and Assign Staging Officer
- ▶ Use as an effective tool in the correct and safe deployment of resources
 - ▶ Staging Supervisor must track, rotate, and relieve resources as appropriate



- ▶ Establish an area within inner or outer perimeter to avoid congestion

Recovery

- This begins when aggressive threats of incident are neutralized
- Incident is not over when last patient is transported
- Recovery must be managed aggressively as it poses the longest and most poorly managed part of operations
- Most important goal is document collection
- Information can assist in Post-Incident Analysis, cost recovery, and tracking responder injuries or deaths
- Collection and proper disposal of used medical supplies and biohazard waste from the incident is key
- Critical incident stress management for responders should be provided

References and further readings:

DOH. (2011). *Critical Incident Management presentation in 10th Philippine National Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

Pan American Health Organization. (2001). *Establishing a mass casualty management system*. Washington D.C. 2001.

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2.2.3 Management of Temporary Shelters

2.2.3.1 Overview of Temporary Shelters

Emergency Shelter

- Shelters and settlement strategies contribute to the security, safety, health, and well-being of those affected
- These should be given priority when there is a risk or threat to the civilian population
- Those whose homes can be or have been damaged should be accommodated
- Shelters should be accessible and located away from actual/potential threats and existing hazards
- In most situations, a building large enough to house several families (like a church or gymnasium) may be sufficient initially or for a few days
- Assistance and basic services must be provided at the shelter
- Effective settlement strategies promote recovery and rehabilitation when possible
- Provision of “safe havens” for pregnant and lactating women to provide for privacy during breastfeeding and peer to peer counseling

Requirements for Camp Operation

1. Select an appropriate site
2. Enact a plan for a health emergency shelter (covers issues such as site selection, layout, and shelter)
3. Organize the affected population
4. Determine the needs of the shelter with priority to water and sanitation



5. Establish health services for the shelter
6. Facilitate reporting, documentation and coordination

2.2.3.2 Site Selection

General Considerations in Selection

- Camp size should not be more than 10,000 people
- Shelters for a small number of people are preferred
- Electric power is desirable
- Camp sites should be cleaned regularly
- Do vector control(i.e. insecticide spraying)
- Separate accommodation for unaccompanied children
- Coordinate with local officials for site identification and preparation
- Assign health personnel and welfare staff
- Provide good security
- Establish possible temporary shelters: tents, school, church, gymnasium, cave, makeshift shelter

Field Recommendation in Selection

- Remember that temporary relocation to relatives is ideal
- Use indigenous materials
- Consider lifestyle/culture of communities (i.e. will portable toilets be effective in rural areas?)
- Consider the duration of evacuation (disruption of classes in school buildings used by the local community)
- Organize the required services



Criteria for site selection:

- Adequate water
- Sufficient space
- Good drainage
- No major environmental health hazards
- Access to roads, communications, and to supplies of food, cooking fuel, and shelter materials
- Adequate vegetation or food supply
- Good security
- Consideration for land rights

Planning for a Shelter

- Data needed for emergency shelters
 - ▶ Relevant health statistics such as
 - Fully Immunized Children (FIC)
 - Existing community morbidity (of both the incoming and the receiving community)
 - Nutritional status
 - ▶ Available health personnel
 - ▶ Functional referral system
- Identification of communities for evacuation
- Assignment of affected communities to an evacuation center
- Properly notice to communities, responders/health personnel



Emergency Shelter Guidelines

- Accommodation
 - Minimum floor area: 3.5 m²/ person
 - Minimum air space: 10 m³/ person
 - Minimum air circulation: 30 m³/ person/ hour
 - Minimum distance between beds: 75 cms
- Washing
 - 1 hand basin/ 10 persons
 - 1 wash bench (4–5 m)/ 100 persons
- Laundry platform (3m double-sided)
 - Two/ 100 persons

2.2.3.3 Organizing the Affected Population

- Involve the community in planning evacuation
- Identify community resources available for evacuation process such as motor vehicles, boats, etc.
- Agree on the process (i.e. alert warning, pick-up points and point persons)
- Coordinate with local government agencies
- Implement a color-tagging scheme:
 - ▶ Community is assigned a basic color
 - ▶ A community is matched to an appropriate evacuation center (evacuation center assessed as to number of available rooms, toilet and bath, water and electrical supply, sanitation)
 - ▶ The community/partners are informed
 - ▶ Children are given colored tags



- ▶ Responders are informed of the arrangement
- ▶ Receiving community is informed

2.2.3.4 Determining Shelter Needs

- Important needs include:
 - ▶ Individual and general household items
 - ▶ Clothing and bedding
 - ▶ Cooking and eating utensils
 - ▶ Stoves, fuel, and lighting
 - ▶ Tools and fixings
- As a public health issue, determining such needs may involve utilization of resources of the entire disaster area
- Proper assessment should be conducted
- Rehabilitation of the community services should be considered
- Collaboration with the government and private sector may be required
- In prolonged evacuation, big shelters may be difficult to operate
 - ▶ Need for special services such as stress management must be known
 - ▶ Economic considerations should be addressed
- Mass evacuation should be avoided unless it is absolutely necessary

2.2.3.5 Establishing Health Services

Medical Services

- Regular consultation and follow-up of cases as reported by the disease surveillance teams



- Distribution and management of available medical supplies
- Health personnel to go on 24-hour duty at the clinic in the evacuation center with the following responsibilities:
 - ▶ Make available list of patients for consult
 - ▶ Refer emergency patients for treatment
 - ▶ Conduct inventory of available resources

Disease Surveillance

- Refer to Section 2.2.1.3 on Surveillance in Post-Extreme Emergencies and Disasters (SPEED)

2.2.3.6 Reporting, Documentation, and Coordination

- Required for situational analysis
- Provides a guide for day-to-day and future management
- Will show resources that are available
- Presents a basis for liquidation
- Is not entirely for media consumption; release of reports to media should be agreed to by all players

Operational Concerns

- Shared resources should be monitored based on agreement and/or operational standard
- Concerns of the vulnerable population (children, the elderly, persons with disabilities, etc.) must be addressed
- Occurrence of gender-based violence must be prevented
- Psychosocial and stress management should be made available as soon as possible
- Marital relationship strains should be considered in prolonged evacuation



- Mourning and wakes/funerals should be discouraged in evacuation centers (stigma to evacuees and may spread fear within the community)
- A shelter for pets/ domesticated animals should be allotted
- If possible, money equivalent is preferred over fixed and pre-determined ration.
- If there is a need to refer a patient, planning with the family is important
- A council may be required to settle issues within the camp

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Norwegian Refugee Council. (2008). *Camp Management Toolkit*.

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2.2.4 Prevention and Control of Diseases

2.2.4.1 Communicable Diseases

2.2.4.1.1 Vaccine-Preventable Diseases

- These include the following diseases:
 - ▶ Measles
 - ▶ Hepatitis A
 - ▶ Haemophilus Influenza Type B
 - ▶ Hepatitis B
 - ▶ Tetanus
 - ▶ Rabies



- ▶ Rubella
- ▶ Typhoid Fever
- ▶ Japanese Encephalitis
- ▶ Influenza
- A single suspected measles case is sufficient to prompt an immediate immunization response. Life-saving measles vaccine should be made available immediately targeting all infants and children 6-59 months of age (may be expanded up to 15 years old in areas with substantial crowding)
- Each visit to health care facilities should be an opportunity to vaccinate for routine EPI regardless of reason for visit. Vaccination program activities should be part of basic emergency health care services
- If there are cases, vaccinate non-immunized high risk groups (Diphtheria, Poliomyelitis, Rubella, Pertussis, Influenza)
- Mass immunization is not recommended for cholera, typhoid, tetanus (booster for the injured) and hepatitis A
- Appropriate management of injured survivors should be implemented as soon as possible. Patients should systematically receive prophylactic antibiotics and tetanus toxoid vaccine if non-immune, together with tetanus immune globulin if the wound is tetanus-prone
- Health education

2.2.4.1.2 Food and Water-Borne Diseases

- These include:
 - ▶ Acute Gastroenteritis (Acute diarrhea)
 - ▶ Cholera



- ▶ Hepatitis A and E
- ▶ Food Poisoning
- ▶ Shigellosis
- ▶ Typhoid/ Paratyphoid
- Diseases of immediate concern
- May occur anytime during a disaster
- Related to unsafe drinking water and inadequate sanitation
- Diagnosis and specific treatment based on standard protocols
- General preventive measures include:
 - ▶ Chlorination of drinking water
 - ▶ Appropriate and sufficient water containers
 - ▶ Proper handling of food
 - ▶ Adequate sanitation facilities – latrines or designated defecation areas
 - ▶ Proper garbage collection and disposal
 - ▶ Continuous health education especially on personal hygiene

2.2.4.1.3 Vector-Borne Diseases

- These include:
 - ▶ Dengue Fever/ Dengue Hemorrhagic Fever
 - ▶ Malaria
 - ▶ Japanese Encephalitis
 - ▶ Filariasis
 - ▶ Chikungunya
 - ▶ Schistosomiasis
- Diseases will pose threats in 3-4 weeks
- Related to ecological changes that favor breeding of vectors



- Diagnosis and specific treatment based on standard protocol
- General preventive measures include:
 - ▶ Elimination/modification of breeding places
 - ▶ Appropriate collection and disposal of garbage
 - ▶ Personal protection
 - ▶ Vector control and control of animal reservoirs
 - ▶ Health education and social mobilization

2.2.4.1.4 Respiratory Diseases

- These include:
 - ▶ Acute Respiratory Infection
 - ▶ Pneumonia
 - ▶ Diphtheria
 - ▶ Pertussis
 - ▶ Influenza
 - ▶ Tuberculosis
 - ▶ Meningococcal Diseases
- Diseases will pose threats in 3-4 weeks
- Related to overcrowding
- Diagnosis and specific treatment based on standard protocol
- General preventive measures include:
 - ▶ Proper living conditions – well spaced, good ventilation, proper clothing, and use of sleeping blankets
 - ▶ Vaccination, if necessary
 - ▶ Continuous provision of drugs for TB
 - ▶ Health education



2.2.4.1.5 Zoonotic Diseases

- These include:
 - ▶ Leptospirosis
 - ▶ Rabies
 - ▶ Typhus
- Diseases will pose threats in 3-4 weeks
- Related to rains and flooding or accumulation of refuse, displacement of domestic and wild animals
- Diagnosis and specific treatment based on standard protocol
- General preventive measures include:
 - ▶ Immunization if necessary
 - ▶ Use of personal protection
 - ▶ Control of animal carriers and animal reservoirs
 - ▶ Health education and community mobilization



2.2.4.1.6 Treatment Protocols of Selected Diseases

	General Signs and Symptoms	Warning Signs	Local Measures	Emergency Measures
Measles	<ul style="list-style-type: none">• Fever• Maculopapular rash starts from face then spreads to body/extremities• 3Cs (cough, colds, conjunctivitis)• May have Koplik spots on buccal mucosa	<ul style="list-style-type: none">• Tachypnea or difficulty of breathing• Seizure or changes in sensorium• Dehydration• Immunocompromised status (malignancy, AIDS, asthma, Down's)• Grossly malnourished• History of coriander (kulantro, uan-suy) intake	<ul style="list-style-type: none">• Isolate patient• Paracetamol (10-15 mkd) for fever• Vit. A 100,000u for 6-12 mos and 200,000u for >12 mos• Repeat dose next day and 4 weeks after for pts with ophtha evidence of Vit. A deficiency• Do measles IgM	<ul style="list-style-type: none">• Assess ABC and monitor vital signs• Do CPR for CP arrest• Start IV line<ul style="list-style-type: none">▪ Plain LR/ pNSS if with shock▪ <12y/o: D5 0.3% NaCl▪ >12y/o: D5NM• Give O2 (2-4 L/min by nasal prong) inhalation• Salbutamol inhalation (2 puffs) or nebulization (1/2-1 neb) Q20 mins for wheezes until arrival at hospital• Diazepam (0.2-0.4 mkd, max 10 mg) for seizure• Refer to hospital with referral note
Acute gastroenteritis	<ul style="list-style-type: none">• >3 episodes liquid stools in 24 hours plus:• Fever• Vomiting• Abdominal pain• Poor appetite• Signs of some dehydration (increase thirst, irritability, sunken eyeballs, poor skin turgor)	<ul style="list-style-type: none">• Severe dehydration signs (lethargic or unconscious, floppy infant, sunken eyes, drinks poorly, poor skin elasticity)• Cold clammy extremities, pallor, weak pulse• Difficulty of breathing• Seizure• Absent or decrease urine output• Persistent vomiting• Persistent diarrhea >14 days with dehydration		



	General Signs and Symptoms	Warning Signs	Local Measures	Emergency Measures
Acute gastroenteritis		<ul style="list-style-type: none">Bloody stools or rice watery voluminous stoolsAbdominal distentionMuscle crampsGrossly malnourishedNo clinical improvement after 4-6 hours of ORS	<ul style="list-style-type: none">Zinc 20 mg/day for 10-14 days for children and 10mg/day for infants <6 mos old)Paracetamol (10-15 mkg) for fever Q4 hrsDo rectal swab (c/o NEC)Advise good personal hygieneObserve for warning signs	<p>Additional for AGE:</p> <ul style="list-style-type: none">Start 2 IV lines for pts w/ possible choleraGive ORS by NGT (20ml/kg for 6 hrs) if IV therapy not feasible for pts who can't drink
Dengue	Fever of 2-7 days plus 2 or more of ff: <ul style="list-style-type: none">Headache/ eye painsArthralgia/myalgia/ generalized body malaiseGeneral flushing of the skin/ rashPositive tourniquet test (≥ 20 petechiae/in²)	<ul style="list-style-type: none">Spontaneous bleedingPallor/ cyanosis/ DOBHypotension and weak pulses/ frequent dizziness & fainting (for 5 y/o) cold clammy skinPlasma leakage: cherry red lips, pleural effusion, ascitesRestlessness/ listlessness/ seizureSevere persistent abdominal pain and tendernessDehydration signs 2° to vomiting, diarrhea or poor fluid intakeJaundice/ tea-colored urinePlatelet ct<100,000	<ul style="list-style-type: none">Paracetamol (10-15 mkg) for feverDo not give AspirinORS by mouth at 3 cc/kg/hrAssess patient daily until 3 days without feverRequest CBC, platelet count and monitor hematocrit and platelet daily, if feasibleObserve for warning signs	<p>Additional for Dengue:</p> <p>Do nasal packing for nose bleeding, Epinephrine -soaked nasal pack in severe bleeding</p>



	General Signs and Symptoms	Warning Signs	Local Measures	Emergency Measures
Pneumonia	<p>Cough</p> <p>Any abnormal VS:</p> <ul style="list-style-type: none">Tachypnea (RR > 20 breaths/min)Tachycardia (CR > 100/min)Fever ($T > 37.8^{\circ}\text{C}$)With at least one abnormal chest finding:Diminished breath soundsRhonchiCracklesWheezes	<ul style="list-style-type: none">Worsening VS (RR\geq30 breaths/min, CR\geq125 beats/min, T$<$ 35°C or \geq40°C) or no improvement of condition for 3 daysRespiratory failure (RR\leq12 breaths/min or cyanosis)Suspected aspirationHypotension/altered mental stateExtrapulmonary evidence of sepsis (bleeding/jaundice)Co-morbid/debilitating conditions (DM, malignancies, neurologic disease, heart diseases on prolonged steroid use, renal failure, COPD)Inability to take in food or medicineSevere malnutrition	<ul style="list-style-type: none">Isolate patient and observe proper bed spacingLow Risk CAPDrugs of choice: Amoxycillin 1gm PO every 8 hrs x 7 daysAlternative drugs: Azithromycin 500mg PO 1x/day x 3-5 daysClarithromycin 500mg PO 2x/day x 7 daysRoxithromycin 150mg PO 2x/day or 300mg PO 1x/day x 7 daysCotrimoxazole 160/800mg PO 2x/day x 7 daysSalbutamol 2mg tab 3-4x/day for wheezingParacetamol 500mg/tab Q4 hrs for feverIncrease oral fluid intakeBalanced nutrition and regular exercise	<p>Additional for Pneumonia:</p> <ul style="list-style-type: none">Place patient on moderate high back rest



	General Signs and Symptoms	Warning Signs	Local Measures	Emergency Measures
Malaria	<ul style="list-style-type: none">• Cyclical pattern of chills, fever, and sweating• Headache• Abdominal discomfort• Muscle and joint aches• Generalized and worsening malaise• Strongly consider in patient who had recent travel/exposure in an area endemic for malaria	<ul style="list-style-type: none">• Changes in sensorium, seizures, very severe headache, and signs of motor deficit• Decreased BP, abnormal heart rate• Cyanosis, difficulty of breathing• Yellowish discoloration of skin and sclera• Decreased urine output/ tea-colored urine• Severe dehydration• Bleeding tendencies (nose/gum bleeding, black stool)• Marked pallor or < 7 mg/dl Hgb 5% parasetemina or >100,000 count• Special considerations for pregnant women, infants	<ul style="list-style-type: none">• Give Paracetamol (10-15 mkd) Q4 for fever or pain• Do CBC• Do daily malarial smear for 3 days <p>Treatment:</p> <ul style="list-style-type: none">• Uncomplicated-unconfirmed Cases: Artemether-Lumefantrine• Laboratory-confirmed: Artemether-Lumefantrine + Primaquine• Treatment failure: Quinine + Tetracycline for severe cases• Plasmodium vivax: Chloroquine + Primaquine for 14 days• Observe for warning signs	



	General Signs and Symptoms	Warning Signs	Local Measures	Emergency Measures
Leptospirosis	<p>Fever ($T > 38^{\circ}\text{C}$), headache/body malaise/abdominal discomfort in patient plus</p> <ul style="list-style-type: none">• Red eyes (conjunctival suffusion)• Yellow skin• Calf pain/tenderness• History of exposure to contaminated water (flood/ponds/sewage) or infected urine droplets in rat-infested areas	<ul style="list-style-type: none">• Hypotension• Cold, clammy skin• Difficulty of breathing/cyanosis• Seizure or changes in sensorium• Decrease or no urine output• Bleeding manifestations		

Manual on Treatment Protocols of Common Communicable Diseases and Other Ailments During Emergencies and Disasters, Department of Health – Health Emergency Management Staff and World Health Organization

2.2.4.1.7 Preventive Measures for Common Diseases

Disease	Major Contributing Factors	Preventive Measures
Diarrheal diseases	<ul style="list-style-type: none">• Overcrowding• Contamination of food and water• Lack of hygiene	<ul style="list-style-type: none">• Adequate living space• Hygiene/public health education• Distribution of soap• Good personal and food hygiene• Safe water supply and sanitation
Measles	<ul style="list-style-type: none">• Overcrowding• Low vaccination coverage	<ul style="list-style-type: none">• Minimum living space standards• Immunization of children with distribution of Vitamin A (from 6 months up to 15 years is recommended due to increased risks from living conditions)
Acute Respiratory Infections	<ul style="list-style-type: none">• Poor housing• Lack of blankets and clothing• Smoke in living area	<ul style="list-style-type: none">• Minimum living space standards• Proper shelter, adequate clothing, sufficient blankets



Disease	Major Contributing Factors	Preventive Measures
Malaria		
Dengue	<ul style="list-style-type: none">Stagnant water which becomes a breeding area for mosquitoesFor displaced people, a new environment with a strain to which they are not immune	<ul style="list-style-type: none">Inhibiting mosquito breeding by draining stagnant water, covering stored water, using larvicides, etc.Killing larvae and adult mosquitoes by sprayingProvision of mosquito netsDrug prophylaxis for pregnant women and young children
Meningococcal meningitis	<ul style="list-style-type: none">Overcrowding in areas where disease is endemic (often has local seasonal pattern)	<ul style="list-style-type: none">Minimum living space standardsImmunization only after expert advice when surveys suggest necessity
Tuberculosis	<ul style="list-style-type: none">OvercrowdingMalnutritionHigh HIV prevalence	<ul style="list-style-type: none">Minimum living space standard (but where it is endemic it will remain a problem)Immunization
Typhoid	<ul style="list-style-type: none">OvercrowdingPoor personal hygieneContaminated water supplyInadequate sanitation	<ul style="list-style-type: none">Minimum living space standardsSafe water, proper sanitationGood personal, food and public hygiene and public health education
Worms (especially hookworms)	<ul style="list-style-type: none">OvercrowdingPoor sanitation	<ul style="list-style-type: none">Minimum living space standardsProper sanitation, good personal hygieneWearing shoes
Scabies	<ul style="list-style-type: none">OvercrowdingPoor personal hygiene	<ul style="list-style-type: none">Minimum living space standardsEnough water and soap for washing
Xerophthalmia (Vitamin A deficiency)	<ul style="list-style-type: none">Inadequate dietFollowing acute prolonged infections, measles and diarrhea	<ul style="list-style-type: none">Adequate dietary intake of Vitamin A. If not available, provide Vitamin A supplementsImmunization against measlesSystematic prophylaxis for children, every 4-6 months
Anemia	<ul style="list-style-type: none">MalariaHookwormPoor absorption or insufficient intake of iron and folate	<ul style="list-style-type: none">Prevention/treatment of contributory diseaseCorrection of diet including food fortification
Tetanus	<ul style="list-style-type: none">Injuries to unimmunized individualsPoor obstetrical practice causes neonatal tetanus	<ul style="list-style-type: none">Good first aidImmunization of pregnant women and subsequent general immunization within EPITraining of midwives and clean ligatures, scissors, razors, etc.



Disease	Major Contributing Factors	Preventive Measures
Hepatitis	<ul style="list-style-type: none">• Lack of hygiene• Contamination of food and water	<ul style="list-style-type: none">• Safe water supply• Effective sanitation• Safe blood transfusion
STDs/HIV	<ul style="list-style-type: none">• Loss of social organization• Poor transfusion practices• Lack of information	<ul style="list-style-type: none">• Test syphilis during pregnancy• Test all blood before transfusion• Ensure adherence to universal precautions• Health education• Availability of condoms• Treat partners

Handbook for Emergencies, UNHCR, 2007

2.2.4.1.8 List of Measures for Communicable Disease Control

1. The use of interviews for rapid assessment of communicable disease problems in emergencies
2. Immunization
 - ▶ Know when to use an immunization program
 - ▶ Know how to implement an immunization program
 - ▶ Evaluate effects of an immunization program
3. Chemoprophylaxis
 - ▶ Right choice of drug
 - ▶ Length of use of the drug
 - ▶ Proper use of the drug
 - ▶ Distribution of drugs
4. Therapeutic Approaches
 - ▶ Mass treatment
 - ▶ Short treatment versus long treatments
5. Health Education



- ▶ Have the community identify its problems
- ▶ Study a population's behavior and customs when faced with the problems identified
- ▶ Set objectives
- ▶ Determine the appropriate measures
- ▶ Evaluate the impact of a health education program

2.2.4.2 Non-Communicable Diseases

- Population ageing and increase in life expectancy have shifted disease profiles from infectious to non-communicable diseases (NCDs) in many countries including low- and middle-income countries. As a result, NCDs are growing in importance as a major public health issue in disaster settings. Increases in health problems due to the exacerbation of existing chronic health conditions have become a common feature of many disasters.
- NCDs include:
 - ▶ heart disease
 - ▶ stroke
 - ▶ hypertension
 - ▶ chronic renal failure
 - ▶ bronchial asthma
 - ▶ dialysis-dependent chronic renal failure
 - ▶ diabetes mellitus
 - ▶ epilepsy
 - ▶ injuries
- During emergencies, individuals with chronic medical conditions are particularly vulnerable to exacerbations of their



condition or to complications such as secondary infections and are at risk when treatment is interrupted.

- Clinical stabilization and maintenance of therapy should be the mainstay of the health-sector response in humanitarian settings.
- The routine, ongoing management of NCDs should be available through the primary healthcare system, using medications from the essential medicines list.
- It is generally not recommended to introduce new therapeutic regimens or programmes for the management of chronic health conditions during the relief effort especially if the regimen or programme is unlikely to be continued after the emergency phase.



- All primary healthcare facilities should have clear standard operating procedures for referrals of patients with NCDs to secondary and tertiary care facilities.
- All primary healthcare facilities should have adequate supplies and medication for continuation of treatment to individuals with NCDs who were receiving treatment before the emergency.

2.2.4.2.1 List of Measures for Non-Communicable Disease Control

1. Use of interviews to generate a rapid assessment of non-communicable disease problems in emergencies
 - ▶ Assess and document the prevalence of NCDs and share the data with agencies responding to the disaster
 - ▶ Identify individuals with NCDs who were receiving treatment before the emergency
 - ▶ Identify people with acute complications and exacerbations of NCDs that pose a threat to their life (e.g. heart diseases,



severe hypertension) and individuals in pain (e.g. pain due to advanced cancer)

2. Ensure that essential diagnostic equipment, core laboratory tests, and medications for the routine, ongoing management of NCDs are available through the primary healthcare system. These medications must be specified on the essential medicines list.
 - ▶ Anti-hypertensives
 - ▶ Beta-agonists and controllers
 - ▶ Insulin and oral hypoglycemics
 - ▶ Tetanus toxoid and other vaccines
 - ▶ Antibiotics
 - ▶ Other necessary medications
3. Apply therapeutic approaches
 - ▶ Ensure that individuals with NCDs receiving treatment before the emergency continue to do so
 - ▶ Avoid sudden discontinuation of treatment or introduction of new regimens
 - ▶ Ensure that people with acute complications and exacerbations of NCDs and individuals in pain are managed and treated
 - ▶ In situations where treatments for NCDs are unavailable, establish clear standard operating procedures for referral
 - ▶ Ensure that assistive devices (e.g. walking aids) are available for people with mobility or communication difficulties
 - ▶ Immunize individuals with NCDs as indicated
4. Ensure that people with injuries are managed appropriately
 - ▶ Restore breathing and blood circulation as soon as possible after injury



- ▶ Warm the victim and at the earliest opportunity provide high-energy nutrition and pain relief
 - ▶ Do not use tourniquets
 - ▶ Perform wound toilet and debridement as soon as possible (within 8 hours if possible)
 - ▶ Observe universal precautions to avoid transmission of infection
 - ▶ Give antibiotic prophylaxis to victims with deep wounds and other indications
 - ▶ Give appropriate tetanus prophylaxis to victims with indications
 - ▶ Apply splints for those with possible fractures
 - ▶ Ensure that injured patients, especially those with NCDs requiring further management are referred immediately
5. Design and implement a health education program
- ▶ Have the community identify its problems
 - ▶ Study a population's behavior and customs when faced with the problems identified
 - ▶ Set objectives
 - ▶ Determine the appropriate measures
 - ▶ Evaluate the impact of a health education program

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2.2.5 Nutrition in Emergencies

2.2.5.1 Key Concepts

1. **Nutrition Emergency.** Refers to a situation in which food security is often severely threatened causing increased risk to malnutrition, diseases, and death.
2. **Food Security.** A condition that exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food for a healthy and active life (World Food Summit Plan of Action, paragraph 1, 1996).
3. **Nutrition Management.** Management of nutritional risks and consequences of emergencies and disasters, including measures of prevention and preparedness in anticipation of possible hazards and all aspects of planning for a nutrition response in emergencies.
4. **Nutrition Cluster.** It refers to a group composed of government, non-government, and international humanitarian agencies that take the lead in nutrition management during emergencies and disasters.
5. **Nutrition Surveillance System.** It refers to watching over nutrition in order to make decisions leading to improvements on nutrition of the population by providing regular information about nutrition. (Aguila, D.V. 2005)
6. **Rapid Nutrition Assessment.** It refers to the assessment of nutritional status of children between 6 to 59 months who



represent the general population based on simple anthropometric data (weight, height, mid-upper arm circumference [MUAC], sex, age, and presence of edema). In emergency situations, assessments are focused solely on Global Acute Malnutrition to quickly and efficiently initiate response and management.

