**Annex B.**

# DG ECHO

# Health Technical Guidelines

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# Technical Guidelines

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## 1. INTRODUCTION

This operational guidance is aimed at ECHO staff in the field, who need to engage with local and national authorities, partners and implementing agencies on issues relating to the health impact and interventions in humanitarian crises.

It contains a limited series of tables and checklists that contain key information on the health impact of emergencies as well as the priority actions and critical steps for health operations across a range of delivery mechanisms and according to specific causes of death/disability. This guide seeks to summarise and condense what is a vast literature on these issues and provide a one-stop-shop, or entry point, where key information can be accessed quickly and in a user-friendly format. In particular this should assist the coherent allocation of funds and quality control, including through monitoring. The last column of each table, on advice, is to be used together with common sense, context analysis and exchanges with the DG ECHO regional health advisor providing support at regional level, if needed.

This guide is a complement to DG ECHOs general health guidance which will provide the framework through which the General Guidelines are applied.

This Technical Guidance is not intended to solve the most complex situations, but to provide a robust approach to the management of the most common situations in the most common context for emergencies in the most common settings. Support to more complex situations and crises will be provided by the health regional advisor.

The technical guidance does not require to be read in its entirety; it is modular, each module should be consulted when needed, using the following steps:

1. First, what is the situation to tackle?

The main types of events that can lead to a humanitarian emergency are:

- Armed Conflict
- Epidemic
- Abrupt Hydro-meteorological disasters, such as floods
- Abrupt Geophysical disasters, such as earthquakes
- Climatological disasters, such as drought, a slow onset disaster
- Technological disasters (toxic, chemical and radiological events)
-

Or any combination of above

Each scenario relates to specific combinations of risk factors that lead to increased morbi-mortality.

2. What are the main health conditions :
   - The main causes of disease and death.
   - The main conditions that accelerate disease and death.
   - The main epidemics that require mass response.
   - The main causes of disability.
   - Other common conditions found frequently in humanitarian crises.
   -

3. How is health care delivered by programs that address the main health conditions, including those interventions that target the proximal risk factors that increase mortality :

    - Primary Health
    - Secondary Health
    - Community Health and Outreach
    - Health Supplies
    - Health Infrastructure
    - Epidemic Response

Each topic appears in a single table to be consulted according to what the Technical Assistant finds in the field. The first column of each table contains the prevailing emergency scenario and related key facts that are critical for understanding the health risks and relevant interventions. The second column presents key health risks that need to be assessed and relevant priority interventions to be carried out. The third column presents the indicators that are relevant for the issue at hand. The last column presents what should be taken in account to make a decision.

While an attempt has been made to include all major conditions that cause the bulk of death and disability, it must be remembered that the causes of death and disability and their patterns in emergencies are very context driven and thus DG ECHO regional health support is available to help beyond what this succinct guidance can offer. The guidance is not intended to be exhaustive: staffs are encouraged to seek more detailed information, when needed, in the documents referenced for each topic. One specific **key reference** is suggested for each of the following tables.

Finally, these Technical Guidelines also give a brief overview of Health Systems focusing on aspects relevant to emergency operations; as well as providing some key checklists for service delivery monitoring.

## INDEX OF TABLES FOR SCENARIOS

## 2. SCENARIOS

### 2.1 SCENARIO: ACUTE AND PROTRACTED ARMED CONFLICT (ARMED VIOLENCE)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **ACUTE ONSET CONFLICTS**<br><br>**Key facts**<br>- Armed conflict results directly in injuries and deaths for civilians due to war related injuries, sexual violence and psychological trauma.<br><br>- In addition, the disruption of the health system, through destruction of facilities, injuries to health workers and collapse of prevention/primary care programmes can lead to major increases in morbidity and mortality<br><br>- The conditions in which civilians live and their displacement during a conflict also greatly increase the likelihood of disease and death (e.g. overcrowding, under-nutrition, inadequate shelter, water and sanitation) | **Risk factors leading to Mortality**<br>- Violence/Injury<br>- Overcrowding and inadequate shelter<br>- Insufficient nutrient intake<br>- Insufficient vaccination coverage<br>- Poor water, sanitation, hygiene conditions<br>- High exposure to disease vectors<br>- Lack of and/or delay in treatment<br>**Critical Steps/Priority Actions**<br>- Activate disease early warning and surveillance system (EWARS)<br>- Key disease threats identified and prevention/preparedness plans in place<br>- Plan and implement emergency vaccination campaigns as needed<br>- Ensure safety of health staff and facilities.<br>**Community Health Outreach**<br>- Possibly first aid<br>**Primary Health Care**<br>- Triage, first aid, injury and minor trauma care<br>- Continued delivery of main services<br>- Management of sexual violence, STDs and psychological problems<br>- Surveillance, sentinel or early warning,<br>**Secondary Health Care**<br>- Provide emergency surgical care and trauma surgery<br>- Ensure continuity of main services delivery<br>**Health System Infrastructure and Supplies**<br>- Ensure vital supplies/drugs to the existing health system<br>- Ensure water, electricity and sanitation to health facilities<br>- Ensure rehabilitation of health facilities or, if destroyed or severely damaged, availability of temporary structures | - Health needs assessment available? (Y/N)<br>- Survey of Health Facilities available (Y/N)<br>- % of health facilities (HF) operational<br>- Average population per functioning HF<br>- % of HFs without stock out of selected essential drugs<br>- Crude, disease specific and <5 mortality rates<br>- Rates of Moderate Acute Malnutrition and Severe Acute Malnutrition<br>- No of cases/incidence of selected high priority diseases<br>- CFR for priority diseases<br>- No of cases/Incidence of sexual violence<br>- Proportion of people with <15 litres of water/day<br>- Vaccination coverage for EPI vaccines.<br>- Target population coverage for vaccination campaigns<br>*Source: IASC Global Health Cluster Indicators* | See decision tree, initial section |
| **PROTRACTED CONFLICTS** | As for Acute Onset Conflicts with further attention to in<br>- Long term EWARS and information systems<br>- Referral system<br>- Management of physical disability<br>- Management of non-communicable and chronic diseases<br>- Treatment for long term mental health/psychosocial problems.<br>- Re-establishment of cold chain supplies if disrupted; articulate with EPI, MCH | | |
| Ref.: http://www.acaps.org/resourcescats/download/disaster_summary_sheet_armed_conflict/138 | | | |

## 2.2 SCENARIO: ACUTE HYDRO-METEREOLOGICAL EMERGENCIES (FLOODS, TROPICAL CYCLONES)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Key Facts:**<br>- Floods are the most frequent (46%) natural disasters and cause most human suffering and loss (78% of population affected by natural disasters).<br>- The severity of the impact of a flood is generally related to the level that water reaches in the flood, the violence of currents, and the size of the geographic area affected<br>- Floods that result in humanitarian emergencies are characterised by difficulty in access<br>- In addition to usual risks to health, there are specific disease risks to be considered, as well as poorer food security<br>- Increased mortality is generally due to drowning, trauma and diseases related to contamination of water supplies or disease vectors<br>- The risk of an epidemic is low, unless there is significant population displacement and/or water sources are contaminated.<br>- Tropical cyclones are associated with less flooding but with more traumas<br>- Tsunamis are usually associated with geological phenomena and cause high levels of destruction along coasts and estuaries and have higher levels of drowning and cause major traumas | **Risk factors leading to Mortality**<br>- Drowning and trauma<br>- Poor water, sanitation, hygiene conditions<br>- Inadequate shelter<br>- High exposure to disease vectors<br>- Poisoning by toxic/chemical material<br><br>**Critical Steps**<br>- Ensure triage, treatment, referral and transport for injured and "near drowning" patients<br>- Identify key disease hazards and implement prevention and preparedness<br>- Activate EWARS disease early warning and surveillance<br>- Survey vectors and breeding sites with measures to reduce vector density<br>- Identify and manage possible sources of toxic contamination<br>- Implement health education for prevention of water and vector-borne diseases<br>- Plan and implement emergency vaccination campaigns as needed<br>- Procedures in place to deal with human and animal corpses<br>**Community Health Outreach**<br>- Implement health education, prevention and treatment of water-borne diseases<br>**Primary Health Care**<br>- Continuity of main services delivery<br>- Specific primary care interventions for diarrhoeal diseases, respiratory tract infections, Hepatitis A, Typhoid , skin infections, snake and insect bites<br>- Treatment for "near drowning" and exposure<br>- Treatment for malaria, dengue and other vector-borne diseases (a rise in incidence of these diseases occurs after some time, due to increasing vector density)<br>- Care of minor wounds and skin infections (Tetanus Toxoid immunization).<br>**Secondary Health Care**<br>- Provide emergency surgical care including traumas.<br>- Provision of intensive care for "near-drowning" cases and severely injured<br>- **Health System Infrastructure and Supplies**<br>- Ensure vital supplies to the existing health system<br>- Ensure water, electricity and sanitation to health facilities<br>- Rehabilitation and temporary facilities if destroyed or damaged<br>- Adequate stocks of key drugs and supplies | - Health needs assessment available? (Y/N)<br>- Survey of Health Facilities available (Y/N)<br>- % of health facilities (HF) operational<br>- Average population per functioning HF<br>- % of HFs without stock out of selected essential drugs<br>- % of facilities without safe water supply<br>- Crude, disease specific and <5 mortality rates<br>- No of cases/ incidence of selected high priority diseases<br>- CFR for priority diseases<br>- Proportion of people with <15 litres of water/day<br>- Vaccination coverage for EPI vaccines.<br>- Target population coverage for vaccination campaigns<br>- Vector risk assessment and survey available (y/n)<br><br>*Source: IASC Global Health Cluster Indicators* | See decision tree, initial section |

Ref.: http://www.acaps.org/resourcescats/download/disaster_summary_sheet

## 2.3 SCENARIO: ACUTE GEOPHYSICAL EMERGENCIES (EARTHQUAKE, VOLCANO)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Key facts:**<br>- Impact depends on the intensity of ground shaking and the building structure quality. Larger impact in areas of high population and building density<br>- Generally occur without any warning but aftershocks can remain a significant hazard, causing further damage and increasing the psychological stress of both victims and aid workers<br>- The primary cause of death is injury (trauma) caused by building collapse (75%) with most of other traumas/injuries related to tsunamis and landslides<br>- Mortality and injury peak within the first 72 hours. Most lives rescued (85-95%) in the first two days. Death rates are higher for the most vulnerable: elderly, women and children<br>- Ratio of dead to injured varies widely<br>- Health impact aggravated by poor access, secondary fires, interruption of water supplies, delay in care due destruction of health care facilities and exposure to severe weather conditions l.<br>- Major population movements are rare. However, it may occur in heavily damaged urban areas | **Risk factors leading to mortality and disability**<br>- Trauma & asphyxia<br>- Inadequate shelter<br>- Burns and shocks<br>- Epidemics (rare)<br><br>**Critical Steps/Priority Actions**<br>- System of triage, treatment, referral and transport in place for the injured<br>- Identify key health hazards and implement prevention and preparedness measures (e.g. hazards related to contaminated water supplies)<br>- Activate EWARS disease early warning and surveillance<br>- Identify and manage possible sources of toxic contamination.(e.g. chemical processing or storage facilities)<br>- Plan and implement emergency vaccination campaigns as needed<br>- Procedures in place to deal with human and animal corpses<br>**Community Health Outreach & IEC**<br>- Implement health education, prevention and treatment of water-borne diseases<br>**Primary Health Care**<br>- Close articulation between rescue and medical teams for triage and immediate management of life-threatening injuries.<br>- Provision of initial triage and care for trauma, asphyxia, exposure, burns care<br>- Minor wound care<br>- Rapid referral and transport of more serious patients to secondary facilities<br>- Continuity of main services delivery<br>- Establishment / provision of psychosocial care and counselling for traumatised earthquake survivors.<br>**Secondary Health Care**<br>- Ensure a more advanced diagnosis of injuries (X-ray, CT, MRI)<br>- Provide emergency surgical care and trauma surgery.<br>- Provision of more intensive care for severely injured and burn victims<br>- Provision of Intensive care, dialysis and respiratory distress management<br>**Health System Infrastructure and Supplies**<br>- Rehabilitation of facilities and, if destroyed or damaged, provision of temporary structures<br>- Ensure water, electricity and sanitation to health facilities<br>- Ensure adequate stocks of key drugs and supplies | - Health needs assessment available? (Y/N)<br>- Survey of Health Facilities available (Y/N)<br>- % of health facilities (HF) operational<br>- Average population per functioning HF<br>- % of HFs without stock out of selected drugs<br>- % of facilities without safe water supply<br>- Crude, trauma and disease specific and <5 mortality rates<br>- No of cases/ incidence of selected high priority diseases<br>- CFR for priority diseases<br>- Proportion of people with <15 litres of water/day<br>- Vaccination coverage for EPI vaccines.<br><br>*Source: IASC Global Health Cluster Indicators* | See decision tree, initial section |

Ref.: http://www.acaps.org/resourcescats/download/disaster_summary_sheet_earthquakes/20

## 2.4 SCENARIO: EPIDEMIC (and other biological threats)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Key facts**<br><br>Epidemics may occur secondary to other types of emergency or may themselves generate an emergency requiring a health response. Displacement and overcrowding favour outbreaks.<br><br>They may be<br>- Localised but in high risk population (e.g. refugee camp)<br>- Population-wide (single country)<br>- Multi-Country<br>- Pandemic<br><br>The Source of the epidemic may be may be water, food, animal or vector<br><br>Route of spread may be respiratory, faecal-oral or by contact with infected blood or body fluids<br><br>**Risk management for epidemics requires**<br>- Risk identification & Reduction<br>- Preparedness (e.g. stockpiles)<br>- Early Warning<br>- Coordinated Response including case management and containment<br>- Sustained control and preparedness for future events | **Risk factors leading to mortality**<br>- Exposure to and infection with disease agent<br>- Lack of and/or delay in treatment<br>- Collapse of vaccination services<br>- The severity of infection is related to exposure dose, previous immunity and general nutritional and health status before infection.<br>- Outcome is also greatly affected by specific antimicrobial administration (where appropriate) and supportive care to prevent dehydration, respiratory distress, bleeding and organ failure<br><br>**Critical Steps**<br>- Prevention through provision of safe water and sanitation, vector control, health education, vaccination (see disease tables)<br>- Preparedness through identification and surveillance of epidemic risks, stockpiling, training, environmental management.<br>- Outbreak verification and investigation to determine source, transmission and ultimately the causal agent through laboratory confirmation.<br>- Coordinated multi-sectorial risk assessment and response<br>- Monitoring and enhanced surveillance to detect alerts, actively find cases and contacts and rapidly identify new areas of outbreak activity.<br>- Outbreak risk communication (to community/public and to media).<br>- Supplies and Equipment (personal protective equipment, antibiotics, IV fluids, vaccines)<br><br>**Mechanisms of health care delivery**<br>- Vertical mass intervention in the case of large outbreaks, those with potential to spread or where a mass population- based intervention (e.g. mass vaccination) may be needed (see table on "Mechanism of Delivery: Epidemic Intervention")<br>- Community Outreach & IEC for case finding, contact tracing, preventive educations<br>- Primary Health Care (PHC) for initial case management, referral to SHC as needed, case finding & contact tracing.<br>- Secondary Health Care Facilities (SHCs) for case management & isolation facilities<br>- Early Warning and Response System (EWARS) for outbreak monitoring and enhanced surveillance | - Risk Assessment and operational plan of action available? Y/N<br><br>- Daily or weekly No. of new cases, incidence daily/weekly<br><br>- Population attack rate<br><br>- Case Fatality Ratio<br><br>- No of contacts per case (in epidemics with person to person transmission)<br><br>- % of contacts followed up on daily or weekly basis<br><br>- No of cases in Health Care Workers (HCWs)<br><br>- Population coverage of mass intervention (e.g. vaccination)<br><br>- Completeness and timeliness of Health facility reporting | See decision tree, initial section |

Ref.: See Table of Mechanism of Delivery – Epidemic/Outbreak (see Tables on "Causes of Death: Epidemics).
http://www.who.int/diseasecontrol_emergencies/publications/who_hse_epr_dce_2012.1/en/index.html

