

Annex 5 – Technical Guidelines

Annex to DG ECHO Health Policy Guidelines

EU Civil Protection & Humanitarian Aid

Annex 5: Technical guidelines

This operational guidance is aimed primarily at DG ECHO field staff, who needs to engage with partners, local and national authorities for the implementation of humanitarian health actions.

It consists of a series of tables and checklists with **priority actions and critical steps for health operations across a range of delivery mechanisms and according to specific causes of morbidity and death.** Summarising a vast literature, the annex is a user-friendly entry point on what to do in the listed health scenarios. This should assist the coherent allocation of funds and quality control monitoring in DG ECHO. Still, **consultation with the DG ECHO Health Thematic Experts is crucial to take the final decision.**

In fact, the annex is not intended to solve complex situations, but to provide a robust approach to the management of the most common emergency contexts in the most common humanitarian settings. Each module can be consulted when needed, using the following steps:

- First, what is the situation to tackle? The most common types of events (alone or in combination) are armed conflicts, epidemic outbreaks, natural hazards (e.g. floods and earthquakes), drought and famine, and CBRN and technological disasters.
- What are the main health conditions? They can be causes of disease and death, conditions that accelerate disease and death, epidemics requiring mass response, causes of disability or other common conditions found frequently in humanitarian crises.
- How is health care delivered to address the main health conditions and their risk factors? Health services can be channelled via primary healthcare, secondary healthcare, community health and outreach, health supplies, health infrastructure, epidemic response etc.

Each topic appears in a single table for consultation according to what the Technical Assistant finds in the field. The first column of each table contains the main emergency scenario and related key facts. 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 advice on what to do.

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1. Scenarios

1.1. Acute and Protracted armed conflict (armed violence)						
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice			
 Armed conflict results directly in civilian injuries and deaths due to war related wounds, sexual violence and psychological trauma. Health system disruption, violence on health workers can lead to the collapse of primary care and increase morbidity and mortality Displacement and living conditions also greatly increase the risk of disease and death (e.g. inadequate WASH, shelter, access to food and nutrition) 	 Risk factors leading to mortality: Violence, Injury, lack and/or delay in treatment, high exposure to disease vectors Overcrowding and inadequate shelter, poor water, sanitarion and hygiene conditions Insufficient nutrient intake, insufficient vaccination coverage Critical Steps: Activate disease early warning and surveillance system (EWARS) Key disease threats are identified and prevention/preparedness plans in place Plan and implement emergency vaccination campaigns as needed Ensure safety of health staff and facilities. Mechanisms of delivery: Community outreach: early warning and/or sentinel activities Primary healthcare: triage, first aid, injury and minor trauma care, continued delivery of main services, management of sexual violence, STDs and psychological problems Secondary healthcare: emergency care and trauma surgery, continuity of healthcare Health system infrastructure and supplies: ensure vital supplies/drugs to the existing health facilities or, if destroyed or severely damaged, availability of temporary structures In Acute Onset Conflicts, further attention should be paid to: Long term EWARS, information systems and referral system Management of physical disability, non-communicable and mental health issues 	 Health needs assessment available? (Y/N) Assessment of Health Facilities available (Y/N) % of health facilities (HF) operational Average population per functioning HF % of HFs without stock out of selected essential drugs Crude mortality rate, and <5 mortality rates Rates of Moderate Acute Malnutrition and Severe Acute Malnutrition No of cases or incidence of selected high priority diseases CFR for priority diseases No of cases or Incidence of sexual violence Proportion of people with <15 litres of water/day Vaccination coverage for EPI vaccines Target population coverage for vaccination campaigns 	Consult the Thematic Health Experts			

	1.	2. Acute hydro-meteorological emergencies (flood	ds, tropical cyclones)
Ke	y facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
-	Floods are the most frequent natural disaster with difficult access, causing the most loss.	 Risk factors leading to mortality: Drowning and trauma Poor water, sanitation, hygiene conditions and inadequate shelter High exposure to disease vectors / poisoning by toxic/chemical material 	 Health needs assessment available? (Y/N) Survey of Health Facilities available (Y/N) % of health facilities (HF) operational 	Consult the Thematic Health Experts
-	I he higher the water level and currents, the more sever the impact. Health is impacted by an increased food insecurity, trauma, drowning and diseases related to water	 Critical Steps: Triage, treatment, referral and transport for injured and "near drowning" patients Identify key disease hazards and implement prevention and preparedness Activate disease early warning and surveillance (EWARS) Survey vectors and breeding sites with measures to reduce vector density Identify and manage possible sources of toxic contamination Implement health education for prevention of water and vector-borne diseases 	 Average population per functioning (HF) % of HFs without stock out of selected essential drugs % of facilities without safe water supply Crude Mortality Rate and <5 mortality rates: No of cases/ incidence of 	
-	contamination The epidemic risk is high when the water sources are contaminated and in displacement	 Plan and implement emergency vaccination campaigns as needed Procedures in place to deal with human and animal corpses Mechanisms of delivery: Community outreach: health education, prevention and treatment of water-borne 	 selected high priority diseases CFR for priority diseases Proportion of people with <15 litres of water/day 	
-	Tropical cyclones are associated with less flooding but with more traumas and injuries due to the wind power	 Primary healthcare: continuity of main services delivery and treatment of water-bone diseases, early warning/sentinel activities Primary healthcare: continuity of main services delivery and treatment for "near drowning", specific primary care interventions for diarrhoeal diseases, respiratory tract infections, Hepatitis A, Typhoid, skin infections, snake and insect bites, 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), care of minor wounds and skin infections (e.g. Tetanus Toxoid immunization) 	 Vaccination coverage for EPI vaccines. Target population coverage for vaccination campaigns Vector risk assessment and survey available (y/n) 	
-	Storms cause high destruction at coasts/estuaries and have higher levels of drowning and traumas	 Secondary healthcare: emergency surgical care including traumas, intensive care for "near-drowning" cases and severely injured Health system infrastructure and supplies: ensure vital supplies, water, electricity and sanitation to the existing health system, rehabilitation and set up of temporary facilities 	Source: IASC Global Health Cluster Indicators	

1.3. Acute geophysical emergencies (earthquake, volcanos)					
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice		
 The impact depends on the ground shaking intensity and the building structure quality / density Shocks occur with no warning: aftershocks remain a serious hazard for further damage and psychological stress and anxiety Survivors face traumas and injuries 	 Risk factors leading to mortality: Trauma & asphyxia, acute kidney injury (AKI), burns and shocks Inadequate shelter and access to water Epidemics (rare) Critical Steps: System of triage, treatment, referral and transport in place for the injured Identify key health hazards and implement prevention and preparedness measures Activate disease early warning and surveillance (EWARS) Identify and manage possible sources of toxic contamination (e.g. chemicals, water) Plan and implement emergency vaccination campaigns as needed Procedures in place to deal with human and animal corpses 	 Health needs assessment available? (Y/N) Survey of Health Facilities available (Y/N) % of health facilities (HF) operational Average population per functioning HF % of HFs without stock out of selected drugs % of facilities without safe water supply Crude Mortality Rate, trauma and <5 mortality rates No of cases/ incidence of 	Consult the Thematic Health Experts		
 Mortality and injury peak within the first 72 hours 	Mechanism of delivery: - Community outreach: health education, prevention and treatment of water-borne discourse oadly warping (southed activities, case finding (including detection of AKI)	 No of cases/ incidence of selected high priority diseases CEP for priority diseases 			
 85% of lives are rescued in the first 48 hours Health impacts are aggravated by poor access, secondary fires, interruption of water supplies, delay in care and exposure to severe weather conditions 	 Primary healthcare: close articulation between rescue and medical teams for triage and immediate management of life-threatening injuries, initial triage and care for trauma, asphyxia, , burns care, AKI, minor wound care, rapid referral and transport of more serious patients to secondary facilities, continuity of care, establishment / provision of psychosocial care and counselling for traumatised earthquake survivors. Secondary healthcare: advanced diagnosis of injuries (X-ray, CT, MRI), emergency surgical care and trauma surgery, intensive care for severely injured and burn victims, dialysis and respiratory distress management Health system infrastructure and supplies: rehabilitation of facilities and/or provision of temporary structures, ensure water, electricity and sanitation to health facilities, ensure adequate stocks of key drugs and supplies 	 OFR for priority diseases Proportion of people with <15 litres of water/day Vaccination coverage for EPI vaccines. Source: IASC Global Health Cluster Indicators 			

1.4. Epidemic (and other biological threats)					
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice		
 Epidemics may occur secondarily to other types of emergencies and may themselves generate a health emergency Favouring factors are displacement, overcrowding, contact with vectors (via water, food, animal) The route of spread may be respiratory, faecal-oral or by contact with infected blood or body fluids An epidemic can be localised but in high-risk population (e.g. refugee camp), population-wide (single country) or multi-country / global (e.g. pandemic) 	 Risk factors leading to mortality: Lack and/or delay in treatment, collapse of vaccination services The infection severity depends on exposure, previous immunity and general nutritional and health status before infection. The outcome is also affected by specific antimicrobial administration (where appropriate) and supportive care to prevent dehydration, respiratory distress, bleeding and organ failure Critical Steps: Prevention through provision of safe water and sanitation, vector control, health education, vaccination (see disease tables) Preparedness through identification and surveillance of epidemic risks, stockpiling, training, environmental management, risk management Outbreak verification and investigation to determine source, transmission and ultimately the causal agent through laboratory confirmation Coordinated multi-sectorial risk assessment and response Monitoring and enhanced surveillance to detect alerts, actively find cases and contacts and rapidly identify new areas of outbreak activity Outbreak risk communication (to community/public and to media) Supplies and Equipment (personal equipment, antibiotics, IV fluids, vaccines) Mechanism of delivery: Vertical mass intervention in the case of large outbreaks, those with potential to spread or where a mass intervention (e.g. mass vaccination) may be needed Community Outreach & IEC for case finding, contact tracing, preventive educations Primary Health Care (PHC) for initial case management & isolation facilities Early Warning and Response System (EWARS) for outbreak monitoring and metadom 	 Risk Assessment and operational plan of action available? Y/N Daily or weekly No. of new cases, incidence daily/weekly Population attack rate Case Fatality Ratio No of contacts per case (in epidemics with person to person transmission) % of contacts followed up daily/weekly No of cases in Health Care Workers (HCWs) Population coverage of mass intervention (e.g. vaccination) Completeness and timeliness of Health facility reporting 	Consult the Thematic Health Experts		

