MODULE 15

HEALTH INTERVENTIONS

Part 1: Fact sheet

Part 2: Technical notes

Part 3: Trainer’s guide

Part 4: Training resource list

Harmonised Training Package (HTP):
Acknowledgements
Numerous experts from many different organisations have been involved in writing the content of the HTP. Each module has been reviewed by a minimum of two reviewers from many of the academic institutions and operational agencies in the sector who have participated generously to ensure a high quality resource.

Module 15: Health interventions

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The Harmonised Training Package (HTP):
Resource Material for Training on Nutrition in Emergencies

What is the HTP?

The Harmonised Training Package: Resource Material for Training on Nutrition in Emergencies (the HTP) is a comprehensive documentation of the latest technical aspects of Nutrition in Emergencies (NiE). The word Harmonised reflects the pulling together of the latest technical policy and guidance, the word Training refers to its main application and the word Package refers to the bringing together of the subject matter into one place. It is organised as a set of modules by subject, each containing technical information, training exercises and a resource list for use in training course development.

The HTP is an initiative of the IASC Global Nutrition Cluster (GNC) and has been endorsed by the GNC and its member's agencies. In 2007, the IASC GNC commissioned the UK based partnership, NutritionWorks, to develop a training resource to facilitate capacity development in the NiE sector. HTP Version 1 was launched in 2008. HTP Version 2 update in 2010/11 was funded under an USAID OFDA grant to the UK based charity, the Emergency Nutrition Network (ENN). The update was undertaken in an ENN/NutritionWorks collaboration, with NutritionWorks responsible for overall coordination and editorial management, and editorial oversight and module production supported by the ENN.

What the HTP is not

The HTP is not a ready-to-use training course. It cannot be used as an ‘off the shelf’ package; rather, it should be used as a resource package during a process of course development by experienced trainers.

Who is the HTP for?

The HTP is a primarily a resource for trainers in the NiE sector and it can be used by individuals to increase their technical knowledge of the sector. It is designed to provide trainers from any implementing agency or academic institution with information from which to design and implement a training course according to the specific needs of the target audience, the length of time available for training and according to the training objectives. It is written in clear English and will be available in other languages in the future.

How is the HTP organised?

The HTP is organized into four sections containing a total of 21 modules which can be used as stand-alone modules or as combined modules depending on the training needs.

Section 1: Introduction and concepts

1. Introduction to nutrition in emergencies
2. The humanitarian system: Roles, responsibilities and coordination
3. Understanding malnutrition
4. Micronutrient malnutrition
5. Causes of malnutrition

Section 2: Nutrition needs assessment and analysis

7. Measuring malnutrition: Population assessment
8. Health assessment and the link with nutrition
9. Food security assessment and the link with nutrition
10. Nutrition information and surveillance systems
Section 3: Interventions to prevent and treat malnutrition

11. General food distribution
12. Management of moderate acute malnutrition
13. Management of severe acute malnutrition
14. Micronutrient interventions
15. Health interventions
16. Livelihoods interventions
17. Infant and young child feeding
18. HIV/AIDS and nutrition
19. Working with communities in emergencies

Section 4: Monitoring, evaluation and accountability

20. Monitoring and evaluation
21. Standards and accountability in humanitarian response

Each module contains 4 parts which have a specific purpose as follows:

Part 1: The Fact Sheet – provides an overview of the module’s topic and is designed for non-technical people to obtain a quick overview of the subject area.

Part 2: The Technical Notes – for trainers and trainees, provides detailed technical guidance on current policies and practice.

Part 3: The Trainers’ Guide – aims to help trainers develop a training course and provides tips and tools which can be adapted to the specific training context.

Part 4: Resources – lists of relevant available resources (including training materials) for the specific technical area.
How to use the HTP

The HTP should be used during a process of course development. The process of course development involves a number of steps and these are summarised in the diagram below.

1. Identify the needs of the target audience
2. Define the overall objectives of the training course to meet these needs
3. Decide on the length of the course
4. Decide on the number and content of the training sessions
5. Decide on the blend of theoretical content, practical exercises, field visits, and assessment methods
6. Select content from the HTP to build your course and adapt as appropriate
7. Implement and evaluate training course. Review effectiveness and revise course design as necessary
The fact sheet is the first of four parts contained in this module. It provides a broad overview of the links between health and nutrition, major causes of excess morbidity and mortality in emergencies with a specific focus on those illnesses which have an impact on the nutritional status of the population; and outlines key priority health interventions that have a high impact on nutritional status in emergencies. More detailed technical information is provided in Part 2 of the module. Words in italics are defined in the glossary.

The link between undernutrition and health

The World Health Organisation (WHO) estimates that undernutrition contributes to more than one third of all child deaths 0-59 months. Leading causes of death in under-five children are pneumonia, diarrhoea and health problems during the first month of life. A child’s risk of dying is highest in the neonatal period (the first 28 days of life) with about 40% of child deaths under the age of five taking place during this period. Preterm birth, birth asphyxia (lack of breathing at birth), and infections cause most neonatal deaths.

There is a close relationship between undernutrition and illness and the interplay between the two tends to create a vicious cycle: Where a child is undernourished, immunity to infection is compromised, thus the child may fall ill and then undernutrition worsens, leading to further reduction in resistance to illness. Children who enter this undernutrition – infection cycle can quickly fall into a potentially fatal spiral, as the severity and duration of illnesses increases one condition feeds off the other.

The health and nutritional status of pregnant women will significantly impact the health, well-being and nutritional status of their infants.

The conceptual framework of the factors associated with maternal and child undernutrition clearly illustrates the linkages between health and nutrition and the multiple and interrelated underlying factors that influence undernutrition: Household food insecurity, inadequate care practices, unhealthy environment and lack of adequate water and sanitation facilities, and lack of access to basic health services.

Major causes of morbidity and mortality in emergencies

The major causes of excess morbidity and mortality in emergencies are: Acute respiratory infections, diarrhoeal diseases, malaria (Where prevalent), measles and undernutrition. Because undernutrition and disease are closely linked, there is likely to be an increase in the incidence of infectious diseases, especially among young children and other vulnerable groups as the nutritional situation worsens.

Other communicable diseases such as meningococcal meningitis and typhoid may cause large scale epidemics in emergencies. Tuberculosis (TB) is a serious disease causing high levels of morbidity and mortality among emergency-affected populations and is of particular importance in long term chronic emergencies where living conditions are poor and undernutrition is prevalent. The situation is further exacerbated where Human Immunodeficiency Virus (HIV) seroprevalence rates are high.

Humanitarian crises, which are often linked to displacement, food insecurity and poverty, increase vulnerability to HIV and negatively affect the lives of people living with HIV. Pre-emergency HIV services may be disrupted and people may no longer have access to services for care, support and prevention. Their health is put at risk as nutritional needs are not met. The ability of mothers and other carers living with HIV to provide optimal nutrition and care for their children may be affected and subsequently affect the nutritional status of those children.

The impact of emergencies (poor health environment and inadequate quality and quantity of food) exacerbates already existing reproductive health vulnerabilities and risks. Lack of key components of reproductive health services (family planning, antenatal and safe delivery services and treatment of STIs) will have an additional negative impact on maternal, neonatal and child health.