## 2.5 SCENARIO: TECHNOLOGICAL EMERGENCIES (T OXIC, CHEMICAL AND RADIOLOGICAL)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Key facts**<br><br>Events may be:<br>- Acute or Chronic<br>- Of known or unknown source<br>- Localized or widespread<br>- airborne, waterborne, food borne or by contaminated soil<br><br>They may result from:<br>- **Technological or man-made disaster** (e.g. Toxic dumping in Ivory Coast, 2006);<br>- **Natural disasters** (e.g. radioactive leaks at Fukushima, Japan, 2011); Conflict/complex emergencies (eg. Mediterranean oil spill following Israeli bombing of Lebanon, 2006); and<br>- **Terrorist incidents** (e.g. Sarin gas attacks in Japan, 1995)<br>These may be politically-related events<br><br>**Priorities are to:**<br>- Identify source and contain spread<br>- Remove people from exposure<br>- Decontaminate those exposed<br>- Care for the ill<br>- Deal with long term disability | **Risk factors leading to mortality:** Poisoning by toxic/chemical/nuclear material<br><br>Health effects are specific to the agent, dose and route of exposure. The agents may be irritants or may have specific toxicity (neurological, haematological, hepato-renal, and gastrointestinal). The toxic agent may contaminate the skin and eyes (conjunctiva) or may be inhaled or ingested. Main causes of mortality are poisoning leading to organ failure, asphyxia or neurological collapse.<br><br>**Critical Steps/Priority Actions: Immediately after event**<br>- Rapid environmental and health risk assessment<br>- Definition of affected zone and forecast of new zones potentially affected (weather/wind patterns, downstream rivers, food chain)<br>- Definition of health risks, health impact and capacity of local health infrastructure to cope<br>- Transport of people away from zone of contamination and life/health care after displacement<br>- Decontamination of victims (where appropriate)<br>- Movement of at risk populations to “safe zones”<br>- System of triage, treatment, referral and transport in place for exposed patients with referral to secondary level of care of severe cases<br>- Surveillance for new exposures in the community and investigation of sources<br>- Provision of specialist secondary care for severe exposure/intoxication<br>- Provision of care for psychological trauma<br><br>**Mechanisms of delivery:** All mechanisms of delivery are relevant.<br>- **Community Outreach & IEC:** prevention of exposure and treatment of minor exposures<br>- **Primary Health Care**: triage, stabilization and initial case management, referral to secondary facilities for more severe cases, care for psychological trauma<br>- **Secondary Health Care** Facilities (SHCs): specialist secondary care for severe exposure/intoxication<br>- **Health supplies and Infrastructure**: Provision of specialised protection and decontamination of equipment/ supplies | - Health risk and needs assessment available? (Y/N)<br>- % of health facilities (HF) operational<br>- Average population per functioning HF<br><br>- Crude mortality rate<br>- Agent specific mortality rate<br>- No of admissions to Secondary healthcare<br>- CFR in exposed patients<br>- No of people transported to safe zones<br>- No of people decontaminated<br>- Time to deployment of specialist equipment and personnel | See decision tree, initial section |

## 2.6 SCENARIO: CLIMATOLOGICAL (SLOW ONSET DROUGHT/ENVIRONMENTAL)

| Scenario/Key facts | Risk factors for Mortality/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Key Facts:**<br>- Drought is an insidious phenomenon. Unlike rapid onset disasters, it exerts its effects over time, with gradual impact on affected areas.<br>- In severe cases, drought can last for many years and have a devastating effect on agriculture and water supplies.<br>- Drought is defined as a deficiency of rainfall over an extended period – a season, a year or several years – relative to the statistical multi-year average for the region.<br>- Drought can lead to<br>  - Crop failure, food shortages, malnutrition and famine<br>  - Epidemics<br>  - Population displacement<br>  - Complex emergencies/conflicts through competition for resources<br>- Need for access to safe water and basic sanitation in times of drought, as wells and other groundwater supplies dry up or become polluted<br>- Need for programmes to preserve and restore livelihoods<br>- Severity frequently measured with the Integrated Food Security Phase Classification (IPC)<br>- Frequently compounded with changes in the social environment, such as smaller plots and higher demography. | **Risk factors leading to mortality and disability**<br>- Insufficient nutrient intake<br>- Interaction of malnutrition with other diseases<br>- Poor water, sanitation, hygiene conditions<br>- Lack of and/or delay in treatment<br><br>**Critical Steps/Priority Actions**<br>- Nutritional assessment and feeding programmes.<br>- Rehabilitation of children with Severe Acute Malnutrition (SAM) through Community Based Management of Acute Malnutrition (CMAM) programme<br>- Rehabilitation of children with Moderate Acute Malnutrition MAM through CMAM programme<br>- Integrate nutrition into the health system and ensure access to nutritional programs (not only for high impact specific measures but also for consultations)<br>- Identify key disease hazards and implement prevention and preparedness measures. In particular health hazards related to poor water and sanitation<br>- Plan and implement emergency vaccination campaigns as needed<br>- Implement health education for prevention of diarrhoeal diseases, skin and eye infections<br>- Activate EWARS disease early warning and surveillance<br><br>**Community Health Outreach & IEC**<br>- CMAM in patients with MAM and referral of patients with SAM<br>- Health education in prevention of diarrhoeal disease<br>**Primary Health Care**<br>- Continuity of main services delivery<br>- Management of CMAM and patients with SAM/MAM without medical complications<br>**Secondary Health Care**<br>- Supervision and management of CMAM<br>- Management of patients with SAM with medical complications<br><br>**Health System Infrastructure and Supplies**<br>- Ensure vital supplies to the existing health system<br>- Ensure water and sanitation to health facilities<br>- Adequate stocks of key drugs and supplies | % of population without access to adequate food supplies<br><br>Water access. % of health facilities without adequate water supply<br><br>Incidence rates of priority diseases including acute undernutrition, diarrhoea, eye and skin infections.<br><br>CMAM Coverage<br>>50% in rural areas<br>> 70% in urban areas<br>> 90% in camp situations<br><br>CMAM Outcomes (MAM)<br><10% of discharged children died<br>>75% children in programme recovered<br><15% of children in programme defaulted<br><br>CMAM Outcomes (SAM)<br><3% of discharged children died<br>>75% children in programme recovered<br><15% of children in programme defaulted | See decision tree, initial section |

Ref.: http://www.acaps.org/resourcescats/download/disaster_summary_sheet

## 3. CAUSES OF DEATH / DISABILITY

### 3.1 MAIN CAUSES OF DEATH: ACUTE RESPIRATORY INFECTION (ARI)

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenarios:** Important cause of morbidity and mortality in all scenarios. In particular where children may be exposed to overcrowded conditions, bad ventilation in shelters, chilling due to cold wet weather, and poor nutrition<br><br>**Key facts**<br>Major cause of death in emergencies<br>30% of deaths in under-five due to ARI, 90% of these deaths due to pneumonia<br>Pneumonia usually caused by bacteria (*Haemophilus influenzae* type B and *Streptococcus pneumoniae*, both vaccine preventable) and viruses<br>Management of pneumonia consists of antimicrobial therapy<br>Choice of antimicrobial depends on national protocols and available drugs<br>Oral drugs e.g. co-trimoxazole used for pneumonia<br>Severe pneumonia treated with injectable antimicrobials | **Priority actions**<br>Early recognition and prompt intervention<br>Treatment with effective anti-microbial<br>Supportive measures - oral fluids to prevent dehydration, continued feeding, antipyretics, and protection from cold<br>Consider vaccination against Hib, pneumococcal, pertussis, diphtheria and measles as per national protocol or in areas of difficult sporadic access and remote management.<br>Nutrition (particularly breast feeding and zinc supplementation)<br>Hand washing and respiratory hygiene<br><br>**Mechanisms of delivery**<br>Community Outreach & IEC:<br>Early recognition of cases, prompt referral to PHC, health education on symptoms, feeding and vaccination<br><br>Primary Health Care (PHC):<br>Diagnosis and treatment of cases, vaccination, health education on supportive measures, referral of severe cases to SHC after initial treatment<br><br>Secondary Health Care (SHC)<br>Clinical management of severe cases, children with malnutrition, co-existent illness e.g. HIV, Radiology, Laboratory services<br><br>Nutritional programs<br>Include, when possible, access to outpatient consultation for children, malnourished or not in nutritional programs (surrounding population)<br><br>Supplies<br>Availability of antimicrobial therapy, anti-pyretics, IV fluids, vaccines | # and % population < 5 years treated for ARI<br><br>Proportional morbidity and trends for ARI of children < 5 years. | See decision tree<br><br>Inclusion of the detection, prevention and management of acute respiratory infection in any health outreach, primary care or secondary care program<br><br>Include when possible access to outpatient consultation for children, malnourished or not in nutritional programs<br><br>Note, in case of proposed community treatment, consult with your health advisor. |
| Ref.: http://www.thelancet.com/series/childhood-pneumonia-and-diarrhoea | | | |

## 3.2 MAIN CAUSES OF DEATH: DIARRHOEAL DISEASES

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:**<br>**Conflict**<br>Particularly important in acute hydrological emergencies and in situations where populations are overcrowded without adequate hygiene and sanitation.<br><br>**Key facts**<br>- One of the leading causes of death in emergencies<br>- In camp situations more than 40% deaths in acute phase<br>- 80% of deaths in children under 2<br>- Complications include dehydration and negative effects on nutritional status<br>- Diarrhoea is caused by bacteria, viruses and protozoa<br>- Bloody diarrhoea is caused by bacteria (particularly Shigella but also Salmonella, E. Coli, Campylobacter), or parasites (particularly Entamoeba but also Giardia). Cholera produces profuse watery diarrhoea with rapid dehydration.<br>- Rehydration consists of prompts replacement of fluid and electrolyte losses as required. In rapid or severe dehydration, rehydration may be done intravenously (see cholera page)<br>- Rehydration in mild and moderate diarrhoea is done with ORS - Oral Rehydration Salts.<br>- Zinc reduces mortality | **Priority actions/steps**<br>- Safe drinking water, safe disposal of human excreta<br>- Distribution of soap and promotion of hand washing<br>- Early recognition of diarrhoea and prompt rehydration<br>- Zinc sulphate in combination with ORS for children under 5 years reduces the severity and the duration of the diarrhoea.<br>- Antimicrobials only when indicated - severe diarrhoea produced by bacteria or parasites can be treated with specific medicines (antibiotics, metronidazole)<br>- Consider vaccination against rotavirus, as per national protocol or in areas of difficult sporadic access and remote management, ensure that diagnosis of side effects and management capacity are in place.<br>- Screen for undernutrition in children with diarrhoea<br>**Mechanisms of Delivery**<br>- Community Outreach and IEC<br>Community outreach such as ORS corners allow to provide early care of dehydration and to identify and refer more severe cases for health care.<br>- Primary Health Care<br>Assessment and management of cases<br>Rehydration with ORS and zinc supplementation<br>Antibiotic use when appropriate<br>Referral of severe cases<br>- Secondary Health Care<br>Management of severe cases<br>Rehydration with IV fluids<br>Antibiotic use when appropriate<br>Laboratory service<br>Nutritional programs<br>Include when possible access to outpatient consultation for children, malnourished or not in nutritional programs (surrounding population)<br><br>- Supplies<br>ORS, IV fluids, antibiotics, IV giving sets | # and % population < 5 years treated for diarrhoea with ORS and Zinc<br>(note: new ORS formulas frequently includes zinc, verify)<br><br>Proportional morbidity and trend for diarrhoea in children < 5 years and total population<br><br>Proportional mortality and trend for diarrhoea in children < 5 years and total population | See decision tree<br><br>Inclusion of the detection, prevention and management of diarrheal diseases and subsequent dehydration in any health outreach, primary care or secondary care program<br><br>Include when possible access to outpatient consultation for children, malnourished or not in nutritional programs<br><br>Note, in case of proposed community treatment, consult with your health advisor. |
| Ref.: http://www.thelancet.com/series/childhood-pneumonia-and-diarrhoea | | | |

## 3.3 MAIN CAUSES OF DEATH: MATERNAL AND NEONATAL DEATHS

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Maternal Deaths**<br><br>**Key facts:**<br>- One of the leading causes of death in emergencies<br>- The average maternal mortality ratio in developing countries is 240/100 000 births versus 16/100 000 in developed countries<br>- Maternal mortality is higher among poor women living in rural areas<br>- Young adolescents face a higher risk of complications and death<br>- Skilled care before, during and after childbirth can save the lives of women and new-born babies.<br>- Most of complications develop during pregnancy. Other complications may exist before pregnancy but are worsened during pregnancy.<br>- The major complications that account for 80% of all maternal deaths are:<br>  - severe bleeding<br>  - infections<br>  - high blood pressure (pre-eclampsia and eclampsia)<br>  - unsafe abortion.<br>- Remaining complications are caused by or associated with diseases such as malaria and AIDS during pregnancy. | **Priority Action/Critical Steps**<br>- Women need access to antenatal care in pregnancy, skilled care during childbirth, and care and support in the weeks after childbirth.<br>- Ensure adequate antenatal services for pregnant women<br>- Ensure assistance by skilled birth attendants for safe delivery<br>- Diagnose medical conditions during pregnancy that can be treated to reduce maternal complications and death<br>- Ensure provision of emergency obstetrical services including caesarean section<br>- MISP –the Minimum Initial Service Package- facilitates bundles of interventions.<br>- Measures to decrease maternal death around delivery should be coupled with measures to decrease neonatal death.<br><br>**Mechanisms of Delivery**<br>**Community Health Outreach**<br>- Education and information on healthy pregnancy including vaccinations, nutrition, alcohol etc.<br>- Basic antenatal monitoring of healthy mothers and foetus<br>- Recognition of complications of pregnancy or foetal problems and referral to PHC<br>- If poor access to health facilities, skilled attendance at child birth and referral of mothers with complications of childbirth<br>**Primary Health Care**<br>- Provision of antenatal services with monitoring of the health of the mother and baby<br>- Recognition of potential complications and referral to secondary health care as appropriate<br>- Basic Obstetrical care for safe delivery and management of complications during childbirth BEMOC<br>- Treatment of HIV infected mothers during pregnancy<br>**Secondary Health Care**<br>- Management of severe complications of pregnancy and childbirth<br>- Comprehensive Emergency Obstetric care EMOC<br>- Treatment of HIV infected mothers during delivery<br>**Health and Medical Supplies**<br>- MISP<br>- Emergency obstetrical equipment | % of pregnant women attending antenatal services<br><br>% of births assisted by a skilled birth attendant<br><br>% of deliveries by caesarean section by admin. unit<br><br>% of Health facilities with basic emergency obstetric care per admin unit<br><br>No/rate of maternal deaths per admin. unit | See decision tree<br><br>Always make sure that BEMOC services are available and included in the health package to reduce mortality.<br><br>Maternal health is to be included in all projects, be they primary health or secondary health or in any health outreach project with the exception of a vertical intervention for a specific outbreak response. |

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| **Sexual and Gender Based Violence**<br>- Although sexual violence is common even during peacetime, natural disasters and conflict may increase the risk of rape and other forms of sexual violence.<br>- Women and girls who have experienced sexual violence should receive health care as soon as possible after the incident in order to avert preventable consequences, such as unwanted pregnancies and life-threatening infections. If left unaddressed, sexual violence may have serious negative personal and social consequences for women and girls, as well as for their families and the larger community.<br>- Displaced populations are particularly vulnerable to Sexual and Gender Based Violence.<br>- Men and boys may also be at risk of sexual violence, particularly in conflict settings and when they are subjected to detention or torture. It is important to recognize that anyone can be a survivor of sexual violence (women, girls, boys and men of all ages) and to ensure that services are available and accessible to all. | Priority action/critical steps<br>- Women, but also boys and men can be victims of sexual violence, especially in conflicts.<br>- Their health needs should be addressed as part of the humanitarian response.<br>- Medical care and psychosocial support should be provided as soon as possible.<br>- Due to the stigma often attached to this type of violence, patient confidentiality should always be respected. Care should be offered in a way that does not identify the victims nor put them at any risk.<br><br>**Mechanism of delivery**<br>**Community Health Outreach**<br>- Prevention of SGBV<br>- Ensuring the community is aware of the available clinical services<br><br>**Primary Health Care**<br>- Screening, first care (including post-exposure prophylaxis and Hep B/tetanus) and psycho-social support for survivors of GBV<br><br>**Secondary Health Outreach**<br>- Treatment of complications of victims of GBV. | Total number and proportion of victims receiving assistance in less than 72 hours.<br><br>Proportion of victims that received medical assistance within 72 hours that was in line with medical standards | Always ensure that victims of GBV in the aftermath of a crisis are taken care of and respecting patient confidentiality.<br><br>The protection component of the victims should also be addressed. |
| Ref.: http://www.who.int/mediacentre/factsheets/fs348/en/index.html and http://www.who.int/mediacentre/factsheets/fs333/en/index.html | | | |