1.5. Technological emergencies (toxic, chemical and radiological)						
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice			
 Events may be acute or chronic, of known or unknown source, localized or widespread, airborne, waterborne, food borne or by contaminated soil They may result from technological disaster, natural disasters and terrorist incidents 	Risk factors leading to mortality: Poisoning leading to organ failure, asphyxia or neurological collapse. 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, eyes or may be inhaled or ingested. Critical Steps: Identify the source and rapid environmental and health risk assessment Definition of affected zone and forecast of new zones potentially affected (weather/wind patterns, downstream rivers, food chain) to contain the spread Definition of health risks, impact and capacity of local health infrastructure to cope Remove people from exposure and life/health care after displacement Decontamination of victims (where appropriate) Movement of at risk populations to "safe zones" System of triage, treatment, referral and transport in place for exposed patients with referral to secondary level of care of severe cases Provision of specialist secondary care for severe exposure/intoxication, trauma Deal with long-term disability Mechanisms of delivery: Community Outreach: prevention of exposure and treatment of minor exposures Primary Health Care: triage, stabilization and initial case management, referral to secondary facilities for more severe cases, care for psychological trauma	 Health risk and needs assessment available? (Y/N) % of health facilities (HF) operational Average population per functioning HF Crude mortality rate Agent specific mortality rate No of admissions to Secondary healthcare CFR in exposed patients No of people transported to safe zones No of people decontaminated Time to deployment of specialist equipment and personnel 	Consult the Thematic Health Experts			

2. Causes of death and disability

2.1. Acute respiratory infection (ARI)						
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice			
 Major cause of morbidity and mortality in all scenarios, especially where children may be exposed to overcrowded conditions, bad ventilation in shelters, chilling due to cold wet weather, and poor nutrition 30% of deaths in under- five is due to ARI, of which 90% is due to pneumonia Pneumonia usually caused by bacteria (Haemophilus influenzae type B and Streptococcus pneumoniae, both vaccine preventable) and viruses Management of pneumonia consists of antimicrobial therapy: the choice of antimicrobial depends on national protocols and availability 	Critical steps: Early recognition and prompt intervention Treatment with effective anti-microbial Supportive measures (e.g. oral fluids to prevent dehydration, continued feeding, antipyretics, and protection from cold) Consider vaccination against Hib, pneumococcal, pertussis, diphtheria and measles as per national protocol or in areas of difficult sporadic access and remote management. Nutrition (particularly breast feeding and zinc supplementation) Hand washing and respiratory hygiene Community Outreach: early recognition of cases, prompt referral to PHC, health education on symptoms, feeding and vaccination; Primary healthcare: diagnosis and treatment of cases, vaccination, health education on supportive measures, referral of severe cases to SHC after initial treatment Secondary healthcare: Clinical management of severe cases, children with malnutrition, co-existent illness e.g. HIV, Radiology, Laboratory services Nutritional programs : Include, when possible, access to outpatient consultation for children, malnourished or not in nutritional programmes Supplies : Availability of antimicrobial therapy (oral and iv), anti- pyretics, IV fluids, vaccines	 No and % population < 5 years treated for ARI Proportional morbidity and trends for ARI of children < 5 years. 	Inclusion of the detection, prevention and management of ARI in health outreach, primary or secondary care programming Inclusion when possible access to outpatient consultation for children, malnourished or not in nutritional programs Note, in case of proposed community treatment, consult with Thematic Health experts.			
	2.2. Diarrhoeal diseas	es				

Key facts		Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
-	One of the leading causes of death in emergencies (mainly in conflicts, acute	 Critical steps: Safe drinking water, safe disposal of human excreta Distribution of soap and promotion of hand washing Early recognition of diarrhoea and prompt rehydration 	 No and % population < 5 years treated for diarrhoea with ORS 	Inclusion of the detection, prevention and management of diarrheal

hydrological emergencies and overcrowding without adequate wash / hygiene).

- In camp situations more than 40% deaths in acute phase; 80% of deaths among children under 2
- Diarrhoea is caused by bacteria, viruses and protozoa; bloody diarrhoea is caused by bacteria (Shigella but also Salmonella, E. Coli, Campylobacter), or parasites (Entamoeba, but also Giardia).
- Rehydration in mild and moderate diarrhoea is done with ORS - Oral Rehydration Salts.
- In rapid or severe dehydration, rehydration may be done intravenously (see cholera page)
- Zinc reduces mortality

- Zinc sulphate in combination with ORS for children under 5 years reduces the severity and the duration of the diarrhoea.

- Antimicrobials when indicated - severe diarrhoea produced by bacteria or parasites can be treated with specific medicines (antibiotics, metronidazole)

- 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.

Screen for undernutrition in children with diarrhoea

Mechanisms of Delivery:

- Community Outreach: ORS corners allow to provide early care of dehydration and to identify and refer more severe cases for health care.

- Primary Healthcare: assessment and management of cases, rehydration with ORS and zinc supplementation, antibiotic use when appropriate, referral of severe cases

- Secondary Health Care: management of severe cases, rehydration with IV fluids, antibiotic use when appropriate, laboratory service

- Nutritional programs: Include when possible access to outpatient consultation for children, malnourished or not in nutritional programmes

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Supplies: ORS, IV fluids, antibiotics, IV giving sets

and Zinc (note: new ORS formulas frequently includes zinc, verify)

- Proportional morbidity and trend for diarrhoea in children < 5 years and total population
- Proportional mortality and trend for diarrhoea in children < 5 years and total population

diseases and subsequent dehydration in any health outreach, primary or secondary care programming

Include when possible access to outpatient consultation for children, malnourished or not in nutritional programs

Note, in case of proposed community treatment, consult with the Thematic Health Experts.

Ke	ey facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice		
-	One of the leading causes of death in emergencies Maternal mortality is higher among poor women living in rural areas Young adolescents face a higher risk of death and complications	 Critical steps: Ensure adequate antenatal services for pregnant women Ensure assistance by skilled birth attendants for safe delivery Diagnose medical conditions during pregnancy that can be treated to reduce maternal complications and death Ensure emergency obstetrical services (incl. caesarean section) The MISP (Minimum Initial Service Package) facilitates bundles of interventions. 	 % of pregnant women attending antenatal services % of births assisted by a skilled birth attendant % of deliveries by caesarean section by admin. unit 	Always make sure that BEMONC services are available and included in the health package to reduce mortality. Maternal health should be included in all primary and secodndary health or in any		

Maternal death

- Skilled care before, during and after childbirth can save the lives of women and new-born babies.
- Most of complications develop during pregnancy. Other complications may pre-exist and worsen during pregnancy.
- Female genital mutilation (FGM) is a cause of complication in childbirth
- The most frequent complications are severe bleeding, infections, high blood pressure (eclampsia and preeclampsia), unsafe abortion.
- Remaining complications are caused by or associated with diseases such as malaria and AIDS during pregnancy.

- Measures to decrease maternal death around delivery should be coupled with measures to decrease neonatal death.
 - Care and support in the weeks after childbirth.

Mechanisms of Delivery:

- Community Health Outreach: education and information on healthy pregnancy including vaccinations, nutrition, alcohol etc., basic antenatal monitoring of healthy mothers and foetus, recognition of complications of pregnancy or foetal problems and referral to PHC, If poor access to health facilities, skilled attendance at child birth and referral of mothers with complications of childbirth

- Primary Healthcare: antenatal services with monitoring of the health of the mother and baby, recognition of potential complications and referral to secondary health care as appropriate, basic obstetrical care for safe delivery and management of complications during childbirth BEMONC (Basic Emergency Obstetrics and Neonatal Care), treatment of HIV infected mothers, including during pregnancy

- Secondary Healthcare: management of severe complications of pregnancy and childbirth, comprehensive Emergency Obstetric and Neonatal care CEMONC, treatment of HIV infected mothers during delivery (and treatment of newborns)

- Medical Supplies and guidance: MISP (Minimum Initial Service Package), emergency obstetrical equipment

- % of Health facilities with basic emergency obstetric care per admin unit
- No/rate of maternal deaths per admin. unit

health outreach project with the exception of a vertical intervention for a specific outbreak response.

-	Key facts	Risk factors for mortality / critical steps / delivery mechanisms	-	Indicators	ECHO advice		
-	Natural disasters and conflict may increase the risk of rape and other forms of SGBV. Survivors of sexual violence should receive health care as soon as possible in order to avert preventable outcomes, such as unwanted	 Critical steps: Medical care and psychosocial support should be provided as soon as possible. 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. Mechanism of delivery: Community Health Outreach: education and prevention of SGBV, ensuring the community is aware of the available clinical services 	-	Total No and proportion of victims receiving assistance in less than 72 hours. 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. The protection component of the victims should also be addressed.		