Mental health and psychosocial issues also contribute to excess morbidity and mortality in emergencies.
Key messages

1. Undernutrition contributes to more than one third of all deaths of children under five years.
2. A child’s risk of dying is highest in the neonatal period with about 40% of under five deaths taking place during the period. Neonatal deaths are primarily caused by pre-term birth, birth asphyxia and infections.
3. From the end of neonatal period through to the first five years of life the main causes of death are pneumonia, diarrhoea and malaria; and undernutrition is a contributory factor for each of these diseases.
4. There is a close relationship between undernutrition and ill health: Where a child is undernourished immunity to infection is compromised, so the child is more vulnerable to fall sick and the undernutrition worsens.
5. Inadequate shelter, lack of access to clean water and sanitation facilities; and lack of access to basic health services will have a major impact on the health and nutritional status of young children.
6. In emergencies the major causes of death are acute respiratory infections (ARI), diarrhoeal diseases, malaria, measles and undernutrition.
7. Emergencies exacerbate the severity and magnitude of childhood diseases and subsequently mortality rates are highest in children under five.
8. The health and nutritional status of pregnant women will significantly impact the health, well-being and nutritional status of their infants.
9. Where a mother is sick, undernourished or has multiple pregnancies in quick succession, the child is more likely to be born premature, with low birth-weight and to be more vulnerable to illness and undernutrition.
10. Humanitarian crises, which are often linked to displacement, food insecurity and poverty, increase vulnerability to Human Immunodeficiency Virus (HIV) and negatively affect the lives of those people living with HIV.
11. The role of operational health agencies in emergencies is to provide essential services that effectively reduce health risks.
12. It is essential that agencies enhance the existing health system when planning and establishing essential health services in an emergency.
13. Establishment of good quality control of communicable diseases interventions will have a significant impact on health and nutritional status of an emergency-affected population.
14. Implementation of key priority reproductive health interventions before and during pregnancy; and during and after childbirth will have a positive effect on the health, well-being and nutritional status of both the infants and the mothers.
15. Provision of quality basic child health care at first line health facilities, supported by promotion of key infant and young child feeding and care practices will have a positive impact on the health and nutritional status of young children.

Priority health interventions that impact nutritional status in emergencies

Essential health services are priority health interventions (Curative, preventative and promotional) that are effective in addressing the major causes of excess morbidity and mortality.

Implementation of essential services should be carried out in a way that supports and strengthens the health system and does not undermine it or its future development. Health and nutrition programming should be integrated or well coordinated and focus on the key priority proven effective interventions that will have high impact on the main causes of excess morbidity and mortality.

Communicable diseases key interventions with high impact on nutritional status

A systematic approach to the control of communicable diseases is key to a quality humanitarian response and requires cooperation among agencies working at all levels.

Health Sector/agency interventions include:
- Prevention (vaccination and hygiene promotion),
- Diagnosis and case management, and
- Outbreak detection, investigation and response.
For effective communicable disease control important interventions are required from other sectors:

Shelter – adequate numbers of climate appropriate shelters, well planned sites (Sufficient space between shelters and adequate ventilation).

Water and Sanitation – adequate quantity and quality water supply, adequate sanitation facilities, appropriate vector control interventions and hygiene promotion/education activity.

Food and Nutrition – appropriate food basket ration (Quality and quantity), general nutrition support of the population and management of acute malnutrition and micronutrient deficiencies.

Child health care key interventions with high impact on nutritional status

It is essential to establish child-focused health interventions which address the major causes of excess morbidity and mortality: ARI, diarrhoea, measles, malaria (where prevalent), neonatal causes and undernutrition. Management of newborns will include care after birth (airway, cord, early initiation of breastfeeding, body temperature, treatment of infections, identification of severe illness and appropriate initial management and referral).

Health care workers should promote and support positive behaviours at community level including:

- Exclusive breastfeeding
- Infection prevention (General hygiene, hand washing, cord care, and safe disposal of babies’ faeces and vaccination)
- Prevention of indoor air pollution
- Newborn stimulation and play
- Recognition of problems/illness and timely care seeking

Management of care for sick children should be provided at first level health facilities, using national protocols, or the Integrated Management of Childhood Illnesses (IMCI) guidelines where implemented, with referral to hospital for severely ill children.

Other priority child health interventions include:

- Immunisation and vitamin A supplementation
- Use of Long Lasting Insecticide treated Nets (LLIN)
- Screening for acute malnutrition and referral for treatment as required
- Additional micronutrient supplementation (As required depending on context and risk)

An important aspect of child health care in emergencies is promotion of key infant and young child feeding (IYCF) and care practices. It is important to design and disseminate culturally appropriate health promotion messages to:

a) Encourage the affected population to seek early care for any illness in newborns and young infants
b) Promote optimal IYCF and care practices

Health and nutritional support for the elderly

Specific consideration must be given to the health and nutritional needs of the elderly to ensure that vulnerable individuals have access to appropriate medical treatment, an adequate and appropriate diet and that they have the capacity to prepare and cook food.

Impact on nutritional status of Gender Based Violence (GBV) and mental health

Gender based violence and mental health and psychosocial issues will have an impact on a mother’s ability to provide optimal feeding and care for a young infant. Nutrition staff should work with health and social care providers to support optimal feeding and care of infants and children of carers who have been exposed to GBV and/or are suffering from mental health and psychosocial issues.

Reproductive health care key interventions with high impact on nutritional status of mothers and infant by phase of care

Reproductive health is a key health programme component that should be initiated in the early stages of an emergency to reduce excess maternal, neonatal and infant morbidity and mortality. Planning for the integration of these services into the Primary Health Care (PHC) system from the outset is essential to ensure sustainability of provision of services.

In the initial stage of an emergency a Minimum Initial Services Package (MISP) should be provided. These are the services that are most important for preventing reproductive health morbidity and mortality among women, men and adolescents in humanitarian settings. The MISP comprises a set of priority interventions to

a) Prevent and manage the consequences of sexual violence,

b) Reduce the transmission of HIV,

c) Prevent maternal and newborn morbidity and mortality, and

d) Begin planning for comprehensive RH services.

As the situation stabilizes comprehensive reproductive health (RH) services are established.
This table is an extract from Table 2: Key reproductive health interventions that have a high impact on maternal, neonatal and infant nutritional status in the technical notes of this module.

<table>
<thead>
<tr>
<th>Phase of care</th>
<th>Key Reproductive Health interventions that impact nutrition</th>
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</table>
| Care for girls and women before pregnancy | - Nutrition promotion, especially in girls and adolescents  
- Prevention and management of HIV and STIs  
- Family planning  |
| Care during pregnancy             | - Focused antenatal care  
- Nutrition promotion and support including supplementation  
- Malaria prevention (intermittent preventative treatment in pregnancy and LLIN)  
- Treatment of illnesses and treatment of worms  
- Detection and transfer of high risk pregnancies  
- Prevention of mother to child HIV transmission  
- Preparation of birth plan  |
| Care during childbirth            | - Skilled attendance at birth and clean delivery  
- Emergency obstetric care  
- Skilled care of newborn  |
| Care after birth                  | - Postnatal care for mother for early identification and referral for illness  
- Preventive care for mother: Promotion of healthy behaviours, family planning, vitamin A supplementation  
- Preventive care for baby: Promotion of healthy behaviours (Hygiene, warmth, early and exclusive breastfeeding, clean cord care and immunisation)  
- Management and care of pre-term and low birth weight babies with breathing problems  
- Identification and management of neonatal illnesses  |

Nutrition staff should work with providers of antenatal, newborn and postnatal care to ensure promotion of maternal nutrition and optimal infant nutrition.

Prevention of HIV is addressed within the MISP. As the situation stabilises HIV prevention, treatment and support services are developed in the context of the situation and need.

**HIV Key components with impact on nutrition:**

- Establishment of comprehensive services to provide care, support and treatment for people living with HIV and AIDS – this includes treatment of opportunistic infections and antiretroviral treatment.
- Establishment of system to ensure provision of treatment, care and support for infants born from mothers known to be HIV-positive, including guidance and counselling on infant feeding.
- Establishment of referral for required nutritional care and support for adults living with HIV and AIDS and their families – this includes targeted food support and treatment of acute malnutrition.
- Establishment of links between HIV and TB programmes where TB programmes exist/function.
The technical notes are the second of four parts contained in this module. They provide an overview of the links between health and nutrition status; and health interventions that have a high impact on nutrition status in emergencies. The notes are not intended to train practitioners to implement each of these technical interventions, but to provide health and nutrition managers and planners with an understanding of the relationship between health and nutrition status and the linkages that are necessary for quality health and nutrition programming in emergencies. The notes provide technical details, highlight challenging areas and provide clear guidance on accepted current practices. Words in italics are defined in the glossary.