## 3.3 MAIN CAUSES OF DEATH: MATERNAL AND NEONATAL DEATHS

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Neonatal Deaths**<br><br>**Key facts**<br>- Maternal health and new-born health are closely linked. More than three million new-born babies die every year, and an additional 2.6 million babies are stillborn.<br>- Preterm birth is the second most common cause of child death (14%) after pneumonia<br>- Preterm birth is the direct cause of 35% of Neonatal deaths<br>- Nearly 40% of all under-five child deaths are among new-born infants (first 28 days)<br>- 75% of deaths occur in the first week<br>- In developing countries nearly 50% of mothers and new-borns do not receive skilled care during and after birth.<br>- Up to two thirds of new-born deaths can be prevented if known, effective health measures are provided at birth and during the first week of life.<br>- The main causes of death are:<br>  - Respiratory obstructions<br>  - Pneumonia<br>  - Other infections (includes sepsis and meningitis).<br>  - Prematurity (lack of lung maturity) | **Priority Action/Critical Steps**<br>- Provide antenatal services that focus not only on the health of the mother, but also on the health of the baby<br>- Reduce maternal complications and death, thereby reducing neonatal deaths<br>- Provide skilled birth attendance for safe delivery<br>- Availability of emergency caesarean section capacity<br>- Delay by 90 seconds the cutting of umbilical cord (increases oxygen and iron to babies)<br>- Clear respiratory tract at birth<br>- Manage and treat:<br>  - Prematurity: A very small premature baby dies of hypothermia and hypoglycaemia.<br>  - Hypoglycaemia (low blood sugar): baby needs regular feeds, breast milk ideally<br>  - Hypothermia: dry new-born; skin contact with mother<br>  - Respiratory distress.<br>  - Infection<br>  - clean delivery<br>  - good umbilical cord care<br>  - antibiotics if infection present or high risk of infection.<br>**Mechanisms of Delivery**<br>**Community Health Outreach**<br>- Education and information on neonatal health including breastfeeding<br>- Basic antenatal monitoring of healthy mothers and foetus<br>- Recognition of complications of pregnancy or foetal problems and referral to PHC<br>- If poor access to health facilities, skilled attendance at child birth and referral of mothers with complications of childbirth<br>**Primary Health Care**<br>- Provision of perinatal services with monitoring of the health of the mother and baby<br>- Recognition of neonatal complications and referral to secondary health care<br>- Basic Obstetrical care for safe delivery and care of the baby (prematurity, hypoglycaemia, respiratory distress, infection)<br>**Secondary Health Care**<br>- Special care for neonates who are premature, have respiratory distress or severe infection<br>**Health and Medical Supplies**<br>- Lung maturation with corticosteroid if premature labour<br>- Drugs for treating neonatal complications<br>- Emergency resuscitation equipment<br>**Health Infrastructure**<br>Safe, clean and equipped unit for special neonatal care | % of births assisted by a skilled birth attendant<br><br>% of Health facilities with basic emergency obstetrical /neonatal care per admin. unit<br><br>No/rate of neonatal deaths per admin. unit | See decision tree<br><br>In any primary or secondary health project or in any health outreach<br><br>This main cause of mortality is to be included in all projects, with the exception of a vertical intervention for a specific outbreak. |
| Ref.: http://www.healthynewbornnetwork.org/sites/default/files/resources/Global%20Newborn%20Health.pdf | | | |

## 3.4 MAIN CAUSES OF DEATH: MALARIA

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Malaria Endemic Areas**<br><br>**Scenario:** An increase of malaria cases and/or deaths is common in the aftermath of many emergencies due to breakdown in health care, lack of access to LLINs and potential low<br>immunity among displaced populations<br><br>There is an increased incidence of malaria and other vector borne diseases in the aftermath of acute hydrological events (delayed)<br><br>**Key facts**<br>Mortality and morbidity are highest among children under 5<br>30% of under 5 deaths in malaria endemic countries in Africa due to malaria<br>Early diagnosis and effective treatment are crucial<br>ACTs are highly effective drugs with cure rates >90%<br>Use of LLINs can reduce overall under 5 mortality rate by 20% in high transmission areas | **Priorities/Critical steps**<br>- Availability of appropriate and properly stored malaria diagnostics without stock-outs – RDTs and/or microscopy.<br>- Availability of appropriate and properly stored malaria medicines without stock-outs – Artemisinin Combination Therapy ACT (and chloroquine and primaquine where relevant according to malaria parasite species, resistance pattern and national protocols), parenteral antimalarial medications (IM Artemether, Quinine, etc.) according to relevant national protocols and as per international guidelines), and antipyretics (e.g. paracetamol).<br>- Intermittent Preventive Treatment of pregnant women (IPTp) in high transmission areas using sulfadoxine-pyrimethamine (Fansidar) as part of ANC.<br>- Distribution of Long Lasting Insecticidal Nets (LLINs) to children under-5 and to pregnant women.<br>- Support to outreach and community based RDT and ACT only after careful evaluation – see recommendations.<br>- Surveillance, Early Warning and outbreak investigation.<br>- Emergency preparedness (with potential prepositioning of ACT, RDTs, IRS material, LLINs)<br>**Mechanisms of Delivery**<br>**Outreach**<br>Diagnosis by RDTs for treatment with ACT<br>Referral of severe cases<br>If community based management of malaria, ensure well trained supervised CHWs and strict control of diagnostic verification.<br>**Primary Health Care**<br>Management of uncomplicated malaria<br>Diagnosis by RDTs or microscopy<br>Treatment by appropriate anti-malarial drugs<br>IPTp for pregnant women as part of ANC<br>Referral of severe cases<br>**Secondary Health Care**<br>Assessment and management of severe malaria<br>Blood bank and haemotology service<br>**Health Supplies**<br>RDTs, antimalarials, anti-pyretics, laboratory | Should monitor:<br>• PHC and ANC activities in general<br>• Diagnostics<br>• Treatment<br>• Laboratory (RDT and microscopy)<br>• LLIN distribution<br>Incidence<br>Mortality<br>Malaria surveys<br>Distribution data<br>% of households with nets | See decision tree<br>Support recommended in all settings where malaria is endemic.<br><br>Part of general support to comprehensive PHC and/or to Secondary Health Care in malaria endemic areas and/or as part of support to nutrition programs.<br><br>Outreach and community RDT and ACT may be considered (according to WHO recommendations and national policy and guidelines), yet diagnostic testing is mandatory at all times, e.g. RDT, with ACT issued only following a + test result (CHW should prove positive testing).<br>Appropriate indicators and monitoring tools must be applied to ensure that outreach and community based approaches, for malaria and in general, are implemented safely with respect to the “do no harm” principle” (avoid creation of resistance by rigour in application of criteria). |

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| **Response to malaria epidemics**<br><br>**Scenario:** The occurrence of epidemic malaria in populations displaced from low incidence area to malaria endemic zones due to conflict<br>Climatic events, Agricultural activities (rice-fields), lack of medicines or substandard medicines<br><br>**Objective:** To reduce morbidity and mortality from malaria epidemics by prompt diagnosis and effective treatment of cases | - Availability of appropriate and properly stored malaria diagnostics without stock-outs – RDTs and/or microscopy.<br>- Availability of appropriate and properly stored malaria treatment medicines without stock-outs – Artemisinin Combination Therapy ACT (and chloroquine and primaquine where relevant according to malaria parasite species and resistance pattern), parenteral antimalarial medications (IM Artemether, Quinine, etc.) according to relevant national protocol and as per international guidelines), and antipyretics (e.g. Paracetamol).<br>- General distribution of Long Lasting Insecticidal Nets (LLINs), and potentially other insecticidal treated materials (ITM), e.g. tarpaulins, tents, etc.<br>- Well planned vector control i.e. Indoor Residual Spraying (IRS).<br>- Distribution of mosquito repellent (DEET containing).<br>- Surveillance, Early Warning, and outbreak investigation<br>- If blind treatment of fever proposed during outbreak peak, check with RHA. | Should monitor:<br>. Incidence of malaria cases and fatality.<br>. Epidemiological parameters<br>. Diagnostics. Laboratory (RDT and/or microscopy)<br>. Treatment<br>. LLIN distribution<br>. IRS spraying | See decision tree<br><u>Conditions:</u> Direct support to reduce morbidity and mortality for verified epidemics of malaria (epidemiological/investigation report).<br><br>Malaria epidemics should be detected and effective control measures implemented within two weeks of onset to limit impact |
| **Malaria elimination programs and other vertical initiatives.**<br><br>**Objective:** Comprehensive longer-term efforts aimed at reducing and/or eliminating the burden of malaria at country, region and/or global level. | Various – including potentially all elements listed above.<br><br><u>Take in account:</u> Existence of programs such as Roll Back Malaria (RBM) and Global Plan for Artemisinin Resistance Containment (GPARC), GPIRM (Global Plan for Insecticide Resistance Management) and/or to Global Fund programming. | NA | Not recommended with ECHO funding. |

## 3.5 MAIN CAUSES OF DEATH: TUBERCULOSIS (TB)

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenarios:** Important in all scenarios but particularly in poor resource settings or where normal health services have broken down and/or where there is overcrowding, poor nutrition and coexistent illness such as HIV<br><br>**Key facts:**<br>Global incidence – 8.7 million cases; 1.4 million deaths in 2011<br>Mostly affects young adults<br>Highest rates in sub-Saharan Africa – 260 per 100,000 population<br>Overcrowding following displacement increases risk of transmission<br>TB treatment for 6 months cures > 90% of patients with drug susceptible TB<br>Drug resistance is an increasing problem due to incorrect use of anti-TB drugs<br>Treatment interruptions during acute phase among existing TB patients increases default rate and risk of drug resistance<br>Long term commitment to TB programme important to ensure good treatment outcomes | **Priority actions/steps**<br>- Identify existing TB patients in acute phase and continue treatment<br>- Identify TB suspects with productive cough for more than 2 weeks at community and facility level<br>- Refer for sputum smear microscopy to diagnose smear positive TB<br>- Treat infectious TB patients with smear positive pulmonary TB and severe forms as a priority<br>- Provide standardized short-course chemotherapy with supervision and patient support. Treatment compliance to be ensured.<br>- Refer severe cases and complications to secondary health facility<br>- Ensure effective drug supply and management system<br>- Carry out investigation of close contacts<br>- Isolation of TB patients is not recommended (except in the acute phase in multi-drug resistant tuberculosis MDR)<br><br>**Mechanisms of Delivery**<br>**Outreach and IEC:** Identification of TB suspects, referral of suspects, Health education, Supervision of drug therapy, contact tracing.<br><br>**Primary care facilities**: Laboratory diagnosis where services are present, Supervision of drug therapy, Monitoring, Surveillance, Health education, supervision of community follow-up.<br><br>**Secondary health facilities**: Clinical management of severe disease, complications of treatment and drug resistant cases, Laboratory services, Radiology facilities, Monitoring<br><br>**Health Supplies**: Drugs, Laboratory, Health education materials, Recording and Reporting materials e.g. TB registers, TB laboratory registers<br><br>**Infrastructure:** Laboratory and radiology facilities at SHC | - Programme performance in line with international standards<br>- Detection rate: >70% of new sputum-smear positive TB cases<br>- Cure rate: >85%<br>- Treatment completion rate<br>- Sputum conversion rate at 60 days: >80%<br>- Default rate: less than 10%<br><br>1. TB incidence in newly displaced communities<br>2. Number of TB suspects examined for each positive smear: 13:1<br>3. % sputum smear positive TB cases of all TB cases<br>4. TB mortality<br>5. Percentage of close contacts assessed | See decision tree<br>Diagnosis and treatment of TB should be integrated into the primary and secondary health services with disease-specific management and information system<br><br>Programme should ensure all TB patients who have started the treatment complete the course<br><br>Ensure quantity and security of drug stocks<br><br>Ensure contingency plans for unplanned population movement or security breakdowns<br><br>Linkages with National TB Programme important to ensure sustainability |

Ref.: http://www.who.int/tb/challenges/refugees/en/index.html

## 3.6 MAIN CAUSES OF DEATH: TRAUMA / INJURY

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:**<br>Trauma/Injury are a major risk factor for mortality in geological, conflict and hydrological emergencies<br><br>**Key Facts**<br>- Deaths from severe trauma or injury occur<br>  - Immediately as a result of severe injury;<br>  - Within several hours from the event; frequently the result of treatable conditions;<br>  - Days or weeks after the initial injury, as a result of infection, multisystem failure or other late complications of trauma.<br>- Many fatal injuries may be prevented or their severity reduced by adequate pre-hospital trauma care<br>- Functioning secondary care facilities with trained staff and adequate supplies and equipment are vital to reducing post-disaster fatality rates from trauma | **Priorities**<br>- Staff is skilled and/or trained<br>- Connection with the local Red Cross/Crescent system and community networks<br>- Early assessment and triage of injured patients<br>- Early referral and safe transport to higher level facilities as appropriate<br>- Recognition and management of<br>  - obstructed airways, impaired breathing, pneumothorax and haemothorax<br>  - Bleeding (external or internal), Shock (IV fluid replacement), brain injury (timely decompression), intestinal and other abdominal injuries, potentially disabling extremity injuries are corrected, potentially unstable spinal cord injuries, severe burns are managed carefully, consequences to the individual of injuries that result in physical impairment (rehabilitative services).<br>- Patient post-operative care until discharge<br>- Possible use of social media for search and rescue (i.e. Usuahidi project) in natural disasters<br>**Primary Care facilities**<br>  - Pre-hospital triage, care and assessment<br>  - Pre-hospital care may also be needed at the scene of a disaster (e.g. individuals trapped in rubble)<br>  - Stabilisation of severely injured patients before transfer<br>  - Referral and transport to secondary care facilities<br>  - Management of minor fracture, cut, wound and burn care<br>**Secondary health facilities**<br>- Assessment of serious traumas and burns<br>- Stabilisation and intensive care of severely injured<br>- Emergency and trauma surgery<br>- Intensive care service for post-operative patients as well as those with crush injuries and severe burns<br>- Blood bank and volume expander service<br>- Radiology service<br>- Laboratory to support intensive care monitoring<br>- Disabilities and injuries rehabilitation<br>▪ **Health Supplies, Equipment** and Infrastructure<br>  - Surgical trauma kits<br>  - Logistic support (water, electricity generation)<br>  - Repair or rehabilitate infrastructure. Temporary facilities may be constructed in major disasters especially where there are mass casualties that overwhelm local capacity | No of patients treated per PHC<br><br>Average time (hours) from assessment to transfer<br><br>Trauma specific mortality rate<br><br>Post-operative fatality rate<br><br>Wound infection rates | See decision tree<br><br>If natural disaster, ensure autonomy and quality of foreign medical teams that may arrive<br><br>If conflict, support as possible skilled available local staff<br><br>If time allows (i.e. chronic conflict) improve pre-hospital care (see primary health facilities) |

Ref.: http://www.who.int/hac/network/global_health_cluster/herams_services_checklist_eng.pdf

## 3.7 UNDERLYING CAUSES OF DEATH: HIV/AIDS

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:** Important in all scenarios especially where background rates of HIV are high.<br><br>**Key Facts**<br>- HIV affects the morbidity and mortality by other diseases and conditions<br><br>- Crises can affect the risk of HIV transmission because of behavioural change, sexual violence, disruption of preventive and curative health services or confinement of populations<br><br>- HIV infection affects the ability of individuals to survive other infectious diseases and malnutrition.<br><br>- In the short window of emergency actions, many actions can mitigate HIV transmission and the effect of HIV on other diseases.<br><br>- The presence of other specific long-term funding, such as the Global Fund, can facilitate initiation of treatment because a clear transition from emergency to longer term assistance is possible<br><br>- ECHO HIV Funding Guidelines provides detailed practical elements and advice. | **Mainstreaming of HIV in all Funded Programmes**<br>- Partners should impeccably apply universal precautions (safe blood, safe sharp/fluids disposal, sufficient gloves, etc.)<br>- Support the use of Prevention of mother to child transmission (PMTCT) and encourage voluntary HIV testing (VCT) if longer term management programs are available.<br>- Educate staff about HIV prevention and the special needs of PLHIV.<br>- Ensure that all staff are covered under a health insurance policy that includes Post-exposure prophylaxis (PEP), VCT, PMTCT and ARV treatment.<br>- Ensure condoms are available to staff and when possible (national legislation) to population through the health system.<br>- Take into consideration the specific needs of People Living with HIV (PLHIV) in design/implementation of all projects. (Community, Primary and Secondary Health Care Mechanisms)<br><br>**HIV Health Interventions**<br>- Ensure continued access to quality Anti-retroviral therapy, prevention, diagnosis and treatment of opportunistic infections (OI) and sexually transmitted infections (STI).<br>- Cover gaps when treatment has been interrupted by a crisis<br>- Prevention of mother to child transmission (PMTCT).<br>- Voluntary HIV testing (VCT).<br>- Post-exposure prophylaxis (PEP) for health workers and rape victims.<br><br>**Food assistance, Nutrition and Livelihood Programmes**<br>- Ensure that specific needs of PLHIV are covered in the design of food assistance and livelihood programmes in any DG ECHO-funded food assistance operation in high HIV/AIDS prevalence context<br>- Food assistance operations, protocols, commodities and exit strategies in significant HIV/AIDS prevalence contexts are adapted to guarantee PLHIV easy access.<br>- Short-term livelihood activities targeted at PLHIV can become an exit strategy<br>- Ensure protection of widows and orphans as vulnerable groups in certain scenarios. | - Brochures and condoms per site.<br>- 100% of blood transfusions tested for HIV and other blood-borne diseases.<br>- Stock-out of gloves<br>- Sharp container in each injecting/operating room<br>- Treatment and prophylaxis of opportunistic infections are in place.<br>- % of women receiving ANC1 who agree to be tested for HIV,<br>- % of these who are HIV positive and receive PMTCT in line with national protocols<br>- HIV/AIDS activities incorporated in general food assistance. | See decision tree<br><br>HIV is not an entry point, but DG ECHO can have a comparative advantage.<br><br>Mainstreaming compliance should be monitored in all funded projects.<br><br>Need for clear exit strategy before initiation of new treatments.<br><br>See section 6 of DG ECHO HIV Funding Guidelines |