7. **Recommended Energy and Nutrient Intakes (RENI).** This term refers to the levels of intake of energy and nutrients, which on the basis of current scientific knowledge, are considered adequate for the maintenance of the health and well-being of nearly all healthy persons in the population.
8. **Malnutrition.** This is a pathological state resulting from either a relative lack (undernutrition) or excess (overnutrition) of nutrients or an absolute imbalance in nutrient intake. As a result, physical function is impaired to a point that normal growth and physical activities, recovery from effects of disease, the processes of pregnancy, and lactation are suboptimal and cannot be sustained.
9. **Undernutrition.** This term refers to the consequence of either the consumption and/or absorption of insufficient nutrients or the increased utilization or excretion of nutrients without the corresponding increase in intake. It encompasses a range of conditions, including acute malnutrition (wasting/thinness), chronic malnutrition (stunting/shortness), and micronutrient deficiencies (vitamin A deficiency, iron deficiency anemia, and iodine deficiency disorders). During emergencies and disasters, undernutrition is of greater concern and should be given due priority.
10. **Moderate Acute Malnutrition (MAM).** A state characterized by a weight-for-height measurement (or Z-Score) between two and three standard deviations from the median (i.e., a Z-Score within -2 and -3 SD) of the median growth standards. This corresponds to those classified as “moderately wasted” under the revised



tables on weight and height measurements using the WHO Child Growth Standards (WHO CGS) adapted in the Philippines. MAM is also considered if MUAC measurements are between 11.5 to 12.5 cm (MUAC Yellow).

11. **Severe Acute Malnutrition (SAM)**. A state characterized by a weight-for-height measurement (or Z-Score) below three standard deviations from the median (i.e., a Z-Score below -3 SD). In the Philippine context, this corresponds to those classified as "severely wasted" under the revised tables on weight and height measurements using the WHO CGS. For children at least 6 months old, SAM is also considered if MUAC is less than 11.5 cm (4.5 in; MUAC Red); OR when bilateral edema is present. For children less than 6 months, Z-Scores should be used for classification.
12. **Complementary Feeding**. This refers to the process of providing other food and liquids in addition to breast milk for infants from 6 months of age onwards. It aims to complement and support breastfeeding rather than replace it.
13. **Supplementary Feeding**. a) It is defined as the provision of food equivalent to about 1/3 of the RENI for energy and protein to the undernourished or nutritionally vulnerable population (young children, pregnant, lactating women, and elderly); b) It also refers to the giving of food in addition to what is available at evacuation centers, which includes cereals, milk, meat or fish, vegetables, and fruits. During emergencies and disasters, this is usually the primary strategy to treat and prevent MAM and further prevent SAM. Supplementary Feeding (SF) has two arms: Blanket SF which refers to the distribution of supplementary food to all affected; and Targeted SF which refers to the provision of supplementary food only to children classified with



moderate acute malnutrition (MAM) (see Decision Framework for Implementing Selective Feeding Programs)

14. **Mass Feeding.** It refers to the distribution of food rations to all those affected by an emergency or a disaster regardless of nutritional status or risks to undernutrition.

2.2.5.2 Nutrition Preparedness in Emergencies and Disasters

A good nutrition preparedness program leads to an efficient and appropriate food security and nutrition disaster response. The proper implementation of activities during this phase – which includes coordination and networking, planning, capacity development, organizational support, social mobilization, advocacy, logistics management, surveillance, monitoring, and evaluation – is necessary to achieve better nutrition response.

Nutrition in emergencies is important in each phase because of the following objectives:

1. Early Phase
 - ▶ To mitigate hunger, help counteract shock, and provide comfort and improve morale
 - ▶ To initiate the implementation of appropriate nutrition interventions
2. Intermediate and Extended Phase
 - ▶ To re-establish body reserves for micronutrients leading to the improvement of the nutritional status of the malnourished
 - ▶ To prevent deterioration in the nutritional status of the affected population



Priority groups

- Pregnant women
- Lactating women
- Infants
- Children below 6 years old
- Young children, 1-2 years old
- Children with low weight-for-height or MUAC
- Older persons
- Sick and injured
- Rescue workers
- Cases of HIV-AIDS

2.2.5.3 Nutritional Surveillance, Monitoring, and Evaluation

1. Pre-emergency stage or “normal” times:

- ▶ LGUs conduct Operation Timbang (OPT) according to the prescribed frequency and reporting per OPT Guidelines. Results should be organized into a database that can be used for planning, program monitoring, and evaluation
- ▶ Growth charts shall be used in recording the results of regular weighing
- ▶ Information on a) exclusive breastfeeding rates, pregnant and lactating mothers, and b) the prevalence of underweight preschool children with respective rankings for each barangay must be ready at the municipal level
- ▶ Communication and reporting channels from the national to the local levels shall be set up
- ▶ Continuous monitoring and evaluation of the program performance and effectiveness shall be conducted
- ▶ Identified vulnerable groups are guided regarding access to nutrition care and what to do during emergencies/disasters



- ▶ Promotion, protection and support to infant and Young Child Feeding (IYCF)
- 2. Early stage of the emergency:
 - ▶ To the maximum extent possible, conduct nutritional assessment to identify and locate children under 5 with weights below the standard weight-for-height indicative of wasting (always assess for the presence of bilateral edema)
 - ▶ If measuring weight and height is not possible, the mid-upper arm circumference could be used as index for screening children between 6 and 59 months
 - ▶ Weighing and height measurement of preschool children should be done monthly until "full normalcy" is achieved, by the time that OPT system can be used for nutritional assessment
 - ▶ Nutritional assessment should be complemented with:
 - Profiling of the population affected in terms of the number of pregnant women, number of infants exclusively and not exclusively breastfed, number of infants 6 months and older who are not receiving complementary foods, and extent of practice of proper complementary feeding
 - Determining the presence of other risk factors [e.g., child-headed households, orphan-hosting households (substitute households), elderly-headed households (caring for grandchildren), households caring for chronically sick members, high prevalence of HIV further exacerbated by the foregoing risk situations]
 - Assessment of food security status must be done
 - The extent of diarrhea and acute respiratory tract infection among preschool children must be monitored
 - Monitoring child mortality should likewise occur
 - Milk donations should be tracked
 - Monitoring of micronutrient supplementation must exist
 - Exit strategies should be implemented



3. Intermediate to Extended stage of emergency
 - ▶ Monitor the extent of implementation of intervention at all stages of an emergency to observe the nutrition status of the population and determine needed adjustments in targeting, intervention design and implementation, and resource allocation.

2.2.5.4 Nutritional Assessment and Measuring Targets

For an estimated population, the following percentages can be used to approximate targets:

Age Groups	Average % in Population
Infants below 6 months	1.35
6-11 months	1.35
12-59 months	10.8
5-9 years	11.7
10-14 years	10.5
15-19 years	9.5
20-59 years	48.6
*Pregnant Women	3.5
*Lactating Women	3.0

- Existing knowledge on demography, mortality and morbidity, previous nutritional status, the socioeconomic situation, administrative structure, communications, etc. should be collected before embarking on a rapid assessment of nutritional status.
- The most widely accepted practice is to assess malnutrition levels in children aged 6-59 months as a proxy for the population as



a whole. Reports should always describe the probable causes of malnutrition and nutritional edema should be reported separately.

Classification of malnutrition in children

Nutrition Indicator	Well-nourished	Moderate Acute Malnutrition	Severe Acute Malnutrition
Weight for height	+2 to -1 SD (90 to 120%)	WFH -3 - <-2 Z score (70 to 79%)	WFH <-3 Z score (<70%)
MUAC ¹	>13.5 cm	MUAC 11.5-<12.5cm	MUAC <11.5cm
Oedema	Absent	Absent	Present

The term '**global acute malnutrition**' or GAM has come into usage in recent years and refers to moderate and severe acute malnutrition (weight for height SD <-2). **Severe acute malnutrition** (SAM) refers to severe malnutrition (weight-for-height SD <-3). Individuals with oedema are always classified as SAM.

1 For children aged 6 to 59 months.



Classification of malnutrition in adults²

Nutrition Indicator	Well-nourished	Mild malnutrition	Moderate malnutrition	Severe malnutrition
Oedema	No	No	No	Yes
Body Mass Index (BMI)	≥ 18.5	18.4 to 17	16.9 to 16	< 16
MUAC Ferro-Luzzi 1996 ²	>185 mm	<220 mm women <230 mm men	<185 to 160mm plus clinical signs ⁴	< 160 mm < 160 mm
Collins 2000 ³				

MUAC values of 23.0 cm in men and 22.0 cm in women are useful cut-off points for simple screening of nutritional state.

Estimating Energy Requirements:

- Average daily energy requirement is 2,100 kcal/person/day broken down into:
 - ▶ 10 per cent of total energy provided by protein (53g)
 - ▶ 17 per cent of total energy provided by fat (40g)
 - ▶ adequate micronutrient intake
- Special needs of pregnant women
 - ▶ Need an additional 300 kcal/day
 - ▶ If malnourished, need another 500kcal/day
 - ▶ Should receive iron and folate supplements

2 There is no international agreement on cut-off points for adult BMI or for MUAC cut-off points. The cut-off points shown in the box are two examples typically used by international agencies

3 Ferro-Luzzi and James (1996) Adult malnutrition: simple assessment techniques for use in emergencies. British Journal of Nutrition 75: 3-10.

4 Collins, Duffield and Myatt (2000) Assessment of Nutritional Status in Emergency-Affected Populations: Adults. ACC/SCN.



- Special needs of lactating women
 - ▶ Need an additional 500 kcal/day
 - ▶ If malnourished, need another 500 kcal/day
 - ▶ Should receive sufficient fluids, taking into account activity
- For HIV or HIV-AIDS cases,
 - ▶ calorie allowance increased by 10% for asymptomatic and 20-30% for symptomatic HIV-infected adults
 - ▶ 50-100% for children with acute weight loss and infection

2.2.5.5 Nutrition Activities and Key Services during Emergencies and Disasters

1. Breastfeeding program
 - ▶ Protection and reinforcement of breastfeeding in the general population (including HIV-positive females)
 - ▶ Infants less than 6 months old are exclusively breastfed, and older children up to 2 years old continue to be breastfed while complementary food is given starting at 6 months
 - ▶ Provision of “safe havens” or designated special areas in evacuation centers for pregnant and lactating women, as well as counseling services for re-lactation
 - ▶ Monitoring of the milk distribution and milk code violations
 - ▶ Discouraging the use of infant-feeding bottles and artificial teats during emergencies and disasters
 - ▶ In the very extreme and unlikely case of breastfeeding not being possible, “ready to drink” breast milk substitutes may be used provided that these are given using properly sterilized cups/spoons
 - ▶ Encouraging “wet nursing” as permitted by culture and religion



Breastfeeding

- **Up to 6 months of age:** Encourage mothers to exclusively breastfeed as often as the child wants, day and night, at least 8 times in 24 hours. Do not give any other fluids or food.
- **6 months to 12 months:** Breastfeed as often as the child wants. In addition, give adequate servings of locally available complementary food at least 3 times a day.
- **12 months to 2 years:** Breastfeed as often as the child wants. Give adequate servings of locally available complementary food at least 5 times a day.
- **2 years and older:** Give three meals of family food per day. Also, give nutritious snacks, twice daily.

2. Complementary feeding

- ▶ Complementary foods should be nutritionally adequate, safe/hygienically prepared, easy to eat and to digest, given to the infant in a caring manner, and introduced at 6th month of life onwards
- ▶ Preparation and giving of complementary foods should be the responsibility of the family even in evacuation centers or camps; however, caregivers should have a secure and uninterrupted access to appropriate ingredients with which to prepare and feed nutrient-dense complementary foods
- ▶ When available, food aids in the form of blended food, especially if fortified with essential nutrients, may be used provided the child's caregiver is instructed on their proper use

3. Food Rations/Mass Feeding

- ▶ Meals to be given are easy to prepare, practical, can satisfy hunger, and nutritious that commonly include boiled rice,



cooked sardines, boiled root crops, or one-dish meals (sinigang, nilaga, munggo)

- ▶ To the greatest extent possible, the food provided (either in cooked or dry-ration form) should contain 100 percent of the RENI for calories and protein, and at least 80 percent of vitamins A, B1, B2, niacin, iron, and calcium

4. Vitamin A, Iron, and Micronutrient Supplementation

- ▶ Manual of Operations (MOP) on Micronutrient Supplementation (MS) supported by Administrative Order No. 2010-0010 serves as reference for the delivery of Micronutrient Supplementation Package during emergency/disaster situations



Micronutrient Supplementation Package During Disasters and Emergency Situation

Deficiencies in micronutrients can develop during a disaster and emergency or made worse if already present. It is essential to ensure that the micronutrient needs of affected people are adequately met. One way to meet the recommended daily intake of micronutrients is to provide foods fortified with micronutrients.

- Ensure that infants, children, pregnant and lactating women, and women of reproductive age continue to receive the recommended routine micronutrient supplementation
- Give additional Vitamin A to 6-11-month-old infants (100,000 IU), 12-59-month-old children and post-partum women (200,000 IU) unless they have not received similar a dose in the past 4 weeks. Children with measles should be given a single dose appropriate to their age regardless of when the last dose of VAC was given
- Ensure that low-birth weight infants receive 0.3ml of 15mg



elemental iron/0.6ml starting from 2 up to 6 months

- Give 1 tablet of 60mg iron with 2.8mg folic acid weekly for non-pregnant and lactating women 10-49 years; while 1 tablet of 60mg elemental iron with 400mcg folic acid daily for 180 days starting from the determination of pregnancy
- For diagnosed anemic patients less than 10 years, give a therapeutic dose of iron supplements; while those aged 10-49 years must be given 1 tablet of 60mg elemental iron with 400mcg folic acid daily until haemoglobin normalizes
- Ensure that 6-23-month-old children receive the Multiple Micronutrient Powder (MNP) supplement; in addition, expand the provision of MNP to 24-59 year old children as well as to pregnant and lactating women
- Ensure that Multivitamin Supplement (MS) supplies are available during disasters and emergencies; evacuees must be provided with adequate supplies of required MS once they return to their residences to ensure continuity of supplementation until they have settled back home.
- Conduct monitoring of the delivery of supplements to assess coverage and health impact.

5. Supplementary feeding

- ▶ Targeted supplementary feeding for 10-14% wasting prevalence
- ▶ Blanket approach if >14% wasting prevalence
- ▶ May be given in either dry or wet (cooked food eaten in a centralized location) forms



6. Therapeutic Treatment of Malnutrition

- ▶ Consists of feeding with a high-energy liquid diet such as milk, soup, juice, and nutritious drinks at 3-hour intervals daily for 3 to 5 weeks
- ▶ Therapeutic treatment for all children under 5 who show wasting, with or without bilateral edema
- ▶ Moderate acute malnutrition (MAM) with no medical complications: Supplementary feeding program (dry take-home rations and standard medicines)
- ▶ Severe acute malnutrition (SAM) with no medical complications: Outpatient care sites (please refer to appendix: Sample Protocol for the Use of Ready-to-Use Therapeutic Food)
- ▶ SAM with medical complications or infants with SAM: Referral to Inpatient care until well enough to continue being treated in outpatient care (please refer to appendix: Discharge Targets)

7. Meal Considerations for Disaster Periods

- ▶ For early emergency periods, characterized by stress and anxiety, serve a stimulating warm drink and light snacks. Avoid very hot or iced beverages. Milk is best for infants and children, coffee or fruit juice for adults. Easy to serve snacks which are high in carbohydrates are preferred.
- ▶ For the intermediate period, when cooking facilities are available, a full meal may be served, usually a nourishing one-dish hot meal which is easy to prepare, transport, and serve. Otherwise, meals from packaged or canned foods may be planned, or fresh fruits which do not require heating.
- ▶ For extended operations, when cooking facilities are already setup, one-dish meals with fruit and rice/bread may be served. Two or 3 meals a day may be served.



Ideal Food Types during Disasters

- Carbohydrate sources: rice, root crops, bread, noodles
- Protein sources: eggs, canned meat and fish, fresh meat and fish, dried meat and fish, milk
- Fat sources: cooking oil, margarine
- Vitamin and mineral sources: fruits and vegetables
- Others: coffee and other beverages

8. Psychosocial Care

Within emergency nutrition programs, different activities to support the psychosocial aspects of nutrition shall be put in place. These can include:

- ▶ Offer psychological and social support to families
- ▶ Support play-sessions that enable interaction with malnourished children.
- ▶ Offer breastfeeding corners for pregnant and breastfeeding women
- ▶ Provide space for facilitating counseling and discussions between families and staff, etc.

9. Referral and Follow-up Care

Complicated cases requiring in-patient care shall be referred to the appropriate health facility for in-depth medical and nutrition management.

2.2.5.6 Post-Disaster Nutrition Activities

1. Rehabilitation

- ▶ Provision of food for work activities
- ▶ Supplemental feeding to vulnerable individuals
- ▶ Complementary feeding for 4-6-month-old infants
- ▶ Provision of seedlings for crop production



2. Monitoring and Evaluation

- ▶ Is there universal access to food?
- ▶ Is the nutritional status of the affected population being monitored?
- ▶ How efficiently were the food service operations done?
- ▶ Were the feeding operations successful?
- ▶ Were food and nutrition management during the disaster successful?

References and further readings:

ADPC WHO. (2008). *Nutrition Management in 8th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

National Nutrition Council (NNC). (2009). NNC Governing Board Resolution No. 2 s 2009, Adopting the National Policy Guide on Nutrition Management in Emergencies and Disasters, 2009.

The value of arm circumference measurements in assessing chronic energy deficiency in Third World adults. Eur J Clin Nutr 1994 Dec;48(12):883-94.

The Sphere Project. (April 2011). *SPHERE Project Handbook 2011 Edition*.

UNICEF. (2009). *Community-based Management of Acute Malnutrition Training. Module on CMAM Classification of Acute Malnutrition*.

2.2.6 Water Supply, Sanitation and Hygiene (WASH)

WASH Over-all Assessment Checklist

1. How many people are affected and where are they?
Disaggregate the data as far as possible by sex, age, disability, etc.
2. What are people's likely movements? What are the security factors for the people affected and for potential relief responses?
3. What are the current water- and sanitation-related diseases?
What is the extent and expected evolution of problems?
4. Who are the vulnerable people in the population and why?
5. Who are the key people to consult or contact?



6. Are there existing community organizations/structures such as WASH Cluster, Barangay Health Workers (BHWs), Barangay Water and Sanitation Association (BAWASAs), etc.?
7. Are there any hygiene promotion activities?
8. Is there equal access for all to existing hygiene supplies and facilities (e.g. handwashing facilities with soap and water, bathing facilities, covered water container, hygiene supplies, etc.) for maintaining hygiene?
9. Are the users involved in the management and maintenance of hygiene and sanitation facilities?
10. What special security risks exist for women and girls?
11. What water and sanitation practices were the population accustomed to before the emergency?
12. What are the accepted beliefs and practices related to hygiene and sanitation among affected population?

2.2.6.1 Hygiene Promotion

2.2.6.1.1 List of Basic Hygiene Items

Item	Amount
10-20 liter capacity water container for transportation	One per household
10-20 liter capacity water container for storage	One per household
250g bathing soap	One per person per month
200g laundry soap	One per person per month
Acceptable material for menstrual hygiene, e.g. washable cotton cloth	One per person

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2.2.6.1.2 List of Additional Items (optional)

Item	Amount
75ml/100g toothpaste	One per person per month
One toothbrush	One per person per month
250ml shampoo	One per person per month
250ml lotion for infants and children up to 2 years of age	One per person per month
1 disposable razor	One per person per month
Underwear for women and girls of menstrual age	One per person per month
One hairbrush and/or comb	One per person per month
Nail clippers	One per person per month
Diapers and chamber pots depending on household needs	One per person per month

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2.2.6.1.3 Hygiene Assessment Checklist

1. What water and sanitation practices were the population accustomed to before the disaster?
2. What practices are harmful to health, who practices these, and why?
3. Who still practice positive hygiene behavior and what enables and motivates them to do this?
4. What are the advantages and disadvantages of any proposed changes in practice?
5. What are the existing formal and informal channels of communication and outreach (community health workers, traditional birth attendants, traditional healers, clubs, cooperatives, churches, mosques, etc.)?



6. What access to the mass media is there in the area (radio, television, video, newspapers, etc.)?
7. What local media organizations and/or nongovernment organizations (NGOs) are there?
8. What segments of the population need to be targeted (mothers, children, community leaders, community kitchen workers, etc.)?
9. What type of outreach system would work in this context (volunteers, health clubs, committees, etc.) for both immediate and medium-term mobilization?
10. What are the learning needs of the hygiene promotion staff and volunteers?
11. What non-food items are available and what are the most urgent based on preferences and needs?
12. How effective are hygiene practices in health facilities (particularly important in epidemic situations)?

2.2.6.1.4 Program Design and Implementation

- An assessment is needed to identify the key hygiene behaviors to be addressed and the likely success of promotional activity. Key risks of public health focusing on WASH must be identified so that messages are relevant and practical
- Programs shall include an effective mechanism for participatory input from all users, other organizations/ clusters during the initial design of facilities
- All groups within the population shall have equitable access to the resources of facilities needed to continue or achieve the hygiene practices being promoted. In evacuation centers, there should be two hygiene promoter/community mobilizer per population of 1 000



- Hygiene promotion messages and activities shall address key behaviors and misconceptions and are targeted for all user groups. Especially in the early stages of a disaster, it has been recommended to use mass media as a partner for information dissemination that is socially and culturally appropriate and relevant. Representatives from all user groups must participate in planning, training, implementation, monitoring, and evaluation
- Users must take responsibility for the management and maintenance of facilities and different groups must contribute equally
- Programs should be implemented in a timely manner that appropriately addresses identified priority needs and special needs of vulnerable groups

2.2.6.2 Water

2.2.6.2.1 Basic Survival Water Needs

Use	Minimum demand (liters/person/day)	Remarks
Survival needs: water intake (drinking and food)	2.5-3 L	Depends on the climate and individual physiology
Basic hygiene practices	2-6 L	Depends on social and cultural norms
Basic cooking needs	3-6 L	Depends on food type and social and cultural norms
TOTAL	7.5-15 L	

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- Average water use for drinking, cooking, and personal hygiene in a camp/evacuation center is at least 15 liters per person per day for the first week
- The quantities of water needed may vary according to the climate, the sanitation facilities available, people practices, the food they cook, among others.
- Water use/demand increases due to prolonged encampment period

2.2.6.2.2 Minimum Water Demand per Day (Prolonged period)

Use	Minimum demand (liters/person/day)
Drinking	2
Food preparation and cooking	10
Bathing	15
Laundry	15
Sanitation and hygiene	10
TOTAL	52

2.2.6.2.3 Maximum Number of People per Water Source

250 people per tap	Based on a flow of 7.5 liters/min
500 people per hand pump	Based on a flow of 17 liters/min
500 people per single use open well	Based on a flow of 12.5 liters/min

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- The number of people per source depends on the yield and availability of water at each source
- The maximum distance from the users to the nearest water point is 500 meters



- Queuing time at a water source should be no more than 15 minutes
- It should take no more than three minutes to fill a 20-liter container
- Until minimum indicators are met, the priority should be equitable access to an adequate quantity of water even if of intermediate quality

2.2.6.2.4 Minimum Water Quantities for Institutions and Other Uses

Institutions/Other Uses	Minimum demand (liters/day)
Health centers and hospitals	5 liters/out-patient 40-60 liters/in-patient per day (Additional for laundry equipment, flushing toilets, etc.)
Cholera centers	60 liters/patient per day 15 liter/carer per day
Therapeutic feeding centers	30 liter/in-patient per day 15 liter/carer per day
Reception/transit centers	15 liters per person per day if stay is more than one day 3 liters per person per day if stay is limited to day-time
Schools	3 liters/pupil for drinking and hand washing (use for toilets not included)
Mosques	2-5 liters/person for washing and drinking
Public toilets	1-2 liters per person per day for hand washing 2-8 liters per cubicle per day for toilet cleaning
All flushing toilets	20-40 liter/user for conventional flushing toilets connected to a sewer 3-5 liters/user for pour-flush toilets
Anal washing	1-2 liters per person per day
Livestock	20-30 liters per large or medium animal per day 5 liters per small animal per day

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2.2.6.2.5 Water Supply Assessment Checklist

1. What is the current water source and who are the present users?
2. How much water is available per person per day?
3. Is the water available at the source sufficient for short-term and longer-term needs for all groups in the population?
4. Are water collection points close enough to where people live?
Are they safe?
5. Is the current water supply reliable? How long will it last?
6. Do people have enough water containers of the appropriate size and type?
7. What is the capacity of the water tank?
8. What is the daily/weekly frequency of the water supply distribution?
9. Is the water source contaminated or at risk of contamination (microbiological, chemical, or radiological)?
10. Is there a water treatment system in place? Is treatment necessary? Is treatment possible? What treatment is necessary?
11. Is disinfection necessary, even if the supply is not contaminated?
12. Are there alternative sources nearby?
13. What traditional beliefs and practices relate to the collection, storage, and use of water?
14. Are there any obstacles to using available water supply sources?
15. Is it possible to move the population if water sources are inadequate?
16. Is it possible to store water in tanks if water sources are adequate?
17. What are the key hygiene issues related to water supply?
18. Do people have the means to use water hygienically?
19. In the event of rural displacement, what is the usual source of water for livestock?
20. Will there be any environmental effects due to possible water supply intervention, abstraction, and use of water sources?



21. What other users are currently using the water sources? Is there a risk of conflict if the sources are utilized for the new populations?

2.2.6.2.6 Water Safety Plan

Key components:

- **System assessment** – to determine whether the drinking water supply chain as a whole can deliver water of quality that meets health-based targets. This also includes the assessment of design criteria or new systems
- **Operational monitoring** – to identify control measures in a drinking-water system that will collectively control identified risks and ensure that the health-based targets are met; to rapidly detect any deviation from required performance
- **Management plans** – to describe actions to be taken during normal operations or incident conditions

The following concerns should be addressed in a water safety plan in emergency management procedures:

- Prioritized response actions, including increased monitoring
- Responsibilities and authorities internal and external to the organization
- Plans for emergency water supplies
- Communication protocols and strategies, including notification procedures (internal, regulatory body, media and public)
- Mechanisms for increased public health surveillance
- Emergency procedure should be practiced regularly
- All procedures during emergency situation should be documented so that future response can be further improved/modified to be more effective



2.2.6.2.7 Water Quality

2.2.6.2.7.1 Microbiological

- Before delivery to users, emergency supply of drinking water should be examined using chromogenic substrate test (Presence-Absence)
- The total coliform and fecal coliform should be absent / <1.1 MPN per 100 ml sample at point of delivery

2.2.6.2.7.2 Physical and Chemical

Where hydrological records or knowledge of industrial or military activities suggest that water supplies may contain chemical health risks, those risks should be assessed by carrying out chemical water analysis.