2.4. Sexual and gender-based violence (SGBV)

	pregnancies and life- threatening infections.	- Primary Health Care: screening, first care (including post-exposu prophylaxis and Hep B/tetanus) and MHPSS for survivors of GBV	Ire
-	If left unaddressed, sexual violence may have serious negative physical, mental and social consequences for individuals, families and communities.	- Secondary Health Outreach: Treatment of complications.	
-	Teenage girls and displaced people are mostly SGBV-exposed.		
-	Men and boys are also at risk, particularly when subjected to detention and torture.		
-	It is important to recognize that anyone can be a survivor of SGBV and to ensure available and accessible services for all.		
		2.5 Neonatal des	ath

Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Maternal health and newborn health are closely linked. More than three million newborn babies die every year, and an additional 2.6 million babies are stillborn. Preterm birth is the 2nd cause of child death (14%) after pneumonia and the direct cause of 35% of neonatal deaths 	 Critical Steps: Provide antenatal services that focus not only on the health of the mother, but also on the health of the baby, to reduce maternal complications and death, thereby reducing neonatal deaths Provide skilled birth attendance for safe delivery Availability of emergency caesarean section capacity Delay by 90 seconds the cutting of umbilical cord (increases oxygen and iron to babies) Clear respiratory tract at birth Manage prematurity (e.g. for hypothermia and hypoglycaemia). Ensure regular feeds, breast milk ideally 	 % of births assisted by a skilled birth attendant % of Health facilities with basic emergency obstetrical /neonatal care per admin. unit No/rate of neonatal deaths per admin. unit 	In any primary or secondary health project or in any health outreach This main cause of mortality is to be included in all projects, with the exception of a vertical intervention for a specific outbreak.

- 75% of deaths occur in the first week
- In developing countries nearly 50% of mothers and new-borns do not receive skilled care during and after birth.
- Up to two thirds of newborn deaths can be prevented if known, effective health measures are provided at birth and during the first week of life.
- The main causes of death are respiratory obstructions, pneumonia, other infections (includes sepsis and meningitis), and prematurity (lack of lung maturity).

- Hypothermia: dry new-born; skin contact with mother
- Treat respiratory distress, clean delivery, good umbilical cord care
- Provide antibiotics if infection present or high risk of infection.

Mechanisms of Delivery:

- Community Health Outreach: ducation and information on neonatal health including breastfeeding, basic antenatal monitoring of healthy mothers and foetus, recognition of complications of pregnancy or foetal problems and referral to PHC, if poor access to health facilities, skilled attendance at child birth and referral of mothers with complications

- Primary Healthcare: provision of perinatal services with monitoring of the health of the mother and baby, recognition of neonatal complications and referral to secondary health care, basic Obstetrical care for safe delivery and care of the baby (prematurity, hypoglycaemia, respiratory distress, infection)

- Secondary Health Care: special care for neonates who are premature, have respiratory distress or severe infection

- Medical Supplies: lung maturation with corticosteroid if premature labour, drugs for treating complications, emergency resuscitation equipment

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- Health Infrastructure: Safe, clean and equipped unit for special neonatal care

Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice	
 An increase of malaria cases and/or deaths is common in the aftermath of many emergencies (e.g. floods) due to healthcare breakdown, lack of access to long-lasting insecticidal nets (LLINs) and potential low immunity among displaced populations 	 Critical steps: Availability of appropriate and properly stored malaria diagnostics tools without stockouts – RDTs and/or microscopy Availability of appropriate and properly stored malaria treatment without stockouts according to relevant national protocols and as per international guidelines), and antipyretics (e.g. paracetamol) Intermittent Preventive Treatment of pregnant women (IPTp) in high transmission areas as part of ANC. Distribution of Long Lasting Insecticidal Nets (LLINs) to children under-5 and to pregnant women. 	 Should monitor: PHC and ANC activities in general Diagnostics Treatment Laboratory (RDT and microscopy) LLIN distribution Incidence 	Support recommended in all settings where malaria is endemic. 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.	
and have a had an error		 Mortality 		

Molorio

 Mortality and morbidity are the highest in children <5 Early diagnosis and treatment are crucial: ACTs are highly effective drugs with cure rates>90% Use of LLINs can reduce overall under 5 mortality rate by 20% in high transmission areas 	 Support to outreach and community based RDT and ACT only after careful evaluation – see ECHO advice column recommendations. Surveillance, Early Warning and outbreak investigation. Emergency preparedness (with potential prepositioning of treatment and diagnosis material and LLINs) Mechanisms of Delivery: Community Outreach: diagnosis by RDTs for treatment with ACT, referral of severe cases, in community-based management of malaria, ensure well trained supervised CHWs and strict control of diagnostic verification. Primary Healthcare: management of uncomplicated malaria, diagnosis by RDTs or microscopy, treatment by appropriate anti-malarial drugs, IPTp for pregnant women as part of ANC, referral of severe cases Secondary Healthcare: assessment and management of severe malaria, blood bank and haematology service Health Supplies: RDTs, antimalarials, anti-pyrectics, laboratory 	 Malaria surveys Distribution data % of households with nets 	Outreach and community RDT and ACT may be considered (<i>according to</i> <i>WHO recommendations</i> <i>and national policy and</i> <i>guidelines</i>), yet diagnostic testing is mandatory at all times, e.g. RDT, with ACT issued only following a + test result (CHW should prove positive testing). 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).
 Malaria epidemics response: The occurrence of epidemic malaria tends to be in displaced populations from low incidence area to endemic zones due to conflict, climatic events, agricultural activities (rice-fields), lack of medicines or sub- standard medicines The objective is to reduce morbidity and mortality from malaria epidemics by 	 Critical steps: Availability of appropriate and properly stored malaria diagnostics without stockouts – RDTs and/or microscopy Availability of appropriate and properly stored malaria treatment medicines without stock-outs according to relevant national protocol and as per international guidelines), and antipyretics (e.g. Paracetamol) General distribution of Long Lasting Insecticidal Nets (LLINs), and potentially other insecticidal treated materials (ITM), like tarpaulins, tents Well planned vector control i.e. Indoor Residual Spraying (IRS) Distribution of mosquito repellent (DEET containing) Surveillance, Early Warning, and outbreak investigation 	 Should monitor: Incidence of malaria cases and fatality Epidemiological parameters Diagnostics Laboratory (RDT and/or microscopy) Treatment LLIN distribution IRS spraying 	Conditions: Direct support to reduce morbidity and mortality for verified epidemics of malaria (epidemiological and investigation report). Malaria epidemics should be detected and effective control measures implemented within two weeks of onset to limit impact

prompt diagnosis and treatment of cases			If blind treatment of fever is proposed in outbreak peak, consult with the Thematic Health Experts.
 Malaria elimination (vertical initiatives): The objective is a long-term comprehensive effort to reduce and/or eliminate the burden of malaria at country, region or global level. 	 Various steps and delivery mechanisms are needed, including potentially all elements listed above. 		Not recommended for DG ECHO funding.
	2.7. Tuberculosis (TE	3)	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios but particularly in poor settings, in the presence of healthcare breakdown, and where there is overcrowding, poor nutrition and coexistent illness (e.g. HIV) It mostly affects young adults, with highest rates in sub-Saharan Africa Overcrowding following displacement increases risk of transmission Long term commitment to TB programmes is important to ensure good treatment outcomes 	 Critical steps: Identify existing TB patients in acute phase and continue treatment Identify TB suspects with productive cough for more than 2 weeks at community and facility level and refer for sputum smear microscopy to diagnose smear positive TB Treat infectious TB patients with smear positive pulmonary TB and severe forms as a priority Provide standardized short-course chemotherapy with supervision and patient support. Treatment compliance to be ensured. Refer severe cases and complications to secondary health facility Ensure effective drug supply and management system Carry out investigation of close contacts Isolation of TB patients is not recommended (except in the acute phase in multidrug resistant tuberculosis MDR) Mechanisms of Delivery: Outreach: identification of TB suspects, referral of suspects, health education, Supervision of drug therapy, contact tracing. 	 Programme performance in line with international standards Detection rate: >70% of new sputum-smear positive TB cases Cure rate: >85% Treatment completion rate Sputum conversion rate at 60 days: >80% Default rate: less than 10% TB incidence in newly displaced communities No of TB suspects examined for each positive smear: 13:1 	Diagnosis and treatment of TB should be integrated into the primary and secondary health services with disease specific management and information system Programme should ensure all TB patients who have started the treatment complete the course Ensure quantity and security of drug stocks Ensure contingency plans for unplanned population movement or security breakdowns

	 Primary healthcare: laboratory diagnosis where services are present, Supervision of drug therapy, monitoring, surveillance, health education, supervision of community follow-up. Secondary healthcare; clinical management of severe disease, complications of treatment and drug resistant cases, laboratory services, radiology facilities, monitoring Medical Supplies and infrastructure: drugs, laboratory, health education materials, recording and reporting materials e.g. TB registers, TB laboratory registers, laboratory and radiology facilities at SHC 	 % sputum smear positive TB cases of all TB cases TB mortality % of close contacts assessed 	Linkages with National TB Programme important to ensure sustainability
	2.8. Trauma and inju	ry	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Trauma and injury are a major mortality risk factor in geological, conflict and hydrological emergencies Death from injury can happen after several hours of the event (as a result of treatable conditions), or days/weeks after the event (as a result of infection, multisystem failure or other late trauma complications). Many fatal injuries may be prevented or their severity reduced by adequate prehospital trauma care Functioning secondary care facilities with trained staff and adequate supplies and equipment are vital to reducing post-disaster fatality rates from trauma 	 Critical steps: Staff is skilled, trained and well-connected with local communities Early assessment and triage of injured patients, and early referral and safe transport to higher level facilities Recognition and management of complications Patient post-operative care until discharge Possible use of social media for search and rescue Mechanism of delivery: Community Outreach: recognition and referral of cases Primary healthcare: pre-hospital triage, care and assessment, stabilisation of severely injured patients before transfer, referral and transport to secondary care facilities, management of minor fracture, cut, wound and burn care Secondary healthcare: assessment of serious traumas and burns, stabilisation and intensive care of severely injured, emergency and trauma surgery, intensive care service for post-operative patients as well as those with crush injuries and syndrome and severe burns, blood bank and volume expander service, radiology service, laboratory to support intensive care monitoring, disabilities and injuries rehabilitation Health Supplies, Equipment and Infrastructure: surgical trauma kits, logistic support (water, electricity generation), repair or rehabilitate infrastructure, temporary facilities may be constructed in major disasters 	 No of patients treated Average time (hours) from assessment to transfer Trauma specific mortality rate Post-operative fatality rate Wound infection rates 	If conflict, support as possible skilled available local staff If time allows (i.e. chronic conflict) improve pre- hospital care (see primary health facilities)