Ref.: ECHO HIV funding guidelines http://ec.europa.eu/echo/files/policies/sectoral/health_HIV_guidelines_ECHO.pdf and internally to the TIP on HIV/AIDS in emergencies http://myintracomm.ec.europa.eu/echo/restricted/policies- operations/thematic-hum-policies/health/TIP_3_HIVAIDS_in_Emergencies_02_2008.pdf

## 3.8 UNDERLYING CAUSES OF DEATH: UNDERNUTRITION

| Scenario/Objectives/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario**: Under nutrition is important mainly in scenarios of conflict and prolonged drought.<br><br>**Key Facts**<br>- Levels of under nutrition will depend on the<br>  - Level of undernutrition before the crisis<br>  - Extent to which the crisis threatens food supplies and access to primary health care.<br>  - The length of the crisis<br>- The two key categories for under nutrition in an emergency context are<br>  - Severe Acute Malnutrition (SAM)<br>  - Moderate Acute Malnutrition (MAM)<br>- The main interventions are<br>  - Community Based Management Acute Malnutrition (CMAM)<br>  - Supplementary Feeding Programmes<br>  - Infant and young child feeding | **Critical Steps/Priority Actions**<br>- Active case finding and Nutritional assessment<br>- Rehabilitation of children with severe acute malnutrition (SAM) through CMAM - Community Based Management of Acute Malnutrition<br>- Rehabilitation of children with Moderate Acute Malnutrition (MAM) through Community Based Management of Acute Malnutrition (CMAM) programme<br><br>**Community Health Outreach & IEC**<br>- Health education on good nutrition<br>- Active and early case finding in and with the community participation; CMAM for patients with MAM and referral of patients with SAM<br><br>**Primary Health Care**<br>- Management of CMAM and patients with SAM/MAM without complications<br>- Programme coverage assessment (e.g. SQUEAC)<br>- Programme Monitoring (e.g. MRP)<br>- Free access to PHC package<br><br>**Secondary Health Care**<br>- Supervision and management of CMAM<br>- Management of patients with SAM with medical complications<br><br>**Health System Supplies**<br>- Ensure adequate medicines and food supplies for feeding programmes<br><br>**Supplementary Feeding Programmes** *(see below)*<br><br>**Infant and young Child Feeding Programmes** *(see below)* | % of children meeting the case definition for SAM or MAM<br><br>% of children with SAM or MAM accessing CMAM<br><br>CMAM >75% children in programme recovered<br><br>CMAM <15% of children in programme defaulted | See decision tree<br>Thresholds and trends are important elements in decision making.<br><br>Ideally Integration of nutrition into the health services and health access to nutritional programs.<br><br>Health access to nutritional programs is not limited to high impact specific measures for undernourished children but when possible consultations for undernourished and non-undernourished in the surrounding population) |

| 3.8 UNDERLYING CAUSES OF DEATH: UNDERNUTRITION | | | |
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| **Scenario/Objectives/Key facts** | **Priority Actions and Mechanisms of Delivery** | **Indicators** | **ECHO Advice** |
| Rehabilitation of children with ***SAM*** through<br>CMAM programme<br><br>**Conditions**: Preferably, CMAM is integrated into the health services;<br>Outpatient treatment for cases without medical complications | - SAM case defining threshold = MUAC <115 mm<br>- nutritional oedema<br>- active and early case finding in the community with the community<br>- Programme coverage assessment (e.g. SQUEAC)<br>- Programme Monitoring (e.g. MRP) | CMAM <10% of discharged children who have died<br>CMAM >75% children in programme recovered<br>CMAM <15% of children in programme defaulted<br>Coverage<br>>50% in rural<br>> 70% in urban<br>> 90% in camps | See decision tree |
| Rehabilitation of children with ***MAM*** through<br>CMAM programme<br>**Objective**: To reduce morbidity and mortality among children with MAM<br>**Conditions**: Preferably, CMAM is integrated into the health system; | - MAM case defining threshold = MUAC <125 mm<br>- Active and early case finding in the community with the community<br>- Programme coverage assessment (e.g. SQUEAC)<br>- Programme Monitoring (e.g. MRP) | CMAM <3% of discharged children who have died<br>CMAM >75% children in programme recovered<br><15% of children in programme defaulted<br>CMAM Coverage:<br>>50% in rural areas; > 70% in urban areas; > 90% in camps | See decision tree |
| **Supplementary Feeding programme**<br><br>**Objective:** Reduce/avoid morbidity (and mortality); avoid children slipping from MAM to SAM; addressing peaks of undernutrition in lean season | - Children < 5 years suffering from MAM<br>- ration can be based on local food, provided food is available<br>- supplements existing diet<br>- addressing nutrient deficiency of basic diet<br>- Fortified blended foods (e.g. CSB plus/Supercereal)<br>- Lipid based RUSF<br>- Sprinkles (in case micronutrient deficiency is identified and no other fortified supplements are provided)<br>- Project/programme Monitoring e.g. MRP | Raising prevalence of acute undernutrition among children <5 with aggravating factors e.g. food insecurity, disease outbreak | See decision tree<br><br>Justification, objective, target group, exit strategy should be provided before start of the programme |
| **Infant and Young Child Feeding**<br><br>**Objective:** Avoid morbidity and mortality in infants and young children | Emphasis on promoting, supporting and protecting breastfeeding<br>Where Breastfeeding is compromised, caregivers should have access to timely, appropriate, nutritionally adequate and safe complementary foods for children 6 to <24 months<br>Breastfeeding mothers should have access to skilled breastfeeding support | Standard WHO indicators for early initiation of breastfeeding and exclusive breastfeeding rate in children <6 months and continued breastfeeding rate at 1 and 2 years | See decision tree<br><br>Code Compliance with regard to BMS |

## 3.9 EPIDEMICS: MEASLES

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:** All scenarios where vaccination levels are low and displacement results in overcrowding.<br><br>**Objective:** To reduce the incidence of measles and associated morbidity and mortality<br><br>**Key Facts**<br>Measles is a leading cause of death among young children.<br><br>Serious complications include blindness, encephalitis, severe diarrhoea/dehydration, ear infections and severe respiratory infections, such as pneumonia.<br><br>Severe or complicated measles is more likely among poorly nourished children, especially those with insufficient vitamin A, or whose immune systems have been weakened by HIV/AIDS or other diseases.<br><br>Case fatality can reach 10% and above in populations with high level of malnutrition and poor health care.<br><br>Pregnant women are also at risk of severe complications, miscarriage or preterm delivery. | **Measles in Primary Health Care (PHC) Package**<br>- Routine measles vaccination is included in EPI ( MCV1 or MCV2)<br>- Ensure that measles diagnosis (clinical case definition) and treatment are available for non- complicated cases and in SHCs for complicated cases<br>- Surveillance, detection, investigation, response<br>- Emergency preparedness<br><br>**Preventive Mass Campaigns Vaccination**<br>- When there is high risk of epidemic. i.e. when vaccine coverage less that 90% or unknown and living conditions promote measles transmission.<br>- Vaccination should target children from 6 months to 15 years with administration of Vitamin A to children 6-59 months. It must cover children 6 months-5 years as a minimum<br>- Urgent, structured and coordinated supplementary immunization activities (SIAs) + vitamin A distribution<br>- Ensure that infants vaccinated between 6-9 months receive another dose at 15M<br>- For mobile/IDPs populations: establishment of system that ensure 95% coverage of newcomers between 6 months and 15 years.<br><br>**Response to an outbreak**<br>- Confirm the outbreak through investigation & epidemiological description<br>- Assessment of risk of spread (low or high risk) & risk of severe outcomes<br>- Capacity to respond & coordination in place<br>- Ensure that measles diagnosis and case management are available (see measles in PHC package)<br>- Definition of vaccination strategies for outbreak response (if low risk or no capacity: selective vaccination; if high risk and sufficient capacity: implementation of non-selective vaccination campaign)<br><br>**Support to measles control/elimination programmes**<br>- In countries aiming at reducing mortality from measles, immunization coverage should be ≥90% at the national level and ≥80% in each district.<br>- Countries aiming at measles elimination should achieve ≥95% coverage with both doses in every district | Estimated measles coverage MCV1 or MCV2<br><br>Number of cases per district (incidence)<br><br>No of deaths per district<br><br>Case Fatality Ratio (PHCs and SHCs)<br><br>Estimated coverage achieved per district/province<br><br>Coverage survey | See decision tree<br><br>Measles vaccination included in PHC, Preventive Mass Vaccination and Outbreak Response<br><br>Funding not recommended for Support to Measles Control/ Elimination Programmes<br><br>Note: Outbreak definition changes if the country has conducted nationwide catch-up SIA (supplemental immunization activities) |

## 3.10 EPIDEMICS: MENINGOCOCCAL MENINGITIS

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Scenario:** Meningitis epidemics are not common after disasters. However, epidemic risk is high in the **African Meningitis Belt** where population-wide epidemics occur and in **refugee camps** where conditions are overcrowded and the population is poorly nourished and under stress.<br><br>**Key Facts**<br>- Several bacteria can cause meningitis. Neisseria meningitidis has potential to cause large epidemics.<br>- Twelve serogroups of N. meningitidis have been identified, six of which (A, B, C, W135, X ,Y) cause epidemics.<br>- The meningitis belt of sub-Saharan Africa, has the highest incidence rates of the disease.<br>- Group A meningococcus accounts for 85% of all cases.<br>- It is transmitted from person-to-person through droplets or throat secretions from carriers<br>(*continues below)* | **Priority Actions**<br>- Ensure the availability of a multi-sectoral national preparedness plan for meningitis<br>- Undertake a risk assessment to establish population attack rates/week (epidemic thresholds), to identify high risk areas and vulnerable groups<br>- Ensure that disease surveillance is enhanced in affected areas and rapid diagnostic tests are made available in health facilities<br>- Ensure that medical and diagnostic supplies are available (antibiotics, lumbar puncture kits, vaccines )<br>- Ensure that health staff are trained in recognition of symptoms and treatment<br>- Ensure that communication and social mobilization activities are organised<br>- Ensure that mass vaccination campaigns are implemented rapidly with high population coverage (>90%)<br><br>**Mechanisms of Delivery**<br>**Vertical Mass Intervention**<br>Mass population based vaccination and case management interventions may need to be established where population attack rates and case fatality rates are high<br>**Community/Health Outreach,**<br>- Recognition, treatment and referral of cases<br>- Information and education<br>**Primary Health Care:**<br>- Case finding and surveillance<br>- Treatment of cases and referral to SHC of severe cases<br>**Secondary Health Care**<br>- Treatment of severe cases (CTCs)<br>- Laboratory diagnosis<br>**Health Supplies.**<br>- Antibiotics (Injectable)<br>- Laboratory reagents<br>- Vaccines | No. cases/100,000 /week and case-fatality ratio<br><br>Case Fatality Ratio<br><br>No. of positive CSF sample tested and confirmed<br><br>Lead time between detection and vaccination campaign<br><br>Doses of vaccine procured<br><br>% of target population vaccinated<br>No. (%) of AEFI reported and investigated | See decision tree<br><br>Conditions:<br>1. The causal pathogen has been confirmed and typified.<br>2. Criteria for epidemic situation or high risk are met<br>3. Critical steps/priority actions are ensured and<br>4. Sufficient quantities of vaccine and/ or drug supply are not available in the country |
| **1.Response to an epidemic in the African meningitis belt**<br>*(from above)*<br>- It may result in death (5-30%) in brain damage, hearing loss or learning disability in 10% to 20% of survivors<br>Vaccines are available to control the disease: newer conjugate vaccines that give long term protection and meningococcal polysaccharide vaccines. | - Weekly epidemic threshold has been crossed (> 10/100,000) and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed<br>- Areas crossing the epidemic threshold and target population are identified based on attack rates (usually, 2-29 years): Outbreak investigation & epidemiological description (time, person, place)<br>- Vaccine coverage is set to ≥90% and vaccine supply is ensured by ICG approval (if vaccine not available in the country).<br>- Adequate protocols and drug supply for case management are available at health facilities,<br>- Ensure that disease and laboratory surveillance are strengthened, monitoring of Adverse Events Following Immunization (AEFI) is in place and severe AEFIs investigated<br>- Strengthen the capacity to respond & coordination (set up a task force) | - No. cases/100,000 /week and case-fatality ratio<br>- No. of positive CSF sample tested and confirmed<br>- Lead time between detection and vaccination campaign<br>- Doses of vaccine procured<br>- % of target population vaccinated | See decision tree<br><br>Conditions as above |

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| **2.Response to an epidemic in a refugee camp, or in other restricted groups or closed communities**<br><br>**3.Response to an epidemic outside of the African meningitis belt** | - Support the definition of strategies for outbreak response<br><br>Note: in refugee camps:<br>- Weekly epidemic threshold has been crossed recently (i.e. at least two cases confirmed in one week) and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed<br><br>- Increased incidence of clustered meningitis cases and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed<br>- At risk areas and target population are defined using ARs and other epidemiological elements (risk factors, history of reactive and preventive immunization etc.) | - No. (%) of AEFI reported and investigated | |
| **4. Introduction of the Nm A conjugate vaccine in the African meningitis belt**<br><br>**Objective:** To prevent Nm A cases and epidemics and reduce meningitis burden in a sustainable manner | - The introduction of the Nm A conjugate vaccine takes the form of mass immunization campaigns followed by introduction into the routine immunization schedule.<br>- For mass immunization, the vaccine coverage should be ≥90% in all districts eligible for introduction (as confirmed by coverage survey); immunization targets populations aged 1-29 years. | | If integrated in the EPI, accept as EPI is on-going, support to primary health care |
| **5. Outbreak preparedness**<br><br>**Objective:** Ensure readiness to respond to an epidemic | - Set up surveillance mechanisms, detection, investigation, & response including staff training,<br>- Strengthen emergency preparedness (with prepositioning of small quantities of medical material and medicines)<br>- Ensure availability of meningitis diagnosis ( cerebrum spinal fluid test: test de latex and PCR) | - Number of cases per district (incidence) and attack rates in the past years<br>- Number of meningitis deaths per district in the past years<br>- Estimated coverage per district | Rarely supported, consult your regional health advisor |

## 3.11 EPIDEMICS: CHOLERA

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Scenario**: Epidemics of cholera may occur after any disaster (especially in hydrological or drought emergencies or where conflict has resulted in mass population displacement, poor access to water/sanitation and overcrowding.<br><br>**Key Facts:**<br>- Cholera is an acute diarrhoeal disease caused by the bacterium Vibrio cholerae that can kill within hours<br>- There are an estimated 3–5 million cholera cases and 100 000–120 000 deaths due to cholera every year.<br>- 80% of cases have mild or moderate symptoms (treatable with ORS), while around 20% develop acute watery diarrhoea with severe dehydration<br>- Effective control measures rely on prevention, preparedness and response.<br>- Provision of safe water and sanitation is critical in reducing the impact of cholera and other waterborne diseases.<br>- Oral cholera vaccines are considered an additional means to control cholera, but should not replace conventional control measures. | **Priority Actions/Critical Steps**<br>- Availability of a multi-sectoral national preparedness plan for cholera<br>- Liaison between Health and WASH clusters for cholera control<br>- Risk assessment to identify high risk areas and vulnerable groups<br>- Disease surveillance is enhanced in affected areas and rapid diagnostic tests are made available in health facilities<br>- Medical supplies are available and CTCs/CTUs are adequately equipped and staffed with trained personnel<br>- ORS is widely made available at health facilities and community level<br>- Systematic chlorination of water sources and/or household water containers is put in place<br>- Communication and social mobilization activities are organised<br>- Use of OCV is considered in areas recently affected by cholera outbreaks that meet WHO criteria as defined by the OCV cholera technical expert group<br><br>**Mechanisms of Delivery**<br>**Vertical Mass Intervention**<br>Mass population based case management (CTCs/CTUs) and vaccination campaigns can be managed as a vertical intervention especially when speed is critical and large populations require vaccination<br>**Community/Health Outreach,**<br>- Recognition, treatment and referral of cases<br>- Information and education<br>**Primary Health Care:**<br>- Treatment of cases (CTUs)<br>- Case finding and surveillance<br>**Secondary Health Care**<br>- Treatment of severe cases (CTCs)<br>**Health Supplies.**<br>- IV Fluids and ORS<br>- Cholera beds and other supplies for CTC<br>- Laboratory reagents | National preparedness plans developed<br><br>No. of PHC reporting and equipped with RDTs<br><br>No. of CTCs/CTUs equipped and running<br><br>Cases/Deaths per day/week<br><br>Case Fatality Ratio<br><br>Results from monitoring of water sources<br><br>OCV coverage (1st and 2nd doses) | See decision tree<br><br>Emphasis on early detection, referral and rehydration treatment.<br><br>Emphasis on a multisectoral approach for integrated interventions<br><br>Oral Cholera Vaccine - OCV - support in discussion (2013) via a pilot project. Pricing, logistic and availability considerations require systematic consultation with ECHO regional health support. |
| **Preparedness and risk assessment**<br><br>**Conditions:** Support to Global mechanisms and tools for risk assessment, monitoring and risk communication of cholera outbreaks to define, inform and coordinate national and regional multisectoral response interventions | - Preparedness (CTC site; cholera kits) in high risk settings (e.g. refugee camps)<br>- A multi-sectoral national preparedness plans for cholera control and epidemic response is available<br>- Liaison between Health and WASH clusters for cholera control in acute and protracted humanitarian emergencies is ensured<br>- Systematic and standard Regional mechanisms to assess, monitor and communicate on cholera outbreaks/events are strengthened<br>- Risk assessment tool for identification of high risk areas and vulnerable groups are made available at country level | | Consult your regional health support and build on intersectoral approach. Context dependant. |