Standard Values for Physical and Chemical Constituents with Health Significance (PRIORITY PARAMETERS)

Constituents	Maximum Level (mg/liter) or Characteristics
Iron	1.0
Color	10 color units (Apparent); 5 color units (true)
Turbidity	5 NTU
pH	6.5 – 8.5; 5 – 7 for water that has undergone reverse osmosis
TDS (Total Dissolved Solids)	500; < 10 for water that undergone reverse osmosis
Arsenic	0.05
Cadmium	0.003
Lead	0.01

**Standard Values for Physical and Chemical Constituents with Health Significance (PRIORITY PARAMETERS)**

Nitrate	50.00
Benzene	0.01
Chloride	250.00
Manganese	0.400
Sulfate	250.00

Philippine National Standards for Drinking Water, 2007

2.2.6.2.7.3 Post-delivery Contamination

Steps should be taken to minimize post-delivery contamination such as improved collection, proper storage practices, and distribution using clean and appropriate containers.

2.2.6.2.7.4 Treatment/Disinfection

Water should be treated when found contaminated or positive for Total and Fecal coliform. Water is treated with a disinfectant so that there is chlorine residual at the tap of at least 0.3 mg per liter.

Water Treatment Options for Household Drinking Water:

1. Use of drinking water disinfectant (tablet form), sodium dichloroisocyanourate
 - ▶ 3.5 mg tablet (free available chlorine 2mg) for one (1) liter water
 - ▶ 67mg tablet (free available chlorine 40mg) for twenty (20) liters water
2. Use of water disinfectant (granular form), calcium hypochlorite (65-70% available chlorine) prepared as stock solution

**How to prepare and use:**

- ▶ Prepare stock solution by mixing one (1) tsp/ 5 grams of calcium hypochlorite in one (1) liter water. (Note: the solution must be kept out of direct sunlight and is effective for one week)
 - ▶ From the stock solution, mix two (2) teaspoons in twenty (20) liters of water and let it stand for at least 30 minutes before using
3. Use of water disinfectant (liquid form), 3.5ml of 1.25% sodium hypochlorite solution (hyposol) for every twenty (20) liters water

Disinfection of Level 1 Water Supply Facility (e.g. Deep Well)

The following tables give the amount of Calcium Hypochlorite in preparing chlorine solution. Allow the chlorine solution to remain in the well for 12 hours, and then draw out water until the water is free from chlorine odor.

Depth of water Column (Meters)	Using Calcium Hypochlorite (70% available chlorine) for 100 ppm Dosage						
	Well Diameter						
	2" (50mm)	3" (75mm)	4" (100mm)	6" (150mm)	8" (200mm)	10" (250mm)	12" (300mm)
1		1/4 tsp	1/4 tsp	1/2 tsp	3/4 tsp	1 1/2 tsp	2 tsp
2	1/4 tsp	1/4 tsp	1/2 tsp	1 tsp	1 3/4 tsp	2 3/4 tsp	4 tsp
3	1/4 tsp	1/2 tsp	1/2 tsp	1 1/2 tsp	2 1/2 tsp	4 1/4 tsp	6 tsp
4	1/4 tsp	1/2 tsp	3/4 tsp	2 tsp	3 1/2 tsp	5 1/2 tsp	8 tsp
5	1/4 tsp	1/2 tsp	1 1/4 tsp	2 1/2 tsp	4 1/2 tsp	7 tsp	5 tbsp
6	1/2 tsp	3/4 tsp	1 1/2 tsp	3 tsp	5 1/2 tsp	8 1/2 tsp	6 tbsp
7	1/2 tsp	3/4 tsp	1 1/2 tsp	3 1/2 tsp	6 1/4 tsp	9 3/4 tsp	7 tbsp
8	1/2 tsp	1 tsp	1 3/4 tsp	4 tsp	7 1/4 tsp	5 1/2 tsp	8 tbsp
9	1/2 tsp	1 1/4 tsp	2 tsp	4 1/2 tsp	8 tsp	6 1/4 tsp	9 tbsp



Depth of water Column (Meters)	Using Calcium Hypochlorite (70% available chlorine) for 100 ppm Dosage						
	Well Diameter						
2" (50mm)	3" (75mm)	4" (100mm)	6" (150mm)	8" (200mm)	10" (250mm)	10" (250mm)	12" (300mm)
10	½ tsp	1 ¼ tsp	2 ¼ tsp	5 tsp	9 tsp	7 tbsp	10 tbsp
20	1 ¼ tsp	1 ½ tsp	4 ½ tsp	5 tbsp	9 tbsp	14 tbsp	20 ¼ tbsp
30	1 ½ tsp	3 ¾ tsp	6 ¾ tsp	7 ½ tsp	13 ½ tbsp	21 tbsp	30 ¼ tbsp
40	1 ¼ tsp	5 tsp	9 tsp	10 tbsp	18 tbsp	28 tbsp	40 ½ tbsp
50	2 ¾ tsp	6 ½ tsp	5 ½ tsp	12 ½ tsp	22 ½ tbsp	35 tbsp	50 ½ tbsp
60	3 ½ tsp	7 ½ tsp	6 ¾ tsp	15 tbsp	27 tbsp	42 tbsp	60 ½ tbsp
70	4 tsp	8 ¼ tsp	8 tsp	17 ¾ tbsp	31 ½ tbsp	49 tbsp	70 ¾ tbsp
80	4 ½ tsp	5 tsp	9 tsp	20 ¼ tbsp	36 tbsp	56 tbsp	80 ¾ tbsp
90	5 tsp	5 ¾ tsp	10 tsp	22 ¾ tbsp	40 ½ tbsp	63 tbsp	91 tbsp
100	5 ½ tsp	6 ¼ tsp	11 ¼ tsp	25 ¼ tbsp	45 tbsp	70 tbsp	101 tbsp

Implementing Rules and Regulations of Chapter II-Water Supply of the Code on Sanitation of the Philippines

Water Use Facilities and Goods

1. Each family has at least two (2) clean water containers (with narrow neck and cover) of 10-20 liters capacity drinking water, plus enough clean water storage containers to ensure that there is water in the household
2. There is at least 250 grams of soap available for personal hygiene per person per month
3. Sufficient bathing cubicles must be available with separate cubicles for males and females
4. Private laundry areas must be available taking into consideration the need for a woman to wash and dry undergarments and have at least one washing basin per 100 people
5. Participation of all vulnerable groups and concerned clusters is actively encouraged in the siting and construction of bathing



facilities, production and distribution of soaps, and promotion of suitable alternatives

2.2.6.3 Excreta disposal

2.2.6.3.1 Accessibility and Minimum Number of Toilets

- Separate toilets for women and men must be available
- Toilets must be cleaned and properly maintained in such a way that they can be used by all intended users
- Toilets are no more than 50 meters from dwellings
- Toilets are used in the most hygienic way and children's feces are disposed of immediately and hygienically
- Particular attention must be given to disposal of children's feces as they are commonly more dangerous than those of adults (higher rate of excreta-related infection among children and children may not have developed antibodies to infection). Parents and caregivers should be provided information on effective and safe disposal

Planning Guidelines for Minimum Numbers of Toilets in Disaster Situation

Type of Toilet	Short Term	Long Term
Communal Trench Latrine (2.4 x 0.3 x 0.6 meter)	1 per 100 persons	1 per 50 persons
Pour-Flush Water-Sealed Toilet	1 seat per 50 persons	1 seat per 20 persons
Ventilated Improved Pit (VIP) latrine	1 seat per 50 persons	1 seat per 20 persons
Other type of Sanitary Toilet	1 seat per 50 persons	1 seat per 20 persons



2.2.6.3.2 Possible alternatives for safe excreta disposal

Safe excreta disposal type	Application Remarks
1. Demarcated defecation area (e.g. with sheeted-off segments)	First phase: the first two to three days when a huge number of people need immediate facilities
2. Trench latrines	First phase: up to two months
3. Simple pit latrines	Plan from the start through to long-term use
4. Ventilated improved pit (VIP) latrines	Context-based for middle- to long-term response
5. Ecological sanitation (Ecosan) with urine diversion	Context-based: in response to high water table and flood situations; right from the start or middle to long term
6. Pour flush or flush toilet with septic tank	Middle- to long-term phase

Adapted from The Sphere, Humanitarian Charter and Minimum Standards in Disaster Response, 2011 Edition

2.2.6.3.3 Excreta Disposal Assessment Checklist

1. What is the current defecation practice? If it is open defecation, is there a designated area? Is the area secure?
2. What are current beliefs and practices, including gender-specific practices concerning excreta disposal?
3. Are there any existing facilities? If so, are they used, are they sufficient and are they operating successfully? Can they be extended or adapted?
4. Is the current defecation practice a threat to water supplies (surface or groundwater) or living areas and to the environment in general?
5. Do people wash their hands after defecation and before food preparation and eating? Are soap and other cleansing materials available?



6. Are people familiar with the construction and use of facilities?
7. What local materials are available for constructing toilets?
8. Are people prepared to use pit latrines, defecation fields, trenches, etc.?
9. Is there sufficient space for defecation fields, pit latrines, toilets, etc.?
10. What is the slope of the terrain?
11. What is the level of the groundwater table?
12. Are soil conditions suitable for on-site excreta disposal?
13. Do current excreta disposal arrangements encourage vectors?
14. Are there materials or water available for anal cleansing? How do people normally dispose of these materials?
15. How do women manage issues related to menstruation? Are there appropriate materials or facilities available for this?
16. Are there any specific facilities or equipment available for making sanitation accessible to persons with disabilities or immobile people in medical facilities?
17. What environmental consideration should be assessed?

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2.2.6.3.4 Design, Construction, and Use of Toilets

- Have users (especially women) been consulted relative to the design of the toilet? Was coordination with concerned cluster done prior to construction of toilet facilities in the camps/evacuation centers?
- Were toilets designed in such a way that they can be used by all sections of the population, including children, older people, pregnant women, and physically and mentally disabled people?
- Are defecation areas clearly demarcated, managed, and maintained?



- Are toilets sited in such a way as to minimize threats to users, especially women and girls, throughout the day and night?
- Do toilets provide a degree of privacy in line with the norms of the users?
- Do toilets allow for the disposal of women's sanitary protection, or provide women with the necessary privacy for washing and drying sanitary protection cloths?
- Do all toilets that use water for flushing and hygienic seal have an adequate and regular supply of water?
- Are all toilets, septic tanks and soakaways (for most soils) located not less than 30 meters from any groundwater source? Is the bottom of any pit/septic tank at least 1.5 meters above the water table? Drainage or spillage from defecation systems must not run towards any surface water source or shallow groundwater source.
- Do people wash their hands after defecation? Are toilets provided with soap and water?
- Are people provided with tools and materials for constructing, maintaining, and cleaning their own toilets as appropriate?

2.2.6.4 Vector Control

Assessment Checklist

1. What are the vector-borne disease risks and how serious are these risks?
2. What are the existing traditional beliefs and practices related to vectors and vector-borne disease? Are any of these beliefs or practices either useful or harmful?
3. If vector-borne disease risks are high, do people at risk have access to individual protection?
4. Is it possible to make changes to the local environment (by



drainage, excreta disposal, refuse disposal, etc.) to discourage vector breeding?

5. Is it necessary to control vectors by chemical means? What programs, regulations, and resources exist for vector control and the use of chemicals?
6. What information and safety precautions need to be provided to the households?

Estimation of Vector Population

Mosquitoes

- Select several shelters in the camp
- In the shelter, close all openings, windows, holes, etc.
- Spread a white sheet on the floor of the rooms.
- Spray insecticide and wait 20 minutes until mosquitoes are killed
- Count number of killed mosquitoes and record
 - ▶ # killed adult mosquitoes/ # inspected shelter = average mosquito density per shelter
 - ▶ # killed adult mosquitoes/ # persons occupying each shelter = average # of mosquitoes per person
 - ▶ # mosquitoes found with blood in the abdomen (red or black)/ # persons living in the shelter = average number of bites per person

Flies

Count the average number of flies that land on a grill where flies congregate during three 30-second periods.

Lacarin, CJ and Reed RA (1999). Emergency Vector Control Using Chemicals, Water, Engineering and Development Center (WEDC). Loughborough.

Individual and Family Protection

- All populations at risk from vector-borne disease must understand the modes of transmission and possible methods of prevention, and should be protected as well by appropriate vector control measures
- People must avoid exposure to mosquitoes during peak biting times by using all non-harmful means available to them



(insecticide-treated tents, curtains, bed nets, etc.). Special attention is paid to the protection of high-risk groups such as pregnant and feeding mothers, babies, infants, older people and the sick

- People must use treated mosquito nets effectively when necessary
- Food must be protected at all times from contamination by vectors such as flies, insects, and rodents

Physical, Environmental and Chemical Protection Measures

- Affected populations must be settled in locations that minimize exposure to mosquitoes (e.g. camps located 1-2 km upwind from large breeding sites)
- Intensive fly control must be carried out in high-density shelters when there is a risk or presence of a diarrhea epidemic
- Environmental control measures must be instituted to minimize the impact on the population density of some vectors as follows:
 - ▶ Proper disposal of human and animal excreta
 - ▶ Proper disposal of refuse/garbage to control flies and rodents
 - ▶ Proper drainage to control breeding place of mosquitoes
 - ▶ Cover water storage container and latrines to prevent them from becoming mosquito-breeding places
- Chemical control measures will be instituted only when environmental control measures have failed and these must be done under the supervision of a Sanitary Engineer.

Chemical Control Safety

- Personnel must be protected by provision of training, protective clothing, use of bathing facilities, supervision, and restriction on the number of hours spent handling chemicals



- Choice, quality, transport and storage of chemicals used for vector control, application equipment, and disposal of substances follow international norms and can be accounted for at all times
- Communities are informed about potential risks of substances used in chemical vector control and about schedules for application. They are protected during and after the application of chemicals or pesticides

2.2.6.5 Solid Waste Management

Assessment Checklist

1. Is accumulated solid waste a problem?
2. How do people dispose of their waste? What type and quantity of solid waste is produced?
3. Can solid waste be disposed of on-site, or does it need to be collected and disposed of off-site?
4. What is the normal practice of solid waste disposal for the affected population (compost and/or refuse pits, collection system, bins, etc.)?
5. Are there medical facilities and activities producing health care waste? How is this disposed of? Who is responsible?
6. Where are menstrual pads disposed of and is their disposal discreet and effective?
7. What is the effect of the current solid waste disposal on the environment?

Segregation and Collection

- People from affected population shall be involved in the solid waste program design and implementation (e.g. organize a



Refuse Collection team among evacuees for daily collection of wastes)

- Provide at least one 100-liter refuse container per 10 families
- All households must have access to a refuse container which is emptied twice a week at the minimum and no more than 100 meters from a communal refuse pit
- Segregation of health care wastes shall be done
- Infectious wastes, pathological wastes and sharps shall be treated prior to final disposal

Disposal

- Waste must be disposed of in a properly and timely manner from the camp/evacuation center before it becomes a nuisance or a health risk, especially health care wastes
- Waste generated should be removed from the immediate environment on a daily basis and from the shelter environment a minimum of twice a week
- There should be consequent minimum risk of solid waste pollution to the environment
- If off-site final disposal is not feasible, on-site disposal of domestic wastes may be allowed using a properly located compost/communal pit (1.2 x 1.2 x 1.8 meters in size for every 500 persons)
- Treated health care wastes shall be disposed of in a correctly designed, constructed, and operated pit or an incinerator with a deep ash pit



Proper Disposal of Health Waste

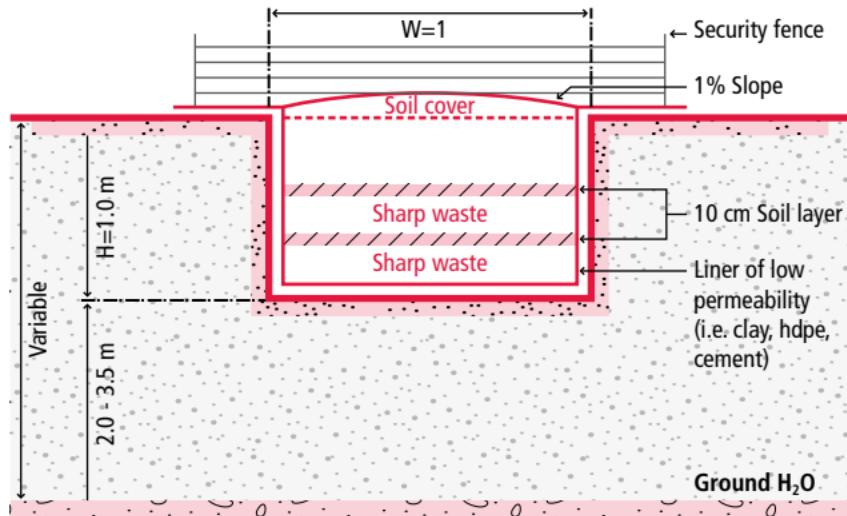


Safe Burial Pit on Health Care Facilities

1. Line the bottom of the pit with clay or low permeable material
2. The burial site should be managed as landfill, with each layer of waste covered with soil
3. Construct an earth mound around the mouth to prevent water from entering and a fence around to prevent unauthorized entry
4. The location of the pit should be downhill or down-gradient from any nearby wells or water supply source and about 50 meters away from any body of water or water supply sources
5. The bottom of the pit should be at least 1.50 meters higher than the ground water level

Health Care Waste Management Manual, DOH, 2004

Figure 8. Burial Pit (Volume 1x1x1.8)



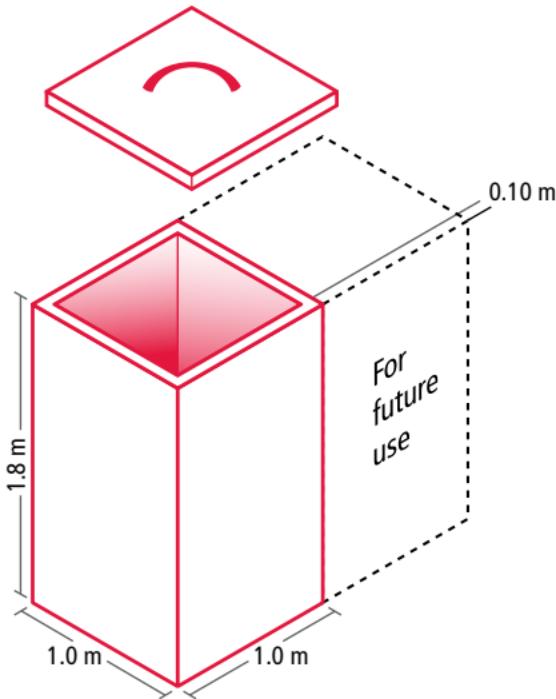


Septic/Concrete Vault for Sharps

1. Dig a pit (minimum size of 1m x 1m x 1.8m depth)
2. Construct concrete walls and slabs.
 - Provide slab with opening or manhole for easy deposition of treated sharps and syringes
 - The manhole should be extended a few centimeters above the soil surface to overcome infiltration of surface water.

Health Care Waste Management Manual, DOH, 2004

Figure 9. Septic/Concrete Vault for Sharps





2.2.6.6 Drainage

General Assessment

- Is there a drainage problem (e.g. flooding of dwellings or toilets, vector breeding sites, polluted water contaminating living areas or water supplies)?
- Is the soil prone to water logging?
- Do people have the means to protect their dwellings and toilets from local flooding?
- Are water points and bathing areas well-drained?

Drainage Works

- Areas around dwellings and water points must be kept free of standing wastewater and stormwater drains must be kept clear
- There should be no pollution of surface water and/or groundwater from drainage water
- Shelters, paths, and WASH facilities must not be flooded or eroded by water
- There should be no erosion caused by drainage water
- Waterpoint drainages from washing/bathing areas and water collection points must be well-planned, built, and maintained in coordination with concerned cluster and affected population
- Domestic wastewater should not be allowed to mix with human excreta unless the shelter is sited where there is an existing sewerage system
- When possible, drainage should be on-site rather than via open channels for easier maintenance and less clogging. For off-site disposal, channels are preferable to pipes.



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2.2.7 Mental Health and Psychosocial Support (MHPSS)

People's mental health problems may be emergency-induced, pre-existing or even humanitarian aid-induced. All the stressors, including the horrors, losses, and fears caused by humanitarian crises produce such a broad range of mental and psychosocial problems from individuals, families, and communities.

Mental health and psychosocial support (MHPSS) is used to describe any type of local or outside support that aims to protect or promote psychosocial well-being and/or prevent or treat mental disorder. It plays a crucial role in humanitarian work by helping in the recovery process, facilitating resilience, respecting dignity and independence, and reducing the development or worsening of mental health problems. These involve multi-sectoral supports that require a coordinated implementation with guidance provided by the cluster approach.



Key Concepts

1. **Psychological first aid:** describes a humane, supportive response to a fellow human being who is suffering and who may need support. PFA involves the following themes:
 - ▶ Providing practical care and support which do not intrude
 - ▶ Assessing needs and concerns
 - ▶ Helping people to address basic needs (for example, food and water, information)
 - ▶ Listening to people, but not pressuring them to talk
 - ▶ Comforting people and helping them to feel calm
 - ▶ Helping people connect to information, services, and social supports
 - ▶ Protecting people from further harm
2. **Basic mental healthcare:** People with severe mental health problems and those who have been receiving treatment should have access to a network of community-based social supports as well as continued clinical care through available health services. Mental hospitals and residential homes for people with severe mental problems need to be visited regularly, especially early in the crisis. Essential psychotropics and anti-epileptics should be made available.
3. **Psychosocial processing (PSP):** This is largely used by crisis workers to help the survivors deal positively with the severe emotional impact of crisis and provide education about current and anticipated stress responses, and information about stress management. It is a formal group session which allows the ventilation and sharing of experiences, feelings, and reactions



during the critical incident. The rationale of PSP is to facilitate the sharing of experiences with others allowing the determination of how the traumatic incident affected the individual and the identification of appropriate responses to the stress.

4. **Early recovery:** Plans to develop the mental health system need to be initiated to adequately scale up effective mental health treatment and respond to the increased rates of mental disorders caused by emergencies and disasters.

2.2.7.1 Domains and Minimum Responses in Emergencies

Philippine Setting

A. Common Functions

1. Coordination
 - Establish coordination of multi-sectoral mental health and psychosocial support

All MHPSS-oriented organizations shall join the MHPSS sub-cluster chaired by DOH and coordinate all activities to provide an effective and efficient response.

2. Assessment, Monitoring, and Evaluation
 - Conduct assessment of mental health and psychosocial issues
 - Initiate participatory systems for monitoring and evaluation

All humanitarian actors shall regularly include MHPSS data as required by the NDRRMMC standard reporting forms.



3. Protection and Human Rights Standards

- Apply a human rights framework in the provision of mental health and psychosocial support
- Identify, monitor, prevent and respond to protection threats and failures through social and legal protection

All humanitarian actors shall actively promote and implement protection and human rights standards as instituted by MHPSS guidelines, plans, and activities.

4. Human Resources

- Identify and recruit staff and engage volunteers who understand local culture
- Enforce staff codes of conduct and ethical guidelines
- Organize orientation and training of aid workers in mental health and psychosocial well-being among staff and volunteers
- Prevent and manage problems in mental health and psychosocial well-being among staff and volunteers

MHPSS service providers shall undergo MHPSS training programs such as the Basic Course on MHPSS, Psychological First Aid, and Stress Management for workers.

B. Core Mental Health and Psychosocial Supports

1. Community Mobilization and Support

- Facilitate conditions for community mobilization, ownership, and control of emergency response in all sectors
- Facilitate community self-help and social support
- Facilitate conditions for appropriate communal, spiritual, religious, and healing practices
- Facilitate support for young children (0-8 years) and their caregivers



Disaster workers situated at the command post and other strategic areas shall provide MHPSS (e.g. psychological first aid) by assisting in tracing for family reunification, provision of information, welfare, temporary shelters, render other forms of possible assistance to the affected population, and enable community members including marginalized people to strengthen community self-help and social support.

2. Health Services

- Include specific psychological and social considerations in provision of general health care
- Provide access to care for people with severe mental disorders
- Protect and care for people with severe mental disorders and other mental and neurological disabilities living in institutions
- Learn about and, where appropriate, collaborate with local indigenous and traditional health systems
- Minimize harm related to alcohol and other substance abuse

Local physicians and health staff shall provide psychological interventions and mental health treatment, screening procedures, guidelines, treatment protocols, assessment and reporting forms for the care of persons with severe psychological or mental conditions, and if necessary, refer them to the next level of care.

3. Education

- Strengthen access to safe and supportive education

Restore school classes to normalcy or provide equivalent informal education in coordination with DepEd, LGUs, and with the parents as soon as possible.



4. Dissemination of Information

- Provide information to the affected population in the emergency on relief efforts and their legal rights
- Provide access to information about positive coping methods

Humanitarian workers are to ensure the presence of a functional information and communications team with technical knowledge on MHPSS at all levels, as well as formulate a comprehensive reporting system to include MHPSS.

c. Social Considerations in Sectors

1. Food Security and Nutrition

- Include specific social and psychological considerations (safe aid for all in dignity, considering cultural practices and household roles) in the provision of food and nutrition support

2. Shelter and Site Planning

- Include specific social considerations (safe, dignified, culturally and socially appropriate assistance) in shelter planning and site planning, in a coordinated manner

3. Water and Sanitation

- Include specific social considerations (safe and culturally appropriate access for all in dignity) in the provision **of water and sanitation**

Social considerations in sectors are addressed in collaboration with DSWD and in coordination with other concerned agencies in providing appropriate interventions.



People at Increased Risk of Problems

- Women
- Men
- Children
- Elderly
- Extremely poor people
- Internally displaced persons (IDPs)
- Ethnic or linguistic minorities
- People who have been exposed to extremely stressful events/trauma (e.g. people who have lost close family members or their entire livelihoods, rape and torture survivors, witnesses of atrocities, etc.)
- People in the community with pre-existing, severe physical, neurological or mental disabilities or disorders
- People in institutions (orphans, elderly, people with mental disorders)
- People experiencing severe social stigma (commercial sex workers, people with severe mental disorders, survivors of sexual violence)



2.2.7.2 MHPSS Intervention

Figure 10. Intervention Pyramid

Examples

Mental healthcare by mental health specialists
(psychiatric nurses, psychologists, psychiatrists, etc.)