Summary
There are strong links between health and nutrition status. Undernutrition and infectious diseases are closely linked and reproductive health status impacts the nutritional status of both mothers and children. Nutrition programming in emergencies (prevention, promotion and treatment) is conducted through the health system by a variety of health and nutrition staff.

Given the close links between health and nutrition status and programming, it is essential that health and nutrition staff members work together to plan, implement, monitor and evaluate health and nutrition programming in emergencies. Nutrition staff should ensure they adequately consider key health issues and interventions when planning nutrition interventions, while health staff must ensure key nutrition issues are appropriately addressed and incorporated in health programmes. Other sectors also influence health and nutrition status in emergencies and so will also need to be considered in health and nutrition planning, implementation, monitoring and evaluation.

These technical notes are based on the following key documents and the Sphere standards in the box below:

- The Sphere Project (2011). Humanitarian Charter and Minimum Standards in Humanitarian Response, Chapters 1, 2 and 5, (The Core Standards; Minimum Standards in Water Supply, Sanitation and Hygiene Promotion; and Minimum Standards in Health Action).
- Interagency Working Group (2010), Interagency Field Manual for Reproductive Health in Humanitarian Settings
Key messages
1. Undernutrition contributes to more than one third of all deaths of children under five years.
2. A child's risk of dying is highest in the neonatal period with about 40% of under five deaths taking place during the period. Neonatal deaths are primarily caused by pre-term birth, birth asphyxia and infections.
3. From the end of neonatal period through to the first five years of life the main causes of death are pneumonia, diarrhoea and malaria; and undernutrition is a contributory factor for each of these diseases.
4. There is a close relationship between undernutrition and ill health: where a child is undernourished immunity to infection is compromised, so the child is more vulnerable to fall sick and the undernutrition worsens.
5. Inadequate shelter, lack of access to clean water and sanitation facilities; and lack of access to basic health services will have a major impact on the health and nutritional status of young children.
6. In emergencies the major causes of death are acute respiratory infections (ARI), diarrhoeal diseases, malaria, measles and undernutrition.
7. Emergencies exacerbate the severity and magnitude of childhood diseases and subsequently mortality rates are highest in children under five.
8. The health and nutritional status of pregnant women will significantly impact the health, well-being and nutritional status of their infants.
9. Where a mother is sick, undernourished or has multiple pregnancies in quick succession, the child is more likely to be born premature, with low birth-weight and to be more vulnerable to illness and undernutrition.
10. Humanitarian crises, which are often linked to displacement, food insecurity and poverty, increase vulnerability to Human Immunodeficiency Virus (HIV) and negatively affect the lives of those people living with HIV.
11. The role of operational health agencies in emergencies is to provide essential services that effectively reduce health risks.
12. It is essential that agencies enhance the existing health system when planning and establishing essential health services in an emergency.
13. Establishment of good quality control of communicable diseases interventions will have a significant impact on health and nutritional status of an emergency-affected population.
14. Implementation of key priority reproductive health interventions before and during pregnancy; and during and after childbirth will have a positive affect on the health, well-being and nutritional status of both the infants and the mothers.
15. Provision of quality basic child health care at first line health facilities, supported by promotion of key infant and young child feeding and care practices will have a positive impact on the health and nutritional status of young children.
Sphere standard

**Sphere Health System Standards**

**Health Service Delivery Standard 1.1: Prioritising Health Services**
People have access to health services that are prioritised to address the main causes of excess mortality and morbidity.

**Health Service Delivery Standard 1.2: Organisation of Health Services**
People have equal access to effective, safe and quality health services that are standardised and follow accepted protocols and guidelines.

**Health System Standard 4: Health Financing**
People have access to free primary health care services for the duration of the disaster.

**Sphere Essential Health Service Standards**

**Control of Communicable Diseases Standards**

**EHS 1.1 Prevention**
People have access to information and services that are designed to prevent the communicable diseases that contribute most significantly to excess morbidity and mortality.

**EHS 1.2 Diagnosis and Case Management**
People have access to effective diagnosis and treatment for those infectious diseases that contribute most significant to preventable excess morbidity and mortality.

**EHS 1.3 Outbreak Detection and Response**
Outbreaks are prepared for, detected, investigated and controlled in a timely and effective way.

**Child Health Standards**

**EHS 2.1 Prevention of Vaccine preventable diseases**
Children aged 6 months to 15 years must have immunity against measles and access to routine Expanded Programme on Immunisation (EPI) services once the situation stabilises.

**EHS 2.2 Management of newborn and childhood illnesses**
Children have access to priority health services that are designed to address the major causes of newborn and childhood morbidity and mortality.

**Sexual and Reproductive Health Standards**

**EHS 3.1 Reproductive Health (RH)**
People have access to the priority reproductive health services of the Minimum Initial Service Package (MISP) at the onset of an emergency and comprehensive RH as the situation stabilises.

**EHS 3.2 HIV and AIDS**
People have access to the minimum set of HIV prevention, treatment and support services during disasters.

**EHS 5 Mental Health**
People have access to health services that prevent or reduce mental health problems associated with impaired functioning.

Introduction

In emergency situations the health environment often deteriorates rapidly. An emergency affected population may be living in an overcrowded situation with inadequate shelter and may not have access to adequate food supplies, clean water or sanitation facilities; or access to basic preventative and curative health services. In addition, the population may have been subjected to varying degrees of psychological trauma as a direct result of the emergency, while in a conflict situation there will be an increased incidence of physical trauma/injury. Sections of an emergency affected population may also have been subjected to sexual violence. The health of an emergency-affected population is impacted by all of these issues and so health assessments and interventions must consider and appropriately address them.

There are strong links between health and nutrition status. Undernutrition and infectious diseases are closely linked and reproductive health status impacts the nutritional status of both mothers and children.

There are also strong linkages between health and nutrition programming: a number of priority health interventions will significantly impact the nutritional status of the population, while many required nutrition interventions (Prevention, promotion and treatment) are conducted through the health care system by a variety of health and nutrition staff, from community level through to referral hospital level.

Given the strong links between health and nutrition status and programming, it is essential to apply a holistic approach in the assessment, planning, management and evaluation of health and nutrition interventions in emergencies.

This module has been developed for health and nutrition programme managers to facilitate better understanding of the links between health and nutrition status and health and nutrition programming and to encourage integration of health and nutrition activities in emergencies.

The link between undernutrition and health

The World Health Organisation (WHO) estimates that undernutrition contributes to more than one third of all child deaths 0-59 months. Leading causes of death in under-five children are pneumonia, diarrhoea and health problems during the first month of life. A child’s risk of dying is highest in the neonatal period (the first 28 days of life) with about 40% of child deaths under the age of five taking place during this period. Perterm birth, birth asphyxia (lack of breathing at birth), and infections cause most neonatal deaths and safe childbirth and effective neonatal care are essential to prevent these deaths.

From the end of the neonatal period and through the first five years of life, the main causes of death are pneumonia, diarrhoea, and malaria. Undernutrition is the underlying contributing factor in over one third of all child deaths 0-59 months, as it makes children more vulnerable to severe diseases.

Figure 1: Major cause of death in new-borns and children WHO 2008

The conceptual framework of the causes of maternal and child undernutrition and its consequences was developed to facilitate greater understanding about the multiple and interrelated factors associated with undernutrition. It is shown in Figure 2 and discussed in detail in Module 5.

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1 WHO World Health Statistics 2010
The framework clearly illustrates the multiple causes of undernutrition at various levels. The immediate causes of undernutrition are inadequate dietary intake (in terms of quantity and quality) and disease. There is a reciprocal relationship between these two immediate causes and the interplay between the two tends to create a vicious cycle: where a child is undernourished, immunity to infection is compromised, thus the child may fall ill and then undernutrition worsens, leading to further reduction in resistance to illness. Children who enter this undernutrition – infection cycle can quickly fall into a potentially fatal spiral, as the severity and duration of illnesses increases and one condition feeds off the other.