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| **Outbreak response**<br><br>**Conditions:** to scale up preparedness and response activities to cholera outbreaks with emphasis on a multisectoral approach for integrated interventions | - Disease surveillance is enhanced in affected areas and rapid diagnostic tests are made available in health facilities<br>- Medical supplies for management of severe cholera cases is readily available and CTCs/CTUs are adequately equipped and staffed with trained personnel<br>- ORS is widely made available at health facilities and community level<br>- Systematic chlorination of water sources and/or household water containers is put in place<br>- Communication and social mobilization activities are organized at central, district and community levels<br>- Use of OCV is considered in areas recently affected by cholera outbreaks that meet WHO criteria as defined by the OCV cholera technical expert group | - SOPs available<br>- Stockpile operational<br>- M+E documentation<br>- ICG coordinates OCV stockpile | See decision tree |
| **OCV stockpile**<br><br>**Conditions:** To develop evidence based policies and recommendations for the use of OCV to pre-empt or respond to cholera outbreaks | - Mechanisms and standard operating procedures to establish and manage an emergency OCV stockpile are in place<br>- Monitoring and evaluation (M+E) indicators and methods are identified and implemented to ensure assessment of use and impact of the OCV stockpile<br>- Vaccine requests are submitted to the International Coordination Group (ICG) mechanism for the management of the OCV stockpile | - SOPs available<br>- Stockpile operational<br>- M+E documentation<br>- ICG coordinates OCV stockpile | ECHO does not fund stockpiles but can fund replenishment.<br>See note above on OCV |
| Ref.: for more information: http://www.who.int/topics/cholera/about/en/index.html | | | |

## 3.12 EPIDEMICS: YELLOW FEVER

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario**: Epidemics of Yellow fever are not common as a result of other disasters. Epidemics can occur in situations where vaccine coverage is low and where vector and population density are high.<br><br>**Key Facts:**<br>- Yellow fever is a vaccine-preventable disease with high epidemic potential and potential high fatality.<br>- It is transmitted by the mosquito Aedes Aegypti (a day biting insect which breeds in stagnant water)<br>- At risk regions include South America, West, Central and East Africa.<br>- No commercial test is available for the diagnosis of YF. Diagnosis can only be done in specialised laboratories<br>- There is no specific treatment<br>- High levels of population immunity are the main protection against the disease in endemic areas<br>- Yellow fever vaccine is a one dose vaccine that gives lifelong protection<br>- Urban YF can be controlled by large scale vaccination and measures to suppress Aedes Aegypti,<br>- The International Coordinating Group for Yellow Fever Vaccine Provision (ICG) maintains an emergency stockpile of yellow fever vaccines to ensure rapid response to outbreaks | **Priority Actions/Critical Steps**<br>- Risk assessment (background population vaccine coverage, historical occurrence of yellow fever outbreaks, vector survey)<br>- Treatment of vector breeding sites<br>- Clean-up operations and IEC to reduce breeding sites<br>- Early recognition and laboratory confirmation of outbreak<br>- Reactive mass vaccination if epidemic already underway<br>- Intra epidemic monitoring and adverse events surveillance (AEFI)<br>- Safe disposal of medical waste from vaccination campaigns<br><br>**Mechanisms of Delivery**<br>**Community/Health Outreach,**<br>- Recognition and referral of cases<br>- Information and education of avoidance of mosquito bites<br>- Support to community to clean up and reduce breeding sites.<br>- Support to mass vaccination campaigns<br>**Primary Health Care:**<br>- Treatment of cases<br>- Case finding and surveillance<br>- Support to mass vaccination campaigns<br>**Secondary Health Care**<br>- Treatment of severe cases<br>- Protection of patients from exposure to insect bites<br>- Laboratory diagnosis (if available)<br>**Health Supplies and Infrastructure**<br>- Vaccines and safe injection equipment<br>- Laboratory reagents<br>- Transport and communications for vaccination teams<br>**Vertical Mass Intervention**<br>Reactive mass population based vaccination campaigns should be managed as a vertical intervention especially where speed is critical and large populations require vaccination | Population vaccine coverage (target >80%)<br><br>Vector density (Aedes Aegypti)<br><br>New cases per day/week<br><br>Deaths per day/week<br><br>Population attack rate<br><br>Case Fatality Ratio | See decision tree<br><br>Support reactive mass vaccination if vaccine coverage is low and one case has been laboratory confirmed and there is high spread potential.<br><br>Establish the target population for vaccination<br><br>Note: risk is higher in areas of seasonal transmission and urban setting. |
| **Outbreak Preparedness**<br><br>**Conditions:** General support to Yellow Fever epidemic preparedness and response, support to both the PHC system and MoH Planning Unit | - Lab reagents and qualified personnel at the national reference laboratory is available before the rainy season<br>- A system for case-base surveillance of febrile jaundice is established in YF endemic areas<br>- WHO recommendations for YF detection and response are widely available at Health facilities and health staff has been recently trained<br>- Emergency preparedness (emergency YF vaccine stockpile for Americas and Africa endemic countries)<br>- ICG International Coordination Group for Vaccine Provision (YF-ICG) SoPs and request forms are known and available at central level | Surveillance Performance Indicators as defined in IDSR guidelines | Rarely supported, if proposal, consult your RHA<br><br>If part of EPI, yellow fever, support included in PHC |

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| **Outbreak response**<br>**Conditions:** YF has been confirmed by serology according to WHO recommendations and epidemic definition has been met | - Location of infection is determined, active case-finding is conducted and blood specimens for laboratory confirmation are obtained<br>- A field outbreak investigation is conducted in order to assess risk amplification and spread as well as vaccination coverage and extent and characteristics of unvaccinated populations in the area are determined.<br>- In areas with low vaccination coverage, reactive vaccination in the village, district, town or city, or within 10–50 km of affected area is initiated<br>- Ensure Yellow fever diagnosis and case management in hospitals are available<br>- In areas with high vaccination coverage, large-scale emergency vaccination or revaccination is not justified. Ensure targeted vaccination of susceptible individuals or unvaccinated groups<br>- Vaccine coverage is set to ≥80% and vaccine supply is ensured by ICG approval (if vaccine not available in the country).<br>- Definition of vaccination strategies and decision if complementary vector control measures should be taken or not<br>- Entomological surveys are conducted if affected areas are in urban settings. | No. of cases and CFR<br><br>No. of weeks between detection and reactive vaccination<br><br>No. of samples taken and confirmed<br><br>% of target population vaccinated | See decision tree<br><br>Outbreak verification required.<br><br>Note: one case in urban seasonal Sahel entails higher imminent risk than one case in rural sylvatic, year around transmission area. |
| **Preventive mass vaccination campaign** in high endemic countries or endemic countries with recent changes on YF virus circulation | - Yellow Fever field risk assessment in endemic countries is ensured to determine intensity of YF virus circulation<br>- Technical and logistic support to planning and implementation of mass vaccination campaigns is ensured<br>- Age group target for preventive mass vaccination campaign is determined (> 9 months age)<br>- Systematic implementation of vaccine coverage survey is supported and monitoring of AEFI and investigate severe AEFI is conducted | % of pop at risk vaccinated<br><br>No. of vaccine coverage survey implemented<br><br>No. (%) of AEFI reported and investigated | ECHO support not recommended: Alternative funding possible through GAVI |

## 3.13 EPIDEMICS: VIRAL HAEMORRHAGIC FEVERS (VHF: Ebola, Marburg)

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Scenario:** A viral haemorrhagic fever (VHF) outbreak can generate a crisis in itself but can also aggravate existing emergencies, as the high risk zones are often in areas affected by on-going crises.<br><br>**Key facts**<br>- Haemorrhagic Fever can be caused by a number of viruses including Ebola, Marburg, Rift Valley Fever, CCHF and Dengue Viruses. This table focuses on the first two.<br>- In particular, Ebola and Marburg viruses (both filoviruses) can cause large epidemics spread from person to person by contact with the blood and body fluids of infected cases.<br>- Countries at higher risk of Ebola or Marburg Haemorrhagic Fever are DRC, Angola, Gabon, Sudan, Kenya, Uganda, Republic of the Congo, Kenya and Zimbabwe<br>- Initial transmission is from animal to human although reservoir/host(s) remain uncertain.<br>- Viral prodrome is non-specific with haemorrhagic features occurring late in the illness<br>- Initial person –index case- becomes infected from reservoir and then person to person transmission (by contact with blood/body fluids).<br>- Initial diagnosis is based on clinical assessment.<br>- Laboratory diagnosis for viral haemorrhagic fevers is generally done in national and international reference centres,<br>- There is no specific vaccine or treatment for Ebola or Marburg and ribavirine is not recommended<br>- No strategy has proved successful in specific pre-exposure and post-exposure treatment of Ebola or Marburg virus infections in man<br>- Case fatality varies according to viral species, exposure dose and route (30-90%) | **Priority Actions/Critical Steps**<br>- EWARS in at risk areas should include suspected VHF<br>- Investigation of all alerts with initial control measures as needed<br>- Where outbreak is verified, carry out detailed outbreak investigation & epidemiological description (time, person, place) with appropriate sampling and initial measures to reduce transmission<br>- Assessment of risk of spread & risk of severe outcomes (high mortality)<br>- Set up urgent, structured and coordinated task force<br>- Set up specific unit/isolation for affected cases to contain transmission and provide care:<br>- Set up barrier nursing procedures & safe waste disposal mechanism<br>- Set up procedures and community outreach to avoid intra-family and community spread (e.g. funeral and burial procedures)<br>- Diagnose and manage cases with supportive treatment in isolation unit<br>- Use mobile teams for systematic case finding and contact tracing in the community with transport of suspected cases to isolation facility for diagnosis and care<br>- Strengthen capacity to carry out laboratory diagnosis on site or transport of samples to national or international reference labs<br><br>**Mechanisms of Delivery**<br>**Community Health and Outreach**<br>- Community education and sensitization<br>- Recognition of suspected cases and alert<br>- Contact tracing and follow up<br>**Primary Health Care**<br>- Case recognition and initial isolation and minimal barrier nursing<br>- Referral to isolation facility<br>- Safe injection practices and medical waste disposal<br>- Liaison with mobile teams for case finding and contact tracing<br>**Secondary Health Care**<br>- Isolation facilities<br>- Recognition of suspected VHFs in patients admitted with “other” diagnoses<br>- Processing and shipping of laboratory samples<br>**Health supplies and infrastructure**<br>- Personal protective equipment<br>- Safe burial equipment<br>- Drugs and fluids for supportive care to patients | - Task force in place (Y/N)<br>- Number of suspected cases/deaths per district<br>- No of confirmed cases/deaths per district<br>- No of contacts identified (total and per week)<br>- No of contacts followed for 21 days<br>- % of contacts lost to follow up<br>- No of isolation units established<br>- No of admissions per isolation unit<br>- Case fatality ratio<br>- Barrier nursing equipment available<br>- Health personnel trained in barrier nursing | See decision tree<br><br>Ensure safe barrier nursing in properly equipped isolation unit<br><br>Ensure training included in project for health care workers<br><br>Consider adding support to local initiatives via larger international effective operational partners. |

**3.14 DISABILITY: PHYSICAL**

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Scenarios:** Disability is important in all scenarios in terms of support and care to those who already have physical disabilities<br><br>In addition, the prevention of new disabilities and rehabilitation are very important where injury and trauma are a major component of the crisis (conflict, acute natural disaster) | Emergency Health Services should provide services for people with<br><br>**New Injury or trauma that may lead to disability**<br>- High quality surgical and medical care to prevent avoidable disability<br><br>**Existing physical disabilities**<br>- Are considered as part of any Rapid Health assessment<br>- Have access to Health Care<br>- Have continuity of disability related care/rehabilitation<br><br>**Residual disabilities that require rehabilitation and adaptation measures**<br>- Rehabilitation aimed at reducing the impact of residual disabilities<br><br>All delivery mechanisms are important | Disability considered as part of Health Assessment (Y/N)<br><br>No of persons with existing physical disability in the affected population<br><br>% of disabled persons with access to continued care for disability<br><br>No of new cases of physical disability attributable to the crisis | See decision tree<br><br>Keep in mind that most of disabled persons will need lifelong support.<br><br>Multiannual support will be required so it is possible to provide it in protracted conflict or in short acute disasters IF a follow up is identified. |
| **Disability as a direct consequence of an event**<br><br>**Scenario:** relevant scenarios are armed conflict and geological/hydrological emergencies<br><br>Key facts:<br>Major Physical Disabilities attributable to emergencies<br>Amputees<br>Partial or complete blindness or deafness<br>Severe burn victims<br>Neuro-muscular disabilities including paralysis due to spinal or head injuries | **Priority Actions/Critical Steps**<br>- Rapid deployment of surgical and medical treatment capacity<br>- Provision of physiotherapy services<br>- Provision of specialized services for specific disabilities (depends on scenario)<br>- Importation and provision of mobility aids and raw materials to produce specialized appliances<br>- Setting up of orthopedic workshops<br>- Community based rehabilitation services (CBR)<br><br>**Mechanisms of Delivery**<br>**Community and Primary Health Care**<br>- Community Based Rehabilitation Services<br>- On-going care of patients with new disabilities<br>**Secondary Health Care**<br>- Medical and surgical interventions to reduce avoidable disability<br>- Orthopedic services for amputees<br>- On-going care for those with severe disabilities (e.g. blindness, burns, neurological)<br>**Health Supplies and Infrastructure**<br>Specialized equipment for rehabilitation (e.g. prostheses and raw material for manufacture) | No of new cases of physical disability attributable to the crisis<br><br>Classification of the type and frequency of injuries/disabilities<br><br>No of high quality surgical interventions for injury/trauma<br><br>Number of CBR Community based Rehabilitation workers trained<br><br>Workshop capacity with equipment and supplies in place (Y/N) | See decision tree<br><br>Keep in mind that most of disabled persons will need lifelong support.<br><br>Multiannual support will be required so it is possible to provide it in protracted conflict or in short acute disasters IF a follow up is identified. |
| **Care to Persons with Existing Disability**<br><br>**Scenario:** All scenarios | **Priority Actions/Critical Steps**<br>- People with physical disabilities are included in health care delivery<br>- Easy access to health care facilities<br>- Continuing care for specific disabilities<br><br>**Mechanisms of Delivery** | Disability considered as part of Health Assessment (Y/N)<br><br>Policy and strategy in place for inclusion of the disabled (Y/N) | See decision tree<br><br>If disability is creating a significant extra burden on health care system |

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| **Key facts:**<br>Background level of disability in the global population is approx. 15%. There are large country variations<br><br>Health services for people with disability may be disrupted during an emergency<br><br>Some disasters may not cause many new cases of disability, but may leave a large number of people without disability services or access to health care | **Community and Primary Health Care**<br>- Community Based Rehabilitation Services<br>- On-going care of patients with existing disabilities<br><br>**Secondary Health Care**<br>- Continuity of on-going care for those with existing severe disabilities (e.g. blindness, burns, neurological)<br><br>**Health Supplies and Infrastructure**<br>- Specialized equipment for rehabilitation (e.g. prostheses and raw material for manufacture)<br>- Access to food and livelihood assistance if there are activities already in this domain. | No of persons with existing physical disability in the affected population<br><br>% of disabled persons with access to continued care for disability<br><br>Number and proportion of disabled persons having access to humanitarian health services<br><br>Number of CBR staff trained | Have assurance that there is a long term solution for the maintenance of services during the reconstruction phase, either government or donor<br><br>ATTENTION to the level of services in areas affected by the disaster, including those in the surrounding areas and to the national policy. Avoid technologies that cannot be maintained. |
| **Reconstruction and exit phases** | Plan health facilities and services fully accessible by disabled persons<br>Include disability awareness in reconstruction plans | Number of facilities meeting established criteria<br>Number and proportion of disabled people utilizing services | LRRD actors and advocacy. |