Basic mental healthcare by primary healthcare doctors
Basic emotional and practical support by community workers

Activating social networks
Communal traditional supports
Supportive age friendly spaces

Advocacy for basic services that are safe,
socially appropriate and protect dignity



Steps in Providing MHPSS Intervention

1. Assess psychosocial and mental health concerns. Schedule consultative meetings with the provincial and municipal health workers in the affected area to:
 - ▶ Estimate the psychosocial problems experienced by the people, guided by the classification of people at high risk
 - ▶ Estimate available resources for mental health/social services
2. Brief field officers in the areas of health and social welfare regarding issues of fear, grief, disorientation, and the need for active participation. Mobilize informal human resources in the community (e.g. Red Cross volunteers, religious and political leaders)



3. Conduct mostly social intervention that does not interfere with acute needs such as the organization of food, shelter, clothing, Primary Health Care services, and, if applicable, the control of communicable diseases
4. Establish contact with Primary Health Care (PHC)



As much as possible, manage acute distress without medication. It is also not advisable to organize single session psychological debriefing for the general population as an early intervention after exposure to trauma.

- ▶ Develop the availability of mental health care for a broad range of problems through general health care and community-based mental health services
 - ▶ Manage urgent psychiatric complaints (i.e. peril to self or others, psychoses, severe depression, mania, epilepsy) within PHC
 - ▶ Ensure the availability of essential psychotropic medications at the PHC level. Many persons with urgent psychiatric complaints will have pre-existing psychiatric disorders and sudden discontinuation of medication needs to be avoided
5. Start planning medium- and long-term development of community-based mental health services and social intervention needed during recovery and rehabilitation. This is vital since it is during this phase that survivors will be rebuilding their lives amidst the grief from the loss of loved ones, property, and livelihood.
 6. If the acute phase is protracted, start training and supervising PHC workers and community workers in activities like the provision of appropriate psychotropic medication, 'psychological first aid,' supportive counseling, working with families, suicide prevention,



- management of medically unexplained somatic complaints, substance use issues, and referral
7. Educate other humanitarian aid workers as well as community leaders (e.g. village heads, teachers, etc.) in core psychological care skills (e.g. ‘psychological first aid’, emotional support, providing information, sympathetic reassurance, recognition of core mental health problems) to raise awareness and community support and to refer persons to PHC when necessary
 8. Carefully educate the public on the difference between psychopathology and normal psychological distress, avoiding suggestions of wide-scale presence of psychopathology and avoiding jargon and idioms that carry stigma
 9. Facilitate creation of community-based self-help support groups. The focus of such self-help groups is typical problem sharing, brainstorming for solutions or more effective ways of coping (including traditional ways), generation of mutual emotional support, and sometimes generation of community level initiatives
 10. Provide support to caregivers who, because of the exhaustion and enormity of the job, may experience “burn-out”

2.2.7.3 Psychological First Aid (PFA)

As previously discussed, PFA is simply a “first-aid” response aimed to stabilize, reduce symptoms, and return the survivors to their functional capacity. It refers to any effort that reduces their feeling of helplessness and promotes their sense of control.

Providing Psychological First Aid responsibly means:

1. Respect safety, dignity, and rights
2. Adapt what you do to take account of the person’s culture



3. Be aware of other emergency response measures
4. Look after yourself

Preparation	Learn about the crisis event Learn about available services and supports Learn about safety and security concerns
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Action Principles of PFA:

Principle	Action
LOOK	Check for safety Check for people with obvious urgent basic needs Check for people with serious distress reactions
LISTEN	Approach people who may need support Ask about people's needs and concerns Listen to people and help them to feel calm
LINK	Help people address basic needs and access services Help people cope with problems Give information Connect people with loved ones and social support

PFA Ethical Dos and Don'ts

Ethical dos and don'ts are offered as guidance to avoid causing further harm to the person, to provide the best care possible and to act only in his or her best interest. Offer help in ways that are most appropriate and comfortable to the people you are supporting. Consider what this ethical guidance means in terms of your cultural context.



Dos	Don'ts
<ul style="list-style-type: none">• Be honest and trustworthy.• Respect people's right to make their own decisions.• Be aware of and set aside your own biases and prejudices.• Make it clear to affected people that even if they refuse help now, they can still access help in the future.• Respect privacy and keep the person's story confidential, if this is appropriate.• Behave appropriately by considering the person's culture, age, and gender.	<ul style="list-style-type: none">• Don't exploit your relationship as a helper.• Don't ask the person for any money or favor for helping him or her.• Don't make false promises or give false information.• Don't exaggerate your skills.• Don't force help on people and don't be intrusive or pushy.• Don't pressure people to tell you their story.• Don't share the person's story with others.• Don't judge the person for his or her actions or feelings.

People who need more advanced support immediately:

- People with serious, life-threatening injuries who need emergency medical care
- People who are so upset that they cannot care for themselves or their children
- People who may hurt themselves
- People who may hurt others

Examples of Psychological First Aid:

- **Family Support Services**– assistance in providing the affected family with their particular and specific needs during and shortly following a crisis
 - ▶ helping with their activities of daily living
 - ▶ making communication arrangements for them including phone calls
 - ▶ provision of warm blanket, clothing, tents, etc.
 - ▶ food assistance (provision of warm meals, etc.)
- **Information Support Services** – provision of appropriate information



- **Tracing Services** – assistance in locating missing relatives
- **Reassurance** – provision of factual statements that help put minds at ease and impart a sense of security
- **Presence of crisis workers** – human service providers especially if they are in uniform with clear identification i.e. DOH, DSWD
- **Rituals** - i.e. allowing victims to go through grieving rituals
- **Other support structures** – provision of a support structure to help the victims/survivors go through the different phases of a critical incident (e.g. “Gabay” System for the Cebu Pacific plane crash)

Guidelines for Delivering Psychological First Aid

1. Politely observe first; don't intrude. Then ask simple respectful questions to determine how you may help
2. Often, the best way to make contact is to provide practical assistance (food, water, blankets)
3. Initiate contact only after you have observed the situation and the person or family, and have determined that contact is not likely to be intrusive or disruptive
4. Be prepared that survivors will either avoid you or flood you with contact
5. Speak calmly. Be patient, responsive, and sensitive
6. Speak slowly, in simple concrete terms; don't use acronym or jargon
7. If survivors want to talk, be prepared to listen. When you listen, focus on hearing what they want to tell you, and how you can be of help
8. Acknowledge the positive features that the survivor has done to keep safe
9. Give information that is accurate and age-appropriate for your audience



10. Remember that the goal of psychological first aid is to reduce distress, assist with current needs, and promote adaptive functioning, not to elicit details of traumatic experience and losses



In the Philippines, restoring family links is one vital service of the Philippine Red Cross during emergencies and disasters

2.2.7.4 Psychosocial Processing (PSP)

A process used by a mental health professional or by a health care provider to assist people in crisis and to transform these **victims** of crisis into **survivors**.

This is a formal meeting, done individually or in small groups. It is generally held shortly after an unusually stressful incident, strictly for the purpose of dealing with the emotional residuals of the event. Any location that is large enough to accommodate the group, and which can be secured so as to assure privacy, is appropriate for use. This session may require a block of time that is several hours (1-2 hours) in length.

Conducting a PSP Session:

The conduct of PSP sessions outlined below requires a set of competencies that can be provided by a training program in DOH-HEMS. It is strongly advised that one undergo such training before conducting a PSP session to acquire the necessary knowledge and skills.



- I. Introduction/ Initial Phase – the facilitator introduces him/herself and the participants follow. The following are then discussed:
 - a. Purpose of the session
 - b. Guidelines to be observed by all participants
 - i. Confidentiality
 - ii. Openness and respect for whoever is talking (there are no right or wrong answers)
 - iii. No distractions (toilet needs should be attended to first and all cellular phones should be on silent mode)
- II. Sharing of Facts/ Fact Phase – participants share what happened during and after the incident
- III. Sharing of Thoughts & Feelings –Reactions (physical, emotional, cognitive, behavioral, spiritual) of the participants during and after the incident can be shared in this phase
- IV. Coping Phase – participants will be asked how they coped with the incident. Coping may be positive or negative. Positive coping styles are affirmed and if negative coping styles were employed, the facilitator may suggest positive coping styles.
- V. Re-Entry/ Contingency Planning Phase – Time to wrap up, answer questions and develop a plan for any future actions that may be needed, in case another or a similar incident occurs. The facilitator may also ask the participants/ clients for feedback on the session.



2.2.7.5 Early Social Interventions for Children and Families

Measures should be taken to ensure that, to the maximum extent possible:

- People have access to an ongoing reliable flow of credible information on:
 - ▶ The nature and scale of the emergency
 - ▶ Efforts to establish physical safety of the population
 - ▶ Relief efforts, including what each government department and aid organization is doing and where they are located
- Normal cultural and religious events are maintained (including grieving rituals by relevant spiritual and religious practitioners); people are able to conduct ceremonious funerals
- Death certificates are available to avoid unnecessary financial and legal consequences for relatives
- Children have access to formal or informal schooling and to normal recreational activities
- Adults and adolescents have access to participate in concrete, purposeful, common interest activities, such as emergency relief, and recovery activities
- Isolated persons, such as orphans, widows, widowers, or those without their families, have access to activities that aim for their inclusion in social networks
- When necessary, a family tracing service is established
- Uncomplicated, reassuring, empathic information on normal stress reactions is available to the community at large
- Where people are displaced, shelter is organized to keep members of families and communities together, there is provision for recreational and cultural space, and the people are consulted



regarding the location of religious places, schools, water points, and sanitation facilities



Individuals Likely to Develop Severe Psychological Reactions After Disaster

- Those who were trapped inside fallen buildings, entombed for hours or caught in a near-death situation during the disaster
- Those who lost a limb or suffered any serious physical injury as a result of the disaster
- Those who lost one or more members of the family because of the disaster
- Those who watched a friend, a relative, or a person die as a result of the disaster
- Those who lost their homes, their properties or livelihood because of the disaster
- Those who do not show the usual reactions to disaster
- Those whose reactions are exaggerated or distorted (e.g., excessive fear of rain)
- Those who were forced to flee, leave their homes or transfer to another place as a result of the disaster
- Those whose reactions last for more than 4 to 6 weeks
- Those who have had previous psychiatric problems/crisis before the disaster

2.2.7.6 Psychosocial Concerns for Disaster Workers

Burnout Syndrome: Although there is no universally accepted definition of burnout, most researchers define it as a state of physical, emotional, and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding (Schaufeli & Greenglass 2001).



Burnout Signs and Symptoms

Cognitive	Emotional	Physical	Behavioral
<ul style="list-style-type: none">• Mental confusion• Slowness of thought• Inability to make judgments and decisions• Loss of objectivity in evaluating own functions	<ul style="list-style-type: none">• Depression• Hyper-excitability• Irritability• Excessive rage reactions• Anxiety	<ul style="list-style-type: none">• Physical exhaustion• Loss of energy• Gastro-intestinal distress• Appetite disturbances• Sleep disorders	<ul style="list-style-type: none">• Excessive fatigue• Hyperactivity• Inability to express self

Management of Burnout

- Being aware of and on the alert for the symptoms
- Official temporary relief from work
- Rotation of workers to low/moderate/high stress tasks
- Briefing/debriefing
- Buddy-buddy system
- Limited exposure to high-stress assignments
- Counseling and/or referral to psychiatrist

Quick Self-Check for Burnout Syndrome

Questions	YES	NO
1. Do you feel unable to think clearly, which hampers simple decision-making?		
2. Do you get easily confused or unable to concentrate on specific task?		
3. Do you feel excessively sad or get over-excited at times?		
4. Do you feel restless or irritable even with minor provocation?		
5. Do you experience frequent physical ailments such as headaches, diarrhea, and other gastro-intestinal problems?		
6. Do you experience appetite or sleep disturbance?		
7. Do you get tired easily to the point of avoiding interaction with other people?		



If you answer **YES** to 3 or more questions presented, better check yourself first. You might be experiencing burnout.

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2.2.8 Management of the Dead and the Missing Persons

A.O. No.7-0018 provides a national policy framework that serves as a guide to an effective, efficient and well-coordinated action in the management of the dead and the missing persons (MDM) in emergencies and disasters.

2.2.8.1 Search and Recovery Operation

- Search and Rescue (SAR) Commander should establish and disseminate unified and standardized tagging system of bodies and body parts recovered
- All dead bodies/body parts retrieved onsite should be placed in cadaver bags (**Note:** place one retrieved body per bag or one retrieved body part per bag, as one body part is considered one dead body) during transport to collection points or storage areas (preferably refrigerated) for identification or examination
- Local health office (with support from DOH) must look after health conditions and needs of responders and volunteers
- Protection and safety of responders or volunteers must be observed in the entire MDM and should be the primary consideration of sending agencies
- Local chief executive should coordinate all MDM processes

2.2.8.2 Identification of the Dead

- For disaster victim identification (DVI), the LGU shall request the National Bureau of Investigation(NBI) in cases of natural disasters or Philippine National Police (PNP) Crime Laboratory in cases of mass fatality incidents caused by humans



- NBI or PNP should provide local health officer an official list of identified and unidentified victims
- Local health officer issues death certificate based on the certificate of identification issued by NBI or PNP Medico-Legal Officers
- LGU must provide list of missing/dead persons to the NBI and PNP and list of identified and unidentified dead foreigners to the Department of Foreign Affairs(DFA)
- Local health office should monitor proper sanitation of collection and storage areas, and maintain sanitary retrieval and disposal of body parts/dead bodies
- Retrieved body parts/corpses waiting for examination should be preserved properly preferably by refrigeration (will resort to temporary burial if not available)
- Chemical preservatives (quickslime, formol, zeolite) and common disinfectants (hypochlorite) may be applied **only after** DVI
- NBI and PNP may request fingerprints, dental and medical records of the missing/dead in custody of other government agencies (GSIS, SSS, etc.) for the purpose of identifying dead bodies only
- Interpol Identification System for the ante-mortem (Dead/Missing Persons Form) and post-mortem (Dead Bodies Identification Form) may be used for MDM data
- LGU, in coordination with NBI, PNP, DOH, DILG, and other agencies, shall conduct training regarding proper handling of the dead/missing
- All concerned agencies are to undertake forensic research regarding DVI



2.2.8.3 Final Arrangement for the Dead

- For identified remains:
 - ▶ Shall be turned over to rightful/legitimate claimants, who will be responsible for the ultimate disposal of identified cadavers
 - ▶ No embalming procedures shall be done without permission from the nearest of kin (bereaved)
 - ▶ Respective embassies of identified dead foreigners shall be informed and will be responsible for repatriation of their bodies
- For unidentified remains:
 - Shall be turned over to LGU after thorough post-mortem examinations
 - Final disposition shall be left to the LGU, with religious and ethnic considerations and consultation with the community
 - Shall be buried in collective or individual graves, marked with their unique case numbers
 - Cremation will not be allowed
 - Exhumation shall be done in the presence of local health officials
- Disinterment areas should be decontaminated or disinfected
- Burial of bodies in mass graves or the use of mass cremation/burning shall be avoided in all circumstances
- MDM related to infectious diseases and Biological, Chemical, Radiological, Nuclear, and Explosive Emergencies (BCRNE) shall be done in accordance with existing DOH guidelines



2.2.8.4 Management of the Missing Persons

- Provincial/City/Municipal Social Welfare office shall:
 - ▶ Establish the social welfare inquiry desks for data generation and information management of missing persons and their surviving families
 - ▶ Manage information regarding the identification of retrieved bodies/body parts using the Interpol Identification System
 - ▶ Validate and process documents of missing persons for issuance of certificates of missing person believed to have died during disaster and submit to LCE
- DSWD, DOH and PRC to together address medical, psychological, and physiological needs of the families of missing persons
- The NDCC (now NDRRMC) through OCD as per recommendation of the LGU shall issue certificates of missing persons believed to have died during disaster

2.2.8.5 Management of the Bereaved Families

- Provincial/City/Municipal Social Welfare Office (P/C/MSWDO) is the lead agency in the overall management of bereaved families
- DSWD to assist in terms of food, finances, livelihood, clothing, shelter; management of orphans, and food/cash for work
- DSWD, PRC, and NGOs to assist P/C/MSWDO in meeting:
 - ▶ Social needs of the bereaved in terms of family/peer support system, social welfare inquiry desk/info center, educational assistance, and legal needs



- ▶ Psychological needs of the bereaved in terms of Critical Incident Stress Debriefing (CISD) training, counseling and other special needs (psychiatric/mental services)
- DOH to help attend to the medical and psychological needs of the bereaved, and PRC to provide a support system from volunteers



- Emphasize that, in general, the presence of exposed corpses poses no threat of epidemics. Corpses have lower risk for contagion than infected living persons. The key to preventing disease is to improve sanitary conditions and to educate the public
- Death from trauma or bodies buried in landslide or mudslides are unlikely to cause outbreaks of diseases
- They may, however, transmit gastroenteritis or food poisoning syndrome to survivors if they contaminate stream, wells, or other water sources. Thus, bodies (or dead animals) lying in water sources should be removed as soon as possible
- Principal diseases that should be avoided by those responsible for managing corpses in order to prevent possible contagion:
 - Streptococcal infection
 - Gastrointestinal infection (e.g. cholera, salmonellosis)
 - Hepatitis B and C
 - HIV

2.2.8.6 Other Concerns in Cases of Mass Fatalities

1. Initial Concerns

- ▶ Type of incident (natural, biological, technological, or societal)
- ▶ Probable condition of remains (e.g. burnt, with severe trauma, decomposed, contaminated)



- ▶ Estimated number of fatalities
- ▶ Location of incident
- ▶ Local authority in-charge
- ▶ Budget

2. Personnel

- ▶ Tap medico-legal officers from the NBI, PNP, and local government doctors
- ▶ Mobilize volunteers like medical and dental students or specialists from the area
- ▶ Ideally, prepare beforehand a list of the people involved and their contact numbers

3. Handling of the Bodies at the Scene

- ▶ Before anything else, observe and document the location and position of each body/body part at the scene prior to removal
- ▶ Sketch and photograph for documentation
- ▶ Make every effort to identify the bodies at the site where they are found. Tags should be attached to the bodies that provide the name (if known), approximate age, sex, and location of the body

4. Evidence and Property

- ▶ All items of property that are on the body should remain on it
- ▶ Other items associated with a body should be collected as property and tagged with the body
- ▶ Location of loose items (e.g., proximity to which body) should be documented prior to collection



5. Removal and Transport of Remains

- ▶ Care must be taken not to lose, contaminate or switch such body, body parts or property to be removed and transported
- ▶ Properly labeled separate bags must be used
- ▶ Be particularly careful of potential loss of teeth if they are loose (e.g. badly burned or crushed remains). Put a bag around the head
- ▶ When choosing vehicles to transport dead bodies, it is advisable to use trucks or vans, preferably closed, with floors that are either waterproof or covered with plastic

6. Temporary Mortuary Facility

- ▶ Identify a place that can be converted into a makeshift morgue (e.g. empty warehouse, covered basketball court)
- ▶ Provide basic requirements:
 - Security
 - Adequate lighting, ventilation, water supply
 - Examination tables
 - Instruments for examining the remains and documentation
 - Ideal set-up of a reception, a viewing room, a storage chamber for bodies not suitable for viewing, and a room to store personal possessions and records

7. Examination of Remains

- ▶ Objectives of the post-mortem examination include:
 - Identification of the remains
 - Cause of death determination
 - Manner of death determination
 - Collection of forensic evidence
- ▶ Identification through visual identification by the next-of-kin should be limited to bodies that are suitable for viewing (i.e.



not decomposed, burnt or mangled) and should be subject to verification by other means

- ▶ Because of limited resources, not all bodies can undergo a full autopsy. Priority may be given to certain remains (such as those of transport operators driver, pilot/ship captain, and crew)
- ▶ Detailed examination of the external body is done. Marks such as tattoos, scars, moles, and deformities are searched
- ▶ Fingerprints are obtained and dental charting is done
- ▶ Blood and other tissue/fluid samples are collected for possible tests (e.g. histopathology, DNA analysis, toxicology)
- ▶ Property collected from each body (e.g. clothes, jewelry, wallets, IDs) must be described and inventoried

8. Preservation of the Body

- ▶ Remains are best stored refrigerated (e.g. in rented refrigerated storage trucks) while awaiting examination
- ▶ After the post-mortem examination, embalming can be done

9. Dealing with Claimants

- ▶ Notify family members of the death or disappearance of victims in a clear, orderly, and individualized manner
- ▶ Organize a separate area where the next-of-kin can be systematically interviewed
- ▶ Acquire useful ante-mortem information:
 - Name, age, sex, height, build
 - Appearance when last seen
 - Distinguishing features (tattoos, scars, moles, deformities, etc.)
 - Significant medical history



- ▶ Ask the next-of-kin to submit the following:
 - Medical records including x-ray films
 - Dental records
 - Clear photograph with teeth bared
 - Fingerprints on file
- ▶ Note that personal items that a person believed to be among the victims could have used (e.g. toothbrush, hairbrush, other items), could potentially contain reference fingerprints or DNA samples

10. Death Certification and Release of Bodies

- ▶ Properly identified victims shall be issued death certificates and the bodies released to the next-of-kin
- ▶ A record of how the bodies are disposed of including information regarding the claimant's names, addresses, and contact numbers shall be maintained
- ▶ Bodies could remain unidentified in case of insufficient ante-mortem and post-mortem data. These remains should be buried separately, **not cremated**, and their post-mortem records stored for future evaluation
- ▶ Court proceedings could be initiated according to Philippine laws that would legally declare dead the unidentified and missing victims

11. Disposal of the Dead

- ▶ Respond to the wishes of the family and provide all possible assistance in the final disposition of the body
- ▶ Conduct burials as the preferred method of body disposal in emergency situations unless there are cultural and religious observances that prohibit it



- ▶ The location of graveyards should be agreed upon by the community and attention should be given to ground conditions, proximity to groundwater drinking sources (which should be at least 50m), and to the nearest habitat (500m):
 - Burial depth should be at least 1.5m above the groundwater table, with at least 1m of soil cover
 - If coffins are not available, corpses should be wrapped in plastic sheets to keep the remains separate from the soil
 - Burials in common graves and mass cremations are rarely warranted and **should be avoided**
- ▶ Reject unceremonious and mass disposal of unidentified corpses. As a last resort, unidentified bodies should be placed in **individual** niches or trenches, which is a basic human right of the surviving family members

12. Physical and Psychological Care of Relief Workers

- ▶ Ensure a plan for physical and psychological care of relief workers
- ▶ Consider that handling a large number of corpses can have an enormous impact on the health of the working team

References and further readings:

ADPC WHO. (2008). *Management of the Dead and Missing Persons in 8th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

DOH. (2007). *A.O. No. 2007-0018: National policy on the management of the dead and the missing persons during emergencies and disasters.*

WHO. (2003). *Environmental health in emergencies and disasters: a practical guide.*

WHO-Pan American Health Organization, International Committee of the Red Cross, and International Federation of Red Cross and Red Crescent Societies. (2006). Morgan, O., Tidball-Binz, M., and Van Alphen, D. editors. *Management of dead bodies after disasters: a field manual for first responders.*



Part 3:

Emergency Recovery and Reconstruction



Early recovery is a multi-dimensional process that spans restoration of basic services, livelihoods, shelter, governance, security and rule of law, environment and social dimensions, including the reintegration of displaced populations. It also establishes the foundations for longer-term development, by supporting and generating self-sustaining and locally owned processes for post-crisis recovery (adapted from UNDP 2011).

3.1 HEALTH ROLES IN MANAGING RISKS OVER TIME

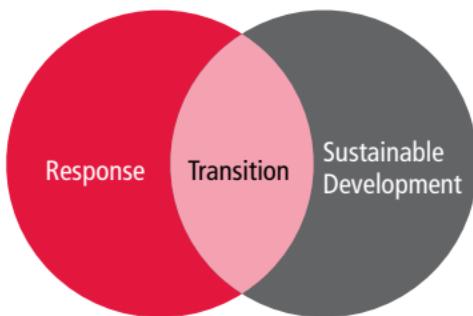
Stage	Time frame	General Needs	Health Needs
Immediate	First 24 hours	Search and rescue	First aid
		Evacuation/shelter	Triage
		Food	Primary medical care
		Water	Transport/ambulance
		Public information system	Acute medical and surgical care
Emergency communication, logistics and reporting system (including injury and disability registers)			
Short term	End of first week	Security	Emergency epidemiological surveillance for vector-borne diseases, vaccine-preventable diseases, and diseases of epidemic potential
		Energy (fuel, heating, light, etc.)	Control of disease of public health significance
		Environmental	Control of acute intestinal and respiratory diseases
		Health services for:	Care of the dead
		<ul style="list-style-type: none">• Vector control• Personal hygiene• Sanitation, waste disposal, etc.	General curative services
			Nutritional surveillance and support (including micronutrient and supplementation)
			Measles vaccination and Vitamin A



Stage	Time frame	General Needs	Health Needs
Medium term	End of first month	Protection (legal and physical)	(Re)establishment of the health information system
		Employment	Restoration of preventive health care services such as EPI, MCH, etc.
		Public transportation	Restoration of priority disease control programs such as TB, malaria, etc.
		Communications	Restoration of services of non-communicable diseases/obstetrics
Long term	End of 3 months	Psychosocial services	Care of the disabled
		Education	Reconstruction and rehabilitation
		Agriculture	Specific training programs
		Environmental protection	Health information campaigns/health education programs
Conclusion		Compensation/reconstruction	Disability and psychosocial care
		Restitution/rehabilitation	Evaluation of lessons learned
		Prevention and preparedness	Revision of policies, guidelines, procedures and plans
			Upgrade knowledge and skills, change attitude

3.2 RECOVERY FRAMEWORK AND GOALS

Figure 11. Recovery Framework





Goals		
Response	Transition	Sustainable Development
1. Saving lives 2. Emergency aid 3. Short-term intervention 4. Emergency funding 5. Providing for the community 6. Emergency relief aid 7. Spontaneous interventions 8. Consumption subsidy 9. Politicization of emergencies 10. Short time frame used advantageously	1. Saving livelihoods 2. Support for rehabilitation 3. Longer term planning 4. Combined funding proposals 5. Working with the community 6. Integration of relief aid and developmental support 7. Appropriate interventions 8. Building of assets 9. Political competence 10. Strengthening of coping strategies	1. Building livelihoods 2. Building communities 3. Long-term development 4. Developmental funding 5. Understanding the community 6. Developmental support 7. Planned strategies 8. Investment subsidy 9. Political proficiency 10. Sustainability



- There is no clear-cut boundary between response and recovery phases
- Always consider long-term capacity development and risk reduction
- The ultimate goal of recovery is to restore and strengthen health systems in the long term ("build back better" concept)

3.3 POST-DISASTER NEEDS ASSESSMENT (PDNA)

PDNA can be described as a follow-up document to the DaLA/DaNA covering all sectors of the affected population. While the DaLA/DaNA is done at the soonest possible time after an emergency or disaster, PDNA comes later as the response phase shifts to recovery and reconstruction. It is a more detailed and complete report.