E.g. recurrent bouts of malaria will lower the immunity of a child and often leads to severe anaemia and acute malnutrition, which further reduces resistance to illness; while an HIV-positive child that is undernourished will develop advanced HIV much more quickly than a well-nourished child.
The underlying causes of undernutrition include income poverty, lack of employment, lack of assets; and are affected by the basic causes of undernutrition, which are lack of resources and deficiencies in the management of available resources (including financial, human and physical); these basic causes are ultimately determined by the larger political, economic and social context.

The consequences of the underlying causes of undernutrition are

a) Household food insecurity, including issues of access, availability and utilisation of food;

b) Inadequate care, including poor maternal nutrition and inadequate child care;

c) Unhealthy household, environment and lack of health services including, inadequate water quality and quantity and poor hygiene and sanitation.

Poor maternal nutrition due to inadequate diet (Quality and quantity), lack of micronutrient supplementation, and/or multiple pregnancies (Due to lack of utilisation of or availability of appropriate family planning services), will contribute to poor intra-uterine growth; low birth weight of a baby and subsequent suboptimal growth and development of a child. (See link between reproductive and maternal health and child health and nutrition status pages 9-12).

Sub-optimal infant and young child feeding and care practices will have a major negative impact on the nutritional status of an infant: a baby that is not exclusively breastfed up to six months of age will be much more prone to diarrhoea and other diseases, and is much more likely to be become acutely malnourished, while poor hygiene practices at household level will also increase the risk of diarrhoea and other infectious diseases and, again, will increase the likelihood of a child becoming under-nourished.

Unhygienic food preparation (Storage and cooking) will also increase the risk of diarrhoea- and other infections – subsequently increasing vulnerability to acute malnutrition; while unequal distribution of food within the household will also contribute to undernutrition.

Inadequate provision of water and sanitation facilities will significantly increase the risk of infection/illness.

Inadequate provision of basic health services will further compromise health and nutrition status when common illnesses are not properly treated, while inadequate provision of quality antenatal, safe delivery, post natal and newborn care will result in very high rates of maternal, newborn and neonatal deaths (Neonatal period 0-28 days) (See link between reproductive and maternal health and child health and nutrition status pages 9-12).

Emergencies directly impact the basic and underlying causes of undernutrition. Humanitarian programming will primarily focus on addressing the immediate causes of undernutrition (Disease and inadequate dietary intake) and the consequences of the underlying causes of undernutrition (Household food insecurity, inadequate care, unhealthy environment and lack of services). While some of the underlying causes may be addressed as part of a humanitarian response the basic causes of undernutrition should be addressed through longer-term development strategies/programmes.

This conceptual framework is a useful starting point in understanding the links between health and nutrition and the need for multi-sector assessment and multi-sector interventions to prevent mortality and morbidity and undernutrition in an emergency context:

- Prevention of undernutrition is as important as treatment of undernutrition – food security interventions will have an impact on the health and nutritional status of a population in both the short and long term.

- Provision of adequate living facilities will go a long way towards preventing outbreaks of measles and acute respiratory infection in children, which will subsequently have a positive impact on the nutritional status of the children

- Provision of adequate water and sanitation facilities will significantly contribute to prevention of outbreaks of diarrhoea, which will subsequently have a positive impact on the nutritional status of the children

- Adequate provision of basic health services to treat the major common childhood diseases will also have a positive impact on nutritional status of the children

The links between reproductive health and maternal and child health and nutrition

The health and nutritional status of pregnant women will significantly impact the health, well-being and nutritional status of their infants as well as the well-being of the women.

Poor health, inadequate diet (Quality and quantity) before and during pregnancy, lack of micronutrient supplementation, and/or multiple pregnancies, especially in quick succession (Due to lack of utilisation of, or availability of, appropriate family planning services), will contribute to poor intra-uterine growth, low birth weight of a baby and subsequent suboptimal growth and development of a child.
Health interventions

Case example 1: Inadequate health care in Democratic Republic of Congo: 2006

The volatile security situation in the Democratic Republic of Congo in 2006 caused displacement and food insecurity. In one district, levels of acute malnutrition at the end of 2006 were estimated at 11.3 per cent, with severe acute malnutrition levels at 3.2 per cent. Mortality rates for children under age five were high at 2.07/10,000/day.

Inadequate health care due to a disruption of supplies and services and steep increases in the cost of medicine was seen to be a major cause of the high levels of acute malnutrition. Only 0.9 per cent of children surveyed had proof of having had a measles vaccination, although 50 per cent claimed to have been vaccinated.


Case example 2: Inadequate health care and poor health care practice in Darfur: 2004

Following mass population displacement in West Darfur an International NGO established a Community-Based program for Management of Acute Malnutrition. Significant contributory factors to the high levels of acute malnutrition in children were clearly recognised as being lack of provision of basic child healthcare services, poor infant and young child feeding and care practices and inadequate quality and quantity of water supply.

Teenage pregnancy will also affect the health of an infant – a baby is much more likely to be born with low birth weight if a woman is in her teens when she conceives. Where a woman has pregnancies in quick succession, there will be impact on the mother’s own health, the newborn infant and also the older infant as the mother may stop breastfeeding the older infant too soon.

Both the pregnant woman and the child she is carrying are exposed to greater risk if the woman has had more than 5 pregnancies or if she is younger than 18 or older than 35 (and particularly over 40). In other words, both are at risk if a woman gets pregnant too early or too late in her life, or if the pregnancies are too close together or too frequent.

Table 1: Consequences of maternal malnutrition

<table>
<thead>
<tr>
<th>Maternal consequences</th>
<th>Child consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increased risk of maternal death</td>
<td></td>
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<tr>
<td>• Increased infections</td>
<td></td>
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<tr>
<td>• Anaemia</td>
<td></td>
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<tr>
<td>• Compromised immune functions</td>
<td></td>
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<tr>
<td>• Lethargy and weakness</td>
<td></td>
</tr>
<tr>
<td>• Lower productivity</td>
<td></td>
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<tr>
<td>• Lactational failure</td>
<td></td>
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<tr>
<td>• Increased risk of foetal and neonatal deaths</td>
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<tr>
<td>• Intrauterine growth retardation</td>
<td></td>
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<tr>
<td>• Low birth-weight</td>
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<tr>
<td>• Pre-term birth</td>
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<tr>
<td>• Compromised immune functions</td>
<td></td>
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<tr>
<td>• Birth defects</td>
<td></td>
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<tr>
<td>• Cretinism and reduced IQ</td>
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</table>


Iron supplementation is given to prevent and treat anaemia, and folate is given to prevent spinal chord defects in the foetus (Unborn child). An undernourished, anaemic mother has decreased immunity and is more likely to become infected by diseases such as malaria or diarrhoeal disease.

Iodine supplementation may be needed in areas of severe iodine deficiency to prevent cretinism. Cretinism is a very serious disease of newborn children in which a lack of iodine stops the production of thyroxine, the hormone responsible for the speed of chemical reactions in the body (Or metabolism). Babies do not develop their normal mental capacity or physical stature and will remain permanently stunted and with severe mental disability. It is therefore vital that pregnant and breastfeeding women eat iodized salt. See HTP modules 4 and 14 for more details on micronutrient deficiencies and interventions.