## 3.15 DISABILITY: MENTAL HEALTH AND PSYCHO-SOCIAL PROBLEMS

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
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| **Scenarios:** Mental health problems are important in all scenarios. In any emergency there will be a group of people with existing mental health problems who need continued care. In addition, the nature of an emergency creates many psycho-social stresses and in extreme cases can precipitate severe acute mental illness leading to self-neglect, self-harm and harm to others.<br><br>**Key Facts**<br><br>The impact of mental health problems in emergencies depends on<br><br>. Background rates of mental health disorders<br><br>. Levels of social and psychological stress generated by the event<br><br>. The levels of physical and sexual violence<br><br>. The capacity of mental health services<br><br>. The length of the crisis<br><br>. Higher level of mental health and psychosocial conditions, usually more than the double of the baseline, are associated with both acute and protracted emergencies. | **Priority Actions/Critical Steps for a Mental Health and Psycho-Social Support (MHPSS)**<br><br>**Existing mental health problems**<br>- Should be included in any Rapid Health assessment<br>- Continuity of Care should be ensured.<br>**People in Mental Health Institutions**<br>- Provision of basic survival and health needs (food, water, medications, shelter)<br>- Protection from violence or exploitation<br>**Communities with high levels of acute stress responses to the emergency itself**<br>- Counselling services and basic assistance<br>- Psychological and social interventions to relieve symptoms,<br>- Identification of individuals with signs of severe mental health problems<br>- Referral to SHC and secondary health care as needed<br>**People who Develop severe mental health problems during the emergency**<br>- Early diagnosis and treatment<br>**All mechanisms of Delivery are important especially**<br>- Community and PHC based counselling<br>- Second level psychiatric services<br>- Supply of appropriate psychotropic dugs<br>- Safe places to treat those with severe disease | Mental health needs included in rapid health assessment<br><br>Strategy exists for inclusion of mental health needs and services in health intervention<br><br>No of cases of severe mental health illness<br><br>No of suicides<br><br>No. incidents of physical or sexual violence<br><br>No of admissions for acute psychiatric care<br><br>No of Health Care Workers trained in mental health issues<br><br>No of community health workers trained in mental health issues | See decision tree<br><br>Funding should be integrated as much as possible into existing health services and facilities.<br><br>Initiation of chronic treatments depends on assurance of continuity.<br><br>Note:<br>MHPSS -Mental Health and Psychosocial Support- is a neglected area of intervention that should be more commonly addressed, but proposals that integrate MHPSS as part of primary and secondary care are rare (and should encourage support). |
| **Severe Mental Health Disorders**<br>**(Psychosis and severe depression)**<br><br>Most cases are due to pathologies unrelated to the crisis but that may suffer discontinuity of treatment | - Assess existing services and identify people in need<br>- Consider either hiring a specialized professional or initiating the rapid training and supervision of general health staff in mental health<br>- Establish an accessible advertised service as well as identification and referral systems<br>- Ensure sustainable supplies of essential psychotropic medication (<br>- Provide biological, psychological, and social interventions to relieve symptoms, provide protection, and restore function<br>- Educate and support existing carers<br>- Work with local community structures and groups to enable protection of those severely disabled by mental or neurological disorder | Mental health/epilepsy care utilization according to HIS<br><br>Availability of psychotropic medicines<br><br>Availability of supervision<br><br>Knowledge, attitude and | See decision tree<br><br>Continuity of care existing previously to the emergency/<br><br>Avoid vertical focus on mental and psychological trauma. |

| | | | |
|---|---|---|---|
| **Protection and care for people in mental institutions** | - Advocate that institutions, staff and patients receive at least the same protection as other health facilities<br>- Ensure that patients' basic physical needs are met (water, sanitation, food, nutrition, shelter, vaccinations etc.)<br>- Strengthen or implement systems to protect patients' from human rights violations (by staff, other patients, rebels, looters etc.) | practices of health providers<br><br>Availability of basic mental health care | |
| **Aftermath of a high mortality or highly destructive event**<br>**Conditions:** Existing mental health system in the area | Coordination and information sharing mechanism<br>- Ensure that relief interventions are conducted in such a way that they are not aggravating the level of tension and stress<br>- Provide support to normative social events (funerals, sports, commercial, cultural)<br>- Provide training of specialised workers able to identify and provide basic assistance to the most affected persons | Number of documented sessions of Ad Hoc committee<br>Number of relevant advices<br>Number of events<br>Attendance, with attention for specifically vulnerable groups<br>Number of trained persons | MHPSS integration in PHC.<br>Staff training.<br>Coordination and information forum<br><br>See resource reference. |
| **Reducing traumatic stress through non-specific counselling, psychological debriefing or creative therapies** | - Offer interventions on the basis of having been exposed to a traumatic event (rather than on the basis of symptomatology)<br>- Avoid interventions for which there is no evidence of positive outcomes | | Support **NOT** recommended |
| **Post disaster or reconstruction phase Persistent high stress situation (man-made or natural)** | - Active case detection at community level<br>- Case detection at health facility level<br>- Person to person psychological support<br>- Group sessions<br>- Specialised psychiatric care for neglected cases following the failure of the local psychiatric care system | Number of cases detected<br>Number of sessions of different types<br>Use of functional scales to measure a level of improvement<br>Number of cases | Advocacy |
| Protection of humanitarian workers | - Follow-up of the psychosocial conditions of humanitarian workers<br>- Debriefing session<br>- Treatment rehabilitation | | Can be part of. NGO security/safety networks<br>Should be part of NGO HR good practices |
| Ref.: http://www.who.int/mental_health/resources/emergencies/en/index.html | | | |

## 3.16 OTHER CONDITIONS: VACCINE-PREVENTABLE DISEASES

| Scenario/Key facts | Priority Actions /Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:**<br>All scenarios<br>**Key Facts**<br>- Vaccines are one of the most effective health interventions for saving lives<br>- The Expanded Programme on Immunisation was introduced in 1974 with diphtheria, pertussis, tetanus (DPT), polio, BCG (TB) and measles<br>- Other vaccines have been added since then: hepatitis B, mumps, rubella, haemophilus influenza type b, meningococcal group A<br>- Other vaccines to consider in emergencies include pneumococcal, yellow fever, Japanese encephalitis, typhoid, rotavirus, cholera and rabies.<br>- The exact composition of the EPI programme or vaccination strategy varies from country to country<br>- EPI programmes are central to health systems all over the world, but as they depend on infrastructure, trained personnel and availability of health supplies, they are vulnerable in disasters<br>- Additionally there a few diseases that may require supplemental or mass vaccination in specific emergency scenarios (see specific tables)<br>- An upcoming framework for decision-making of vaccination in emergencies includes a review of ethical concerns and possible add-on activities to the vaccination interventions that, all together, may produce positive spin-off effects in terms of reduced morbidity and mortality. | **Priority Actions/Critical Steps**<br>- Risk assessment should include vaccine coverage, status of EPI and immediate health hazards preventable by vaccination (e.g. measles)<br>- Carry out emergency supplementary or mass vaccination activities as needed<br>- Support the reestablishment of routine EPI as soon as possible<br>- Support the reestablishment of cold chain and waste management services for EPI<br>- Strengthen surveillance for VPDs and for Adverse Events Following Immunisation (AEFI)<br>**Mechanisms of Delivery**<br>**Community Health and Outreach**<br>- Education regarding the importance of vaccination<br>- Verify vaccination status of children/women and referral if needed<br>**Primary Care facilities**<br>- Recognition and clinical management of cases of VPD<br>- Investigation of cases and alert regarding possible outbreaks<br>- Vaccination services for EPI and also supplemental or mass vaccination activities<br>- Supervision/conduct of Outreach activities<br>- Recognition and management of AEFI<br>- Universal precautions and disposal of medical waste<br>- Cold chain management<br>**Secondary health facilities**<br>- Management of severe cases of VPDs<br>- Management of severe AEFI<br>- Medical waste disposal (e.g. incineration)<br>- Training of health workers in safe vaccination<br>**Health Supplies and Equipment**<br>- Supplies of vaccine and safe vaccination equipment (single use syringes/needles, sharp containers, disinfectants)<br>- Supplies and equipment for cold chain (refrigerators, cool boxes etc.)<br>**Infrastructure**<br>- Incineration service for medical waste is important; a centralised incinerator with logistics for collection of medical waste is a high priority | - Risk assessment includes VPDs (Y/N)<br>- Vaccination coverage under 5s<br>- DTP3 coverage <1year<br>- Measles coverage 6months to 15years<br>- >95% in camps or urban areas<br>- >90% in rural areas<br>- DPT3 as a proportion of DPT1 (dropout rate)<br>- Total number and % of children receiving all antigens in EPI programme<br>- Coverage in target population for any supplementary or mass vaccination campaigns | See decision tree<br>Always support<br>Priority in immediate aftermath of disaster to be given to Measles Vaccination + Vitamin A + zinc, especially in under 5 children<br>In articulation with actions financed by other actors (e.g. GAVI; UNICEF)<br>Provide support to the reestablishment of routine EPI activities |

*SAGE framework for vaccination in emergencies* [http://apps.who.int/iris/bitstream/10665/92462/1/WHO_IVB_13.07_eng.pdf](http://apps.who.int/iris/bitstream/10665/92462/1/WHO_IVB_13.07_eng.pdf)

## 3.17 OTHER CONDITIONS: DENGUE and DENGUE HAEMORRHAGIC FEVER (DHF)

| Scenario/Key facts | Priority Actions/Mechanisms of Delivery/Steps/Components | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:** Important in scenarios where dengue risk already exists and especially in hydrological disasters where vector proliferation may spark epidemics<br><br>**Key Facts**<br>- Dengue is a disease caused by any one of four closely related viruses (DEN-1, DEN-2, DEN-3, or DEN-4).<br>- The viruses are transmitted to humans by the bite of an infected Aedes mosquito with over 100 million cases of dengue yearly.<br>- DHF is a more severe form of dengue. It can be fatal if unrecognized and not properly treated. With good management, mortality can be <1%.<br>- Dengue cannot spread directly from person to person.<br>- Principal symptoms are high fever, headache, backache, joint pains, nausea and vomiting, eye pain, and rash.<br>- Dengue haemorrhagic fever is characterized by haemorrhagic symptoms (e.g. tendency to bruise easily, skin haemorrhages, bleeding nose or gums, and internal bleeding)<br>- There is no specific medication or vaccination for dengue<br>- The best preventive measure is to eliminate breeding sites, primarily water containers. | **Priority Actions**<br>- Introduce environmental management and measures to reduce breeding sites and control mosquito populations<br>- Ensure personal protection using insecticide treated nets, repellents etc.<br>- Strengthen surveillance for dengue cases and recognition of increased incidence<br>- Strengthen recognition and treatment of dengue<br>- Strengthen recognition and treatment of severe dengue and DHF (this is exceptionally important as shock and fluid overload are common and careful clinical management is vital)<br>- Ensure adequate supplies of analgesics and isotonic IV fluids for dengue and DHF<br><br>**Mechanisms of Delivery**<br>**Community Health and Outreach**<br>- Recognition of cases and treatment of milder cases<br>- Referral of severe cases or those with signs of DHF<br>- Support to community clean-up programmes to reduce vector breeding sites<br>**Primary Care facilities**<br>- Treatment of mild or moderate cases<br>- Recognition and initial treatment of DHF<br>- Referral of severe cases to SHC<br>**Secondary health facilities**<br>- Management of severe cases of Dengue and DHF<br>**Health Supplies and Equipment**<br>- Analgesics, usually paracetamol and not non-steroidal anti-inflammatory drugs as they can worsen the clinical condition.<br>- IV fluids (isotonic crystalloids line normal saline and Ringers Lactate solution)<br>**Infrastructure**<br>- Temporary treatment facilities may be needed in major outbreaks | - No of patients treated per PHC<br><br>- No of cases of dengue<br><br>- No of cases of DHF<br><br>- Case fatality ratio for DHF<br><br>- Availability of appropriate IV fluids for treating sever dengue without stock outs | See decision tree<br><br>Support is context-specific, to be discussed with the RHA.<br><br>Not an entry criteria for a new intervention per se but may open areas previously closed to humanitarian access.<br><br>Dengue clinical management should be part of health care in at risk areas and/or after a hydrological disaster with increased risk.<br><br>Coordination with other sectors for vector and environmental management efforts. |

## 3.18 OTHER CONDITIONS: CHRONIC DISEASES (NCSs)

| Scenario/Key facts | Priority Actions/Critical Steps and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenarios:** Important in all scenarios.<br><br>**Key facts**<br><br>• Chronic diseases are often referred to as Non-communicable Diseases (NCDs) and include heart disease, stroke, hypertension, chronic renal failure, bronchial asthma, dialysis-dependent chronic renal failure, insulin-dependent diabetes and epilepsy<br>• 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.<br>• People whose health is already compromised by chronic diseases are more vulnerable than healthy people to the stress and disruptions caused by disasters and exacerbation of existing chronic conditions have become a feature of many disasters.<br>• The interruption of treatments for chronic diseases is life-threatening. | **Priority actions/Critical Steps**<br>– Ensure identification of individuals with NCDs who were receiving treatment before the emergency<br>– Ensure that 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. due to advanced cancer) receive treatment.<br>– Avoid sudden discontinuation of treatment.<br>– In situations where treatments for NCDs are unavailable, establish clear standard operating procedures for referral.<br>– Ensure that essential diagnostic equipment, core laboratory tests and medication for the routine, on-going management of NCDs are available through the healthcare system.<br>– Medication should be in line with the national essential medicines list.<br>– Ensure that assistive devices (e.g. walking aids) are available for people with mobility or communication difficulties.<br><br>**Mechanisms of delivery**<br>**Community Health and Outreach**<br>– Identification of people with chronic conditions requiring care and referral to PHC<br>– Education regarding risk factors and risk reduction for priority diseases<br>– Education on good diet and abuse of alcohol and tobacco in more stable settings.<br>**Primary Health Care (PHC)**<br>– On-going care of people with chronic diseases and referral to SHC as needed<br>**Secondary Health Care (SHC)**<br>– Management of complications of chronic diseases<br>– Investigation and laboratory services<br>– Management of disabilities<br>**Health Supplies and Infrastructure**<br>– Availability of essential medicines that include medications for treating common chronic diseases | Number and %<br><br>population with a chronic disease<br><br>No and % of consultations at PHC and SHC for chronic conditions<br><br>Availability of protocols for treatment and referral mechanisms for chronic diseases (Y/N)<br><br>% of PHCs with adequate medication for continuation of<br>treatment to individuals with chronic diseases | See decision tree<br><br>Continuity of treatment: The on-going management of NCDs should be available through the primary<br>healthcare system, using medications from the national essential medicines list.<br><br>It is generally not recommended to introduce new<br>programmes for the management of chronic health conditions during the relief effort especially if the regimen or programme is unlikely to be continued<br>after the emergency phase. |
| Ref.: The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian response/Minimum Standards in Health Action, 2011 | | | |

## 3.19 OTHER CONDITIONS: NEGLECTED TROPICAL DISEASES

| Scenario/Key facts | Priority Actions/Critical Steps/Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario:**<br><br>Important in scenarios like tropical setting with high levels of background poverty. Particularly important in prolonged armed conflict where health services are absent over a prolonged period<br><br>**Key Facts**<br>- NTDs are a group of 17 diseases* that were once widely dispersed; many are now concentrated in poor remote rural areas and also in urban slums and conflict zones.<br>- 149 countries are endemic for at least one NTD, 100 countries are endemic for 2 or more NTDs, and 30 countries are endemic for 6 or more.<br>- They cause blindness, disability, deformities or otherwise maim those who are affected.<br>- **NTD are** Dengue, Rabies Trachoma, Buruli ulcer, endemic treponematoses (including yaws), Leprosy, Chagas disease (American trypanosomiasis), Human African trypanosomiasis (sleeping sickness), Leishmaniasis, Cysticercosis, Dracunculiasis (guinea-worm disease), Echinococcosis, Foodborne trematode infections, Lymphatic filariasis (elephantiasis), Onchocerciasis (river blindness), Schistosomiasis (bilharziasis), Soil-transmitted helminthiases (intestinal parasitic worms) | **Priority Actions**<br>- The specific actions needed to address NTDs in a given humanitarian situation will depend on which NTDs represent a threat.<br>- Careful risk assessment should establish the main NTDs and define an approach for their control.<br>- To the maximum extent possible NTD control should be integrated into existing health care delivery.<br>  - Use of preventive chemotherapy;<br>  - case-detection and case management;<br>  - improved vector control;<br>  - appropriate veterinary public health measures<br>  - provision of safe water, sanitation and hygiene.<br>- There may be circumstances where elimination or eradication goals require supplementary activities delivered by a vertical mechanism.<br><br>**Mechanisms of Delivery**<br>**Community Health and Outreach**<br>  - Administration of preventive chemotherapy as part of control or elimination campaign<br>  - Education on avoidance of specific NTDs<br>  - Recognition and treatment of priority NTDs<br>**Primary Care facilities**<br>  - Recognition and treatment of priority NTDs<br>  - Referral of serious cases to SHC<br>**Secondary health facilities**<br>  - Management of severe NTDs<br>**Health Supplies and Infrastructure**<br>  - Availability of drugs for preventive chemotherapy<br>  - Availability of drugs for treatment | - Main NTDs identified and protocols for treatment available (Y/N)<br><br>- No of cases of priority NTDs identified and treated<br><br>- No of deaths from specific NTDs<br><br>- Drugs available for preventive chemotherapy<br><br>- Drugs available for treatment of priority NTDs | See decision tree<br><br>In on-going health care programs, NTD management should be integrated into more general health services delivery packages<br><br>Specific support to control programmes may be considered on a case by case basis (consult the RHA) |

*Most of the diseases in this group are parasitic diseases, caused by a variety of protozoan and helminthic parasites. Many of them are spread by animal hosts such as dogs, fish and crustaceans or by vectors such as mosquitoes, blackflies, snails, sand-flies, tsetse flies, bugs and common house flies. Others such as dracunculiasis and (in part) cysticercosis, echinococcosis and fascioliasis are transmitted by contaminated water, while helminthiasis is transmitted by soil contaminated with the eggs of parasitic worms. Human rabies infection usually occurs following a transdermal bite or scratch by an infected animal, frequently a dog, in developing countries; transmission cycles are perpetuated under conditions of environmental contamination and poor standards of living and hygiene.