Definition of terms:

- **Damage** – (direct impact) refers to the impact on assets, stocks (including final goods, goods in process, raw materials, materials and spare parts), and property
- **Losses** – (indirect impact) refer to flows that will be affected, such as production declines, reduced incomes, and increased expenditures, over a time period until the economy and assets are recovered
- **Economic and social impacts** – include macroeconomic impacts, poverty impacts, employment and livelihoods impacts, and social impacts
- **Needs** – refer to the total estimated cost for recovery and reconstruction

Different sectors assessed in PDNA of the Philippines after Typhoons Ondoy and Pepeng in 2009:

- Productive sector
 - ▶ Agriculture
 - ▶ Industry
 - ▶ Commerce
 - ▶ Tourism
- Social sector
 - ▶ Housing
 - ▶ Education
 - ▶ Cultural Heritage
 - ▶ Health
- Infrastructure
 - ▶ Electricity



- ▶ Water and Sanitation
- ▶ Flood control, Drainage, Dam management
- ▶ Transport
- ▶ Telecommunication
- Cross-sectoral
 - ▶ Local government
 - ▶ Social protection
 - ▶ Financial sector
 - ▶ Disaster risk management & reduction

Guiding Principles for Recovery and Reconstruction

- Transparent, accountable and result-based recovery and reconstruction program
- Community-based, people-centered, and equitable approaches
- Reduction of future risks

References and further readings:

ADPC WHO. (2009). *Module 12: Recovery and Reconstruction in 9th Inter Regional Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

Republic of the Philippines, United Nations, World Bank. (November 2009). *Philippines Typhoons Ondoy and Pepeng: Post-Disaster Needs Assessment*.

United Nations Development Programme (UNDP). (2011). *Early Recovery Cluster: Key things to know*. Health Cluster Tool Kit 2011.



Part 4: Emergency Preparedness



4.1 COMPONENTS OF THE HEALTH EMERGENCY PREPAREDNESS, RESPONSE, AND RECOVERY PLAN (HEPRRP)

The HEPRRP is an essential part of preparedness designed for the different levels of the health sector (i.e. CHDs, provincial/city/municipal health office, hospitals). It is generally composed of the following components:

1. Background
2. Plan Description/Definition
3. Goals and Objectives
4. Planning Group
5. Risk Reduction Plan
 - ▶ Hazards prevention plan
 - ▶ Vulnerabilities reduction plan
 - ▶ Emergency preparedness plan
6. Management Structures
7. Roles and Responsibilities
8. Emergency Response Plan
 - ▶ Policies, guidelines, protocols for the developed systems
 - ▶ Plan of action on the first 2 hours, 2 to 12 hours, and after 24 hours from the time of emergency
9. Recovery and Reconstruction Plan
10. Annexes
 - ▶ Glossary
 - ▶ Abbreviations
 - ▶ Directory of contact persons



- ▶ Inventory of resources/assets of the CHD and partner agencies

References and further readings:

DOH. (2011). *Health Emergency Management Planning presentation in 10th National Training Course on Public Health and Emergency Management in Asia and Pacific.*

ADPC WHO. (2009). *Module 7-A: Emergency Response Planning in 9th Inter-Regional Training Course on Public Health and Emergency Management in Asia and Pacific.*

4.2 TEN P'S OF EMERGENCY PREPAREDNESS

The ten P's are strategies for emergency preparedness

4.2.1 Policy formulation and development

Policy statement and implementing rules are first needed to function as the basis for all the related activities. These involve:

- Systems development (communications, logistics, and information management systems)
- Guidelines, protocols, procedures
- Organizational structure
- Roles and functions

Examples of related policies in the Philippines are:

- National policy on health emergencies and disasters
- Institutionalization of a health emergency preparedness and response program within the DOH
- Implementing guidelines for managing mass casualty incidents during emergencies and disasters
- National policy on the management of the dead and missing



- persons during emergencies and disasters
- Adoption and institutionalization of an integrated code alert system within the health sector
- Adoption and implementation of code alert system for DOH hospitals during emergencies and disasters
- Policies and guidelines on the establishment of operations center in emergencies and disasters
- Guideline on the acceptance and processing of foreign and local donations during emergency and disaster situations

4.2.2 Plan development

Vulnerability and hazard assessments are prerequisites in order to formulate different plans:

- Health emergency preparedness, response, and recovery plans
- All-hazards emergency operations plan
- Specialized planning for uncommon incidents (e.g. SARS, WMD)
- Communication plans
- Hospital preparedness and response plans

4.2.3 People

- Training
- Training needs assessment
- Training of trainers
- Human resource development
- Database and directory of experts



4.2.4 Partnership building

- Organization of the health sector
- Coordination and planning
- Memorandum of agreement/understanding with stakeholders
- Networking activities

The best example for partnership building is the **Cluster Approach**.

- The UN introduced the Cluster Approach in its Humanitarian Reform Agenda and envisioned it to “strengthen system-wide preparedness and technical capacity to respond to humanitarian emergencies by designating global Cluster Leads”
- A Cluster is a group of agencies (international and national) that are interconnected by their respective mandates, and that come together around a set of humanitarian interventions in a common area, for purposes of synergies, surge, effectiveness, efficiency, and accountability

4.2.4.1 Aims of the Cluster Approach

- To improve the predictability, timeliness, and effectiveness of humanitarian response
- To strengthen preparedness and capacity to respond to humanitarian emergencies by ensuring leadership and accountability in key areas
- To provide standards and global support especially in preparing recovery and rehabilitation efforts



4.2.4.2 Levels of Operation

1. Global level
 - ▶ Strengthen system-wide preparedness and technical capacity to respond to humanitarian emergencies
 - ▶ Designate global cluster leads
 - ▶ Ensure predictable leadership and accountability in all the main sectors or areas of activity
2. Country level
 - ▶ Ensure a more coherent and effective response by harmonizing efforts and using available resources efficiently
 - ▶ Mobilize groups of agencies, organizations, and NGOs to respond in strategic manner across all key sectors or areas of activity, with each sector having clearly a designated lead
 - ▶ Utilize existing government coordination structure and emergency response mechanisms in attaining agreed objectives, priorities, and strategies

4.2.4.3 Current Work of the Global Health Cluster

1. Coordination and Management
 - ▶ Stakeholders analysis, strategic planning, joint action plans, gap filling
 - ▶ Health aspects of the recovery phase
 - ▶ Advocacy
 - ▶ Capacity building of national stakeholders
2. Information Management
 - ▶ Inter-cluster rapid assessment tool with accompanying



definitions and guidelines

- ▶ Comprehensive assessment tool with assessment, monitoring, and tracking systems
 - ▶ Mainstreaming of health information with larger humanitarian IM system
3. Rosters and Stockpiles
- ▶ Selection, training, and rostering of health cluster field coordinators
 - ▶ Regional stockpiles of health supplies with necessary logistic support
4. Capacity Building
- ▶ Guidance to strengthen national capacity in emergency preparedness, response, and recovery
5. Operational Support
- ▶ Global working relations within the health cluster, between global clusters, and with country clusters
 - ▶ Advocacy, resource mobilization, training
 - ▶ Benchmarks/indicators for and evaluations of the impact of the cluster approach
 - ▶ A pocket book of simplified cluster guidance and tools with annexes of full cluster documents/findings
 - ▶ Library/database of emergency health documents

4.2.4.4 Cluster Approach in the Philippine Disaster Management System

- On May 10, 2007, the National Disaster Risk Reduction and Management Council (NDRRMC, formerly NDCC) issued Circular



No. 05, s-2007 entitled "Institutionalization of the Cluster Approach in the Philippine Disaster Management System, Designation of Cluster Leads and their Terms of Reference at the National, Regional, and Provincial Level"

- After its initial implementation, the circular was amended through Memorandum No. 12, s-2008, merging several clusters and designating government leads

Cluster	Government lead	IASC Country team counterpart
Food and Non Food Items (NFI)	Department of Social Welfare and Development (DSWD)	World Food Programme (WFP), United Nations Children's Fund (UNICEF)
Camp/IDP Management		International Federation of the Red Cross (IFRC)/UN Habitat, United Nations High Commission for Refugees (UNHCR), International Organization for Migration (IOM)
Emergency Shelter and Protection		International Labor Organization (ILO), UN Habitat
Permanent Shelter and Livelihood		
WASH, Health, Nutrition, and Psychosocial Services	Department of Health (DOH)	UNICEF, World Health Organization (WHO), WFP
Logistics	Office of Civil Defense/ NDRRMC Operations Center	WFP, UNICEF, United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA)
Emergency Telecommunications		
Education	Department of Education	UNICEF and Save the Children
Agriculture	Department of Agriculture	FAO
Early Recovery	Office of Civil Defense	UNDP
Water	Metropolitan Waterworks and Sewerage System (MWSS)	

NDCC Memorandum No. 12, s. 2008 "Amendment to the NDCC Circular Nos. 5, s. 2007 and 4, s. 2008 re: Institutionalization of the Cluster Approach in the Philippine Disaster Management System, Designation of Cluster Leads and their Terms of Reference at the National, Regional and Provincial Levels," October 6, 2008



4.2.4.5 Roles and Functions of Government Cluster Lead Agencies

1. National Level

- ▶ Inclusion of humanitarian partners in the cluster taking stock of their mandates and program priorities
- ▶ Establishment and maintenance of appropriate humanitarian coordination mechanisms at the national level
- ▶ Attention to priority cross-cutting issues
- ▶ Needs assessment and analysis
- ▶ Emergency preparedness
- ▶ Planning and strategy development
- ▶ Application of standards
- ▶ Monitoring and reporting
- ▶ Advocacy and resource mobilization
- ▶ Training and capacity building



The NDRRMC Executive Officer and Administrator, OCD shall function as Chair of all Cluster Leads and may call a meeting of all Cluster Leads at the national level as maybe necessary. Furthermore, the NDRRMC Executive Officer and Administrator shall represent the Government during the Inter-Agency Standing Committee (IASC) Country Team Cluster Leads' Meeting.

2. Regional Level

- ▶ The first line of support to disaster-stricken provinces (technical or operational) should come from regional level offices, which reflect the roles and responsibilities of national level cluster leads and add value to the delivery of emergency humanitarian assistance to the affected areas



- ▶ The OCD Regional Office, as the principal coordinating body at the regional level, should chair a regular cluster focal-points meeting to discuss operational strategies and response plans based on guidance from the national level cluster leads
3. Provincial Level
- ▶ The national level cluster leads should serve as a guide to Provincial Disaster Risk Reduction and Management Council (PDRRMC) Chairpersons on how to organize provincial clusters and manage an impending or potential disaster situation
 - ▶ PDRRMCs should develop baseline databases of provincial demography, sectoral data, and other basic information to facilitate rapid needs assessments of affected areas, timely mobilization of needed resources, and delivery of urgent assistance to the right beneficiaries through the clusters

References and further readings:

NDCC Circular No 05 s-2007

NDCC Memorandum No 12 s-2008

Republic of the Philippines. (2010). *RA 10121: Philippine Disaster Risk Reduction and Management Act of 2010*

WHO. (2009). *Health Cluster Guide 2009: A practical guide for country-level implementation of the Health Cluster*.

WHO. (May 2010). *Introduction to the Health Cluster, Module 2: Global Health Cluster Orientation Package presentation*

4.2.5 Program development

Specific programs will then be needed in order to address different concerns during an emergency. Examples of these are:



- Nutrition in Emergencies
- WASH in Emergencies
- MHPSS in Emergencies
- Chemical Emergency Program
- Safe Hospitals Program

4.2.6 Physical infrastructure development

- Establishment of Emergency Operations Centers (EOCs)
- Standardization/improvement/upgrading of ER, ambulance, EOCs, hospitals
- Procurements of supplies, communications, and equipment

4.2.7 Practices

- Publications
- Documentation and Research
- Lessons learned
- Best practices

4.2.8 Peso and logistics

- Fund allocation for preparedness and emergency management operations
- Prepositioning of logistics
- Resource inventory and mapping

4.2.9 Promotion and advocacy

- Advocacy activities



- Development of information, education, and communication (IEC) materials
- Mass media management

4.2.10 Package of services

- Pre-hospital, public health and hospital services
- Preparedness and response activities
- Monitoring and evaluation activities
- Technical assistance

References and further readings:

DOH. (2011). *Health Emergency Management Planning presentation in 10th National Training Course on Public Health and Emergency Management in Asia and Pacific.*

ADPC WHO. (2009). *Module 7-A: Emergency Response Planning in 9th Inter-Regional Training Course on Public Health and Emergency Management in Asia and Pacific.*

4.3 EMERGENCY PLANNING PROCESS

1. Define the plan or project
 - ▶ Determine aim, objectives, and scope
 - ▶ Identify tasks to be performed and resources needed
 - ▶ Identify framework in which emergencies will be managed
2. Review planning group
 - ▶ Ensure that key stakeholders are represented
 - ▶ Determine appropriateness of existing group (authority, multi-disciplinary representation)
 - ▶ Consider political and economic circumstances
 - ▶ Consider social and cultural issues



3. Analyze potential problem
 - ▶ Analyze hazards
 - ▶ Assess vulnerability
 - ▶ Develop response and recovery strategies
4. Analyze resources
 - ▶ Study resources required for response and recovery
 - ▶ Differentiate between requirement and availability
 - ▶ Identify person/organization responsible for the resources
5. Describe roles and responsibilities, i.e. each organization knows precisely what is expected of it and everyone is aware of the general roles of all relevant organizations
6. Describe management structure, i.e. command of individual organizations and control across organizations
7. Develop strategies and systems
 - ▶ Specify response and recovery strategies
 - ▶ Install systems that will support strategies

References and further readings:

- DOH. (2011). *Health Emergency Management Planning presentation in 10th National Training Course on Public Health and Emergency Management in Asia and Pacific.*
- ADPC WHO. (2009). *Module 7-A: Emergency Response Planning in 9th Inter-Regional Training Course on Public Health and Emergency Management in Asia and Pacific.*



POCKET EMERGENCY TOOL

Part 5:

Thematic Focus



5.1 SAFE HOSPITALS



Save Lives!

Make Hospitals Safe in Emergencies.

**“Reduce Risk, Protect Health Facilities,
Save Lives”**

5.1.1 Objectives

The World Disaster Reduction Campaign on Hospitals Safe from Disasters aims to raise awareness and effect change that will:

1. Protect the lives of patients and health workers by ensuring the structural resilience of health facilities
2. Make sure health facilities and health services are able to function in the aftermath of emergencies and disasters, when they are most needed, and
3. Improve the risk reduction capacity of health workers and institutions, including emergency management

5.1.2 Basic Facts

1. Many factors put hospitals and health facilities at risk: buildings, patients, the health workforce, equipment, and basic lifelines and services



2. Components of a health facility are divided into three categories: structural, non-structural, and functional elements
3. Functional collapse, not structural damage, is the usual reason for hospitals being put out of service during emergencies
4. Health facilities can be built to different levels of protection: life safety, investment protection, and operations protection
5. Making new hospitals and health facilities safe from disasters is not costly. It has been estimated that the incorporation of mitigation measures into the design and construction of a new hospital will account for less than 4% of the total initial investment
6. Field hospitals are extremely expensive and not necessarily the best solution to compensate for the loss of a hospital or health facility
7. A check consultant is vital for ensuring the disaster safety of critical facilities such as hospitals
8. Building codes are of utmost importance
9. Creating safe hospitals is as much about having vision and commitment as it is about actual resources

5.1.3 Developments in the Western Pacific Region

- Hospital assessment tool developed
- Resources made available to hospital administrators and health emergency planners
- Regional training courses developed and conducted
- Guide for planning and design of new Safe Health Facilities in the Philippines developed
- Advocacy for stakeholders aimed to ensure the continuity of the initiative



5.1.4 Developments in the Philippines

- The regional assessment tool was adapted from the Philippine assessment tool “Hospitals Should be Safe from Disasters” (DOH and WHO, 2008)
- Best Practices on Safe Hospitals in the Philippines 2009 contains how hospitals prepare for, cope with, and respond to numerous threats
- The Philippines celebrated World Health Day 2009 and hosted the International Conference on Safe Hospitals in December 2009
- DOH-HEMS, in partnership with WHO, has been conducting a series of training courses on Safe Hospitals in Emergencies and Disasters designed for hospital managers, planners, and decision makers. The training provides guidance to these stakeholders on the Safe Hospitals principles and how these can be implemented. As of 2011, 11 batches of training have been completed.
- DOH-HEMS created a Technical Working Group on Safe Hospitals to review the Philippine Hospital Assessment Tool and develop another for levels 1 and 2 health facilities, including primary care centers
- DOH-HEMS again convened the Technical Working Group on Safe Hospitals to review the Philippine Hospital Assessment Tool to merge the indicators covering levels I to IV facilities
- DOH-HEMS is preparing to commence with formal hospital assessment, to follow the 25 Metro Manila hospitals that were assessed in 2008



References and further readings:

UN ISDR

http://www.unisdr.org/eng/public_aware/world_camp/2008-2009/wdrc-2008-2009.html

WHO

<http://www.who.int/hac/techguidance/safehospitals/en/>

<http://www.wpro.who.int/sites/eha/activities/hsfd/overview.htm>

http://safehospitals.info/index.php?option=com_frontpage&Itemid=103

One Million Safe Schools and Hospitals

<http://www.safe-schools-hospitals.net/en/Home.aspx>

5.2 SEXUAL AND REPRODUCTIVE HEALTH IN EMERGENCIES

5.2.1 Overview

1. All individuals, including those living in disaster-affected areas, have the right to reproductive health (RH)
2. To exercise this right, affected populations must have access to comprehensive RH information and services to make free and informed choices
3. Quality RH services must be based on the needs of the affected population
4. Some preventable consequences that result from the neglect of Reproductive Health in emergencies include:
 - ▶ maternal deaths
 - ▶ infant deaths
 - ▶ sexual violence
 - ▶ unwanted pregnancies and abortions
 - ▶ spread of HIV



5.2.2 Minimum Initial Service Package (MISP) for RH in Emergencies

- The MISP defines those services that are most important for preventing RH-related morbidity and mortality among women, men, and adolescents in disaster settings
- It comprises a coordinated set of priority RH services that must be implemented simultaneously to prevent and manage the consequences of sexual violence, reduce the transmission of HIV, prevent excess maternal and newborn morbidity and mortality, and begin planning for comprehensive RH services as soon as the situation stabilizes
- Planning for the integration of good-quality comprehensive RH activities into primary healthcare at the onset of an emergency is essential to ensuring a continuum of care
- Comprehensive RH care involves upgrading existing services, adding missing services, and enhancing service quality

5.2.3 Key Activities

Humanitarian workers can help reduce mortalities, morbidities, and disabilities among affected populations especially women and children by:

1. Identifying a lead RH agency within the health sector or cluster to facilitate the coordination and implementation of the MISP and ensure that an RH officer (nominated by lead RH agency) is in place and functioning
2. Ensuring systems and measures are in place to protect displaced populations particularly women and girls, from sexual violence
 - ▶ Latrines with locks must be separate for males and females



- ▶ Pathways to toilets and water sources must be lighted
 - ▶ Security personnel must be visible and vigilant at all times especially at night
3. Ensuring that medical services that address different medical needs of the whole population including a functional referral system, transportation, communication, and psychosocial support services are available for survivors at all times
 4. Establishing the minimum set of HIV prevention, treatment, care, and support services to reduce the transmission of HIV
 5. Guaranteeing availability of common contraceptive methods (especially condoms)and safe blood for transfusion to meet demand to prevent transmission of STIs and HIV
 6. Providing resources to ensure clean and safe deliveries and newborn care at home or in facilities
 - ▶ at health centers – skilled birth attendants and supplies for normal births - and basic management of emergency obstetric and newborn complications; basic emergency obstetric care (BEmONC) and newborn
 - ▶ at referral hospitals – skilled medical staff and supplies for comprehensive management of obstetric and newborn complications; comprehensive emergency obstetric care (CEmONC) and newborn care
 7. Establishing referral systems (communication and transport) to manage obstetric emergencies at all times
 8. Planning for provision of comprehensive RH services



RH in Emergencies Statistics

- Approximately 4 per cent of the disaster-affected population will be pregnant women.
- Approximately 15 per cent of all pregnant women will experience an unpredictable obstetric complication during pregnancy or at the time of delivery that will require emergency obstetric care
- Approximately 5–15 per cent of all deliveries will require surgery, such as Caesarean section

References and further readings:

Inter-Agency Working Group on Reproductive Health in Crises (2010). *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings. 2010 Revision for Field Review*.

Women's Commission for refugee women and children. (2006). *Minimum Initial Service Package (MISP) for Reproductive Health in Crisis Situations: A Distance Learning Module*.

The Sphere Project. (April 2011). *SPHERE Project Handbook 2011 Edition*.

5.3 VULNERABLE POPULATIONS

In emergencies and disasters, a working definition of vulnerable populations includes those whose circumstances (economic, social, ethnic, biological, physical, or geographical nature) leave them with little or no ability to cope with the impact of hazards when compared to other members of their community. These include women, pregnant mothers, children, the elderly, and persons with disabilities who, because of their intrinsic vulnerabilities, may have limited access to traditional emergency preparedness and response services.

Because of the cross-cutting nature of this group, some concepts and measures have been already discussed in the previous sections. This section, however, aims to provide a more focused approach for



children, the elderly, and persons with disabilities during emergencies and disasters.

References and further readings:

World Health Organization (Western Pacific Regional Office) and South East Asian Ministers of Education Tropical Medicine and Public Health (SEAMEO TROPMED) Network. (2009). *Regional Training Course on Health Emergency Response Operations (HERO). Module 1: Foundation of health emergency response operation*

5.3.1 Children

Definition of Terms

- Article 1 of the United Nations Convention on the Rights of Child (1989) (UNCRC) defines a **child** as "...every human being below the age of 18 years unless, under the law applicable to the child, majority is attained earlier".
- **Separated children** - those separated from both parents, or from their previous legal or customary primary caregiver but not necessarily from other relatives
- **Unaccompanied children** - those separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for their care
- **Orphans** - those whose parents are both known to be dead. In some countries, a child who has lost one parent is also called an orphan

General Health Issues

The major causes of child morbidity and mortality in emergencies are:

- Diarrheal diseases
- Acute respiratory tract infection
- Measles



- Malaria
- Severe bacterial infections
- Malnutrition and micronutrient deficiencies
- Injuries
- Burns
- Poisoning

Evaluation and management of the above-mentioned conditions should follow the **Integrated Management of Childhood Illness (IMCI)** guidelines and/or the standard protocol as endorsed by each country's Ministry of Health. For malnutrition, refer to the section on **Nutrition in Emergencies** for further information.

Minimizing the Risks of Sexual Violence to Children in disaster and emergency situations

- Children are especially vulnerable to sexual exploitation and sexual violence in emergencies and their needs must be considered in a holistic manner to reduce these risks – this includes providing appropriate support and education opportunities to develop skills and resilience
- Advocacy and campaigning can be an effective way of raising awareness of the risks to children
- Protection committees must be established and consultations with vulnerable groups undertaken
- Children can also be a source of support for each other
- Careful consideration should be paid to camp design and layout together with the distribution of aid and services
- The creation of 'safe spaces' can be an effective way of providing services and ensuring that children's well-being is promoted
- Security and supervision arrangements must be regularly reviewed



- Clear complaints procedures which are understood by staff and explained to children and adults are important in terms of ensuring that action is taken when people have not been treated as they should be

Particular Issues of Separated and Unaccompanied Children in Disaster and Emergency Situations

- Children who are without parental care are particularly vulnerable to abuse and need special protection measures – it is important that they are quickly identified
- Coordinated tracing systems should be established immediately so that children can be reunited as soon as possible with their families
- Permanent alternative care such as adoption should not be considered until a reasonable period of time has elapsed
- Transport and travel of children should be limited to reduce the risk of trafficking and abduction
- Structures should be put in place, such as identified meeting points, so that in the event of accidental separation children can be reunited as soon as possible
- Children and families need to be equipped with strategies for managing accidental separation
- It is important to ensure that children are not separated from their families due to economic pressures and strategies should be put in place to reduce the chances of this occurring both in the short and long term
- When alternative care is provided there must be mechanisms put in place to monitor the situation



References and further readings:

- End Child Prostitution Child Pornography and Trafficking of Children for Sexual Purposes (ECPAT) International. (March 2006). *Protecting children from sexual exploitation & sexual violence in disaster & emergency situations: a guide for local and community based organizations.*
- International Committee of the Red Cross (ICRC). (2004). *Inter-agency Guiding Principles on Unaccompanied and Separated Children.* Geneva
- WHO. (2008). *Manual for the health care of children in humanitarian emergencies.* Spain.

5.3.2 Older Persons

- World Health Organization defines an older person as an individual above the age of 60
- Older persons are vulnerable during disasters because they are more likely to have impaired physical mobility, diminished sensory awareness, chronic health conditions, or social and economic limitations that interfere with their ability to respond and adapt

Older Persons Encountered during Disasters

1. Unaccompanied older persons
2. Grandparent-headed households
3. Older persons with health or mobility problems
4. Older persons with limited mental/physical capacity or limited literacy

Challenges Facing Older Persons

1. **Lack of mobility** – affects the ability of older people to flee from crises and access humanitarian services
2. **Chronic poor health** – immediate health issues during crises are characterized and compounded by the effects of pre-existing chronic ailments, discrimination at the hands of health staff, and lack of accessible, appropriate response services



3. **Nutritional needs** – increased risk of malnutrition
4. **Isolation** – mental health concerns of older people include the feeling of being a burden, inter-generational conflict, and the reality of heavy impact of losses that may be incurred during a disaster
5. **Age Discrimination and Abuse** – older persons are at risk of intimidation, physical and sexual abuse, robbery, and assault

Support Measures for Older Persons

- During emergencies and disasters, data should be disaggregated by age and sex to help identify older persons and ensure access to their special needs
- Older persons must have guaranteed access to all relief items, health services, and disability aids needed
- Older persons must also have access to essential medications for chronic disease (cardiovascular diseases, diabetes, cancer, etc.)
- Evacuation camps should be designed to accommodate the needs of older persons (easy and guaranteed access to latrines, distribution points)
- Safeguards are in place against violence, theft, abandonment, intimidation or any form of discrimination or abuse towards older persons must be in place
- Social and psychological support measures against isolation, depression, and other mental health concerns should be implemented
- Older persons are a resource to the community and have something to contribute to community life (livelihood programs, skills training, and income-generation programs)
- Older persons must be involved in participatory assessments in planning and delivery of services to ensure equal access
- Family tracing should be instituted for unaccompanied older persons to reunite them as soon as possible



- Households headed by grandparents have to be monitored as the grandparent may be dependent on young children for tasks, exposing children to additional risk

References for further readings:

Norwegian Refugee Council/The Camp Management Project. (2008). Camp Management Toolkit. *Protection of Persons with Specific Needs*

Nancy Aldrich. (). *CDC Disaster Plan for Older Adults and their Families*.

Inter-Agency Standing Committee. (2008). *Humanitarian Action and Older Persons*.