	2.9. HIV and AIDS		
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios especially where HIV background rates are high. HIV affects the ability of individuals to survive other infectious diseases and malnutrition. Crises can worsen the risk of HIV transmission because of behavioural change, SGBV, disruption of preventive and curative health care or confinement of populations The presence of other specific long-term funding (e.g. Global Fund) can facilitate initiation of treatment with a clear, planned transition from emergency to longer term assistance The ECHO HIV Funding TIP provides detailed practical advice. 	 Risk factors for morbidity and mortality: Partners should impeccably apply universal precautions (safe blood, safe sharp/fluids disposal, sufficient gloves, etc.) Support the use of Prevention of mother to child transmission (PMTCT) and encourage voluntary HIV testing (VCT) if longer term management programs are available. Educate staff about HIV prevention and the special needs of People Living with HIV (PLHIV) Ensure all staff coverage under a health insurance policy that includes Postexposure prophylaxis (PEP), VCT, PMTCT, ARV treatment. Ensure condoms are available to staff and when possible (national legislation) to population through the health system. Take into consideration the specific needs of PLHIV in design/implementation of projects. Critical steps: Critical steps: Cover gaps when treatment of opportunistic infections (OI) and sexually transmitted infections (STI) Cover gaps when treatment has been interrupted by a crisis, prevent mother to child transmission (PMTCT), ensure voluntary HIV testing (VCT) Post-exposure prophylaxis (PEP) for health workers / rape victims. Food assistance, Nutrition and Livelihood Programmes Ensure that specific needs of PLHIV are covered in the design of food assistance and livelihood programmes in any food assistance context Food assistance operations, protocols, commodities and exit strategies in significant HIV/AIDS prevalence context should be adapted to guarantee PLHIV easy access. Short-term livelihood activities for PLHIV can be an exit strategy Ensure protection of widows and orphans as vulnerable groups. 	 Brochures and condoms per site. 100% of blood transfusions tested for HIV and other blood- borne diseases. Stock-out of gloves Sharp container in each injecting & operating room Treatment and prophylaxis of opportunistic infections are in place. % of women receiving ANC1 who agree to be tested for HIV % of these who are HIV positive and receive PMTCT in line with national protocols HIV/AIDS activities incorporated in general food assistance 	HIV is not an entry point, but DG ECHO can have a comparative advantage. Mainstreaming compliance should be monitored in all funded projects. Need for clear exit strategy before initiation of new treatments.

	2.10. Undernutrition		
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Undernutrition is important mainly in scenarios of conflict and prolonged drought. Levels of under nutrition will depend on the precrises level, the extent to which the crisis threatens food supplies and access to primary health care, and the length of the crisis Undernutrition can be Severe Acute Malnutrition (SAM) or Moderate Acute Malnutrition (SAM) Outpatient therapeutic feeding centre (OTFC) is a home-based treatment for SAM; instead the stabilization centre (SC) is an inpatient treatment for SAM/MAM complications 	 Critical Steps: Active case finding and Nutritional assessment Rehabilitation of children with severe acute malnutrition (SAM) through CMAM - Community Based Management of Acute Malnutrition Rehabilitation of children with Moderate Acute Malnutrition (MAM) through Community Based Management of Acute Malnutrition (CMAM) Mechanisms of delivery: Community Outreach: health education on good nutrition and promoting breastfeeding and prevention of diarrhoeal disease, active and early case finding in and with the community participation, CMAM for patients with MAM and referral of patients with SAM Primary healthcare: management of CMAM and patients with SAM/MAM without complications, programme coverage assessment (e.g. SQUEAC), programme monitoring (e.g. MRP), free access to PHC package Secondary healthcare: supervision and management of CMAM, management of patients with SAM with medical complications Medical Supplies: adequate medicines and food supplies for feeding programmes, supplementary Feeding Programmes (see below), infant and young Child Feeding Programmes (see below) 	 % of children meeting the case definition for SAM or MAM % of children with SAM or MAM with access to CMAM CMAM >75% children in programme recovered CMAM <15% of children in programme defaulted 	Thresholds and trends are important elements in decision making Ideally Integration of nutrition into the health services and health access to nutritional programs 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)
Rehabilitation of children with SAM through CMAM programme - Community-based Management of Acute Malnutrition (CMAM) includes screening to identify acutely malnourished children at health posts and/or via community health workers (CHWs)/family members.	 SAM case defining threshold = MUAC <115 mm Nutritional oedema active and early case finding in the community Programme coverage assessment (e.g. SQUEAC) Programme Monitoring (e.g. MRP) Mechanisms of delivery: Preferably, CMAM is integrated into the health services, with outpatient treatment for cases without medical complications 	 CMAM <10% of mortality of children CMAM >75% of recovery of children CMAM <15% of children in programme defaulted Area Coverage: >50% in rural >70% in urban >90% in camps 	Consult the Thematic Nutrition Experts

 Rehabilitation of children with MAM through CMAM programme The objective is to reduce morbidity and mortality among children with MAM Conditions: Preferably, CMAM is integrated into the health system 	 MAM case defining threshold = MUAC <125 mm Active and early case finding in the community with the community Programme coverage assessment (e.g. SQUEAC) Programme Monitoring (e.g. MRP) 	 CMAM <3% mortality of children in programme CMAM >75% recovered children in programme <15% of children in programme defaulted CMAM area Coverage: >50% in rural >70% in urban >90% in camps 	Consult the Thematic Nutrition Experts
 Supplementary Feeding programme (SFP) SFP is the treatment of non-complicated MAM The objective is to 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 Ration can be based on: 0 local food, providing that it is available 0 supplements existing diet 0 addressing nutrient deficiency of basic diet Fortified blended foods (e.g. Supercereal plus/Supercereal) Lipid based RUSF Project/programme Monitoring e.g. MRP 	 Raising prevalence of acute undernutrition among children <5 with aggravating factors e.g. food insecurity, disease outbreak 	Justification, objective, target group, exit strategy should be provided before start of the programme
 Infant and Young Child Feeding The objective is to avvoid morbidity and mortality in infants and young children 	 Emphasis on promoting, supporting and protecting breastfeeding Where Breastfeeding is compromised, caregivers should have access to timely, appropriate, nutritionally adequate and safe complementary foods for children 6 to <24 months 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	Code Compliance with regard to BMS Consult the Thematic Nutrition Experts

2.12. Meningococcal Meningitis			
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Meningitis epidemics are rare after disasters, because vaccines are available to control the disease The epidemic risk is high in the African Meningitis Belt where population-wide epidemics occur and in refugee camps caracterised by stress, malnutrition, overcrowding Nm A conjugate vaccine is already part of the EPI of many countries of the meningitis belt Many bacteria can cause meningitis. Particularly, 6 Neisseria meningitidis serogroups has potential to cause large epidemics (A, B, C, W135, X, Y), of which group A meningococcus accounts for 85% of all cases. Meningitis is transmitted from person to person through droplets or throat secretions from carriers, and may result in death (5-30%), brain damage, hearing loss or learning disability in 10-20% of survivors. 	 Critical steps: Ensure the availability of a multi-sectoral national preparedness plan for meningitis Risk assessment to establish population attack rates per week (epidemic thresholds) and identify high risk areas and vulnerable groups Ensure that disease surveillance is enhanced in affected areas and rapid diagnostic tests are made available in health facilities Ensure that medical and diagnostic supplies are available (antibiotics, lumbar puncture kits, vaccines) Ensure that nealth staff are trained in recognition of symptoms and treatment Ensure that communication and social mobilization are organised Ensure that mass vaccination campaigns are implemented rapidly with high population coverage (>90%) Mechanisms of Delivery: Vertical Mass Intervention: mass population-based vaccination and case management interventions may need to be established where population attack rates and case fatality rates are high Community outreach: eccognition, treatment and referral of cases, information and education Primary healthcare: case finding and surveillance, treatment of cases and referral to SHC of severe cases Secondary healthcare: treatment of severe cases (CTCs), laboratory diagnosis Health supplies: injectable antibiotics, laboratory reagents, vaccines 	 No. cases/100,000 /week Case Fatality Ratio No. of positive CSF sample tested and confirmed Lead time between detection and vaccination campaign Doses of vaccine procured % of target population vaccinated No. (%) of AEFI (adverse effects after immunization) reported and investigated 	Conditions for funding: 1. The causal pathogen has been confirmed and typified. 2. Criteria for epidemic situation or high risk are met 3. Critical steps and priority actions are ensured 4. Sufficient quantities of vaccine and/ or drug supply are not available in the country

Response to an epidemic in the African meningitis belt	 Weekly epidemic threshold has been crossed (> 10/100,000) and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed 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) Vaccine coverage is set to ≥90% and vaccine supply is ensured by ICG approval (if vaccine not available in the country). Adequate protocols and drug supply for case management are available at health facilities, Ensure that disease and laboratory surveillance are strengthened, monitoring of Adverse Events Following Immunization (AEFI) is in place and severe AEFIs investigated Strengthen the capacity to respond & coordination (e.g. task force) 	 No. cases/100,000 perweek and case- fatality ratio No. of positive CSF sample tested and confirmed Lead time between detection and vaccination campaign Doses of vaccine procured % of target population vaccinated 	Conditions as above
Response to an epidemic in a refugee camp, or in other restricted groups or closed communities, or to an epidemic outside of the African meningitis belt	 Support the definition of strategies for outbreak response Note: in refugee camps: Two cases confirmed in one week and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed Increased incidence of clustered meningitis cases and causal Nm pathogen (Nm A, C, Y, W135) has been confirmed 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 	
 Outbreak preparedness The objective is to ensure readiness to respond to an epidemic 	 Set up surveillance mechanisms, detection, investigation, & response including staff training, Strengthen emergency preparedness (with prepositioning of small quantities of medical material and medicines) Ensure availability of meningitis diagnosis (cerebrum spinal fluid test: test de latex and PCR) 	 No of cases per district (incidence) and attack rates in the past years No of meningitis deaths per district in the past years Estimated coverage per district 	Rarely supported, consult Thematic Health Experts