## 4. MECHANISMS OF DELIVERY

### 4.1 MECHANISM OF DELIVERY: PRIMARY HEALTH CARE

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | | |
| **Scenario:**<br>Important is all scenarios. Of particular importance where populations are dispersed with limited or no access to secondary health care<br><br>**Key Facts:**<br>Decentralized health services providing basic health care, closer and accessible to the population<br>They deal with prevention and management of the most common diseases and provide treatment for non-life threatening common conditions.<br>Models of primary health care vary from country to country<br>In all cases they provide a package of health interventions through<br>Health Centres/Posts and related community health workers.<br>PHC includes community outreach and immunization services.<br>In emergencies they provide a vital entry point to health care to communities for the<br>prevention of targeted diseases<br>PHC includes as well the treatment of priority diseases, Surveillance/Early Warning and referral to Secondary Health Care | **Components:** Primary Health Care Centres should:<br>- serve a defined population within a defined catchment area.<br>- be able to deal with most of the common priority diseases<br>- be adequately staffed with trained personnel.<br>- have critical supplies of drugs and equipment<br>- be capable of referring the most severe and complicated cases successfully to Secondary Health Care<br>- have access to transportation and communications technology (where needed)<br>- Some health centres should have in-patient beds, especially where the distance to Secondary Health Care Facilities is long and/or transportation is poor<br>**Range of possible services provided by primary health facilities:**<br>- outpatient consultation<br>- diagnosis and treatment of infectious diseases such as malaria and tuberculosis<br>- triage, first aid, injury care,<br>- EPI, Immunization services<br>- Undernutrition screening, outpatient management of uncomplicated acute malnutrition,<br>- STD -sexually transmitted diseases- treatment, standard precautions, provision of condoms, management of opportunistic infections,<br>- family planning, antenatal care, clean safe delivery, ne-born care, basic emergency obstetric care,<br>- management of distress, anxiety and common mental disorders,<br>- waste disposal<br>- basic laboratory,<br>- surveillance, sentinel or early warning,<br>- short hospitalization,<br>- hypertension and diabetes treatment,<br>- HIV counselling, PMTCT - prevention of mother to child HIV transmission, ART - anti retroviral therapy.<br>PHC should also ensure supervision of outreach staff and activities.<br>**Issues to consider**<br>Ensuring training & supervision of Primary Health Care Workers<br>Using standardised diagnosis and treatment protocols<br>Providing and managing incentives<br>Ensuring adequate supplies that are accounted for (supervision)<br>Providing transport and communication for staff where it is required (e.g. bicycles, motorbikes, mobile phones)<br>Accessibility, quality. | 1 health centre for 30'000 persons.<br>1 health post per 10'000 people.<br>These are general standards, but one criterion should be distance: ideally health facilities should not be more than 10 km away from the communities.<br><br>Sphere standards: 2 to 4 consultations per person per year (rather high compared with ECHO's field experience, 1 to 4 match better experience).<br><br>Consultations per staff < 50/day<br><br>Stock out of vital medicine for no more than one week<br><br>Routine vaccination > 90% | Basic health access plus an early warning system are the priorities in response, the latter to detect threats, the former to rapidly reduce mortality.<br><br>See decision tree<br>Support to the primary health system when it is inadequate, or of poor quality or too far from the affected population. |
| Ref.: http://www.who.int/hac/network/global_health_cluster/herams_services_checklist_eng.pdf | | | |

## 4.2 MECHANISM OF DELIVERY: SECONDARY HEALTH CARE

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | | |
| **Scenarios:** Important in all scenarios but especially where there is significant trauma/injury (e.g. conflict, geological, hydrological), for large populations or where there are very severe cases (e.g. epidemics, toxic events)<br><br>**Key facts**<br><br>It is a centralised service providing more advanced health care to the population<br>It deals with clinical management of potentially life threatening conditions<br>Models of secondary care vary from country to country<br>In all cases it provides a a package of services through:<br>- Emergency and outpatient care<br>- Inpatient care<br>- Laboratory, X-ray and blood bank services<br>In emergencies, secondary health care facilities provide a vital point for the management of severe diseases and trauma | **Components: Secondary Health Care facilities should:**<br>- serve a defined number of primary health care centres<br>- be able to deliver comprehensive outpatient and inpatient services (including diagnosis, care, nutrition and laundry/hygiene/waste disposal)<br>- manage and support the referral system from primary health care, as well as the discharge and follow-up process<br>- be adequately staffed with trained and supervised personnel<br>- have critical supplies of drugs and equipment<br>- have access to transportation and communications technology (references)<br><br>**Priority services:**<br>- Emergency, trauma and elective surgery<br>- Child health: Management of children classified with severe/very severe diseases (parenteral fluids and drugs, O2)<br>- Maternal & new-born health: Comprehensive emergency obstetric care: BEmOC + caesarean section + safe blood transfusion<br>- Laboratory services: serving the facility and also public health services. (including quality control services)<br>- Disabilities and injuries rehabilitation<br>- Blood bank service<br>- X-Ray service<br>- Non communicable and chronic disease management<br>- Outpatient psychiatric care and psychiatric inpatient service<br>- Stabilisation centre (in a nutrition intervention)<br>- Isolation facilities for serious infectious diseases<br>**Issues to consider**<br>Partners may support all or some services within a facility<br>Support may be to general services of the facility (e.g. energy, water supply, sanitation, staff training) or to specific departments (e.g. trauma surgery, laboratory services)<br>Temporary facilities may be constructed in major disasters, especially where there has been significant damage to existing facilities or where the number of patients requiring secondary care overwhelms local capacity *(see table on SCENARIO: Infrastructure)* | No of functioning secondary health care facilities<br><br>Secondary centres per 100,000<br><br>Average no of PHCs served by SHCs<br><br>Number of documented referrals to SHC<br><br>Number of admissions to SHC<br><br>Average length of stay (days)<br><br>Number of laboratory tests performed<br><br>Capacity to perform certain types of test<br><br>Number of discharged cases followed-up | For large affected populations, in conflict, support **to**<br>general services of secondary facilities should be considered, such as to:<br>staff (incentive, capacity building, supervision, reinforcement),<br>biology services, small secondary facilities, offering ad hoc secondary heath care,<br>temporary secondary health facilities,<br>organisation of a working referral system and<br>follow-up after discharge |
| Ref.: http://www.who.int/hac/network/global_health_cluster/herams_services_checklist_eng.pdf | | | |

## 4.3 MECHANISM OF DELIVERY: COMMUNITY HEALTH AND OUTREACH

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | | |
| **Scenarios**: Important in all scenarios. Of particular importance in "Epidemics" and in other disasters where population may be dispersed.<br><br>**Key Facts:**<br>In times of crisis, those who provide the initial lifesaving care are health workers from affected communities<br>Health outreach is typically implemented by Community Health Workers (CHW). They connect the health care system and the community.<br>Community Outreach and Health Care usually consists of:<br>Outreach Services,<br>Basic health care.<br>IEC (Information, Education, Communication).<br>Local CHWs help ensure resilience and equity in health at grassroots levels.<br>Health Outreach mobilizes communities to use simple tools, adapted to local context to address the priority health needs.<br>The presence of a trained CHW in communities can increase knowledge and willingness of households to seek appropriate care. | **Components:**<br>It provides IEC (information, education and communication)<br>It provides community outreach for control programmes (e.g. ILINs for malaria)<br>It provides early case management for potentially killer conditions (with strict protocols and control).<br>It fosters preventive and healthy behaviours<br>It supports surveillance and active case funding<br>It support mass interventions through community mobilisation<br><br>**Range of possible Actions** (to adjust to local competencies and supervision capacity):<br>Collection of vital statistics, early warning and surveillance,<br>Integrated community case management of acute diarrhoea, pneumonia and confirmed malaria (with strict protocols and control).<br>Directly observed therapies<br>Screening of acute under-nutrition (MUAC) and nutrition treatment follow-up<br>Impregnated nets (distribution, monitoring and IEC),<br>Support to mass vaccinations or to treatment administration,<br>Referral to PHC for common conditions with signs of severity or that need specific treatments,<br>IEC on HIV and STD plus access to condoms, ,<br>Clean home delivery, breastfeeding and neonatal care (hypothermia and respiratory distress)<br>Basic care for chronic diseases<br>Safe water, sanitation and hygiene promotion.<br>**Issues to Consider:**<br>Ensuring training & supervision of Community Health Workers using standardised diagnosis and treatment protocols<br>Providing and managing incentives<br>Ensuring adequate supplies that are accounted for (supervision)<br>Providing transport and communications to CHWs where it is required (e.g. bicycles, motorbikes, mobile phones) | Indicator: One CHW per 500 to 1000 population.<br><br>Standard diagnosis and treatment protocols available (Y/N)<br><br>No of IEC sessions carried out with community<br><br>Timeliness and completeness of reporting<br><br>No of bed nets distributed<br><br>No of referrals to PHC | CHW should be present in any community affected by a crisis.<br><br>CHW should be trained, supervised and they should have a close link with the health facilities.<br><br>Community health workers should focus only on few basic services. They should only be responsible for few procedures and simple actions. It is a common mistake to give them too much responsibility for which they do not have the competencies and to compensate for the insufficiencies of the health facilities.<br><br>Support as part of comprehensive PHC intervention. Be rigorous on requesting proof of adequate:<br>Training & supervision<br>Supplies and mobility<br>Inclusion/recognition in the health system.<br>Link with the health units and control.<br>Continuity after ECHO funding stops. |
| Ref.: http://www.who.int/hac/network/global_health_cluster/herams_services_checklist_eng.pdf | | | |

## 4.4 MECHANISM OF DELIVERY: HEALTH INFRASTRUCTURE

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | **Indicators** | **ECHO Advice** |
| **Scenario:** Important where the event has led to damage or destruction of existing facilities (e.g. geological, hydrological and conflict emergencies)<br><br>**Key facts**<br>Damaged infrastructure results in a lack of health capacity to provide an adequate health response<br>The amount and type of health infrastructure needed will depend on the scenario, level of destruction, major causes of death and the level of functioning of the existing health system<br><br>**The options may be to:**<br>**Utilising existing health facilities**. e.g., governments may authorise partners to utilise disused facilities or those that have lost their staff.<br>**Creating temporary health infrastructures** for specific response (e.g. mobile clinics, surgical facilities, isolation facilities clinics, refugee camps)<br>**Repairing non-functional or damaged health infrastructure.** This may be needed to restore key services or to create a safe environment for staff and patients | **Components: Health Infrastructure should:**<br>Be safe to use for patients and staff and be accessible to those with disabilities<br>Focus on delivering common treatments for priority conditions/diseases<br>Be staffed by trained personnel/health workers<br>Be effectively managed with budgetary planning and control of expenditure<br>Respect the dignity and privacy and patient security<br>**Utilisation of existing health facilities:**<br>Legal and regulatory context, government authorizations<br>Identification of services to be provided by facilities with assurances of adequate equipment and staffing levels e.g.:<br>- Primary care/outpatients services<br>- Triage and emergency care<br>- Surgical operating facilities<br>- Obstetrical care unit<br>- X-ray, blood bank, laboratory or pharmacy service.<br>- Inpatient facilities including services for accompanying family members<br>Human resources, staffing and supervision<br>Patient and health worker transport (e.g. transfers, vaccination campaigns)<br>Safe healthcare: water supply waste disposal, excreta disposal, infection prevention and control measures must be implemented<br>Link to rehabilitation and development (e.g. infrastructure provided must be compatible)<br>**Temporary infrastructure**<br>In the context of population displacement, large number of new patients, hard to reach areas or those with a lack of coverage, the establishment of temporary health facilities or mobile units (MU) delivering specific services may be justified.<br>When key infrastructure has been destroyed or is unsafe (e.g. aftershocks) then it may be justified to build and supply temporary health care facilities<br>The level of investment for the new infrastructure must be in line with the estimated duration of use in response to the emergency<br>**Repair of damaged infrastructure**<br>An assessment is needed of the number of damaged facilities, extent of damage and whether they are repairable, as well as of the impact on the health response capacity<br>The extent of repairs should take into account the agreed priority services that the facility should be able to deliver<br>Availability of a costed plan for repairs with timelines, contingencies, other partners etc.<br>Take into account the DRR aspects if involved in full reconstruction, even at planning level; advocacy for Building-Back-Better approach | Health facility survey available (Y/N)<br>Number of functional health facilities<br>Government agreement in place for use of existing HCFs (Y/N)<br>Costed plans for repair, and rehabilitation available (Y/N) Coherent with the plans of the health authorities? (Y/N)<br><br>No. of patients treated<br>No. of admissions<br>No of procedures done<br>Population having<br>access to specific services<br>Capacity to deliver selected services<br>Adequate staffing<br>Adequate equipment<br>Number of locations visited by MU<br>Frequency of visits by MU standards) | If there are other possible long-term donors, facilitate and coordinate with them for support.<br><br>ECHO interventions targeting Health Infrastructure include restoring, repairing or temporary facilities.<br><br>While not a common component, when present it represent a major expenditure.<br><br>Interventions should take into account the structure of the health system in the country<br><br>It is critical to understand the "behind the scene game" for attribution of facilities to organisations |

Ref.: http://www.wpro.who.int/emergencies_disasters/documents/SafeHospitalsinEmergenciesandDisasterswebоptimized.pdf