5.3.3 Persons with Disabilities (PWD)

Persons with Disabilities are defined as those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others

General Health Issues

- Persons with physical or mental disabilities may face heightened risks when the family or community is absent, unable, or unwilling to care for them
- PWDs may have difficulty in obtaining access to humanitarian assistance
- PWDs should be identified to allow for appropriate housing and unhindered access to communal services
- PWDs in an emergency setting have increased exposure to discrimination, sexual abuse, and exploitation
- PWDs have the same needs as others but may need specific support to meet these needs



Support Measures for PWDs

- Emergency set-ups should take into account the protection needs of vulnerable groups within the community in terms of safety, security, and access to services
- Public emergency communications should accommodate those who have sensory impairments (communication used can be understood by all including the vision- and hearing-impaired)
- Special assistance for emergency transportation for those with mobility limitations have to be available
- Evacuation centers have to be designed as safe and user-friendly for all
- Use of ramps instead of stairs is encouraged when applicable
- Handrails beside stairs, ramps, and for amenities such as toilets and wash areas have to be installed
- Doors should open outward to increase usable space inside
- Persons with disabilities and their families should be located close to essential facilities (water points, distribution points, wash areas)
- Community-based support systems for delivery of assistance and monitoring of situation have to be established
- Access to health services including referral systems to specialists and clinics as needed has to be enabled
- Coordination with specialized organizations that focus on addressing the needs of PWDs have to be enhanced

References for further readings:

Handicap International. (2009). *Accessibility for All in an Emergency Context*.

Norwegian Refugee Council/The Camp Management Project. (2008). *Camp Management Toolkit. Protection of Persons with Specific Needs*

National Center for Disaster Preparedness, Mailman School of Public Health, Columbia University. (March 2007). *Emergency Preparedness: Addressing the Needs of Persons with Disabilities*



5.4 RADIOLOGICAL EMERGENCIES

Radiological emergencies are those emergencies involving radioactive material that can occur anywhere and include:

- Uncontrolled (abandoned, lost, stolen or found) dangerous sources
- Misuse of dangerous industrial and medical sources (e.g. those used in radiography)
- Public exposures and contamination from unknown origins
- Serious overexposures
- Malicious threats/acts
- Transport emergencies

The responses to radiological and chemical emergencies are very similar. In both cases, senses of smell or sight may not be able to detect hazardous levels of the material. Therefore, the initial response is often carried out based on **secondary indications of the hazards** such as labels, signs or placards indicating the presence of a hazardous material, the appearance of medical symptoms in exposed individuals, or readings from specialized instruments.

In both radiological and chemical emergencies, the major goals of the response are:

- To protect the public and
- To protect emergency personnel during response

However, there are the following differences:

- Responders generally have no experience with radiation emergencies as they are very rare
- Even very low levels of radiation that pose no significant risk, can



be detected rapidly with simple, commonly available instruments

- Radioactive materials can cause radiation exposure even when persons are not in contact with them
- The health effects resulting from radiation exposure may not appear for days, weeks or even years
- The public, media and responders often have an exaggerated fear of radiation

Principles for Protection of Responders and the Public

- Avoid touching suspected radioactive items
- Perform only life-saving and other critical tasks near a potentially dangerous radioactive source
- Avoid the smoke or use available respiratory protection equipment (for response personnel) within 100 meters of a fire or explosion involving a potentially dangerous radioactive source
- Keep the hands away from the mouth and do not smoke, eat or drink until your hands and face are washed (to avoid inadvertent ingestion)
- Change clothes and shower as soon as possible

Frequently asked questions:

What is ionizing radiation?

- When certain atoms disintegrate, they release a type of energy called ionizing radiation. It is an essential tool for diagnosis and treatment in medicine that must be used with rigorous attention to safety.

Are people normally exposed to ionizing radiation?

- Human beings are exposed to natural radiation (also known as background radiation) on a daily basis.



- External irradiation is produced when a person is exposed to external sources (i.e. X-rays) or when radioactive material (i.e. dust, liquid, or aerosols) becomes attached to skin or clothes.
- Internal contamination may result from breathing in or swallowing radioactive material or through contamination of wounds.

What type of radiation exposure could occur in a nuclear power plant accident?

- The main radionuclides representing health risk are radioactive caesium and radioactive iodine.
- Members of the public may be exposed directly to radionuclides, either in the air or if food and water become contaminated by these materials.
- Rescuers, first responders, and nuclear power plant workers may be exposed to radioactive materials and higher radiation doses inside or around the power plant due to their professional activities.

What are the acute health effects of radiation exposure?

- If the dose of radiation exceeds a certain threshold level, it can produce acute effects, including skin redness, hair loss, radiation burns, and acute radiation syndrome (ARS).
- In a nuclear power plant accident, the general population is not likely to be exposed to doses high enough to cause such effects.
- Rescuers, first responders, and nuclear power plant workers are more likely to be exposed to doses of radiation high enough to cause acute effects.



What long-term effects can be expected from radiation exposure?

- Exposure to high doses of radiation can increase the risk of cancer.
- The risk of thyroid cancer following radiation exposure is higher in children and young adults.

Which public health actions are most important to take?

- Health effects can only occur if someone is exposed to radiation, thus the main protective action someone can take is to prevent exposure. Those closest to the radiation are at greatest risk of exposure and the greater the distance away, the lower the risk. This is why, when a nuclear accident occurs, the recommended public health actions involve evacuation and sheltering of those near the site.
- Actions may include: evacuation of the area around or near the nuclear power plant; advising people to shelter in their homes, offices, other secure buildings or designated shelters to reduce exposure; and distributing and administering potassium iodide pills to reduce the risk of thyroid cancer.
- If warranted, public health or national authorities may restrict or prohibit the consumption of vegetables and dairy products produced in the vicinity of the nuclear power plant in order to reduce exposure.

How can I protect myself?

- Keep informed by obtaining accurate and authoritative information (e.g., information from authorities delivered by radio, TV, or the Internet) and following your government's instructions.
- The decision to take potassium iodide should be based on



information provided by national health authorities who will be in the best position to determine if this step is warranted.

References and further readings:

International Atomic Energy Agency (IAEA). (2006). *Manual for first responders to a radiological emergency*

WHO. (2011). Health action in crises: FAQs: Japan nuclear concerns. <http://www.who.int/hac/crises/jpn/faqs/en/index.html>. Accessed 26 April 2011.



Part 6:

Reference notes, tools, and samples



6.1 EMERGENCY MANAGER DEPLOYMENT CHECKLIST

Checklist for International Team Deployment	
Personal Documents	Group Documents
Passport (not expiring within 6 months from the time of arrival to destination)	Reporting forms (Patient consultation; post-mission report; logistics utilization; others)
Visa (if required)	Acceptance letter/ Letter of Introduction to host country
DPO (Department Personnel Order)	Inventory of logistics (hard and soft copies)
Travel authority	Deed of donation papers when leaving goods to affected country
Travel tax exemption certificate	
Plane/E-ticket	
Airport tax receipt/terminal fee	
Insurance papers	
At least two valid IDs with pictures	
Extra ID pictures	
Daily subsistence allowance	
Pre-departure allowance	
Personal Need	Group Needs
Two pcs. luggage	Two tarpaulins identifying the team
One formal attire	Two laptops with portable printer
Wash and wear clothes	Drugs/medicines and medical supplies
Light clothing good for two weeks	Satellite phone
Jacket/ rain gear	Digital camera with video capability
Cap/ sunglasses	Bottled drinking water
Official uniform	Food provisions (biscuits, canned goods)
Personal medicines	Contingency fund
Toiletries	Personal protective equipment



Checklist for International Team Deployment

Mobile phone with roaming, charger, and
spare battery

Flashlight and spare batteries

Whistle

Mirror

Extra money

Ball pen

Pocket notebook

References and further readings:

DOH-HEMS. (2011). *Office memorandum No. 2011-32: Amended protocol checklist for international deployment.*

6.2 RAPID HEALTH ASSESSMENT FORMS

6.2.1 Rapid Health Assessment

HEMS Form 1

Rapid Health Assessment

(To be submitted within 24 hrs)

as of _____

Nature of Event: _____

Date and Time of Occurrence: _____

Region: _____

A. Magnitude of Event



Province	Municipality/ City	No. of Families Affected	No. of Individuals Affected	No. of Evacuation Centers	No. of Families and Individuals in Evacuation Centers
TOTAL					

B. Health Consequences

Province	Municipality/City	No. of Death(s) Admitted	No. of Injured		No. of Missing
			Admitted	Not admitted	
TOTAL					

*Attachment to this report is a list of casualties, see line list of casualties form

c. Health Facilities Available in Affected Areas

	Total No.	No. of Functional	No. of Non-functional	Remarks
Hospitals				
Government				
Private				
RHU				
Others				

d. Lifelines Available in Affected Area

Type	Yes	No	Remarks
Communications			
Electric Power			
Water			
Roads/Bridges			



Type	Yes	No	Remarks
Others			

E. Status of Essential Drugs/Suppliers

Drug name	Stock level good for:		Remarks
	No. of Cases	No. of Days	

F. Actions Taken

G. Problems Encountered

H. Recommendations

Prepared by: _____

Position: _____

Office: _____

Date: _____



6.2.2 Rapid Health Assessment for Mass Casualty Incident

HEMS Form 2

Rapid Health Assessment for Mass Casualty Incident

(To be submitted within 24 hrs)

A. Description of the Event

Nature of the Event: _____

Time of the Event: _____

Date of the Event: _____

Place of the Event: _____

B. Number of persons affected

Death: _____

Injured: _____

Treated on site: _____

Referred to hospital: _____

OPD: _____

Admitted: _____

Missing: _____

Total: _____

c. Actions Taken



D. Problems Encountered

E. Recommendations

Prepared by: _____

Position: _____

Office: _____

Date: _____

*Attachment to this report is a list of casualties, see line list of casualties form



6.2.3 Rapid Health Assessment for Outbreaks

HEMS Form 3

Rapid Health Assessment for Outbreaks

A. Description of the Event

Nature of the Event: _____

Time of the Event: _____

Date of the Event: _____

Place of the Event: _____

B. Consequences

Population Exposed: _____

Number of Death/s: _____

Number of Cases: _____

Admitted: _____

OPD: _____

c. Actions Taken

d. Problems Encountered



E. Recommendations

Prepared by: _____

Position: _____

Office: _____

Date: _____

*Attachment to this report is a list of casualties, see line list of casualties form



6.2.4 Line List of Casualties Form

HEMS Form A



6.3 REFERENCE VALUES

6.3.1 Estimating Population Size (Global Population Structure)

Age Groups	Average % in Population
Infants below 6 months	1.35
6-11 months	1.35
12-59 months	10.8
5-9 years	11.7
10-14 years	10.5
15-19 years	9.5
20-59 years	48.6
*Pregnant Women	3.5
*Lactating Women	3.0

6.3.2 Basic Needs

Average Requirements	
Water	
Quantity	20 L / person / day
Quality	200 persons/ water point In hospital settings more water per person is needed
Sanitation	
Latrine	Ideally one per family; minimum of one seat per 20 persons 6 to 50 meters from housing
Waste disposal	1 communal pit per 500 persons; size: 2m x 5m x 2m
Soap	250 g / per person/per month



Average Requirements

Shelter

Individual Requirements	4m ² / person
Collective Requirements	30m ² / person
	Including shelter, sanitation, services, community activities, warehousing access

Household fuel

Weight of firewood	15 kg / household/day
	With one economic stove per family, the needs may be reduced to 5 kg / stove/day.

6.3.3 Emergency Food Requirement

Food	Kcal content	kg/person/month
Cereals	350 / 100 g	13.5
Pulses	335 / 100 g	1.5
Oil (vegetable)	885 / 100 g	0.8
Sugar	400 / 100 g	0.6

Recommended ration person/day: 2,116 kcal

Total kg/person/month for alimentation: 16.4 kg

*Micronutrients (e.g. iodine, Vit. A) are also important

6.3.4 Examples of Rations for General Food Distribution

(Providing 2100 kcal/person/day)

Commodities	Ration 1 (g)	Ration 2 (g)	Ration 3 (g)	Function
Meal with rice	450	420	400	Main source of energy and protein
Pulses (i.e., peas, beans, munggo)	50	60	60	Provide protein and various micronutrients



Commodities	Ration 1	Ration 2	Ration 3	Function
Oil/fat	25	30	25	Concentrated source of energy for palatability and the absorption of Vit. A
Fortified cereal	-	-	50	Provides essential vitamins and minerals, and is useful as weaning food
Canned fish/meat	-	30	-	Needed for proteins and minerals (including iron)
Sugar	20	20	15	Needed for cultural habits, palatability, and home oral rehydration
Salt	5	5	5	Provides sodium, and is needed for home oral rehydration
Vegetables/ fruits	-As available-			Valuable source of vitamins and minerals
Condiments/ spices	-As available-			Needed because of cultural habits and for palatability
Approximate food values:				
Energy (kcal)	2116	2092	2113	
Protein (g)	51	45	58	
Fat (g)	41	38	43	

6.3.5 Essential Primary Health Care (PHC) Activities

Essential PHC Activities	Target	Optimal Coverage of Target
<5y/o clinic & growth monitoring	All children of 0-59 months	100% of <5y/o per month
Antenatal clinic	All pregnancies	50% of pregnancies/month
Assisted deliveries	All deliveries	1/12 of total group per month
OPD Consultation		1.5 per person/yr 0.13 per person/month
Treatment & follow-up sessions		4 per outpatient consultation
Tetanus toxoid	1.5 per pregnancy	30% per month
BCG	All new births	1/12 of total group per month



Essential PHC Activities	Target	Optimal Coverage of Target
DTP1-TT1	0-1 yr	1/12 of total group per month
DTP2-TT2	0-1 yr	1/12 of total group per month
Measles	9-12 months	1/12 of total group per month

6.3.6 Health Personnel Requirements

There should be at least 22 qualified health workers (medical doctors, nurses, and midwives)/10,000 population (From Sphere 2011 Key Indicators):

- At least 1 medical doctor/50,000 population
- At least 1 nurse/10,000 population
- At least 1 midwife/10,000 population

6.3.7 Health Facility Requirements

There is an adequate number of health facilities to meet essential health needs of the disaster-affected population (From Sphere 2011 Key Indicators):

- 1 basic health unit (primary healthcare unit with general health services)/10,000 population
- 1 health center/50,000 people
- 1 district or rural hospital/250,000 people
- >10 inpatient and maternity beds/10,000 people



6.3.8 Health Supplies Requirements

Essential Drugs and Medical Equipment	
WHO Basic NEHK Unit	1 kit for 10,000 pop for 3 mos.
WHO Supplementary NEHK Unit	1 kit for 10,000 pop for 3 mos.
Safe Water	
Preparing 1 L of stock	Calcium hypochlorite 70%: 15 g/L of water
Solution 1%	Bleaching powder 30%: 33g/L of water Sodium hypochlorite 5%: 250ml/L of water Sodium hypochlorite 10: 110 ml/L of water
Using the stock solution	0.6 ml or 3 drops/liter of water 60 ml/100 liters of water

*Allow the chlorinated water to stand at least 30 minutes before using

6.3.9 Cut-Off Values for Emergency Warning

Health Status	More than
Daily Crude Mortality Rate	1 per 10,000 population
Daily Under-5 Mortality Rate	2 per 10,000 children <5y/o
Acute Malnutrition (W/H or MUAC) in Under-5	10% of children <5y/o
Growth Faltering Rate in Under-5	30% of monitored children
Low Weight at Birth (<2.5 kg)	7% of live births



Multi-Cluster Rapid Assessment Template

Natural Disaster Scenario

Rank 1 2 3 4 5
Color

9. Nutrition

Existing capacities and activities

9.1. Have infant milk products (e.g. milk formulas) and/or baby bottles/teats been distributed since emergency/disaster?

Yes No If yes, by whom? _____

9.2 What percentage of infants in the area are formula fed/formula dependent?

None <10% 10-25% >25% Do not know

9.3 Has the community/health staff identified any problems in feeding children less than 2 years of age since the emergency/disaster started?

Yes No

If yes, what problem/s?

- Loss of appetite
Taste fatigue
Presence of sickness (diarrhea, fever, coughs etc.)
 Underfeeding

- Underfeeding
Vomiting
Dehydration
Others, specify _____



9.4 Are there any existing capacities and activities on the following Micronutrient Supplementation Programs?

9.4.1 Vitamin A

Yes No

9.4.2 Iron-folic Acid

Yes No

9.4.3 Iron Syrup / Drops or Micronutrient Powders

Yes No

9.5. Are there any existing capacities and activities on the management of children with moderate & severe acute malnutrition (facility or community based)?

Activity specification (present/absent)	Organization(s) or person(s) implementing these programs	Number enrolled	Geographic coverage
<input type="checkbox"/> In-patient therapeutic feeding (TF) only <input type="checkbox"/> Regular health system <input type="checkbox"/> Emergency health system			
<input type="checkbox"/> In-and out-patient TF <input type="checkbox"/> Regular health system <input type="checkbox"/> Emergency health system			
<input type="checkbox"/> Outpatient TF only <input type="checkbox"/> Regular health system <input type="checkbox"/> Emergency health system			
<input type="checkbox"/> Targeted supplementary feeding <input type="checkbox"/> Blanket supplementary feeding			



6.3.10 WHO CGS Tables

Child Growth Standards

Weight (kg) for Age of Boys 0-71 Months¹

Instruction for Use: Upon computation of correct age-in-months, look for the point where the child's age-in-months in the first column intersects with the actual weight of the child in the column corresponding to the child's sex.

Age ² (months)	Weight						Age ² (months)	Weight						
	Severely underweight		Underweight		Normal			Severely underweight		Underweight		Normal		
	<3SD v	-3SD	-2SD	-2SD	+2SD	+2SD		<3SD	-3SD	-2SD	-2SD	+2SD	+2SD	
0	2.1	2.2	2.4	2.5	4.4	4.5	36	10.0	10.1	11.2	11.3	18.3	18.4	
1	2.9	3.0	3.3	3.4	5.8	5.9	37	10.1	10.2	11.3	11.4	18.6	18.7	
2	3.8	3.9	4.2	4.3	7.1	7.2	38	10.2	10.3	11.4	11.5	18.8	18.9	
3	4.4	4.5	4.9	5.0	8.0	8.1	39	10.3	10.4	11.5	11.6	19.0	19.1	
4	4.9	5.0	5.5	5.6	8.7	8.8	40	10.4	10.5	11.7	11.8	19.3	19.4	
5	5.3	5.4	5.9	6.0	9.3	9.4	41	10.5	10.6	11.8	11.9	19.5	19.6	
6	5.7	5.8	6.3	6.4	9.8	9.9	42	10.6	10.7	11.9	12.0	19.7	19.8	
7	5.9	6.0	6.6	6.7	10.3	10.4	43	10.7	10.8	12.0	12.1	20.0	20.1	
8	6.2	6.3	6.8	6.9	10.7	10.8	44	10.8	10.9	12.1	12.2	20.2	20.3	
9	6.4	6.5	7.0	7.1	11.0	11.1	45	10.9	11.0	12.3	12.4	20.5	20.6	
10	6.6	6.7	7.3	7.4	11.4	11.5	46	11.0	11.1	12.4	12.5	20.7	20.8	
11	6.8	6.9	7.5	7.6	11.7	11.8	47	11.1	11.2	12.5	12.6	20.9	21.0	
12	6.9	7.0	7.6	7.7	12.0	12.1	48	11.2	11.3	12.6	12.7	21.2	21.3	
13	7.1	7.2	7.8	7.9	12.3	12.4	49	11.3	11.4	12.7	12.8	21.4	21.5	
14	7.2	7.3	8.0	8.1	12.6	12.7	50	11.4	11.5	12.8	12.9	21.7	21.8	



Age ² (months)	Weight									
	Severely underweight		Underweight		Normal		Overweight			
	<-3SD	-3SD	<-2SD	-2SD	+2SD	+2SD	>+2SD			
15	7.4	7.5	8.2	8.3	12.8	12.9				
16	7.5	7.6	8.3	8.4	13.1	13.2				
17	7.7	7.8	8.5	8.6	13.4	13.5				
18	7.8	7.9	8.7	8.8	13.7	13.8				
19	8.0	8.1	8.8	8.9	13.9	14.0				
20	8.1	8.2	9.0	9.1	14.2	14.3				
21	8.2	8.3	9.1	9.2	14.5	14.6				
22	8.4	8.5	9.3	9.4	14.7	14.8				
23	8.5	8.6	9.4	9.5	15.0	15.1				
24	8.6	8.7	9.6	9.7	15.3	15.4				
25	8.8	8.9	9.7	9.8	15.5	15.6				
26	8.9	9.0	9.9	10.0	15.8	15.9				
27	9.0	9.1	10.0	10.1	16.1	16.2				
28	9.1	9.2	10.1	10.2	16.3	16.4				
29	9.2	9.3	10.3	10.4	16.6	16.7				
30	9.4	9.5	10.4	10.5	16.9	17.0				
31	9.5	9.6	10.6	10.7	17.1	17.2				
32	9.6	9.7	10.7	10.8	17.4	17.5				
33	9.7	9.8	10.8	10.9	17.6	17.7				
34	9.8	9.9	10.9	11.0	17.8	17.9				
35	9.9	10.0	11.1	11.2	18.1	18.2				
Age ² (months)	Weight									
	Severely underweight		Underweight		Normal		Overweight			
	<-3SD	-3SD	<-2SD	-2SD	+2SD	+2SD	>+2SD			
51	11.5	11.6	13.0	13.1	21.9	22.0				
52	11.6	11.7	13.1	13.2	22.2	22.3				
53	11.7	11.8	13.2	13.3	22.4	22.5				
54	11.8	11.9	13.3	13.4	22.7	22.8				
55	11.9	12.0	13.4	13.5	22.9	23.0				
56	12.0	12.1	13.5	13.6	23.2	23.3				
57	12.1	12.2	13.6	13.7	23.4	23.5				
58	12.2	12.3	13.7	13.8	23.7	23.8				
59	12.3	12.4	13.9	14.0	23.9	24.0				
60	12.4	12.5	14.0	14.1	24.2	24.3				
61	12.7	12.8	14.3	14.4	24.3	24.4				
62	12.8	12.9	14.4	14.5	24.4	24.5				
63	13.0	13.1	14.5	14.6	24.7	24.8				
64	13.1	13.2	14.7	14.8	24.9	25.0				
65	13.2	13.3	14.8	14.9	25.2	25.3				
66	13.3	13.4	14.9	15.0	25.5	25.6				
67	13.4	13.5	15.1	15.2	25.7	25.8				
68	13.6	13.7	15.2	15.3	26.0	26.1				
69	13.7	13.8	15.3	15.4	26.3	26.4				
70	13.8	13.9	15.5	15.6	26.6	26.7				
71	13.9	14.0	15.6	15.7	26.8	26.9				



Child Growth Standards

Weight (kg) for Age of Girls 0-71 Months¹

Instruction for Use: Upon computation of correct age-in-months, look for the point where the child's age-in-months in the first column intersects with the actual weight of the child in the column corresponding to the child's sex.

Age ² (months)	Weight						Age ² (months)	Weight										
	Severely underweight		Underweight		Normal			Severely underweight		Underweight		Normal		Overweight				
	<-3SD	-3SD	<-2SD	-2SD	+2SD	>+2SD		<-3SD	-3SD	<-2SD	-2SD	+2SD	>+2SD	<-3SD	-3SD	<-2SD	+2SD	>+2SD
0	2.0	2.1	2.3	2.4	4.2	4.3	36	9.6	9.7	10.7	10.8	18.1	18.2					
1	2.7	2.8	3.1	3.2	5.5	5.6	37	9.7	9.8	10.8	10.9	18.4	18.5					
2	3.4	3.5	3.8	3.9	6.6	6.7	38	9.8	9.9	11.0	11.1	18.7	18.8					
3	4.0	4.1	4.4	4.5	7.5	7.6	39	9.9	10.0	11.1	11.2	19.0	19.1					
4	4.4	4.5	4.9	5.0	8.2	8.3	40	10.1	10.2	11.2	11.3	19.2	19.3					
5	4.8	4.9	5.3	5.4	8.8	8.9	41	10.2	10.3	11.4	11.5	19.5	19.6					
6	5.1	5.2	5.6	5.7	9.3	9.4	42	10.3	10.4	11.5	11.6	19.8	19.9					
7	5.3	5.4	5.9	6.0	9.8	9.9	43	10.4	10.5	11.6	11.7	20.1	20.2					
8	5.6	5.7	6.2	6.3	10.2	10.3	44	10.5	10.6	11.7	11.8	20.4	20.5					
9	5.8	5.9	6.4	6.5	10.5	10.6	45	10.6	10.7	11.9	12.0	20.7	20.8					
10	5.9	6.0	6.6	6.7	10.9	11.0	46	10.7	10.8	12.0	12.1	20.9	21.0					
11	6.1	6.2	6.8	6.9	11.2	11.3	47	10.8	10.9	12.1	12.2	21.2	21.3					
12	6.3	6.4	6.9	7.0	11.5	11.6	48	10.9	11.0	12.2	12.3	21.5	21.6					
13	6.4	6.5	7.1	7.2	11.8	11.9	49	11.0	11.1	12.3	12.4	21.8	21.9					
14	6.6	6.7	7.3	7.4	12.1	12.2	50	11.1	11.2	12.4	12.5	22.1	22.2					
15	6.7	6.8	7.5	7.6	12.4	12.5	51	11.2	11.3	12.6	12.7	22.4	22.5					
16	6.9	7.0	7.6	7.7	12.6	12.7	52	11.3	11.4	12.7	12.8	22.6	22.7					
17	7.0	7.1	7.8	7.9	12.9	13.0	53	11.4	11.5	12.8	12.9	22.9	23.0					



Age ² (months)	Weight							
	Severely underweight		Underweight		Normal		Overweight	
	<-3SD	-3SD	<-2SD	-2SD	+2SD	+2SD	>+2SD	
18	7.2	7.3	8.0	8.1	13.2	13.3		
19	7.3	7.4	8.1	8.2	13.5	13.6		
20	7.5	7.6	8.3	8.4	13.7	13.8		
21	7.6	7.7	8.5	8.6	14.0	14.1		
22	7.8	7.9	8.6	8.7	14.3	14.4		
23	7.9	8.0	8.8	8.9	14.6	14.7		
24	8.1	8.2	8.9	9.0	14.8	14.9		
25	8.2	8.3	9.1	9.2	15.1	15.2		
26	8.4	8.5	9.3	9.4	15.4	15.5		
27	8.5	8.6	9.4	9.5	15.7	15.8		
28	8.6	8.7	9.6	9.7	16.0	16.1		
29	8.8	8.9	9.7	9.8	16.2	16.3		
30	8.9	9.0	9.9	10.0	16.5	16.6		
31	9.0	9.1	10.0	10.1	16.8	16.9		
32	9.1	9.2	10.2	10.3	17.1	17.2		
33	9.3	9.4	10.3	10.4	17.3	17.4		
34	9.4	9.5	10.4	10.5	17.6	17.7		
35	9.5	9.6	10.6	10.7	17.9	18.0		
					71	13.4	13.5	15.1
						15.2	27.6	27.7

1 Based on the WHO Child Growth Standards, Methods and Development 2006

2 Age refers to the age of the child computed to the nearest month as of last birth date. For example, a child born on 01 October 2004 and weighed on 21 August 2007 is 2 years, 10 months and 30 days. Multiplying 2 years by 12 months and adding 10 months, the child will be 24 months plus 10 months or 34 months old. Disregard the number of days in the computation of age in months.