2.13. Cholera			
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Cholera epidemics may occur when water and sanitation are inadequate, and in displacement, especially when due to hydrological events. Cholera is an acute diarrhoeal disease caused by the bacterium Vibrio cholerae that can kill within hours: 80% of cases have mild or moderate symptoms (treatable with ORS), while around 20% develop acute watery diarrhoea with severe dehydration and/or death. As part of prevention and preparedness, the provision of safe water and sanitation is critical to reduce the impact of cholera and other waterborne diseases. Oral cholera vaccines (OCV) are a control measure, with a dual preventive and response function. The OCV global stockpile is insufficient and the IGC has decided to temporarily limit all reactive OCV campaigns to a single dose (instead of two). 	 Critical steps: Availability of a multi-sectoral cholera national preparedness plan Liaison between Health and WASH clusters for cholera control Risk assessment to identify high risk areas and vulnerable groups Disease surveillance is enhanced in affected areas and rapid diagnostic tests are made available in health facilities Medical supplies are available and CTCs/CTUs are adequately equipped and staffed with trained personnel ORS is widely made available at health facilities and communities Systematic chlorination of water sources and/or household water containers is put in place Communication and social mobilization activities are organised Mechanisms of Delivery: Vertical Mass Intervention: mass population case management (CTCs/CTUs) and vaccination campaigns can be managed as a vertical intervention especially when speed is critical and large populations require vaccination Community Outreach: recognition, treatment and referral of cases Information and education Primary healthcare: treatment of severe cases (CTCs) Health Supplies: IV Fluids and ORS, cholera beds and other supplies for CTC, laboratory reagents 	 National preparedness plans developed No. of PHC reporting and equipped with RDTs No. of CTCs/CTUs equipped and running Cases/Deaths per day/week Case Fatality Ratio Results from monitoring of water sources OCV coverage (1st and 2nd doses) 	Emphasis on early detection, referral and rehydration treatment. Emphasis on a multisectoral approach for integrated interventions Oral Cholera Vaccine (OCV): pricing, logistic and availability considerations require systematic consultation with ECHO Thematic Health Experts.

 Preparedness and risk assessment The objective is to 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) A multi-sectoral national preparedness plans for cholera control and epidemic response is available Liaison between Health and WASH clusters for cholera control in acute and protracted humanitarian emergencies is ensured Systematic and standardised Regional mechanisms for assessing, monitoring and reporting cholera outbreaks/events are strengthened Risk assessment tool for the identification of high risk areas and vulnerable groups are made available at country level Use of OCV is considered in Population displacement, poor water and sanitation, endemic area or refugees from endemic area. 		Depending on the context, consult Thematic Health Experts and build on intersectoral approach.
 The objective is 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 Medical supplies for management of severe cholera cases is readily available, OCV is used, and CTCs/CTUs are adequately equipped and staffed with trained personnel ORS is widely made available at health facilities and communities Systematic chlorination of water sources and/or household water containers is put in place Communication and social mobilization activities are organized at central, district and community levels 	 SOPs available Stockpile operational M+E documentation ICG coordinates OCV stockpile 	

2.14. Yellow fever

Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Yellow fever epidemics are rarely a result of other disasters. Epidemics can occur where vaccine coverage is low and where vector and population density are high, with high potential fatality. It is transmitted by the mosquito Aedes Aegypti, a 	 Critical steps: Risk assessment (background population vaccine coverage, historical occurrence of yellow fever outbreaks, vector survey) Clean-up operations and IEC to reduce breeding sites Early recognition and laboratory confirmation of outbreak Reactive mass vaccination if epidemic already underway Intra epidemic monitoring and adverse events following immunization (AEFI) surveillance Safe disposal of medical waste from vaccination campaigns 	 Population vaccine coverage (target >80%) Vector density (Aedes Aegypti) New cases per day/week Deaths per day/week Population attack rate 	Support reactive mass vaccination if vaccine coverage is low and one case has been laboratory confirmed and there is high spread potential. Establish the target population for vaccination

 day biting insect breeding in stagnant water mostly in South America, West, Central and East Africa. High levels of population immunity and mosquito suppression measures are the main protection in endemic areas Yellow fever vaccine is a one dose vaccine that gives lifelong protection. Diagnosis can only be done in specialised laboratories and there is no specific treatment. The International Coordinating Group for Yellow Fever Vaccine Provision (ICG) maintains an emergency stockpile of vaccines to ensure rapid response to outbreaks 	 Mechanisms of Delivery: Community Outreach: recognition and referral of cases, information and education of avoidance of mosquito bites, support to community to clean up and reduce breeding sites, support to mass vaccination campaigns Primary healthcare: treatment of cases, case finding and surveillance, support to mass vaccination campaigns Secondary healthcare: treatment of severe cases, protection of patients in hospital from exposure to insect bites, laboratory diagnosis (if available) Health Supplies and Infrastructure: vaccines and safe injection equipment, laboratory reagents, transport and communications for vaccination teams Vertical Mass Intervention: reactive mass vaccination campaigns should be managed as a vertical intervention especially where speed is critical and large populations require vaccination 	- Case Fatality Ratio	Note: risk is higher in areas of seasonal transmission and urban setting.
Outbreak Preparedness - The objectives are to provide a general support to Yellow Fever epidemic preparedness and response, and to 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 A system for case-base surveillance of febrile jaundice is established in YF endemic areas WHO recommendations for YF detection and response are widely available at Health facilities and health staff has been recently trained ICG International Coordination Group for Vaccine Provision (YF-ICG) SoPs and request forms are known and available at central level 		Rarely supported: consult Thematic Health Experts If part of EPI, yellow fever, support included in PHC
 Outbreak response Conditions: one case of YF has been confirmed by serology according to WHO recommendations 	 Location of infection is determined, active case-finding is conducted and blood specimens for laboratory confirmation are obtained A field outbreak investigation is conducted to assess risk amplification and spread as well as vaccination coverage and extent and characteristics of unvaccinated populations in the area are determined. 	 No. of cases and CFR No. of weeks between detection and reactive vaccination No. of samples taken and confirmed 	Outbreak verification required. Note: one case in an urban area, seasonally in Sahel entails higher imminent risk

	 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 Ensure Yellow fever diagnosis and case management in hospitals are available In areas with high vaccination coverage, large-scale emergency vaccination or revaccination is not justified. Ensure targeted vaccination of susceptible individuals or unvaccinated groups Vaccine coverage is set to ≥80% and vaccine supply is ensured by ICG approval (if vaccine not available in the country). Definition of vaccination strategies and decision if complementary vector control measures should be taken or not Entomological surveys are conducted if affected areas are urban. 	 % of target population vaccinated 	than one case in rural or sylvatic area, with endemic transmission (all year long).
 Preventive mass vaccination campaign: Condition: 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 Technical and logistic support to planning and implementation of mass vaccination campaigns is ensured Age group target for preventive mass vaccination campaign is determined (> 9 months age) Systematic implementation of vaccine coverage survey is supported and monitoring of (severe) AEFI is conducted 	 % of population vaccinated at risk No. of vaccine coverage survey implemented No. (%) of AEFI reported and investigated 	ECHO support is not recommended: advocate for alternative funding and consult Thematic Health Experts

2.15. Viral haemorrhagic fevers (VHF: Ebola, Marburg)

Key	facts	Risk factors for mortality / critical steps / delivery mechanisms	Indi	cators	ECHO advice
-	A viral haemorrhagic fever (VHF) outbreak can generate a crisis or aggravate existing emergencies as it affects	Critical steps: - EWARS (early warning alert response system) in at risk areas should include suspected VHF - Investigation of all alerts with initial control measures as needed	-	Task force in place (Y/N) Number of suspected cases/deaths per	Ensure safe barrier nursing in properly equipped isolation unit
-	the same high risk areas. VHF can be caused by several viruses (e.g.Ebola,	 Where outbreak is verified, carry out detailed outbreak investigation & epidemiological description (time, person, place) with appropriate sampling and initial measures to reduce transmission Assessment of risk of spread & risk of severe outcomes (mortality) 	-	No of confirmed cases/deaths per district	Ensure training included in project for health care workers
-	Congo- Crimea, Dengue). Ebola and Marburg can cause large epidemics: the	 Set up urgent, structured and coordinated task force Set up specific unit/isolation for affected cases to contain transmission and provide care, set up barrier nursing procedures & safe waste disposal mechanism 	-	No of contacts identified (total and per week) No of contacts	Consider adding support to local initiatives via larger international effective
	animal to human (index			followed for 21 days	operational partiters.

case), then to other humans via human blood / body fluids contact.