Malaria in pregnancy increases the risk of miscarriage and all serious illnesses in pregnancy will contribute to low birth weight of a baby.
Increased use of family planning by couples has a direct positive effect on the well-being of their children. Family planning can help delay the age at which a woman first becomes pregnant, can help a woman space her pregnancies (Ideally more than 24 months after the previous birth according to the WHO Technical Consultation on Birth Spacing), can help to reduce the total number of children a women conceives, and can limit the upper age at which a women has a child. All this helps to increase the chance of child survival as there is a strong correlation between increased rates of family planning use and decreased child mortality.¹

*Family planning could bring more benefits to more people at less cost than any other single technology now available to the human race* – Peter Adamson, UNICEF, 1996⁴

Inadequate provision of quality ante-natal, safe delivery, postnatal and newborn care results in very high rates of maternal, newborn and neonatal deaths. About 40% of child deaths under the age of five take place during the neonatal period and are usually caused by preterm birth, birth asphyxia (Lack of breathing at birth) and infections. Antenatal care, safe childbirth and effective neonatal care are essential to prevent these deaths.

If a child is born with a low birthweight there is a high association with later undernutrition and death. In fact, a baby born underweight in a resource-poor country is 20 times more likely to die than a baby born with a normal weight of more than 2.5 kg.³ Being underweight at birth makes the baby much more susceptible to infectious diseases, inhibits both growth and cognitive development, and also predisposes the baby to chronic disease later in life. Of the estimated 19 million babies born underweight, one third of these are in south Asia, with 8.3 million born in India alone. However, 60 per cent of babies are not weighed at birth.

Where an infant’s nutritional deficiencies resulting from maternal undernutrition are compounded by poor infant and young child feeding practices, micronutrient deficiencies, poor quality and quantity of food and high incidence of morbidity, this will lead to another generation of undernourished mothers, who will in turn replicate the cycle. This is known as the intergenerational cycle of undernutrition.

Mother to child transmission of HIV

Women who are pregnant or breastfeeding require additional energy and additional micronutrients to maintain their own health and to build strong babies. Mothers with HIV require the same increase in foods and added micronutrients as other women, plus an additional 10 percent to maintain their health in the context of HIV infection.

Mothers with HIV may transmit the virus to their infants during pregnancy and delivery or through breastfeeding. Prior to the use of antiretroviral treatment for prevention of mother to child transmission (MTCT), the combined effect of transmission during pregnancy, labour and delivery and transmission through breastfeeding was as high as 40%. However the introduction of antiretroviral therapy (ART) during pregnancy and delivery has reduced MTCT of HIV up to the point of delivery.

Access to contraception, safe delivery services, ART for HIV mothers and optimal infant feeding practices are necessary to reduce MTCT of HIV and promote child survival.

The most appropriate infant feeding option for an infant of an HIV-positive mother depends on the individual circumstances. Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) for them and their infants before that time. If, after six months replacement feeding is still not AFASS, when complementary feeding needs to be introduced, continuation of breastfeeding with additional complementary foods is recommended. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.

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## Table 2: Key reproductive health interventions that promote child health and nutrition

<table>
<thead>
<tr>
<th>Phase</th>
<th>Proven effective interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Care for girls and women before pregnancy</strong></td>
<td>• Nutrition promotion, especially in girls and adolescents  &lt;br&gt; • Prevention and management of HIV and sexually transmitted infections (STI)  &lt;br&gt; • Family planning</td>
</tr>
<tr>
<td><strong>Care during pregnancy</strong></td>
<td>4 visits focused antenatal care (ANC) including:  &lt;br&gt; • At least 2 doses of tetanus toxoid vaccination (TT2+) for pregnant women  &lt;br&gt; • Intermittent preventive treatment for malaria in pregnancy (IPTp) and long lasting insecticide-treated mosquito nets (LLIN)  &lt;br&gt; • Maternal nutrition during pregnancy, including iron and folate  &lt;br&gt; • Treatment of disease, and mebendazole for worms  &lt;br&gt; • Identification of high risk pregnancies and referral  &lt;br&gt; • Prevention of mother-to-child transmission of HIV  &lt;br&gt; • Preparation of a birth plan</td>
</tr>
<tr>
<td><strong>Care during childbirth</strong></td>
<td>• Skilled attendance at birth and clean delivery  &lt;br&gt; • Emergency obstetric care  &lt;br&gt; • Essential newborn care – delayed chord clamping, resuscitation, drying the baby, warmth, cleanliness  &lt;br&gt; • Improved linking of home and health facility  &lt;br&gt; • Companion of the woman’s choice at birth  &lt;br&gt; • Preventing mother-to-child transmission (PMTCT) through antiretroviral therapy and safer infant feeding practices  &lt;br&gt; • Active management of the third stage of labour</td>
</tr>
<tr>
<td><strong>Care after birth</strong></td>
<td>• Routine postnatal care (PNC) for early identification and referral for illness as well as preventive care:  &lt;br&gt;   - For the mother: Promotion of healthy behaviours, danger sign recognition and family planning  &lt;br&gt;   - For the baby: Promotion of healthy behaviours by mothers – hygiene, warmth, early and exclusive breastfeeding, clean cord care and immunization  &lt;br&gt; • Extra care for babies with other problems (e.g., mothers with HIV/AIDS)  &lt;br&gt; • Management and care of low birthweight (LBW) babies including Kangaroo Mother Care (KMC)  &lt;br&gt; • Case management of neonatal illness especially sepsis  &lt;br&gt; • Early and exclusive breastfeeding for babies  &lt;br&gt; • Vitamin A supplementation for the mother</td>
</tr>
</tbody>
</table>

Source: Adapted from ‘Evidence – based interventions to save new born lives’ Opportunities for Africa’s newborns, the Partnership for Maternal, Newborn and Child Health 2007.

### Continuum of Care for maternal, newborn and child health

In recognition of the relationship between reproductive health and safe childbirth and the health of both the woman and the newborn child, and that a healthy start in life is an essential step towards child health and development, the concept of the “Continuum of Care” has emerged to address maternal, newborn and child mortality globally.  

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8 Facts about the “Continuum of Care for Maternal, Newborn and Child Health” and the Partnership for Maternal, Newborn and Child Health are available on www.who.int/pmnch
Aspects of the “Continuum of Care” for maternal, newborn and child health include:

1) **Time** – from pre-pregnancy, through pregnancy, childbirth and the early days of life through infancy and childhood

2) **Place** – linking the various levels of care at home, community and health facility level

3) **Packages of key effective interventions** have been developed to be provided along the continuum of care through pre-pregnancy, pregnancy, birth, post partum, newborn care, infancy and child care and are defined for family, community and facility levels. The packages are organised on each of the essential components needed to assure adequacy and quality of care for family planning, safe abortion, pregnancy care, child birth care, post partum care of mother, care of newborn, care during infancy and childhood. [www.who.int/pmnch/topics](http://www.who.int/pmnch/topics).

Most of the key interventions outlined in the “Continuum of Care” are as relevant in an emergency as in a more settled situation. How much can be implemented and how quickly depends on the limitations imposed by the emergency. However as reproductive health and child health services are being established the “Continuum of Care” for maternal, newborn and child care should be applied as feasible.

**Major causes of excess morbidity and mortality in emergencies and links with undernutrition**

The major causes of excess morbidity and mortality in emergencies are: *Acute respiratory infections, diarrhoeal diseases, malaria* (where prevalent), measles and undernutrition.