## 4.5 MECHANISM OF DELIVERY: HEALTH SUPPLIES

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | **Indicators** | **ECHO Advice** |
| **Scenario:** Important in all scenarios. The amount and type of health supplies will depend on the scenario, major causes of death and the functioning of the health system<br><br>**Objective**: Health and medicinal supplies have the common aim of treating or alleviating conditions of beneficiaries and of having potential detrimental effects on their health if their quality isn't guaranteed.<br><br>**Key Facts**<br>The use of sub-standard products represents very bad value for money. Not only can they cause harm to patients, but may also allow pathogens to become resistant to medical treatments.<br>The market of medical supplies is a very lucrative business and is characterized today by the lack of international regulation and weak pharmacovigilance.<br>Negative events, including death, directly linked to contaminated medical supplies are regularly reported.<br>High prevalence of sub-standard, counterfeit, ineffective or harmful medicines, therapeutic foods and medical devices in poor-resource settings has been frequently reported. | **Priority Health Supplies by causes of Death**<br>Trauma/Injury : surgical kits/equipment, IV fluids, antibiotics, dressings kits<br>Under-nutrition: supplementary feeding products<br>Inadequate shelter: blankets, polythene sheets, clothing, tents<br>Water and sanitation: (water, water treatment supplies, disinfection products<br>Infectious Diseases: antibiotics, ILINs, vitamins supplements<br>Maternal causes: equipment for emergency caesarean, drugs, IV Fluids<br>Epidemics: vaccines, antibiotics, protective equipment, disinfection products<br>**Components: Health supplies should:**<br>Target common priority conditions/diseases<br>Be associated with diagnostic and treatment protocols<br>Be purchased from sources that have Good Manufacturing Practices (GMP)<br>Be delivered by a supply chain with good procurement, storage and distribution practices<br>Be administered to the population by trained personnel/health workers<br>**Issues to Consider:**<br>**Treatment and diagnosis protocols**<br>Partners should use National Protocols for diagnosis and treatment<br>Partners may use other guidelines (WHO, MSF) when National Protocols do not exist.<br>Partners should choose the most appropriate supplies as recommended by the most up-to date scientific literature, considering their efficacy, safety, suitability for the patient, and cost of the treatment.<br>**Good manufacturing practices**<br>Partners should source medical supplies from Humanitarian Procurement Centres (HPC) as these are specialized in the selection of suppliers offering GMP guarantees. When HPCs is not a possible option partners should strive to ascertain that the quality standards in Annex IV are respected when procurement is from other sources.<br>**Good storage, distribution and disposal practices**<br>Partners should work with HPCs in a spirit of partnership<br>A supply chain should be in place to procure, manage storage, distribution and forecasting that allows upstream planning, avoids-stock outs and that records batch numbers to enable any recall of supplies.<br>Frequent challenges directly affecting efficacy of medicinal products include: temperature, sunlight and humidity. These issues must be addressed.<br>Storage facilities and pharmacies need to be organized in a way to avoid theft and fraud.<br>Safe storage and disposal of expired medicines and supplies need to be ensured. | Treatment and diagnostic protocols available (Y/N)<br>Priority drugs and supplies agreed (Y/N)<br>Partner supply procurement plans are adequate (Y/N)<br><br>Review supplier selection criteria ( if not from HPC )<br><br>Supply chain and inventory management system in place (Y/N)<br><br>Medical supplies stored and shipped with adequate temperature control (Y/N)<br><br>Verify labelling, use by dates etc.<br><br>Stock-keeping documentation available? (Y/N)<br><br>Expired or damaged supplies are kept separately from other stocks and procedures in place for safe disposal? (Y/N) | Under health/medicinal supplies, DG ECHO includes medicines, therapeutic foods and medical devices.<br><br>While rarely an isolated support activity for ECHO, it can be a major component in conflict areas where external access is difficult or dangerous but where there is local capacity and will.<br><br>Disallow the financing of supplies that are distributed expired, poorly stored or come from dubious sources.<br>Inform HQ of any partner refusing to apply medical supply standards and of any situation where a problem with medical supplies is reported.<br><br>Inform partners about the HPC, ECHO recognized and audited humanitarian procurement centre<br><br>When faced with import limitations, consider advocating the relevant national bodies and other donors for exemptions for the humanitarian imperative to save lives.<br>Ask independent experts for advice. |

## 4.6 MECHANISM OF DELIVERY: EPIDEMIC

| Scenario/Key facts | Priority Actions and Mechanisms of Delivery | Indicators | ECHO Advice |
|---|---|---|---|
| **Scenario/Objective** | **Components/Priority Actions/Issues** | **Indicators** | **ECHO Advice** |
| **Scenarios:** Important in hydrological and conflict related emergencies. Epidemics themselves may create a disaster/emergency scenario<br>(see Table: SCENARIO: EPIDEMIC)<br><br>**Key Facts**<br>Epidemics can be a major cause of morbidity and mortality during emergencies.<br>Rapid detection and prompt response to epidemics among the affected population is a key priority during humanitarian crises.<br>Epidemics are ordinarily managed by the health system as part of an<br>Early Warning and Response System (EWARS). This involves all levels of the Health System working in coordination with other sectors (e.g. Water & Sanitation, Vector Control)<br>Where outbreaks are large or where control measures are difficult to implement a more vertical approach may be taken.<br>This may require more specialized personnel, supplies and equipment that may not be available locally (e.g. mass vaccination, temporary case management and/or isolation facilities) | **Components** of effective epidemic management are:<br>Response and Containment<br>Early Warning and Response System (EWARS)<br>Preparedness and Prevention<br>Outbreak investigation to determine transmission route and risk groups, and ultimately the causal agent.<br>Rapid laboratory confirmation.<br>Coordinated multi-sectoral response based on preparedness plans.<br>Implementation of control measures (see disease tables).<br>Outbreak monitoring and enhanced surveillance to detect alerts, confirm rumours and investigate new areas of outbreaks rapidly.<br>Outbreak risk communication.<br><br>**Priority Actions/Steps**<br>**Preventio**n through provision of water and sanitation, vector control, health education, vaccination (see disease tables)<br>**Preparedness** through identification and surveillance of epidemic risks, stockpiling, training, environmental management.<br>Outbreak **investigation** to determine transmission route and risk groups, and ultimately the causal agent<br>Rapid laboratory support and **confirmation**.<br>**Risk assessment** to determine possible impact<br>Coordinated multi-sectoral **response** based on preparedness plans.<br>Implementation of **control measures** (see disease tables).<br>Outbreak **monitoring and enhanced surveillance** to detect alerts, find cases and contacts and new areas of outbreak activity rapidly.<br>Outbreak **risk communication** (to community/public and to media).<br>**Supplies and Equipment** (personal protective equipment, antibiotics, IV fluids, vaccines)<br><br>**Issues:**<br>**Mass vertical population-based interventions require:**<br>Clear goals/objectives<br>Involvement of all levels of the health service,<br>Careful planning and coordination<br>Essential supplies, equipment, transport and communications<br>Training of health workers in advance of intervention<br>Community/social mobilization to engage community and improve acceptance, cooperation and compliance | New cases/rates per day or week<br><br>Deaths/death rate per day or week<br><br>Case fatality ratio<br><br>% of contacts followed up<br><br>% population coverage of mass intervention (e.g. vaccination) | General support to EWARN in all types of crisis.<br><br>Existing resources will be used to respond. These are supplemented and supported by addition of funds for specialized supplies, training, logistics, deployment etc.<br><br>Support to ***verified*** outbreaks of cholera, yellow fever, meningitis, measles, and viral haemorrhagic fever if the local capacities are insufficient.<br><br>For other outbreaks consult your RHA.<br><br>Epidemic response should include control of supplies (place and time of use) and supervision of the response. |

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| | After action review/audit to assess goals achievement | | |

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| **EARLY WARNING AND RESPONSE SYSTEM (EWARS)**<br><br>**Objective**: Ensure early detection of epidemics for rapid and effective control and prevention of excess disease and deaths. | Risk assessment with identification of priority diseases for surveillance.<br>Case definitions established for priority diseases.<br>Surveillance network (health facilities, laboratory, and community).<br>Standard reporting periodicity, mechanisms and forms.<br>Standard procedures for prompt verification and investigation of potential epidemics "alerts" and "rumours".<br>Complement existing surveillance structures<br>Reference laboratories identified for confirmation, protocols for transport and tracking of specimens.<br>Rapid diagnosis kits and laboratory reagents;<br>Data management and analysis capacity.<br>Technology: hardware, software, communications and transport of surveillance team and local focal point, plus data manager.<br>Training of network (surveillance staff, health care facility workers on detection, reporting, analysis, thresholds for action). | - Completeness (% health care facilities reporting)<br>- Timeliness (% HCF reporting on time).<br>- Time for alert verification (24 h)<br>Supervisory visits quarterly.<br>- Regular epidemiologic Bulletins. | EWARN surveillance is a minimal component of health information system in any setting,<br><br>General support to primary and referral health care services<br><br>If EWAR absent or insufficient, support it all crisis.<br><br>Staff financed initially if need be, seek for longer-term funding from other sources as possible. |
| **OUTBREAK PREPAREDNESS**<br><br>**Objective**: To reduce morbidity and mortality due to outbreaks and to contribute to rapid outbreak containment. | Epidemic Response kits and guidelines.<br>Outbreak investigation and response teams.<br>Training in rapid investigation, response, case management.<br>Develop multi-sectoral preparedness plans (as per risk assessment).<br>Pre-position stockpiles(sampling, medicines, equipment, supplies)<br>Stock take of agencies' stockpiles.<br>Pre-identification of isolation facilities, case management protocols available, disease-specific measures. | - Multi-sectoral preparedness plans<br>- Pre-positioning<br>- Training<br>- Disease-specific measures | Support depends on risk assessment. Consult RHA.<br><br>ECHO does not fund anymore stockpiles, only funds replenishment. |
| Ref.: http://www.who.int/diseasecontrol_emergencies/publications/who_hse_epr_dce_2012.1/en/index.html | | | |

# 5. HEALTH SYSTEMS

## *5.1 General Overview of health systems*

The Health System includes the totality of preventive and curative health services provided within a country, delivered by both the public and private sector. The type and modalities of health services delivery depend on:

1. **The Leadership and governance** of the system, which define the policies and strategies, taking into account local culture and values
2. The availability/allocation of financial resources and the model of **Health System Financing** (e.g. public vs. private)
3. The **Health status and risks of** the population

A well-functioning health system responds in a balanced way to a population's needs and expectations by:

- improving the health status of individuals, households and communities
- protecting the population against what threatens its health
- protecting people against the financial consequences of ill-health
- providing equitable access to people-centred care
- making it possible for people to participate in decisions affecting their health and the health system.

The following 7 sections set out the main elements of Health Systems :

*Service delivery*

Health systems are only as effective as the services they can provide. Health systems consist of :

- A defined package of services and benefits, with a comprehensive and integrated range of clinical and public health interventions that respond to the full range of health problems of their populations
- Community health and primary health care services provided as close to the community as possible, with the back-up of secondary and tertiary specialized hospital services
- A public health service that is capable of delivering a range of health risk management services including risk identification, reduction and prevention, as well as emergency health interventions.
- Standards, norms and guidance to ensure access, together with the essential dimensions of quality: safety, effectiveness, integration, continuity, and people-centeredness
- Mechanisms to hold providers accountable for access and quality and to ensure consumer voice.

*Leadership and governance*

Health systems are subject to powerful forces and influences that often override rational policy making. These forces include disproportionate focus on specialist curative care, fragmentation in a multiplicity of competing programs, projects and institutions, and the pervasive commercialization of health care delivery in poorly regulated systems.

Each country's specific context and history shapes the way leadership and governance are exercised, but common aspects of good practice in leadership and governance can be identified. These include:

- Health authorities taking responsibility for steering the entire health sector (not just public sector service delivery)
- National health policies, strategies and plans that set a clear direction for the health sector and that are defined through transparent and inclusive consultation processes
- Effective regulation
- Effective policy dialogue with other sectors.
- Mechanisms and institutional arrangements to channel donor funding and encourage its alignment with country priorities.
- Accountability to stakeholders.

*Health financing*

Health financing is a key policy instrument to improve health and reduce health inequalities. Health financing should have systems to:

- Raise sufficient funds for health
- Pool financial resources from many sources and inject them appropriately into the health system
- Maintain accountability for funds and prevent corruption (e.g. regulation, audit, expenditure review)

*Human resources for health*

The health workforce is central to achieving health objectives. A well performing workforce is one that is responsive to the needs and expectations of people and contributes efficiently to the achievement of the best possible health outcomes, given available resources, constraints and circumstances.

Countries are at different stages of development of their health workforce. However, common concerns include: improving recruitment, education, training and deployment; enhancing productivity and performance; and improving retention.

These objectives require:

- Sufficient numbers of health workers with the right mix of competencies;
- Payment systems that provide the right kind of incentives;
- Regulatory mechanisms to ensure system wide deployment and distribution in accordance with needs;
- In service training mechanisms to maintain the quality of service delivery.

*Health information systems*

Effective health service delivery is only possible with good quality and timely information on health needs, on the broader context in which the health system operates, and on the performance of the health system. To be useful for action, health information must be timely and include:

- Health status of the population served;
- Utilisation of health services;
- Access to care;
- Quality of services provided;
- Acute hazards to health, like epidemics and other emergencies;
- Progress in meeting defined health objectives and overcoming challenges;
- Financial expenditures.

*Essential medical products and technologies*

In addition to financing mechanisms, universal access to health care is heavily dependent on access to affordable essential medicines, vaccines, diagnostics and health technologies of good quality, which are used in a scientifically sound and cost-effective way.

Medical supplies are the second largest component of most health budgets (after salaries) and the largest component of private health expenditure in low and middle income countries. Key components of a functioning system are:

- A regulatory system of medical products for marketing authorization and safety monitoring.
- National lists of essential medicines and other medical products, national diagnostic and treatment protocols; and standardized equipment per levels of care, to guide procurement, reimbursement and training.
- A supply and distribution system to ensure universal access to essential medical products and health technologies through public and private channels.

*Health Infrastructure*

The availability of safe, accessible and user-friendly health facilities is a crucial but expensive component of a functioning health system. The process of planning, designing, building, managing and maintaining this infrastructure is often expensive and can be fraught with political considerations that have little to do with health needs. It is important that health infrastructure is:

- Planned and designed to deliver priority health services to the maximum number of people and in an equitable manner;
- Cost effective, taking into account available health resources;
- Maintained and managed adequately, as it represent a crucial asset for health service delivery.

### *5.2 Health systems in the humanitarian context*

In humanitarian emergencies, existing health systems are in the front line for delivering health services to those affected by the crisis. Resilient health systems should have in place the necessary preparedness measures to deal with the health impact of emergencies; all key components of a functioning health system are critical during emergency crisis.

However, health systems are often severely affected by a crisis, in many aspects and ways, depending on:

- The scale and length of the emergency
- The numbers of people affected
- Existing weaknesses, including lack of capacity, of the system
- The damage to the health system caused by the emergency.

Humanitarian actors aim at providing health emergency interventions that can support the existing national system, filling its gaps and addressing its weaknesses. Sometimes, however, humanitarian action needs to be delivered through parallel systems, to ensure a quick access to life-saving measures, depending on:

- The type of humanitarian emergency (scenario)
- The main threats to the health of the population
- The causes of death and disability in the population
- The level of destruction and the capacity (or lack of) of national/local systems to deliver health services.

Threats to health and causes of death and disability include:

- Endemic communicable diseases
- Maternal and neonatal causes
- Child health and nutritional causes
- Injury & Trauma
- Epidemics
- Mental health conditions
- Non-communicable diseases

The challenge for humanitarian health actors is to reduce suffering, death and disability in a manner that does not undermine and, whenever it is possible, that supports the existing health system by delivering health interventions with and through the existing health system. Health actors should only operate in parallel and/or through a vertical approach when existing health services have collapsed, or where populations are not being served by the existing health system.

Duplication of activities and gaps in assistance are, however, not infrequent in the challenging environment of a crisis and the risk of undermining national or local health systems should always be considered. To minimize this risk, humanitarian health actors should strive to coordinate with the other sectors and actively engage with national and local counterparts in the public and private sector. This coordinated approach can improve the effectiveness of interventions and help link relief and development in the transition from emergency to 'post-crisis' recovery.

### *5.3 DG ECHO and health systems*

Acute emergency health response frequently consists of the delivery of health services with autonomous human resources and supplies, with the aim of ensuring fast delivery of life-saving interventions. When possible and not in contradiction with life-saving action, health actors should endeavour not to undermine the development of the health system and to facilitate the articulation of their action with those of the counterparts in the national system and of other development actors.

Early warning systems and surveillance are an absolute priority to detect health hazards, identify needs and monitor the impact of interventions.

A high coverage of health services is only possible when communities have geographic and financial access to them. DG ECHO policy, based on available evidence, is to support free access to health services of populations affected by crisis, particularly when health needs are highest, giving priority to primary health care (see Annex D : Fee for Service Guidelines).

After the crisis, national health authorities and development donors will define the health financing mechanisms and models. It should be noted that in poor countries the trend is to facilitate universal access through different mechanisms including insurance schemes, social transfers and external aid. DG ECHO supports the articulation of its funded interventions with such initiatives.

Emergency operations are almost never carried out by external actors alone. National staff are hired by international organizations to scale up activities. It is critical that national staff benefit from capacity-building initiatives, so that they will be able to contribute to national efforts when the crisis is over.

A key concern of effective health interventions is the issue of quality of supplies. DG ECHO requires that support is delivered according to the best available modality and is appropriate for saving and preserving life during emergencies and in their immediate aftermath. Therefore ECHO implementing partners should pay particular attention to the issue of quality of drugs and the risks of counterfeit and/or substandard medicines.

A final note concerns coordination mechanisms. Large and quick emergency operations are challenging in terms of coordination, logistics and staff. External interventions fill the gap between needs and existing capacities. The aim is to scale up effective interventions to cover most of the affected people, ensuring a good coordination between implementing actors and donors. Coordination mechanisms should help to avoid duplication, expand coverage, support and monitor quality, and facilitate the improvement of local capacities. Health coordination mechanisms need to be supported as part of the overall support to health interventions