- Countries at higher risk of Ebola or Marburg VHF are DRC, Angola, Gabon, Sudan, Kenya, Uganda, Congo, Kenya, Zimbabwe
- The initial diagnosis is based on clinical assessment, generally done in national and international reference centres: viral prodrome is non-specific with haemorrhagic features occurring late in the illness
- Some types of Ebola virus can be prevented by vaccination and be treated with specific drugs. There is no vaccine or specific treatment for Marburg
- Case fatality varies according to viral species, exposure dose and route (30-90%)

- Set up procedures and community outreach to avoid intra-family and community spread (e.g. funeral and burial procedures)

Diagnose and manage cases with supportive treatment in isolation

- 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

- Strengthen capacity to carry out laboratory diagnosis on site or transport of samples to national or international reference labs

Mechanisms of Delivery:

- Community outreach: community education and sensitization, recognition of suspected cases and alert, contact tracing and follow up

- Primary healthcare: case recognition and initial isolation and minimal barrier nursing, referral to isolation facility, safe injection practices and medical waste disposal, liaison with mobile teams for case finding and contact tracing

- Secondary healthcare: isolation facilities, recognition of suspected VHFs in patients admitted with "other" diagnoses, processing and shipping of laboratory samples

- Health supplies and infrastructure: personal protective equipment, safe burial equipment, drugs and fluids for supportive care to patients

- % of contacts lost to follow up
- No of isolation units established
- No of admissions per isolation unit
- Case fatality ratio
- Barrier nursing equipment available
- Health personnel trained in barrier nursing

2.16. Physical disability

Key facts		Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
-	Care for people living with physical disabilities is important in all scenarios.	- Prevention: quality surgical and medical care to prevent avoidable disability and Emergency Health Services for people with new injury or trauma that may have the potential to lead to disability	 Disability considered as part of Health Assessment (Y/N) 	Keep in mind that most of disabled persons will need lifelong support.
-	Rehabilitation and the prevention of new disabilities are key in the case of injury and trauma	- Existing physical disabilities: considered as part of any Rapid Health assessment, patients with disabilities should have access to Health Care, receive continuity of disability related care and rehabilitation aimed at reducing the impact of residual disabilities	 No of persons with existing physical disability in the affected population 	Multiannual support will be required so it is possible to provide it in protracted

are a major component of the crisis (conflict, acute natural disaster)		 % of disabled persons with access to continued care for disability No of new cases of physical disability attributable to the crisis 	conflict or in short acute disasters IF a follow up is identified.
 Disability as a direct consequence of an event Relevant scenarios are armed conflict and geological/hydrological emergencies Major Physical Disabilities attributable to emergencies include amputees, partial or complete blindness or deafness, severe burn victims, neuro-muscular disabilities including paralysis due to spinal or head injuries 	 Critical Steps: Rapid deployment of surgical and medical treatment capacity Provision of physiotherapy services Provision of specialized services for specific disabilities as needed Importation and provision of mobility aids and raw materials for the manufacture of specialized devices Setting up of orthopedic workshops Community based rehabilitation services (CBR) Mechanisms of Delivery: Community and Primary Health Care: community-based Rehabilitation Services, on-going care of patients with new disabilities Secondary Health Care: medical and surgical interventions to reduce avoidable disability, orthopedic services for amputees, on-going care for those with severe disabilities (e.g. blindness, burns, neurological) Health Supplies and Infrastructure: specialized equipment for rehabilitation (e.g. prostheses and raw material for manufacture) 	 No of new cases of physical disability attributable to the crisis Classification of the type and frequency of injuries/disabilities No of high quality surgical interventions for injury/trauma Number of CBR Community based Rehabilitation workers trained Workshop capacity with equipment and supplies in place (Y/N) 	Keep in mind that most of disabled persons will need lifelong support. 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 The prevalence of disability in the global population is approximately 15%, with large country variations Health services for people with disabilities may be disrupted during an 	 Critical Steps: People with disabilities are included in health care delivery Easy access to health care facilities Continuing care for specific disabilities Mechanisms of Delivery: Community and Primary Health Care: community-based Rehabilitation Services, on-going care of patients with existing disabilities Secondary Health Care: continuity of on-going care for those with 	 Disability considered as part of Health Assessment (Y/N) Policy and strategy in place for inclusion of the disabled (Y/N) No of persons with existing physical disability in the affected population 	If disability is creating a significant extra burden on health care system Ensure a long term solution for the maintenance of services during the reconstruction phase, either government or donor
emergency	existing severe disabilities (e.g. blindness, burns, neurological)		

-	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	- Health Supplies and Infrastructure: specialized equipment for rehabilitation (e.g. prostheses and raw material for manufacture), access to food and livelihood assistance if there are activities already in this domain.	-	% of disabled persons with access to continued care for disability No and % of disabled persons having access to humanitarian health services No of CBR staff trained	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.
Re ph	construction and exit ases	 Plan health facilities and services fully accessible by disabled persons Include disability awareness in reconstruction plans 	-	No of facilities meeting established criteria No and % of disabled people utilizing services	Consult with the Thematic Health Experts

	2.17. Mental health and psychosocial	issues (MHPSS)	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Mental health issues are important in all emergencies: both for people with pre-existing mental health needs, and for those under psychosocial stress because of the emergency. In extreme cases, mental health issues can lead to severe acute mental illness, self-neglect, self-harm and harm to others. The impact of mental health problems in emergencies depends on the personal mental health background, the levels of social and psychological 	 Critical Steps: Include existing MH problems in Rapid Health assessment Continuity of Care should be ensured, including for people in Mental Health Institutions Provision of basic survival and health needs (food, water, medications, shelter) and protection from violence or exploitation Communities with high levels of acute stress responses to the emergency: Counselling services and basic assistance Psychological and social interventions to relieve symptoms, Identification of individuals with signs of severe MH problems Referral to SHC and secondary health care as needed People who Develop severe mental health problems during the emergency: Community and PHC based counselling 	 Mental health needs included in rapid health assessment Strategy exists for inclusion of mental health needs and services in health intervention No of cases of severe mental health illness No of suicides No. incidents of physical or sexual violence No of admissions for acute psychiatric care 	Funding should be integrated as much as possible into existing health services and facilities. Initiation of chronic treatments depends on assurance of continuity.

stress and the duration of the event, the levels of physical and sexual violence, the capacity of mental health services.	 Second level psychiatric services Supply of appropriate psychotropic dugs Safe places to treat those with severe disease 	 No of Health Care Workers trained in mental health issues No of community health workers trained in mental health issues 	
 Severe Mental Health Disorders (Psychosis and severe depression) 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 Consider either hiring a specialized professional or initiating the rapid training and supervision of general health staff in mental health Establish an accessible advertised service as well as identification and referral systems Ensure sustainable supplies of essential psychotropic medication Provide biological, psychological, and social interventions to relieve symptoms, provide protection, and restore function Educate and support existing carers 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 Availability of psychotropic medicines Availability of supervision Knowledge, attitude and practices of health providers 	Continuity of care existing previously to the emergency Avoid vertical focus on mental and psychological trauma: better to integrate horizontally in health care.
Protection and care for people in mental institutions	 Advocate that institutions, staff and patients receive at least the same protection as other health facilities Ensure that patients' basic physical needs are met (water, sanitation, food, nutrition, shelter, vaccinations etc.) Strengthen or implement systems to protect patients' from human rights violations (by staff, other patients, rebels, looters etc.) 	 Availability of basic mental health care 	Consult Thematic Health Experts
 Aftermath of a high mortality or highly destructive event Conditions: Existing mental health system in the area 	 Coordination and information sharing mechanism Ensure that relief interventions are conducted in such a way that they are not aggravating the level of tension and stress Provide training of specialised workers able to identify and provide basic assistance to the most affected persons 	 No of documented sessions of Ad Hoc committee No of relevant advices Noof events Attendance to the events, with attention for specifically vulnerable groups No of trained persons 	MHPSS integration in PHC. Staff training. Coordination and information exchange

 Post disaster or reconstruction phase Persistent high stress situation (manmade or natural) 	 Active case detection at community level and case detection at health facility level Person to person psychological support and group sessions Specialised psychiatric care for neglected cases following the failure of the local psychiatric care system 	 No of cases detected No of sessions of different types Use of functional scales to measure a level of improvement 	Advocacy
Protection of humanitarian workers	 Follow-up of the psychosocial conditions of humanitarian workers Debriefing session Treatment rehabilitation 		Can be part of NGO security/safety networks Should be part of NGO HR good practices
	2.18. Vaccine-preventable disea	ases (VPD)	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Vaccines are one of the most effective health interventions for saving lives: the 1974 Expanded Programme on Immunisation was introduced with diphtheria, pertussis, tetanus (DPT), polio, BCG (TB), measles Other vaccines have been added since then, depending on countries: hepatitis B, mumps, rubella, haemophilus influenza type b, meningococcal group A Other vaccines to consider in emergencies include pneumococcal, yellow fever, Japanese encephalitis, typhoid, rotavirus, cholera, rabies. 	 Critical Steps: Risk assessment should include vaccine coverage, status of EPI and immediate health hazards preventable by vaccination (e.g. measles) Carry out emergency supplementary or mass vaccination activities as needed Support the reestablishment of routine EPI as soon as possible Support the reestablishment of cold chain and waste management services for EPI Strengthen surveillance for VPDs and for Adverse Events Following Immunisation (AEFI) Mechanisms of Delivery: Community Outreach: education regarding the importance of vaccination, verify vaccination status of children/women and referral if needed Primary healthcare: recognition and clinical management of cases of VPD, ilnvestigation of cases and alert regarding possible outbreaks, vaccination services for EPI and also supplemental or mass vaccination and management of AEFI, universal precautions and disposal of medical waste, cold chain management	 Risk assessment includes VPDs (Y/N) Vaccination coverage under 5s DTP3 coverage <1year Measles coverage: 6 months to 15 years >95% in camps or urban areas >90% in rural areas DPT3 as a proportion of DPT1 (dropout rate) Total number and % of children receiving all antigens in EPI programme Coverage in target population for any supplementary or 	A top priority for ECHO Priority in immediate aftermath of disaster to be given to Measles Vaccination + Vitamin A + zinc, especially in under 5 children In articulation with actions financed by other actors (e.g. GAVI; UNICEF) Provide support to the reestablishment of routine EPI activities

- EPI programmes are central to health systems, but as they depend on infrastructure, trained personnel and availability of health supplies, they are vulnerable in disasters - Secondary healthcare: management of severe cases of VPDs, management of severe AEFI, medical waste disposal (e.g. incineration), training of health workers in safe vaccination