Other communicable diseases such as meningococcal meningitis and typhoid may cause large scale *epidemics* in emergencies, while tuberculosis is also a serious disease causing high levels of morbidity and mortality among emergency affected populations, especially in long term emergencies where living conditions are poor. Poor reproductive health significantly contributes to excess morbidity and mortality, while gender based violence (GBV) and its consequences, including HIV, are also a major concern. Trauma/injury, mental health and psychosocial issues also contribute to excess morbidity and mortality in emergencies.
# Health interventions

## Table 3: Major causes of excess morbidity and mortality in emergencies – contributing factors and preventative measures

<table>
<thead>
<tr>
<th>Disease</th>
<th>Major contributing factors</th>
<th>Preventative measures</th>
</tr>
</thead>
</table>
| Acute respiratory infections | - Inadequate shelter – crowded with poor ventilation  
- Lack of blankets and clothing  
- Indoor cooking – in living area  
- Undernutrition (Preventative measures listed in last row) | - Minimum living space standards and proper shelter  
- Adequate clothing, sufficient blankets |
| Diarrhoeal diseases      | - Overcrowding  
- Contaminated water and food  
- Poor personal hygiene  
- Poor washing facilities  
- Poor sanitation  
- Lack of soap  
- Undernutrition | - Adequate living space  
- Public health education  
- Distribution of soap  
- Good personal and food hygiene  
- Safe water supply and sanitation |
| Malaria                  | - New environment – area with higher endemic levels/strain to which the refugees are not immune  
- Interruption of vector control measures  
- Increased population density  
- Stagnant water  
- Flooding  
- Inadequate health care services  
- Undernutrition | - Destruction of mosquito breeding places, larvae and adult mosquitoes by spraying  
- Provision of mosquito nets  
- Drug prophylaxis (E.g., pregnant women and young children according to national protocols) |
| Measles                  | - Overcrowding  
- Measles vaccination coverage below 90%  
- Undernutrition | - Minimum living space standards  
- Immunization of children with distribution of Vitamin A –immunization from 6 months up to 15 years (rather than the more usual 5 years) is recommended because of the increased risks from living conditions. |
| Undernutrition           | - All the above+  
- Maternal malnutrition  
- Inadequate IYCF  
- Inadequate care practices  
- Food insecurity  
- Inadequate household food distribution  
- Illness/infections | - All the above+  
- Promote optimal maternal care (Including education, health care, micronutrient supplementation and food security)  
- Promote optimal IYCF and care practices  
- Ensure food security (Quality and quantity)  
- Provision of accessible basic health services |


Because undernutrition and disease are closely linked, there is likely to be an increase in the incidence of infectious diseases, especially among young children and other vulnerable groups as the nutritional situation worsens. This illness can subsequently contribute to further deterioration in nutritional status of the individual. Furthermore, in middle and low income countries serious illnesses commonly occur sequentially or concurrently. Measles may be complicated by pneumonia or diarrhoea and children with Vitamin A deficiency have an increased risk of dying from diarrhoea, measles or malaria.

Although table 3 highlights the major causes of excess morbidity and mortality in emergencies it should be recognised that the **patterns of morbidity and mortality vary significantly from context to context**.

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Increased rates of morbidity and mortality due to communicable diseases occur more frequently in association with complex emergencies than with acute onset natural disasters. Sphere states that in many conflict-affected settings between 60% and 90% of deaths have been attributed to four major communicable diseases: Acute Respiratory Infections (ARI), Diarrhoea, Measles and Malaria where endemic, exacerbated by acute malnutrition. Tuberculosis is of particular importance in long term chronic emergencies due to poor living conditions and it is also exacerbated by undernutrition.

Basic information about important communicable diseases in emergencies

**Acute Respiratory Infections**

ARI encompasses **upper respiratory tract infections** – common cold and pharyngitis – and **lower respiratory tract infections** – bronchitis and pneumonia. The majority of ARIs involve upper respiratory tract only, are mild, and resolve spontaneously. Acute lower respiratory tract infections (LRTI) are a major cause of morbidity and mortality in emergencies. It is estimated that 25-30% of deaths in children under-5 years are due to LRTIs, and 90% of these deaths are due to pneumonia.¹

**Risk factors for pneumonia** include low birth weight, malnutrition, vitamin A deficiency, poor breastfeeding practices, poor ventilation in shelters (Smoke from indoor fires for cooking or heat), chilling in infants and overcrowding.

Prevention interventions in emergencies include ensuring adequate shelter (Space, ventilation and heat) and providing appropriate clothing and blankets. Zinc supplementation protects against pneumonia, while vaccination against measles, diphtheria and whooping cough is effective in reducing the impact of acute respiratory infections generally. It is important that pneumonia is recognised early and treated appropriately with antibiotic therapy according to protocols.

**Diarrhoeal diseases**

Diarrhoeal diseases are a major cause of morbidity and mortality in emergency situations, often accounting for over 40% of deaths in an acute phase of an emergency, with 80% of these deaths occurring among children under 2 years of age.

Diarrhoea is defined as three or more abnormally loose or fluid stools over a period of 24 hours. It may be caused by various bacteria – Salmonella, E Coli, Shigella Dysenteriae and Vibro Cholerae – or by protozoa – Giardia and Amoeba - or by viruses, e.g. rotavirus. Diarrhoea may occur as one of the symptoms of other infections.

Prevention of outbreaks of Cholera and Shigella dysentery are of particular concern in emergencies as these are highly infectious diseases, and if poorly managed can result in extremely high case fatality rates.

**Box 1: Cholera and dysentery in the Democratic Republic of the Congo and Zaire**

The terrible epidemics of cholera and dysentery in the Rwandan refugee camps in Goma, Zaire in 1994 caused an estimated 85 per cent of the 50,000 deaths, 60 per cent of which were from cholera and 40 per cent from dysentery (Shigella). In the Democratic Republic of the Congo between March 2001 and October 2002 there were 55 cholera epidemics, with 38,000 cases and 2,129 deaths- with a Case Fatality Rate (CFR) of 5.6 per cent. These deaths occurred across 51 health districts in 7 provinces.

Cholera symptoms begin with abrupt onset copious watery diarrhoea, classically rice water stools with or without vomiting. This can result in rapid and profound dehydration and electrolyte imbalance including acidosis. Cholera affects the whole population rather than just children under two years. Cholera should be included in the *Early Warning And Response System* (EWARS) and a single confirmed case may indicate an outbreak.

Bacillary Dysentery Shigella usually presents with bloody diarrhoea associated with fever and abdominal cramps. Population groups at high risk of contracting bacillary dysentery include children under 5 years of age, especially malnourished and/or post measles (within the last six weeks); adults over 50 years of age; and older children and adults who are malnourished.

Prevention and early treatment of the other diarrhoeal diseases, especially in young children, is also essential to reduce excess mortality in emergencies. Young children often suffer chronic or recurrent bouts of diarrhoea, which will subsequently predispose the child to further infection and malnutrition.

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Risk factors for diarrhoea include overcrowding, inadequate quantity and quality of water, poor personal hygiene, poor washing facilities, poor sanitation, poor cooking facilities and lack of soap.

Diarrhoea control interventions in emergencies include provision of adequate quantities of safe drinking water, provision of facilities for safe disposal of human excreta, provision of adequate storage for cooked and uncooked food, appropriate cooking utensils and fuel for cooking, provision of soap, promotion of optimal breastfeeding practices, and provision of information on all of the above activities. Prompt diagnosis and appropriate treatment according to protocols and guidelines is essential to reduce and prevent excess mortality in emergencies.

Malaria

According to WHO almost 300 million cases of malaria occur every year with more than 1 million deaths, 90% of which occur in sub-Saharan Africa. It is also one of the major killer diseases in emergencies. Malaria is caused by the parasite plasmodium (And is transmitted from person to person by Anepholes mosquitoes. In the blood the parasites develop trophozite forms which are responsible for clinical attacks and gametocyte forms which are responsible for disease transmission. Pfalciparum can cause a life-threatening form of malaria, while P.vivax has persistent liver forms which may lead to relapses after the initial blood infection has been cured.

Risk factors for malaria include movement to a new environment with a strain to which the population is not immune, increased population density promoting mosquitoes biting, stagnant water, flooding, interruption of vector control measures and inadequate health care service provision.

Malaria control interventions in emergencies include environmental control – clearing of stagnant water, indoor residual spraying (Guided by entomological assessment/expertise), distribution of long lasting insecticide treated nets and intermittent presumptive treatment of pregnant women. Malaria should be included in the EWARS – an increase in number of cases above what is expected for the time of year may indicate an outbreak.

Prompt diagnosis (Using a rapid test) and treatment with Arte-mether Combination Treatment according to protocols is also essential to reduce malaria-related mortality.