3 The column on overweight may be used only for the quick assessment of overweight in children



when length or height data is not available. When these data are available, a child's weight should be compared against his/her height/length to determine if overweight or obese.

Child Growth Standards

Weight for Length/Height for Boys

Instruction for Use: Upon taking the child's length/height, round -off the actual reading to the nearest 0.5 cm. For instance, for a child 51.3 cm. in length, refer to row 51.5 cm. or if a child's length is 58.3 cm, refer to row 58.0 cm. Depending under which column the weight of the child falls, classify the child as wasted, normal or overweight.

Length/ Height (cm.)	Weight (kg)				Length/ Height (cm.)	Weight (kg)			
	Wasted	Normal		Overweight		Wasted	Normal		Overweight
		From	To	From			From	To	Overweight
45.0	1.9	2.0	3.0	3.1	83.0	9.4	9.5	13.3	13.4
45.5	2.0	2.1	3.1	3.2	83.5	9.5	9.6	13.4	13.5
46.0	2.1	2.2	3.1	3.2	84.0	9.6	9.7	13.5	13.6
46.5	2.2	2.3	3.2	3.3	84.5	9.8	9.9	13.7	13.8
47.0	2.2	2.3	3.3	3.4	85.0	9.9	10.0	13.8	13.9
47.5	2.3	2.4	3.4	3.5	85.5	10.0	10.1	13.9	14.0
48.0	2.4	2.5	3.6	3.7	86.0	10.1	10.2	14.1	14.2
48.5	2.5	2.6	3.7	3.8	86.5	10.2	10.3	14.2	14.3
49.0	2.5	2.6	3.8	3.9	87.0	10.3	10.4	14.4	14.5
49.5	2.6	2.7	3.9	4.0	87.5	10.4	10.5	14.5	14.6
50.0	2.7	2.8	4.0	4.1	88.0	10.5	10.6	14.7	14.8
50.5	2.8	2.9	4.1	4.2	88.5	10.6	10.7	14.8	14.9
51.0	2.9	3.0	4.2	4.3	89.0	10.7	10.8	14.9	15.0
51.5	3.0	3.1	4.4	4.5	89.5	10.8	10.9	15.1	15.2
52.0	3.1	3.2	4.5	4.6	90.0	10.9	11.0	15.2	15.3
52.5	3.2	3.3	4.6	4.7	90.5	11.0	11.1	15.3	15.4
53.0	3.3	3.4	4.8	4.9	91.0	11.1	11.2	15.5	15.6
53.5	3.4	3.5	4.9	5.0	91.5	11.2	11.3	15.6	15.7
54.0	3.5	3.6	5.1	5.2	92.0	11.3	11.4	15.8	15.9



POCKET EMERGENCY TOOL

Length/ Height (cm.)	Weight (kg)					Length/ Height (cm.)	Weight (kg)				
	Wasted	Normal		Overweight	Wasted		Normal		Overweight		
		From	To				From	To			
54.5	3.6	3.7	5.3	5.4	92.5	11.4	11.5	15.9	16.0		
55.0	3.7	3.8	5.4	5.5	93.0	11.5	11.6	16.0	16.1		
55.5	3.9	4.0	5.6	5.7	93.5	11.6	11.7	16.2	16.1		
56.0	4.0	4.1	5.8	5.9	94.0	11.7	11.8	16.3	16.4		
56.5	4.1	4.2	5.9	6.0	94.5	11.8	11.9	16.5	16.6		
57.0	4.2	4.3	6.1	6.2	95.0	11.9	12.0	16.6	16.7		
57.5	4.4	4.5	6.3	6.4	95.5	12.0	12.1	16.7	16.8		
58.0	4.5	4.6	6.4	6.5	96.0	12.1	12.2	16.9	17.0		
58.5	4.6	4.7	6.6	6.7	96.5	12.2	12.3	17.0	17.1		
59.0	4.7	4.8	6.8	6.9	97.0	12.3	12.4	17.2	17.3		
59.5	4.9	5.0	7.0	7.1	97.5	12.4	12.5	17.4	17.5		
60.0	5.0	5.1	7.1	7.2	98.0	12.5	12.6	17.5	17.6		
60.5	5.1	5.2	7.3	7.4	98.5	12.7	12.8	17.7	17.8		
61.0	5.2	5.3	7.4	7.5	99.0	12.8	12.9	17.9	18.0		
61.5	5.3	5.4	7.6	7.7	99.5	12.9	13.0	18.0	18.1		
62.0	5.5	5.6	7.7	7.8	100.0	13.0	13.1	18.2	18.3		
62.5	5.6	5.7	7.9	8.0	100.5	13.1	13.2	18.4	18.5		
63.0	5.7	5.8	8.0	8.1	101.0	13.2	13.3	18.5	18.6		
63.5	5.8	5.9	8.2	8.3	101.5	13.3	13.4	18.7	18.8		
64.0	5.9	6.0	8.3	8.4	102.0	13.5	13.6	18.9	19.0		
64.5	6.0	6.1	8.5	8.6	102.5	13.6	13.7	19.1	19.2		
65.0	6.2	6.3	8.8	8.9	103.0	13.7	13.8	19.3	19.4		
65.5	6.3	6.4	8.9	9.0	103.5	13.8	13.9	19.5	19.6		
66.0	6.4	6.5	9.1	9.2	104.0	13.9	14.0	19.7	19.8		
66.5	6.5	6.6	9.2	9.3	104.5	14.1	14.2	19.9	20.0		
67.0	6.6	6.7	9.4	9.5	105.0	14.2	14.3	20.1	20.2		
67.5	6.7	6.8	9.5	9.6	105.5	14.3	14.4	20.3	20.4		
68.0	6.8	6.9	9.6	9.7	106.0	14.4	14.5	20.5	20.6		
68.5	6.9	7.0	9.8	9.9	106.5	14.6	14.7	20.7	20.8		



POCKET EMERGENCY TOOL

Length/ Height (cm.)	Weight (kg)					Length/ Height (cm.)	Weight (kg)				
	Wasted	Normal		Overweight	Wasted		Normal		Overweight		
		From	To				From	To			
69.0	7.0	7.1	9.9	10.0	107.0	14.7	14.8	20.9	21.0		
69.5	7.1	7.2	10.0	10.1	107.5	14.8	14.9	21.1	21.2		
70.0	7.2	7.3	10.2	10.3	108.0	15.0	15.1	21.3	21.4		
70.5	7.3	7.4	10.3	10.4	108.5	15.1	15.2	21.5	21.6		
71.0	7.4	7.5	10.4	10.5	109.0	15.2	15.3	21.8	21.9		
71.5	7.5	7.6	10.6	10.7	109.5	15.4	15.5	22.0	22.1		
72.0	7.6	7.7	10.7	10.8	110.0	15.5	15.6	22.2	22.3		
72.5	7.7	7.8	10.8	10.9	110.5	15.7	15.8	22.4	22.5		
73.0	7.8	7.9	11.0	11.1	111.0	15.8	15.9	22.7	22.8		
73.5	7.8	7.9	11.1	11.2	111.5	15.9	16.0	22.9	23.0		
74.0	7.9	8.0	11.2	11.3	112.0	16.1	16.2	23.1	22.4		
74.5	8.0	8.1	11.3	11.4	112.5	16.2	16.3	23.4	23.5		
75.0	8.1	8.2	11.4	11.5	113.0	16.4	16.5	23.6	23.7		
75.5	8.2	8.3	11.6	11.7	113.5	16.5	16.6	23.9	24.0		
76.0	8.3	8.4	11.7	11.8	114.0	16.7	16.8	24.1	24.2		
76.5	8.4	8.5	11.8	11.9	114.5	16.8	16.9	24.4	24.5		
77.0	8.4	8.5	11.9	12.0	115.0	17.0	17.1	24.6	24.7		
77.5	8.5	8.6	12.0	12.1	115.5	17.1	17.2	24.9	25.0		
78.0	8.6	8.7	12.1	12.2	116.0	17.1	17.4	25.1	25.2		
78.5	8.7	8.8	12.2	12.3	116.5	17.3	17.5	25.4	25.5		
79.0	8.7	8.8	12.3	12.4	117.0	17.6	17.7	25.6	25.7		
79.5	8.8	8.9	12.4	12.5	117.5	17.8	17.9	25.9	26.0		
80.0	8.9	9.0	12.6	12.7	118.0	17.9	18.0	26.1	26.2		
80.5	9.0	9.1	12.7	12.8	118.5	18.1	18.2	26.4	26.5		
81.0	9.1	9.2	12.8	12.9	119.0	18.2	18.3	26.6	26.7		
81.5	9.2	9.3	12.9	13.0	119.5	18.4	18.5	26.9	27.0		
82.0	9.2	9.3	13.0	13.1	120.0	18.5	18.6	27.2	27.3		
82.5	9.3	9.4	13.1	13.2							



Child Growth Standards

Weight for Length/Height for Girls

Instruction for Use: Upon taking the child's length/height, round -off the actual reading to the nearest 0.5 cm. For instance, for a child 51.3 cm. in length, refer to row 51.5 cm. or if a child's length is 58.3 cm, refer to row 58.0 cm. Depending under which column the weight of the child falls, classify the child as wasted, normal or overweight.

Length/ Height (cm.)	Weight (kg)				Length/ Height (cm.)	Weight (kg)			
	Wasted	Normal		Overweight		Wasted	Normal		Overweight
		From	To				From	To	
45.0	2.0	2.1	3.0	3.1	83.0	9.1	9.2	13.1	13.2
45.5	2.0	2.1	3.1	3.2	83.5	9.2	9.3	13.3	13.4
46.0	2.1	2.2	3.2	3.3	84.0	9.3	9.4	13.4	13.5
46.5	2.2	2.3	3.3	3.4	84.5	9.4	9.5	13.5	13.6
47.0	2.3	2.4	3.4	3.5	85.0	9.5	9.6	13.7	13.8
47.5	2.3	2.4	3.5	3.6	85.5	9.6	9.7	13.8	13.9
48.0	2.4	2.5	3.6	3.7	86.0	9.7	9.8	14.0	14.1
48.5	2.5	2.6	3.7	3.8	86.5	9.8	9.9	14.2	14.3
49.0	2.5	2.6	3.8	3.9	87.0	9.9	10.0	14.3	14.4
49.5	2.6	2.7	3.9	4.0	87.5	10.0	10.1	14.5	14.6
50.0	2.7	2.8	4.0	4.1	88.0	10.1	10.2	14.6	14.7
50.5	2.8	2.9	4.2	4.3	88.5	10.2	10.3	14.8	14.9
51.0	2.9	3.0	4.3	4.4	89.0	10.3	10.4	14.9	15.0
51.5	3.0	3.1	4.4	4.5	89.5	10.4	10.5	15.1	15.2
52.0	3.1	3.2	4.6	4.7	90.0	10.5	10.6	15.2	15.3
52.5	3.2	3.3	4.7	4.8	90.5	10.6	10.7	15.4	15.5
53.0	3.3	3.4	4.9	5.0	91.0	10.8	10.9	15.5	15.6
53.5	3.4	3.5	5.0	5.1	91.5	10.9	11.0	15.7	15.8
54.0	3.5	3.6	5.2	5.3	92.0	11.0	11.1	15.8	15.9
54.5	3.6	3.7	5.3	5.4	92.5	11.1	11.2	16.0	16.1
55.0	3.7	3.8	5.5	5.6	93.0	11.2	11.3	16.1	16.2
55.5	3.8	3.9	5.7	5.8	93.5	11.3	11.4	16.3	16.4



POCKET EMERGENCY TOOL

Length/ Height (cm.)	Weight (kg)					Length/ Height (cm.)	Weight (kg)				
	Wasted	Normal		Overweight	Wasted		Normal	From	To		
		From	To								
56.0	3.9	4.0	5.8	5.9	94.0	11.4	11.5	16.4	16.5		
56.5	4.0	4.1	6.0	6.1	94.5	11.5	11.6	16.6	16.7		
57.0	4.1	4.3	6.1	6.2	95.0	11.6	11.7	16.7	16.8		
57.5	4.3	4.4	6.3	6.4	95.5	11.7	11.8	16.9	17.0		
58.0	4.4	4.5	6.5	6.6	96.0	11.8	11.9	17.0	17.1		
58.5	4.5	4.6	6.6	6.7	96.5	11.9	12.0	17.2	17.3		
59.0	4.6	4.7	6.8	6.9	97.0	12.0	12.1	17.4	17.5		
59.5	4.7	4.8	6.9	7.0	97.5	12.1	12.2	17.5	17.6		
60.0	4.8	4.9	7.1	7.2	98.0	12.2	12.3	17.7	17.8		
60.5	4.9	5.0	7.3	7.4	98.5	12.3	12.4	17.9	18.0		
61.0	5.0	5.1	7.4	7.5	99.0	12.4	12.5	18.0	18.1		
61.5	5.1	5.2	7.6	7.7	99.5	12.6	12.7	18.2	18.3		
62.0	5.1	5.3	7.7	7.8	100.0	12.7	12.8	18.4	18.5		
62.5	5.3	5.4	7.8	7.9	100.5	12.8	12.9	18.6	18.7		
63.0	5.4	5.5	8.0	8.1	101.0	12.9	13.0	18.7	18.8		
63.5	5.5	5.6	8.1	8.2	101.5	13.0	13.1	18.9	19.0		
64.0	5.6	5.7	8.3	8.4	102.0	13.2	13.3	19.1	19.2		
64.5	5.7	5.8	8.4	8.5	102.5	13.3	13.4	19.3	19.4		
65.0	5.8	5.9	8.6	8.7	103.0	13.4	13.5	19.5	19.6		
65.5	6.1	6.2	8.9	9.0	103.5	13.5	13.6	19.7	19.8		
66.0	6.2	6.3	9.0	9.1	104.0	13.7	13.8	19.9	20.0		
66.5	6.3	6.4	9.1	9.2	104.5	13.8	13.9	20.1	20.2		
67.0	6.3	6.4	9.3	9.4	105.0	13.9	14.0	20.3	20.4		
67.5	6.4	6.5	9.4	9.5	105.5	14.1	14.2	20.5	20.6		
68.0	6.5	6.6	9.5	9.6	106.0	14.2	14.3	20.8	20.9		
68.5	6.6	6.7	9.7	9.8	106.5	14.4	14.5	21.0	21.1		
69.0	6.7	6.8	9.8	9.9	107.0	14.5	14.6	21.2	21.3		
69.5	6.8	6.9	9.9	10.0	107.5	14.6	14.7	21.4	21.5		
70.0	6.9	7.0	10.0	10.1	108.0	14.8	14.9	21.7	21.8		



POCKET EMERGENCY TOOL

Length/ Height (cm.)	Weight (kg)					Length/ Height (cm.)	Weight (kg)				
	Wasted	Normal		Overweight	Wasted		Normal		Overweight		
		From	To				From	To			
70.5	7.0	7.1	10.1	10.2	108.5	14.9	15.0	21.9	22.0		
71.0	7.0	7.1	10.3	10.4	109.0	15.1	15.2	22.1	22.2		
71.5	7.1	7.2	10.4	10.5	109.5	15.3	15.4	22.4	22.5		
72.0	7.2	7.3	10.5	10.6	110.0	15.4	15.5	22.6	22.7		
72.5	7.3	7.4	10.6	10.7	110.5	15.6	15.7	22.9	23.0		
73.0	7.4	7.5	10.7	10.8	111.0	15.7	15.8	23.1	23.2		
73.5	7.5	7.6	10.8	10.9	111.5	15.9	16.0	23.4	23.5		
74.0	7.5	7.6	11.0	11.1	112.0	16.1	16.2	23.6	23.7		
74.5	7.6	7.7	11.1	11.2	112.5	16.2	16.3	23.9	24.0		
75.0	7.7	7.8	11.2	11.3	113.0	16.4	16.5	24.2	24.3		
75.5	7.8	7.9	11.3	11.4	113.5	16.6	16.7	24.4	24.5		
76.0	7.9	8.0	11.4	11.5	114.0	16.7	16.8	24.7	24.8		
76.5	7.9	8.0	11.5	11.6	114.5	16.9	17.0	25.0	25.1		
77.0	8.0	8.1	11.6	11.7	115.0	17.1	17.2	25.2	25.3		
77.5	8.1	8.2	11.7	11.8	115.5	17.2	17.3	25.5	25.6		
78.0	8.2	8.3	11.8	11.9	116.0	17.4	17.5	25.8	25.9		
78.5	8.3	8.4	12.0	12.1	116.5	17.6	17.7	26.1	26.1		
79.0	8.3	8.4	12.1	12.2	117.0	17.7	17.8	26.3	26.4		
79.5	8.4	8.5	12.2	12.3	117.5	17.9	18.0	26.6	26.7		
80.0	8.5	8.6	12.3	12.4	118.0	18.1	18.2	26.9	27.0		
80.5	8.6	8.7	12.4	12.5	118.5	18.3	18.4	27.2	27.3		
81.0	8.7	8.8	12.6	12.7	119.0	18.4	18.5	27.4	27.5		
81.5	8.8	8.9	12.7	12.8	119.5	18.6	18.7	27.7	27.8		
82.0	8.9	9.0	12.8	12.9	120.0	18.8	18.9	28.0	28.1		
82.5	9.0	9.1	13.0	13.1							



1. Length is generally measured in children below 85 cm, and height in children 85 cm and above. Recumbent length is on average 0.5 cm greater than standing height; although the difference is of no importance to the individual child, a correction may be made by deducting 0.5 cm from all lengths above 84.9 cm if standing height cannot be measured.
2. SD= standard deviation score (or Z-score). The relationship between the percentage of median value and the SD-core or Z-score varies with age and height, particularly in the first year of life, and beyond 5 years. Between 1 and 5 years median -1 SD and median -2 SD correspond to approximately 90% and 80% of median (weight-for-length, and weight-for-age), respectively. Beyond 5 years of age or 110cm (or 100 cm in stunted children) this equivalence is not maintained; median 02 SD is much below 80% of media. Hence the use of "percentage-of-median" is not recommended, particularly in children of school age. Somewhere beyond 10 years or 137 cm, the adolescent growth spurt begins and the time of its onset is variable. The correct interpretation of weight-for-height data beyond this point is therefore difficult.

Thresholds for acute malnutrition:

Interpretation	Prevalence of global acute malnutrition (<80% below median or < - 2SD Z-Scores)	Mean weight-for-height Z-Score
Acceptable	< 5 %	> - 0.4
Poor	5 – 9 %	- 0.4 to 0.69
Serious	10 – 14 %	- 0.7 to 0.99
Critical	> 15 %	< -1.00



Classification of acute malnutrition

	Global acute malnutrition	Moderate acute malnutrition	Severe acute malnutrition
Children 6.0–59.9 months	WFH <-2 Z score and/or MUAC <12.5cm and/or nutritional oedema	WFH -3 - <-2 Z score and/or MUAC 11.5-<12.5cm	WFH <-3 Z score and/or MUAC <11.5cm and/or nutritional oedema

6.3.11 Decision Framework for Implementing Selective Feeding Programs

Findings	Actions Required
Serious situation: Malnutrition rate: = 15% or 10–14%, plus aggravating factors	<ul style="list-style-type: none">‘Blanket’ supplementary feeding for all members of vulnerable groups (especially children, pregnant and lactating women, adults showing signs of malnutrition)Therapeutic feeding programs for severely malnourished individuals
Alert/Risky situation: Malnutrition rate: 10–14% or 5–9%, plus aggravating factors	<ul style="list-style-type: none">Targeted supplementary feeding for individuals identified as malnourished in vulnerable groups (mildly to moderately malnourished children under 5 years, selected other children and adults)Therapeutic feeding programs for severely malnourished individuals
Unsatisfactory situation: Food availability at household level below 2100 kcal per person per day	<ul style="list-style-type: none">Improve general rations until local food availability and access can be made adequate
Acceptable situation: Malnutrition rate: < 10% with no aggravating factors	<ul style="list-style-type: none">No need for population interventionsAttention for malnourished individuals through regular community services

1. Malnutrition rate: defined as the percentage of the child population (6 months to 5 years) who are below either the reference median weight-for-height minus 2 SD or 80% of reference weight-for-height and/or with edema



2. Aggravating factors:

- ▶ Food availability at household level less than the mean energy requirement of 2100 kcal/person/day
- ▶ Crude mortality rate more than 1 per 10,000 per/day
- ▶ Epidemic of measles or whooping cough
- ▶ High incidence of respiratory or diarrheal diseases

6.3.12 Sample Protocol for the Use of Ready-to-Use Therapeutic Foods

Inpatient care

1. Stabilization phase

- ▶ Patients with complicated SAM should be admitted to an inpatient facility
- ▶ Achieved with meals of F75 therapeutic milk given at 100 kcal/kg/day in 6-8 times per day
- ▶ In this phase, F75 formula promotes rapid recovery of normal metabolic function and nutrition electrolyte balance

2. Transition phase

- ▶ Once appetite returns and the main complications are under control, a transition phase is started with ready-to-use therapeutic food (RUTF) introduced gradually if child requires outpatient care
- ▶ If the child cannot be admitted for outpatient care or there is difficulty in swallowing, a replacement feed (F100, specialized therapeutic milk to promote weight gain) should be given every 4 hours
- ▶ Infants below six months of age (or below 3 kg of weight)



are treated with a different protocol aimed at reinstating breastfeeding

Outpatient care (Rehabilitation phase)

1. When patients are with good appetite and have no major medical complication. If possible, implement as outpatient with RUTF, otherwise can be implemented in inpatient centers with RUTF or F100
2. An intake between 150-220 kcal/kg/day is enough to promote rapid weight gain
3. Nearly all severely malnourished children have anemia and should be given supplementary iron

6.3.13 Supplementary Feeding Program Admission Criteria

Target	Admission Criteria for SFC
Children From 6 months to 10 years	<ul style="list-style-type: none">• W/H 70% to <80% of the median without edema and other medical complications• ŸMUAC between 110 and 120 mm• Discharged from the TFC
Adolescents From 11 years to 18 years	<ul style="list-style-type: none">• W/H <80% of the median without edema OR• Discharged from the TFC
Adults 19 to 75 years	<ul style="list-style-type: none">• BMI between 16 and 17 OR• Discharged from the TFC
Elderly 75 years and above	<ul style="list-style-type: none">• BMI between 16 and 17 OR• Discharged from the TFC



6.3.14 Summary of Classification Systems for Food Crises and Famines with Thresholds

Classification System	Level	Mortality and Malnutrition Indicator
UN-SCN Thresholds 1995	Alert	CMR 1/10,000/day U5MR 2/10,000/day Wasting 5-8%
	Severe	CMR 2/10,000/day U5MR 4/10,000/day Wasting >10%
ODI Level and Type of Food Security 2003	Chronic (or periodic) food insecurity	CMR 0.2-1/10,000/day Wasting 2.3-10% Stunting >40%
	Acute food crisis	CMR 0.2-2/10,000/day Wasting 2.3-10% or increases
	Extended food crisis	CMR 1-2/10,000/day Wasting 15-30%
	Famine	CMR <0.2/10,000/day Wasting >25% or dramatic increases
Howe and Devereux Famine Magnitude Scale	Food security conditions	CMR <0.2/10,000/day and Wasting <2.3%
	Food insecurity conditions	CMR ≥0.2 but <0.5/10,000/day
	Food crisis conditions	CMR ≥0.5 but <1/10,000/day and/or Wasting ≥10 but <20% and/or edema
	Famine conditions	CMR ≥ 1 but <5/10,000/day and/or Wasting ≥20% but <40% and/or edema
	Severe famine conditions	CMR ≥5 but <15/10,000/day and/or wasting ≥40% and/or edema
	Extreme conditions	CMR ≥15/10,000/day



Classification System	Level	Mortality and Malnutrition Indicator
FSAU/FAO Integrated Food Security Phase Classification 2006	Generally food secure	CMR <0.5/10,000/day Wasting <3% Stunting <20%
	Chronically food secure	CMR <0.5/10,000/day U5MR <1/10,000/day Wasting >3% but <10% Stunting >20%
	Acute food and livelihood crisis	CMR 0.5-1/10,000/day U5MR 1-2/10,000/day Wasting 10-15%, > than usual, increasing
	Humanitarian emergency	CMR 1-2/10,000/day, >2x reference rate increasing U5MR >2/10,000/day Wasting >15%, > than usual, increasing
	Famine/humanitarian catastrophe	CMR >2/10,000/day (example: 6,000/1,000,000/30 days Wasting >30%

6.3.15 Summary Table on Projecting Psychosocial and Mental Health Assistance

Description	12-Month Prevalence Rates		Type of Aid Recommended
	Before Disaster	After Disaster	
Severe disorder (e.g., psychosis, severe depression, severely disabling form of anxiety disorders, etc.)	2-3 %	3-4%	Make mental health care available through general health services and in community mental health services
Mild or Moderate mental disorder (e.g., mild and moderate forms of depression and anxiety disorders including PTSD)	10%	20% (which over the years reduces to 15% through natural recovery without intervention)	1. Make mental health care available through general health services and in community mental health services 2. Make social interventions and basic psychological support interventions available in the community



Description	12-Month Prevalence Rates		Type of Aid Recommended
	Before Disaster	After Disaster	
Moderate or Severe psychological distress that does not meet criteria for disorder, that resolves over time or Mild distress that does not resolve over time	No estimate	30-50% (which over the years will reduce to an unknown extent)	Make social interventions and basic psychological support interventions available in the community
Mild psychological distress that resolves over time	No estimate	20-40% (which over the years increase as people with severe problems recover)	No specific aid needed

* These rates vary with setting (e.g. sociocultural factors, previous and current disaster exposure) and assessment method but give a very rough indication what WHO expects the extent of morbidity and distress to be.