- Health Supplies and infrastructure: supplies of vaccine and safe vaccination equipment (single use syringes/needles, sharp containers, disinfectants), supplies and equipment for cold chain (refrigerators, cool boxes etc.), incineration service for medical waste (a centralised incinerator with logistics for collection of medical waste is a high priority)

mass vaccination campaigns

2.19. Dengue and dengue haemorrhagic fever (DHF)

Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 In scenarios where dengue risk already exists and in hydrological disasters with risk of vector proliferation (Aedes mosquito) Dengue is caused by any of 4 related mosquito- infecting viruses (DEN-1, DEN-2, DEN-3, or DEN-4) and causes high fever, headache, nausea, joint pains, backache, vomiting, eye pain, rash. Dengue hemorrhagic fever (DHF) is more severe, causing tendency to bruise easily, skin haemorrhages, bleeding nose or gums, and internal bleeding. It can be fatal if not recognized. With good management, mortality can be <1%. The best preventive measure is to eliminate breeding sites, primarily water containers. 	Critical steps: Introduce environmental management and measures to reduce breeding sites and control mosquito populations Personal protection (e.g. insecticide treated nets, repellents) Strengthen surveillance for dengue cases and recognition and treatment of severe dengue and DHF (this is important as shock and fluid overload are common and careful clinical management is vital) Ensure adequate supplies of analgesics and isotonic IV fluids for dengue and DHF Mechanisms of Delivery: Community Outreach: recognition of cases and treatment of milder cases, referral of severe cases or those with signs of DHF, support to community clean-up programmes to reduce vector breeding sites Primary healthcare: treatment of mild or moderate cases, recognition and initial treatment of DHF, referral of severe cases to SHC Secondary healthcare: management of severe cases of Dengue and DHF	 No of patients treated per PHC No of cases of dengue No of cases of DHF Case fatality ratio for DHF Availability of appropriate IV fluids for treating sever dengue without stockouts 	Support is context-specific, to be discussed with the Thematic Health Experts Not an entry criteria for a new intervention per se, but may open areas previously closed to humanitarian access Dengue clinical management should be part of health care in at risk areas and/or after a hydrological disaster with increased risk. Coordination with other sectors for vector and environmental management efforts.

2.20. Neglected tropical diseases (NTDs)				
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice	
 Important in poor, tropical and rural areas, and prolonged armed conflict They are caused by animal vectors, water or contaminated soil and lead to blindness, disability, deformities, or maim those who are affected. NTD include Dengue, Rabies, Trachoma, Buruli ulcer, Leprosy, endemic treponematoses, Chagas disease, Human African trypanosomiasis (sleeping sickness), Leishmaniasis, Lymphatic filariasis, Cysticercosis, Foodborne trematode infections, Dracunculiasis (guineaworm disease), Echinococcosis, Onchocerciasis (river blindness), Soil- transmitted helminthiases (intestinal parasitic worms), Schistosomiasis 	 Critical steps: The specific actions needed will depend on the NTDs in question Careful risk assessment should establish the main NTDs and define an approach for their control: NTD control should be integrated into existing health care delivery. Use of preventive chemotherapy; case-detection and case management; improved vector control; appropriate veterinary public health measures, provision of safe water, sanitation and hygiene. There may be circumstances where elimination or eradication goals require supplementary activities delivered by a vertical mechanism. Mechanisms of Delivery: Community Outreach: administration of preventive chemotherapy as part of control or elimination campaign, education on avoidance of specific NTDs, recognition and treatment of priority NTDs, referral of serious cases to SHC Secondary healthcare: management of severe NTDs Health Supplies and Infrastructure: availability of drugs for preventive chemotherapy, availability of drugs for treatment 	 Main NTDs identified and protocols for treatment available (Y/N) No of cases of priority NTDs identified and treated No of deaths from specific NTDs Drugs available for preventive chemotherapy Drugs available for treatment of priority NTD 	In on-going health care programs, NTD management should be integrated into more general health services delivery packages Specific support to control programmes may be considered on a case by case basis in consultation with the Thematic Health Experts	
2.21. Unronic diseases / Non-communicable diseases (NCDs)				

	2.21. Chronic diseases / Non-communica	ble diseases (NCL	Js)
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios, chronic diseases (NCDs) include heart disease, stroke, hypertension, 	Critical Steps: - Ensure identification of individuals with NCDs who were receiving treatment before the emergency	 No and % population with a chronic disease No and % of consultations at PHC 	Continuity of treatment: The ongoing management of NCDs should be available through the primary

chronic renal failure, bronchial asthma, dialysis dependent chronic renal failure, insulin-dependent diabetes and epilepsy

- Ageing and increase in life expectancy have shifted disease profiles from infectious to NCDs in many countries, including low- and middle-income countries.
- 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.
- The interruption of treatments is lifethreatening.

- 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.

- In situations where treatments for NCDs are unavailable, establish clear standard operating procedures for referral.

- Ensure that essential diagnostic equipment, core laboratory tests and medication for the routine, on-going management of NCDs are available through the healthcare system.

Medication should be aligned to national essential medicines list.

- Ensure that assistive devices (e.g. walking aids) are available for people with mobility or communication difficulties.

Mechanisms of delivery:

- Community Outreach: identification of people with chronic conditions requiring care and referral to PHC, education regarding risk factors and risk reduction for priority diseases, education on good diet and abuse of alcohol and tobacco in more stable settings.

- Primary healthcare: on-going care of people with chronic diseases and referral to SHC as needed Secondary Health Care (SHC), management of complications of chronic diseases, investigation and laboratory services, management of disabilities

- Health Supplies and Infrastructure: availability of essential medicines that include medications for treating common chronic diseases

and SHC for chronic conditions

Availability of protocols for treatment and referral mechanisms for chronic diseases (Y/N)

% of PHCs with adequate medication for continuation of treatment to individuals with chronic diseases healthcare system, using medications from the national essential medicines list.

It is generally not recommended to introduce new programmes for the management of chronic health conditions during the relief effort especially if the regimen or programme is unlikely to be continued after the emergency phase.

3. Mechanisms of delivery

	3.1. Primary Healthcare (PHC)	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios, particularly where populations are dispersed with limited or no access to secondary healthcare PHC includes close, accessible, decentralized basic health care, dealing with prevention of the most common diseases and treatment for non-life-threatening conditions. Models of PHC vary from country to country, but in all cases they provide a package of health interventions through Health centers and related community health workers. PHC includes community outreach, immunization services, and a vital entry point in emergencies to healthcare for the prevention of targeted and priority diseases. PHC is also linked to Surveillance/Early Warning and referrals to Secondary Health Care 	 Primary Health Care Centers should: Serve a defined population within a defined catchment area Be able to deal with most of the common priority diseases and refer the most severe and complicated cases to Secondary Healthcare. Be staffed with trained personnel, drugs and equipment, transportation and communications technologies Have in-patient beds, especially where the distance to Secondary Health Care Facilities is long and/or transportation is poor. Range of possible services provided by primary health facilities: Outpatient consultation, short hospitalisation, basic laboratory Diagnosis and treatment of infectious diseases, surveillance, sentinel or early warning. Triage, first aid, injury care, EPI, Immunization services. Undernutrition screening, outpatient management of uncomplicated acute malnutrition. STD (sexually transmitted diseases) treatment, standard precautions, provision of condoms, management of opportunistic infections. Family planning, antenatal care, clean safe delivery, ne-born care, basic emergency obstetric care. Management of distress, anxiety and common mental disorders. HIV counselling, PMTCT - prevention of mother to child HIV transmission, ART - anti retroviral therapy. Ensuring training & supervision of Primary Health Care Workers Using standardised diagnosis and treatment protocols, supply management, transportation, communication, accessibility, waste disposal. 	 1 health centre for 30.000 persons. 1 health post per 10.000 people. These are general standards, but one criterion should be distance: ideally health facilities should not be more than 10 km away from the communities. Sphere standards: 2 to 4 consultations per person per year (rather high compared with ECHO's field experience, 1 to 4 match better experience). < 50 Consultations per staff /day Stock out of vital medicine for no more than one week 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. Support to the primary health system when it is inadequate, or of poor quality or too far from the affected population.

3.2. Secondary Healthcare			
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios but especially where there is significant trauma/injury (e.g. conflict, geological, hydrological disaster), when large populations are involved or in case of severe morbidity (e.g. epidemics, toxic events) It is a centralised service providing more advanced healthcare to the population in terms of clinical management of potentially life-threatening conditions Models of secondary care vary from country to country, but it always provides a a package of services through emergency and outpatient care, inpatient care, laboratory, X-ray and blood bank services In emergencies, secondary health care facilities provide a vital point for the management of severe diseases and trauma 	 Secondary Health Care facilities should: Serve a defined number of primary health care centres Be able to deliver comprehensive outpatient and inpatient services (including diagnosis, care, nutrition and laundry/hygiene/waste disposal), manage and support the referral system from primary health care, as well as the discharge and follow-up process Be adequately staffed with trained and supervised personnel, critical supplies of drugs and equipment and have access to transportation and communications technology (references) Priority services should include: Emergency, trauma and elective surgery Child health: Management of children classified with severe/very severe diseases (parenteral fluids and drugs, O2) Maternal & new-born health: Comprehensive emergency obstetric care: CEmONC + caesarean section + safe blood transfusion Laboratory services: serving the facility and also public health services. (including quality control services) Disabilities and injuries rehabilitation Blood bank service X-Ray service Non communicable and chronic disease management Outpatient psychiatric care and psychiatric inpatient service Stabilisation Centre (in nutrition intervention) Isolation facilities for serious infectious diseases. 	 No of functioning secondary health care facilities Secondary centres per 100,000 Average no of PHCs served by SHCs No of documented referrals to SHC No of admissions to SHC Average length of stay (days) No of laboratory tests performed Capacity to perform certain types of test No of discharged cases followed-up 	 For large affected populations, in conflict, ECHO support to general services of secondary facilities should be considered to: staff (incentive, capacity building, supervision, reinforcement) Biology services Temporary secondary health facilities (especially in the aftermaths of disasters or conflicts or cases of mass displacement or number of patients overwhelming the existing facilities) Organisation of a working referral system and follow-up after discharge General services of the facility (e.g. energy, water supply, sanitation, staff training) Specific departments (e.g. trauma surgery,
 Inpatient care, laboratory, X-ray and blood bank services In emergencies, secondary health care facilities provide a vital point for the management of severe diseases and trauma 	 X-Ray service Non communicable and chronic disease management Outpatient psychiatric care and psychiatric inpatient service Stabilisation Centre (in nutrition intervention) Isolation facilities for serious infectious diseases. 		 and follow-up after discharge General services of the facility (e.g. energy, water supply, sanitation, staff training) Specific departments (e.g. trauma surgery, laboratory services)