Measles

Measles is a highly communicable viral infection spread by respiratory droplets from person to person and is one of the key killer diseases in emergencies. It is a severe disease which damages the immune system and can increase susceptibility to other infections. It can lead to or exacerbate vitamin A deficiency, thus increasing risk of xerophthalmia and/or blindness. Children between the ages of 9 months and 5 years are the most vulnerable to measles. Deaths are usually due to complications such as pneumonia, croup or diarrhoea, and are frequently associated with acute malnutrition. Other (usually later) complications of measles include encephalitis, stomatitis, and otitis media.

Risk factors for measles include overcrowding, undernutrition and low vaccination coverage (Below 90%).

Vaccination is the most important strategy for measles control and measles vaccination campaigns combined with vitamin A supplementation is one of the highest health priority interventions in emergency situations. Ensuring adequate living/shelter conditions is also key to measles control. Measles should be included on the EWARS and a single case may indicate an outbreak. Appropriate case management for uncomplicated and complicated measles should be provided according to clear protocols.

Meningitis

Meningococcal meningitis is an acute inflammation of the meninges usually caused by bacteria. Large outbreaks of meningitis are mainly due to meningococcus neisseria bacteria (Various strains serogroups).

Clinical symptoms of meningitis are sudden onset fever >38°C axillary and one of the following: neck stiffness, altered consciousness, other meningeal signs, or purpural rash.

In infants under one year of age meningitis is suspected when fever is accompanied by a bulging fontanelle. Lumbar puncture is necessary to identify meningococcus and should be conducted before treatment is given.

Displaced populations are at increased risk of meningitis due to overcrowding, poor hygiene and poor access to health care. Eighty percent of cases of meningococcal meningitis occur in persons under 30 years of age and without appropriate treatment the case fatality rate (CFR) can be as high as 50%, while with antibiotic treatment the CFR can be reduced to 5-15%.

Risk factors for meningitis include overcrowding, dry season, dust storms and high rates of ARIs. Risk is also greater in the meningitis belt which includes eastern, southern and central Africa.

Meningococcal meningitis should be included in the EWARS, the threshold number of cases indicating an outbreak is variable depending on the context (Sphere).

Vaccines are available against a number of strains of meningococcus and these are effective in controlling epidemics. When rapid mass vaccination campaigns are conducted an outbreak can be controlled within 2-3 weeks.
**Human immunodeficiency virus (HIV) infection**

HIV is a virus that attacks the immune system. A person infected with HIV may be asymptomatic (no clinical signs or symptoms) for many years. After a period of time, if no treatment is given the effect of a weakened immune system will manifest itself through opportunistic infections, weight loss and low grade fever, progressing to the development of Acquired Immune Deficiency Syndrome (AIDS), which is the most advanced stage of HIV infection.

HIV is found across the globe, however prevalence is highest in sub Saharan Africa, where women and girls make up 57% of the adults living with HIV.

There are four main modes of transmission of HIV –

- Sexual intercourse with an infected partner, especially in the presence of a concurrent STI
- Use of contaminated needles – injecting drug use or needle stick injuries
- Transfusion of infected blood or blood products.
- Mother to Child Transmission – through pregnancy, labour, delivery, or breastfeeding

Humanitarian crises, which are often linked to displacement, food insecurity and poverty, increase vulnerability to HIV and negatively affect the lives of people living with HIV.

The factors that determine HIV transmission during a humanitarian crisis are complex and depend on the context. Existing gender inequalities may be further exacerbated, making women and children disproportionately more vulnerable to HIV, e.g. sex work and sexual exploitation may increase as a consequence of loss of livelihood and lack of employment opportunities. Population displacement may lead to separation of family members and breakdown of community cohesion and of the social and sexual norms that regulate behaviour. Women and children may be used by armed groups and may be particularly vulnerable to HIV infection as a result of sexual violence and exploitation, while rape may be used as a weapon of war.

Pre-emergency HIV services may be disrupted during humanitarian crises – people may no longer have access to information about HIV prevention, to Voluntary Counselling and Testing (VCT), to condoms or to services for PMTCT. People living with HIV may suffer due to disruption of services for treatment of opportunistic infections and for ART, including PMTCT. Their health is put at risk as nutritional needs are not met and palliative and home based care may be disrupted.

Breakdown in reproductive health services leading to lack of availability of family planning services, antenatal and safe delivery services and treatment of STIs, may also accelerate the spread of HIV in emergencies.

The impact of an emergency on mothers and other carers living with HIV (as above) may impact their ability to provide optimal nutrition and care for the children in their care and subsequently affect the nutritional status of those children.

**Tuberculosis**

Tuberculosis (TB) is a disease which most commonly affects the lungs but also affects other organs. It is caused by the bacterium Mycobacterium tuberculosis, which includes M. tuberculosis and M. africanum (Primarily from humans) and M.Bovis (Primarily from cattle). M.tuberculosis and M.africanum are transmitted through airborne exposure to bacilli produced by people with pulmonary or laryngeal TB through coughing or sneezing. Bovine TB is usually contracted through ingestion of unpasteurised milk and sometimes airborne spread to farmer and animal handlers.

Risk factors for TB include overcrowding, malnutrition, and high HIV seroprevalence rates.

The most important symptoms of TB are productive cough for more than 3 weeks, haemoptysis and significant weight loss. Other symptoms include fever, night sweats, breathlessness, chest pain, and loss of appetite.

**TB control is not a priority in the acute stages of an emergency** when mortality rates are high owing to ARI, undernutrition, diarrhoeal diseases and malaria. A TB control programme should not be implemented until **Crude Mortality Rate (CMR) is below 1 per 10,000 pop per day** and there is some stability in the population so that patients commencing the treatment can complete the full 6-8 month treatment, however **TB is a particularly important disease in long-term emergencies** where refugees or Internally Displaced Persons (IDPs) are in overcrowded living conditions for long periods, and undernutrition is prevalent – this is further exacerbated where HIV seroprevalence rates are high.

In Kenya in 1993 the incidence of new infectious TB patients was four times the rate of the local population and in two camps in Sudan in 1990 over one third of all adult deaths were due to TB.

Child Health in Emergencies

Emergencies exacerbate the severity and magnitude of childhood diseases. Moss et al point out that in refugee populations the highest mortality rates are in children under 5 years and that although mortality rates are higher in infants less than 1 year old, the relative increase (Due to the emergency) is greatest in older children\(^9\).

In 1991 at the Turkey – Iraq border 63% of deaths of Kurdish refugees were in children younger than five years, although this group comprised only 18% of the population\(^10\). In 1992 during the famine in Somalia over 74% of children younger than 5 years in the displaced persons camps were estimated to have died\(^11\). Among Rwandan and Burundian refugees in Democratic Republic of Congo in 1996, 54% of all deaths were among children under 5 years\(^12\).

In some settings mortality rates of older children or adults are comparable to or exceed those of young children, but this is more probable after outbreaks of cholera or dysentery or where armed conflict results in many civilian deaths.

Moss et al also point out that during complex emergencies the most commonly reported causes of death are the same as the major causes of death in countries with high child mortality rates: diarrhoeal disease, acute respiratory infections, measles, malaria and acute malnutrition.

Micronutrient deficiencies are also common in emergency-affected populations. Deficiencies found in children in non-emergency situations such as iron and vitamin A deficiencies, are more common in emergency situations. In addition, less common micronutrient deficiencies such as scurvy (vitamin C deficiency), pellagra (Niacin and/or tryptophan) and beri beri (Thiamine) may affect large populations in complex emergencies.

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Reproductive Health in Emergencies

As discussed in pages 9-12, the health and nutritional status of pregnant women will significantly impact the nutritional status of new born infants in any situation.

However the impact of emergencies further increases these vulnerabilities and risks. Maternal health may be negatively affected by a poor health environment, while maternal nutrition may be very seriously affected by inadequate quality and quantity of food.