6.3.16 Formulae for Calculating Key Health Indicators

Incidence Rate

$$\frac{\text{Number of new cases due to specific disease in time period}}{\text{Population at risk of developing disease} \times \text{Number of months in time period}} \times 1,000 \text{ persons} = \frac{\text{New cases due to specific disease/1,000 persons/month}}$$

Crude Mortality Rate (CMR)

$$\frac{\text{Total number of deaths during time period}}{\text{Mid-period population at risk} \times \text{Number of days in time period}} \times 10,000 \text{ persons} = \frac{\text{Deaths/10,000 persons/day}}$$



Under 5 Mortality Rate (UFMR)

$$\frac{\text{Total number of deaths in children } < 5 \text{ years during time period}}{\text{Total number of children } < 5 \text{ years} \times \text{Number of days in time period}} \times 10,000 \text{ persons} = \frac{\text{Deaths/10,000 children under 5 years/day}}{\text{Deaths/10,000 children under 5 years/day}}$$

Case Fatality Rate

$$\frac{\text{Number of people dying from disease during time period}}{\text{People who have the disease during time period}} \times 100 = x \%$$

Health Facility Utilization Rate

$$\frac{\text{Total number of visits in one week}}{\text{Total population}} \times 52 \text{ weeks} = \frac{\text{Visits/person/year}}{\text{Visits/person/year}}$$

Number of Consultations per Clinician per Day

$$\frac{\text{Total number of consultations in one week}}{\text{Number FTE* clinicians in health facility}} \div \frac{\text{Number of days health facility open per week}}{\text{Number of days health facility open per week}}$$



6.4 CONVERSION TABLE (METRIC AND ENGLISH)

Metric to English			English to Metric		
To convert	into	Multiply by	To convert	into	Multiply by
Length					
mm	inches	0.03937	Inches	mm	25.4
cm	inches	0.3937	Inches	cm	2.54
meters	inches	39.37	Inches	meters	0.0254
meters	feet	3.281	Feet	meters	0.3048
meters	yards	1.0936	Yards	meters	0.9144
km	yards	1093.6	Yards	km	0.0009144
km	miles	0.6214	Miles	km	1.609
Surfaces					
cm ²	sq. inches	0.155	sq. inches	cm ²	6.452
m ²	sq. feet	10.764	sq. feet	m ²	0.0929
m ²	sq. yards	1.196	sq. yards	m ²	0.8361
km ²	sq. miles	0.3861	sq. miles	km ²	2.59
hectares	acres	2.471	Acres	hectares	0.4047
Volumes					
cm ³	cubic inches	.06102	cubic inches	cm ³	16.387
m ³	cubic feet	35.314	cubic feet	m ³	0.028317
m ³	cubic yards	1.308	cubic yards	m ³	0.7646
m ³	gallons (US)	264.2	gallons (US)	m ³	0.003785
liters	cubic inches	61.023	cubic inches	liters	0.016387
liters	cubic feet	0.03531	cubic feet	liters	28.317
liters	gallons (US)	0.2642	gallons (US)	liters	3.785
ml	teaspoon	0.2	teaspoon	ml	5.0
ml	tablespoon	0.067	tablespoon	ml	15.0
ml	fluid ounces	0.033	fluid ounces	ml	30.0
liters	cups	4.166	cups	liters	0.24
liters	pints	2.128	pints	liters	0.47
liters	quartz	1.053	quartz	liters	0.95



Metric to English

English to Metric

Weights

grams	grains	15.432	grains	grams	0.0648
grams	ounces	0.03527	ounces	grams	28.35
kg	ounces	35.27	ounces	kg	0.02835
kg	pounds	2.2046	pounds	kg	0.4536
kg	ton (US)	0.001102	ton (US)	kg	907.44
kg	ton (long)	0.000984	ton (long)	kg	1016.0
metric ton	pounds	2204.6	pounds	metric ton	0.0004536
metric ton	ton (US)	1.1023	ton (US)	metric ton	0.9072
metric ton	ton (long)	0.9842	ton (long)	metric ton	10.160

Temperature

Centigrade to Fahrenheit: Multiply by 1.8 and add 32

Fahrenheit to Centigrade: Subtract 32 and multiply by 0.555

Weight of water by volume (at 16.7°C or 62°F):

1 liter	= 1 kg	1 UK gallon	= 10 pounds
1 UK gallon	= 1.2 US gallons	1 UK gallon	= 4.54 liters
1 US gallon	= 0.8333 UK gallons	1 US gallon	= 8.33 pounds
1 US gallon	= 3.79 liters	1 liter	= 0.26 gallons
1 cubic foot	= 62.3 pounds		



6.5 WEBSITES

Partner websites and further readings:

Name	Address
National	
Department of Health-Philippines (DOH)	http://www.doh.gov.ph
National Disaster Coordinating Council (NDCC)	http://www.ndcc.gov.ph
Phil. Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)	http://www.pagasa.dost.gov.ph
Phil. Institute of Volcanology & Seismology (PHIVOLCS)	http://www.phivolcs.dost.gov.ph
Phil. Nuclear Research Institute (PNRI)	http://www.dost.gov.ph/pnri
Phil. Red Cross	http://www.redcross.org.ph
Asian	
Asian Disaster Preparedness Center (ADPC)	http://www.adpc.net
Asian Disaster Reduction Center (ADRC)	http://www.adrc.or.jp
Asian Disaster Reduction & Response Network	http://www.adrrn.net
WHO	
Emergency and Humanitarian Action (EHA)	http://www.who.int/disasters
Regional Office for the Western Pacific (WPRO)-EHA	http://www.wpro.who.int/sites/eha
European Region-Emergency Preparedness and Response Programme	http://www.euro.who.int/emergencies
Pan-American Health Organization (PAHO) – Disasters & Humanitarian Assistance	http://www.paho.org/english/ped
Regional Office for the South-East Asia (SEARO)	http://w3.whosea.org/index.htm
Essential Drugs and Medicines policy	http://www.who.int/medicines
Injuries and Violence Prevention	http://www.who.int/violence_injury_prevention
Mental Health	http://www.who.int/mental_health
Nutrition	http://www.who.int/nut http://www.en-net.org.uk/ http://www.unscn.org/en/home/ http://www.ennonline.net/
Reproductive Health	http://www.who.int/reproductive_health



POCKET EMERGENCY TOOL

Name	Address
Water and Sanitation	http://www.who.int/water_sanitation_health
PAHO SUMA	http://www.disaster.info.desastres.net/SUMA
Centro Regional de Information Sobre Desastres	http://www.crid.or.cr/crid
Health Library for Disasters	http://www.helid.desastres.net
Other UN Agencies	
UNAIDS	http://www.unaids.org
UN Disaster Management Training Program (UNDMTP)	http://www.undmtp.org
UN Development Programme	http://www.undp.org
UN Environmental Programme	http://www.unep.org
UN High Commissioner for Refugees (UNHCR)	http://www.unhcr.ch
UN International Children's Educational Fund (UNICEF)	http://www.unicef.org
UN International Strategy for Disaster Reduction	http://www.unisdr.org
UN Population Fund	http://www.unfpa.org
UN Office for the Coordination of Humanitarian Affairs (UN-OCHA)	http://ochaonline.un.org
World Bank	http://www.worldbank.org
World Food Programme	http://www.wfp.org
Other International Organizations	
Agency for Toxic Substances and Disease Registry	http://atsdr1.atsdr.cdc.gov:8080/hazdat.html
Alertnet	http://www.alertnet.org
Centers for Disease Control & Prevention, USA	http://www.cdc.gov
Center for Research on the Epidemiology of Disaster	http://www.cred.be/
Databases on Emergency Statistics and Bibliographic References (CRED)	http://www.md.ucl.ac.be/entites/esp/epid/mission
Disaster Relief	http://www.disasterrelief.org
EM-DAT: Center for Epidemiology and Disaster (CRED) International Disaster Database	http://www.cred.be/emdat
Federal Emergency Management Agency (FEMA), USA	http://www.fema.gov
Global Health Cluster	http://www.globalhealthcluster@who.org.
Global Nutrition Cluster	www.enonline.net
Inter Agency Standing Committee	http://www.humanitarianinfo.org/iasc/



Name	Address
International Committee of the Red Cross	http://www.icrc.org
International Directory of Emergency Centers for Chemical Accidents (2000)	http://www.oecd.org/dataoecd/0/39/1933385.pdf
International Federation of Red Cross and Red Crescent Societies	http://www.ifrc.org
International Organization for Migration	http://www.iom.int
Medecins Sans Frontiers	http://www.msf.org
One World	http://www.oneworld.net
Organization for Economic Co-operation and Development	http://www.oecd.org
Oxfam, Great Britain	http://www.oxfam.org/
Plan International	http://plan-international.org
Relief Web	http://www.reliefweb.int
Refugee Nutrition Information System	http://acc.unsystem.org/scn/publications/html/rnis.html
Regional Forum on Environment and Health	http://www.environment.health.asia
Reproductive Health for Refugee Consortium (RHRC)	http://www.rhrc.org
Sphere Project	http://www.spheredproject.org
US Centers for Disease Control and Prevention	http://www.cdc.gov
World Meteorological Organization	http://wmo.ch/web/www/reparts/expert-ERA-0498.html

6.6 DIRECTORIES

Health Emergency Management Staff

Name	Position	Email	Contact Numbers
Carmencita A. Banatin, MD, MHA	Director III	carmencita.banatin@yahoo.com	(02) 7405030 / 651-7800 loc 2200-2201
Arnel Z. Rivera, MD, MHA	Chief, Response Division	armyra2001@yahoo.com	(02) 7430538 651-7800 loc 2208
Ronald P. Law, MD, MPH	OIC Chief Preparedness Division	ronlaw_md@yahoo.com	651-7800 loc 2202-2204
Marilyn V. Go, MD	Chief Preparedness Division	mvgomd@yahoo.com	



Emergency Call Number Directory

Organization	Hotline Numbers
AFR Reserve Command-Rescue and Emergency Medical Team	921-3746
AFP-Office of the Surgeon General (AFP-OTSG)	911-6509 / 911-6001 loc. 6416
Assoc. of Phil. Volunteer Fire Brigades, Inc.	522-2222
Assoc. of Volunteer Fire Chiefs & Firefighters of the Phil., Inc.	160-16
Bureau of Fire Protection (BFP)	928-8363
EARNET Network	911-9009
DOH-Dengue	723-2493
DOH-HEMS OPCEN	711-1001 / 711-1002 / 651-7800 loc 2205 to 2207
Metro Manila Development Authority (MMDA)	882-0851
Road Emergency Group EARNET Network	136
National Disaster Risk Reduction and Management Council (NDRRMC)	912-5668 / 911-1406
National Poison Control & Information Service	524-1078 / 554-8400 local 2311 Mobile: 0922-8961541 Fax: 526-0062
National Voluntary Blood Center	929-6274
Office of Civil Defense (OCD) Operations center	911-1406 / 912-2556
Philippine Atmospheric, Geophysical and Astronomical Service Administration (PAGASA)	929-4570 / 927-1541 928-2031 / 927-2877
Philippine Coast Guard (PCG)	527-3880 / 338-5634
Action Center	527-8481 loc 6134
Coast Guard Medical	301-9369
Philippine General Hospital (PGH)	523-5350 / 554-8400
EARNET Network	521-8450 loc. 3166
Philippine Institute of Volcanology and Seismology (PHIVOLCS)	426-1468 / 927-1104
Philippine Long Distance Telephone Company (PLDT)	171
Philippine National Police (PNP) Patrol 117	117
Philippine Red Cross (PRC) EARNET Network	527-0000
Disaster Management	527-8384 loc. 133/134
PNP Firearms and Explosives	724-8085
Quezon City Rescue-Sagip Buhay EARNET Network	928-4396



Centers for Health Development

Centers for Health Development	Regional HEMS Coordinators	Assistant HEMS Coordinators	Contact Numbers
CHD for Ilocos	Dr. Julia R. Magalang	Dr. Rosario Pamintuan	(072) 607-6508
CHD for Cagayan Valley	Dr. Romulo A. Turingan	Engr. Paulino R. Padilla	(078) 844-6585
CHD for Central Luzon	Dr. Evelyn V. David	Mr. Charlie V. Sanchez, RN	(045) 861-3117
CHD for CALABARZON	Dr. Noel G. Pasion	Ms. Blesila Z. Piñon, RN	(02) 913-0864
CHD for MIMAROPA	Dr. Faith F. Alberto	Mr. Ramonito G. Martin, RMT	(02) 995-0827
CHD for Bicol	Dr. Rosa Maria B. Rempillo	Engr. William G. Sabater Mr. Norberto A. Balane, Jr.	(052) 483-0840 local 513 (052) 435-3916/ 435-3908 (OPCEN)
CHD for Western Visayas	Dr. Jesse Glen Alonsabe	Mr. Alejandro Santuyo	(033) 321-0607 local 15 (033) 321-0312
CHD for Central Visayas	Dr. Expedito A. Medalla	Mr. Rennan C. Cimafranca, RN	(032) 418-7629
CHD for Eastern Visayas	Dr. Fidelita D. Dico	Neliosa Guarda	(053) 323-6117 (053) 323-5044
CHD for Zamboanga Peninsula	Dr. Marcos C. Redoble, Jr.	Mr. Maxel G. Bermas, RN	(062) 983-0934 (OPCEN) (062) 983-0315 loc 105
CHD for Northern Mindanao	Dr. David A. Mendoza	Mr. John Emata, RN Mr. Jasper Kent Ola, RN	(088) 310-0926 (Hotline) (088) 350-4322
CHD for Davao	Dr. Paulo S. Pantojan	Dr. Francisco Alivio	(082) 305-1909
CHD for SOCKSSARGEN	Mr. Leo A Chiong, RN	Mr. John Ernesto O. Tobias, RN	(064) 421-5725 (OPCEN) / (064) 421-474726
CHD ARMM	Mr. Joselito Estaris, RN	Mr. Ron Aray	(064) 421-6842
CHD Caraga	Dr. Cesar C. Cassion	Dr. Ma. Wilma Joji O. Yu Mr. Richard B. Maniago	(085) 342-5208 local 102
CHD CAR	Ms. Elnoria G Bugnosen, RN	Engr. Gaudencio T. Tiwing Engr. Basil C. Munar, Jr.	(074) 444-5255
CHD Metro Manila	Ms. Jacinta C. Garcia, RN	Ms. Rosalie Espeleta	(02) 535-1488 (02) 535- 4521 / 391-8659 (02) 535-1488 (OPCEN)



Metro Manila Hospitals

Metro Manila Hospitals	Hospital HEMS Coordinator	Assistant Hospital HEMS Coordinators	Contact Numbers
Amang Rodriguez Medical Center	Dr. Romel T. Menguito	Ms. Avelina R. Dela Cruz, RN Dave C. Sevalla, RN	(02) 942-5988 941-5854
Dr. Jose Fabella Memorial Hospital	Dr. Romeo A. Bituin	Dr. Jasminda E. Espiritu Dr. Antoinette C. Pacapac	(02) 734-5561 to 65
Dr. Jose N. Rodriguez Memorial Hospital	Dr. Alfonso Victorino Famaran	Dr. Asuncion A. Cabaces	(02) 962-8209
Dr. Jose R. Reyes Memorial Medical Center	Dr. Enrico A. De Jesus	Dr. Joseph T. Juico Ms. Teresita R. Rubio, RN	(02) 740-3785
East Avenue Medical Center	Dr. Emmanuel M. Bueno	Ms. Mary Jane R. Cruz, RN Dr. Alfonso G Nuñez III Dr. Allan Troy Baquir	(02) 921-6480
Las Piñas General Hospital and Satellite Trauma Center	Dr. Rodrigo H. Hao	Dr. Jocelyn V. Sales Dr. Rolando B. Mangune	(02) 873-0556 local 105
Lung Center of the Philippines	Dr. David F. Geollegue	Mr. Geraldo I. Lirag, RN Dr. Victoria C. Idolor	(02) 924-6101 local 333/403
National Center for Mental Health	Dr. Romeo J. Sabado	Mr. Jay Dacatimbang TJ Tejada	(02) 531-9001 local 356
National Children's Hospital	Ms. Celia C. Pangan, RN	Ms. Belinda B. Pacis, RN Mr. Mariano Christopher P. Abella, RN	(02) 724-0656 to 59
National Kidney and Transplant Institute	Dr. Enrico P. Ragaza	Ms. Ma. Belinda B. Evangelista, RN	(02) 924-3601 local 3094
Philippine Children's Medical Center	Dr. Ma. Victoria C. Ribaya	Ms. Rebecca R. Eliseo, RN Mr. Marcelo W. Rivera, RN	(02) 924-9158
Philippine Heart Center	Dr. Mario Victor M. Villardo	Mr. Elmer Benedict E. Collong, RMT	(02) 925-2401 local 3830
Philippine Orthopedic Center	Dr. Ryan A. Carnero	Mr. Willy C. Veloria, RN	(02) 711-2316
Quirino Memorial Medical Center	Dr. Jose Albert G. Capuno	Dr. Joel Calaje	(02) 421-9289



Metro Manila Hospitals	Hospital HEMS Coordinator	Assistant Hospital HEMS Coordinators	Contact Numbers
Research Institute for Tropical Medicine	Dr. Melinda Sweet Lovely Razalan	Mr. Eden Balanza	(02) 807-2628 to 32
Rizal Medical Center	Dr. Roel Tito A. Marcial	Dr. Alexis L. Uy Ms. Mariles Vargas, RN	(02) 671-9740
San Lazaro Hospital	Dr. Alexis Q. Dimapilis	Mr. Joselito V. Sagario	309-9541 (ER) / 711-6979
San Lorenzo Ruiz Women's Hospital	Dr. Noel D. Valderrama	Ms. Evangeline A. Rivano, RN	(02) 294-4853
Tondo Medical Center	Dr. Myrna T. Rivera	Ms. Maricel C. Serrano, RN	(02) 251-8420 to 23 local 234
Valenzuela Medical Center	Dr. Mary Grace Reyes	Dr. Joseph T. Nocom	(02) 294-6711 local 106

Regional Hospitals

Regional Hospitals	Regional HEMS Coordinators	Assistant Regional Hospital HEMS Coordinators	Contact Numbers
Ilocos Training and Regional Medical Center, San Fernando, La Union	Dr. Magno Jose C. Valdez	Dr. Gualberto T. Basco Mr. Norberto G. Prepose, RN	(072) 242-5543 / (072) 700-0468
Mariano Marcos Memorial Hospital and Medical Center, Batac, Ilocos Norte	Dr. Michael Martin C. Baccay	Almaida Invencion, RN	(077) 792-3144 loc 174
Region I Medical Center, Dagupan City	Dr. Otto S. Raguindin	Dr. Noel G. Manaois Mr. Rolando B. Fernandez, RN	(075) 523-4103
Batanes General Hospital, Basco Batanes	Dr. Benilda M Domingo	Dr. Richard Paul G. Ong	0321-6349448
Cagayan Valley Medical Center, Tuguegarao, Cagayan	Dr. Eduardo M. Badua III	Dr. Omar A. Ramos	(078) 846-7269 (078) 304-033/34 local 405
Southern Isabela General Hospital, Isabela	Dr. Mildred J. Naval	Ms. Eugenia V. Piñera	(078) 682-8123 local 30
Veterans Regional Hospital, Bayumbong Nueva Vizcaya	Dr. Joselito A. Gonzales	Dr. Lirio Marie R. Adriatico	(078) 805-3561 local 132



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Regional Hospitals	Regional HEMS Coordinators	Assistant Regional Hospital HEMS Coordinators	Contact Numbers
Bataan General Hospital, Tenejero, Balanga City, Bataan	Arlene C. Navarro, RN	Dr. Romeo W. Alcantara, Jr. Dr. Joseph L. Malixi	(047) 237-3635
Jose B. Lingad Memorial General Hospital, Dolores, San Fernando City	Dr. Alfonso D. Danac	Ma. Victoria A. Rivera, RN Mr. Edwin Maniago, RN	(045) 963-6845
Mariveles Mental Ward	Dr. Ma. Lourdes L. Evangelista	Dr. Ruby Lynda T. Reyes	(047) 935-4617 / 935-4613
Paulino J. Garcia Memorial Research and Medical Center, Cabanatuan City	Ms. Pinky Miriam D. Canlas, RN	Dr. Andrew P. Mangiduyos	(044) 463-9937 (044) 463-1610 (ER)
Talavera Extension Hospital, Talavera, Nueva Ecija	Dr. Catherine R. Salazar	Ms. Linda U. Fernando, RN	(044) 411-7960 / 411-1826 (ER)
Batangas Regional Hospital, Batangas City	Dr. Michael Angelo T. Francisco	Ms. Heidi C. Mac, RN Mr. Marciano A. Luya	(043) 732-0165
Culion Sanitarium and Balala Hospital, Culion, Palawan	Dr. Arturo C. Cunanan, Jr.	Dr. Neal Vincent L. Tore Ms. Teresa Torres, RN	
Ospital ng Palawan, Puerto Princesa City, Palawan	Dr. Marybeth N. Javarez	Ms. Nilda N. Talamayan, RN	(048) 434-8339 / 4346864
Bicol Medical Center, Naga City	Ms. Wilhelmina C. De Castro, RN	Mr. Marlon R. Villamora, RRT Dr. Dastor Cosolacion	(054) 472-5106
Bicol Regional Training and Teaching Hospital, Legaspi City	Dr. Eric N. Raborar Dr. Amie B. Bataga	Dr. Victor Angelo R. Colina Dr. Amie B. Bataga	(052) 483-0635
Bicol Sanitarium, Cabusao, Camarines Sur	Dr. Edgardo O. Sarmiento	Ms. Naneth R. Penaid, RN	(054) 451-2244
Corazon Locsin Montelibano Memorial Hospital, Bacolod City	Dr. Antonio G. Vasquez	Dr. Adhara Fernandez	(034) 433-2697 / 433-3199 / 433-6624
Don Jose Monfort Medical Center, Barotac Nuevo, Iloilo City	Ms. Jacobina A. Padojinog, RN	Dr. Ma. Nanette Pabilona Ms. Emelyn B. Gando, RN	(033) 361-2011
Western Visayas Medical Center, Mandurria, Iloilo City	Ms. Freida G. Sorongan	Ms. Liza Gay S. Quimpo, RN Mr. Rudel M. Jaranilla, RN	(033) 321-1797
Western Visayas Sanitarium	Dr. Elvira P. Sinoro	Dr. Faith Daphne H. Estrada	(033) 523-9515



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Regional Hospitals	Regional HEMS Coordinators	Assistant Regional Hospital HEMS Coordinators	Contact Numbers
Don Emilio Del Valle Memorial Hospital	Mr. Norman P. Sarmiento, RN	Dr. Miguelito S. Jayoma	(038) 518-0379 / 518-0324
Eversely Child Sanitarium	Dr. Joanri T. Riveral	Dr. Pythagoras M. Zerna	(032) 345-1114 / 238-6811
Gov. Celestino Gallares Memorial Hospital, Tagbiliran City, Bohol	Dr. Edgar D. Pizzaras	Dr. Rolando R. Po Mr. Hector C. Rodriguez, RN	(038) 411-3185
St. Anthony Mother and Child Hospital, Basak, San Nicolas, Cebu	Dr. Orlando N. Osorio	Ms. Candice Ann O. Terando, RN	(032) 261-9989 / 418-9477
Talisay District Hospital, Talisay, Cebu	Dr. Agustin D. Agos, Jr	Ms. Locelyn D. Asument, RN	(032) 273-3225
Vicente Sotto Medical Center, Cebu City	Dr. Joseph Al L. Alesna	Dr. Emmanuel F. Ginez Mr. Danielo Y. Teorica, RN	(032) 253-9891 local 134
Eastern Visayas Regional Medical Center, Tacloban City	Dr. Juan Mari P Isidero	Dr. Lory L. Ruetas	(053) 321-3129
Schistosomiasis Control & Research Hospital, Palo, Leyte del Norte	Dr. Agnes J. Aliposa	Ms. Maria Everina D. Budlong, RN	(053) 323-8207 / 524-9246
Basilan General Hospital, Isabela, Basilan	Dr. Domingo Remus A. Dayrit	Dr. Rizalino W. Pajarito	(062) 200-3094/200-3093
Dr. Jose Rizal Memorial Hospital, Capital City, Zamboanga del Norte	Dr. Lorelyn C. Hamoy	Dr. Lorelyn C. Cardenas Mr. Joseph Jay Abitona, RN	
Labuan Public Hospital, Labuan, Zamboanga City	Mr. Bernardo D. Orpiano, RN	Dr. Jose Roy D. Catis	(062) 926-0259
Margosatubig Regional Hospital, Zamboanga del Sur	Dr. Danilo D. Alfaro	Ms. Ma Czarina P Bucoy, RN	(062) 215-3899 / 211-5634
Mindanao Central Sanitarium, Zamboanga City	Mr. Robert Jacildo, RN	Mr. Narciso Sardual, RN	
Sulu Sanitarium	Dr. Clemente A. Almonte II	Ms. Imelda Dawili, RN	
Zamboanga City Medical Center, Zamboanga City	Dr. Giovanni Paulo C. Gimena	Ms. Josephine C. Paragas, RN	(062) 991-0573/991-2934



Regional Hospitals	Regional HEMS Coordinators	Assistant Regional Hospital HEMS Coordinators	Contact Numbers
Amai Pakpak Medical Center, Marawi City, Lanao del Sur	Dr. Matthew Robert N. Baquiano	Mr. Ebrahim Ampa, RN	(063) 352-0070
Camiguin General Hospital, Mambajao, Camiguin	Dr. Gerry M. Cabalang	Dr. Godofredo B. Dollera, Jr.	(088) 387-1216
Mayor Hilarion Ramiro Regional Training and Teaching Hospital, Ozamis City	Dr. Edven Manabat	Dr. Randy Guangco	(088) 521-0022
Northern Mindanao Medical Center, Cagayan de Oro City	Dr. Enrique P. Saab	Dr. Alex E. Barlaan	(088) 856-8452 / (08822) 726-362
Southern Philippine Medical Center, Davao City	Dr. Ricardo B. Audan	Dr. Antonio Solar	(082) 227-2731 loc 4116 (ER)
Davao Regional Hospital Apokon, Tagum City	Dr. Sergio S. Dalisay	Mr. Ian Alvin A. Agustin, RN	(084) 400-4416 / 400-3050
Cotabato Regional Medical Center, Cotabato City	Dr. Dimarin A. Dimatingkal	Ms. Norma P. Reyes, RN Ms. Maria Kristine Go- Portaje, RN	(064) 421-2340 local 303
Cotabato Sanitarium, Sultan Kudarat	Ms. Ma. Rhodora B. Ledesma, RN	Mr. Zandro Casado	
Baguio General Hospital and Medical Center, Baguio City	Dr. Manuel F. Quirino	Dr. Honorario A. Pangilinan, Jr. Mr. Joselito M. Datud, RN	(074) 443-5678
Conner District Hospital	Mr. Gregory A. Bangon	Ms. Olivia A. Nadnaden	(078) 824-8575
Far North General Hospital and Training Center, Luna, Apayao	Dr. Juanita T. Lacuesta	Ms. Sahlee Ann C. Grande	(078) 824-8575
Luis Hora Memorial Regional Hospital, Bauko, Mt. Province	Dr. Edgardo I. Bolompo	Mr. John Jan C. Joven, MT	(074) 443-5653
Adela Serra Ty Memorial Medical Center, Tandag, Surigao del Sur	Dolly Lynde L. Masong, RN		(086) 211-3700
Caraga Regional Hospital, Butuan City	Dr. Panfilo Jorge M. Tremedal, III	Engr. Hilarion P. Pasal	(086) 365-1843 (OPCEN) / 826-3545
DOH Treatment and Rehabilitation Center (DOH-TRC Tagaytay)	Dr. Carmelita B. Belgica	Mr. Marvin C. Ambion Ms. Terence A. Santiago	



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DOH. (2011). *Environmental Health Management in Emergencies presentation in 10th Philippine National Training Course on Public Health and Emergency Management in Asia and Pacific (PHEMAP)*.

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One Million Safe Schools and Hospitals

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Notes





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