	3.3. Community health and o	outreach	
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice
 Important in all scenarios, particularly in Epidemics and where population may be dispersed. In times of crisis, those who provide the initial lifesaving care are health workers from affected communities (CHW): they perform health outreach, by connecting the health care system and the community. Community Outreach and Health Care usually consists of outreach Services, Basic health care, IEC (Information, Education, Communication) Local CHWs help ensure resilience and equity in health at grassroots levels. The presence of a trained CHW in communities can increase knowledge and willingness of households to seek appropriate care. 	 Community health and outreach should: Provide IEC (information, education and communication), community outreach for control programmes (e.g. ILINs) and early case management for potentially killer conditions (with strict protocols / control). Foster preventive and healthy behaviours. Support surveillance and active case funding. Support mass interventions through community mobilization. Priority services (to adjust to local competencies and supervision capacity): Collection of vital statistics, early warning and surveillance. Integrated community case management of acute diarrhoea, pneumonia and confirmed malaria (with strict protocols and control). Screening of acute malnutrition (MUAC) and nutrition treatment follow-up Impregnated nets (distribution, monitoring and IEC). Support to mass vaccinations or to treatment administration. Referral to PHC for common conditions with signs of severity or that need specific treatments. IEC on HIV and STD plus access to condoms. Clean home delivery, breastfeeding and neonatal care (hypothermia and respiratory distress) Basic care for chronic diseases. Safe water, sanitation and hygiene promotion. Issues to Consider: Ensuring training & supervision of Community Health Workers using standardised diagnosis and treatment protocols. Providing and managing incentives. Ensuring adequate supplies that are accounted for (supervision). Providing transport and communications to CHWs where it is required (e.g. bicycles, motorbikes, mobile phones). 	 1 CHW per 500 to 1000 population. Standard diagnosis and treatment protocols available (Y/N) No of IEC sessions carried out with community Timeliness and completeness of reporting No of bed nets distributed No of referrals to PHC 	CHWs should be present in any community affected by a crisis, with proper training and supervision, and they should have a close link with the health facilities. CHWs should focus only on few basic services, and 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. Support as part of comprehensive PHC intervention: be rigorous on requesting proof of adequate training & supervision, supplies and mobility inclusion / recognition in the health system. Link with the health units and control.

3.5. Health supplies				
Key facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice	
 Important in all scenarios. The amount and type of health supplies will depend on the crises, causes of death and the functioning of the health system Health and medicinal supplies aim to treat or alleviate health conditions. They can have potential detrimental effects if their quality isn't guaranteed. The use of sub-standard products represents very bad value for money. Not only can they cause harm to patients, but may also allow pathogen resistance to medical treatments. The drug market is very lucrative and is characterized by weak pharmacovigilance and lack of international regulation: high prevalence of sub-standard, counterfeit, ineffective or harmful medicines, therapeutic foods and medical devices in low and middle income countries, and especially in Africa, is frequently reported. 	 Priority Heatth Supplies by causes of Death: Trauma/Injury : surgical kits/equipment, IV fluids, antibiotics, dressings kits Under-nutrition: supplementary feeding products Infectious Diseases: antibiotics, ILINs(international lipid base nutrients supplements), vitamins supplements Maternal causes: equipment for emergency caesarean, drugs, IV Fluids Epidemics: vaccines, antibiotics, protective equipment, disinfection Health supplies should: Target common priority conditions/diseases and be associated with national diagnostic and treatment protocols or other guidance (WHO) Be purchased from sources that have Good Manufacturing Practices (GMP) and be delivered by a supply chain with good procurement, storage and distribution practices Be administered to the population by trained personnel/health workers 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. Partners should source medical supplies from pre-qualified suppliers as these offer GMP guarantees: when not possible, partners should strive to ascertain that the quality standards in the relevant ECHO provisions are respected even if procured elsewhere. 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. Frequent challenges directly affecting efficacy of medical products (e.g. temperature, sunlight and humidity) must be addressed. Storage facilities and pharmacies need to be organized in a way to avoid theft and fraud. Safe storage and disposal of expired medicines and supplies need to be ensured. 	 Treatment and diagnostic protocols available (Y/N) Priority drugs and supplies agreed (Y/N) Partner supply procurement plans are adequate (Y/N) Review supplier selection criteria Supply chain and inventory management system in place (Y/N) Medical supplies stored and shipped with adequate temperature control (Y/N) Verify labelling, use by dates etc. Stock-keeping documentation available (Y/N) Expired or damaged supplies are kept separately from other stocks and procedures in place for safe disposal (Y/N) 	Under medical supplies, DG ECHO includes drugs, medical devices and therapeutic foods. While rarely an isolated support activity for ECHO, it can be a major component in conflict areas where external access is difficult. Disallow the financing of supplies that are expired, poorly stored or come from dubious sources. Inform HQ of any partner refusing to apply medical supply standards and of any situation where a problem with medical supplies is reported. Inform partners about ECHO policy specific to medical quality assurance. When faced with import limitations, advocate to the national bodies and other donors for exemptions.	

	3.6. Epidemic prevention, preparedness and response (PPR)				
Ke	y facts	Risk factors for mortality / critical steps / delivery mechanisms	Indicators	ECHO advice	
-	Epidemics can be a major cause of morbidity and mortality during emergencies, for which the rapid detection and prompt response is a key priority. Epidemics are ordinarily managed by the health system as part of an 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) Where outbreaks are large or where control measures are difficult to implement a more vertical approach may be taken. 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: Preparedness and prevention, coordinated multi-sectoral response based on preparedness plans. Outbreak investigation to determine transmission route and risk groups, and ultimately the causal agent, to implement control measures Rapid laboratory confirmation and response / containment action Outbreak monitoring and enhanced surveillance to detect alerts, confirm rumours and investigate new areas of outbreaks rapidly, Early Warning and Response System (EWARS) Outbreak risk communication (to community/public and to media) Critical Steps: Prevention through provision of water and sanitation, vector control, health education, vaccination (see disease tables) Preparedness through identification and surveillance of epidemic risks, stockpiling, training, environmental management. Outbreak investigation to determine transmission route and risk groups, and ultimately the causal agent Outbreak monitoring and enhanced surveillance to detect alerts, find cases and contacts and new areas of outbreak activity rapidly. Supplies and Equipment (personal protective equipment, antibiotics, IV fluids, vaccines) Mass vertical population-based interventions require clear goals, the involvement of all levels of the health service, careful planning and coordination, essential supplies, equipment, transport and communications, training of health workers in advance of intervention, community/social mobilization to engage community and improve acceptance, cooperation and compliance, after action review/audit to assess goals achievement 	 New cases/rates per day or week Deaths/death rate per day or week Case fatality ratio % of contact follow-up % population coverage of mass intervention (e.g. vaccination) 	General support to EWARN in all types of crisis. Existing resources will be used to respond. These are supplemented and supported by addition of funds for specialized supplies, training, logistics, deployment etc. Support to verified outbreaks of cholera, yellow fever, meningitis, measles, and viral haemorrhagic fever if the local capacities are insufficient. For other outbreaks consult Thematic Health Experts. Epidemic response should include control of supplies (place and time of use) and supervision of the response.	
EV -	/ARS The objective is to ensure early detection of	 Risk assessment with identification of priority diseases for surveillance. Case definitions established for priority diseases. 	 Completeness (% health care facilities reporting) 	EWARN surveillance is a minimal component of	

epidemics for rapid and effective control and prevention of excess disease and deaths.	 Surveillance network (health facilities, laboratory, and community). Standard reporting periodicity, mechanisms and forms. Standard procedures for prompt verification and investigation of potential epidemics "alerts" and "rumours". Complement existing surveillance structures Reference laboratories identified for confirmation, protocols for transport and tracking of specimens. Rapid diagnosis kits and laboratory reagents; Data management and analysis capacity. Technology: hardware, software, communications and transport of surveillance team and local focal point, plus data manager. Training of network (surveillance staff, health care facility workers on detection, reporting, analysis, thresholds for action). 	 Timeliness (% HCF reporting on time). Time for alert verification (24 h) Supervisory visits quarterly. Regular epidemiologic Bulletins. 	 health information system in any setting General support to primary and referral health care services If EWAR absent or insufficient, support in all crisis. Staff financed initially if need be, seek for longer- term funding from other sources as possible.
 Outbreak preparedness The objective is to reduce morbidity and mortality due to outbreaks and to contribute to rapid outbreak containment. 	 Epidemic Response kits and guidelines. Outbreak investigation and response teams. Training in rapid investigation, response, case management. Develop multi-sectoral preparedness plans (as per risk assessment). Pre-position stockpiles (sampling, medicines, equipment, supplies) Stock take of agencies' stockpiles. Pre-identification of isolation facilities, case management protocols available, disease specific measures. 	 Multi-sectoral preparedness plans Pre-positioning Training Disease-specific measures 	Support depends on risk assessment. Consult Thematic Health Experts. ECHO does not fund anymore stockpiles, only funds replenishment.