For a variety of reasons reproductive health services are often inadequate in the early stages of an emergency. Pre-emergency facilities may be destroyed or damaged due to the conflict, or qualified staff may have fled the area, so leaving a limited capacity for provision of essential reproductive health services. Subsequently, lack of availability and/or utilisation of quality family planning services results in high numbers of women having multiple pregnancies in quick successions with serious health and nutritional consequences for both mother and child, while inadequate provision of quality antenatal, safe delivery and postnatal services and newborn care results in very high rates of maternal and newborn deaths.

Prior to the 1990s reproductive health services in emergencies were designed to address maternal and child health with an emphasis on the health of women primarily in regard to the contribution to the health of the child. Since the mid 1990s the understanding about reproductive health issues in emergencies has broadened to include family planning, gender based violence, sexual transmitted infections and HIV.

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\(^10\) Centre for Disease Control (1992). Famine-affected, refugee and displaced populations; recommendations for public health issues. MMWR Recomm Rep: 41: 1-76


**Box 2: Incorporating family planning into an emergency response**

Although the importance of family planning has been recognised at a global policy level, many humanitarian organisations still have a blind spot for provision of family planning services and do not include this component in the emergency response package. For example, in southern Sudan where NGOs have been the first-line health care providers for the past 25 years, family planning methods and education were not effectively promoted as a standard part of the health response, and consequently only an average of 1.7 per cent of southern Sudanese couples use a modern method of family planning. This extremely low uptake partially accounts for the appallingly high maternal mortality rate of 2037 maternal deaths per 100,000 live births.

The situation is very different in Nepal where, despite a decade of internal conflict, there are relatively high rates of contraceptive use, with 54 per cent of women reporting using a modern method in 2006. This represents a 25 per cent increase from the previous study in 2001. There has also been a substantial decrease in the maternal mortality rate in Nepal, from 539 per 100,000 live births in the 1989 to 1995 period, to 281 per 100,000 live births for the 1999-2005 period. There are many reasons to account for this decline, including a doubling of women attending antenatal care and more deliveries being conducted in health facilities or being assisted by a skilled birth attendant, but the increased utilisation of family planning may well have contributed significantly to this decline.

For an excellent guide to methods of family planning, WHO, together with numerous international partners, produced in 2007 the book *Family planning: A global handbook for providers.*

**Gender Based Violence** includes sexual violence including rape, sexual abuse, sexual exploitation and forced prostitution, domestic violence, forced and early marriage, harmful traditional practices (Such as female genital mutilation and honour crimes) and trafficking. While sexual violence has been recognised as part of war, the nature and extent of GBV varies from context to context, and although GBV in emergencies is under-reported it has been widely documented in many humanitarian settings.

“Approximately 50,000 to 64,000 internally displaced women in Sierra Leone reported experiencing sexual violence at the hands of armed combatants. And half of internally displaced women who had face to face contact with combatants reported experiencing sexual violence.”

The majority of Tutsi women in Rwanda’s 1994 genocide were exposed to some form of gender based violence: Of those, it is estimated that between 250,000 and 500,000 survived rape.

**The physical consequences of GBV** include unintended pregnancies, unsafe and complicated abortions, adverse pregnancy outcomes including miscarriage, low birth weight and foetal death, STIs, including HIV, and Urinary Tract Infections (UTIs).

**The psychological consequences of GBV** include anxiety disorders including post traumatic stress disorder, depression, feelings of inferiority, inability to trust, fear, increased substance abuse, sleep disturbance, eating disorders, sexual dysfunction and suicide.

GBV also has a major impact on the social health of individuals and the community, in terms of stigma, isolation and rejection (Including by husbands and families), loss of women’s potential income, interrupted education of adolescents and homicide (E.g. honour killings).

These consequences (Physical, psychological and social health) all impact negatively on the nutritional status of infants and young children.

**Sexually Transmitted Infections (including HIV)** cause a large proportion of the global burden of ill health. There is a strong correlation between STIs and HIV transmission; the presence of other STIs (Such as gonorrhoea, chlamydia and trichomoniasis) will increase the risk of sexual transmission of HIV. In humanitarian settings the risk of STI (Including HIV) transmission may be high for a variety of reasons, including increased sexual violence, workers in high mobility jobs (such as truck drivers and peace-keepers), transactional sex, alcohol and drug abuse, lack of information and access to condoms, breakdown of community/societal norms.
Mental Health in Emergencies

Mental health and psychological problems occur in all humanitarian situations. The horrors, losses and uncertainties the affected population are exposed to in both conflict related and natural disasters, erode normal protective supports, increase risk of diverse problems and amplify pre-existing problems of social justice and inequality – natural disasters generally have a disproportionate impact on poor people, e.g. in many flood situations it is the poor who were living in relatively dangerous places who are most seriously affected.

Many people show resilience and have the ability to cope relatively well with the horrors, losses and uncertainties that an emergency brings. It is the numerous interacting social, psychological and biological factors which influence whether people develop problems or exhibit resilience and cope.

Inter-Agency Standing Committee (IASC) guidelines describe mental health and psychosocial problems in emergencies as predominately social or psychological in nature but add that they are generally interconnected.

Mental health and psychosocial issues in emergencies include:

- Pre-existing social problems (e.g. extreme poverty, discrimination against or marginalisation of particular groups)
- Pre-existing psychological problems (e.g. mental disorders, alcohol abuse)
- Emergency-induced social problems (e.g. family separation, disruption of social networks and/or community structures)
- Humanitarian-induced social problems (e.g. undermining community structures or traditional support mechanisms)
- Emergency-induced psychological problems (e.g. grief, depression, anxiety including post traumatic stress disorder)
- Humanitarian aid related problems (e.g. anxiety due to lack of information about food distribution)

Health of the elderly in emergencies

The impact of emergencies affects the health and nutritional status of the elderly population with issues such as loss, grief and depression, exhaustion and poor diet, exacerbating poverty, and chronic disease. One study showed that elderly people caring for adults dying with HIV-related illnesses experienced a significant decrease in their Body Mass Index. The following case example from Sudan illustrates the importance of not forgetting older people in nutritional and health planning.

Case example 3: Addressing severe acute malnutrition in older people in southern Sudan: 1998

During 1998 Ajiep in Bhar el Ghazal was regarded as the epicentre of the famine. The population of Ajiep had increased seven-fold from 3000 to 21,000 having been displaced as a result of severe food shortages, insecurity in the surrounding areas and the attraction of a general food ration.

Mortality rates began to rise in February and March 1998 and by August, despite a large amount of food and NGO inputs, the mortality and malnutrition rates remained very high for a prolonged period.

While emergency nutrition interventions had focused predominantly on the needs of children under five years of age, the needs of other population groups, namely adults and older people, had been largely neglected.

Levels of malnutrition among older people and adults were extremely high, exacerbated by an outbreak of dysentery caused by poor sanitation, over-crowding and lack of community-based public health interventions.

By September, a therapeutic and supplementary feeding programme had been established. Patients with dysentery were referred and treated in the field hospital and referred back for nutritional recovery. Of the 440 people admitted for therapeutic feeding during the next months, over 20 per cent of the admissions were older people (Over 50 years).

The programme demonstrated high recovery rates (92 per cent), low mortality (5 per cent) and a low defaulter rate (3 per cent). Furthermore, as part of the evaluation of the programme, the ‘elders’ in the community were asked on their opinion of the programme. Their response was simply “finally, the old people have been considered.”

Source: Salama P. 1999 Concern Worldwide

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14 Ainsworth, Martha and Julia Dayton; ‘The elderly and AIDS: Coping with the impact of adult death in Tanzania’, Social Science and Medicine, 59; November 2004.
15 Salama, Peter, Concern Worldwide, Presentation at ACCSN, April 1999.
Health programming in emergencies and links to nutrition

Given the multiple determinants of health, the health status of a population is dependent on interventions from a number of sectors including food, water and sanitation, shelter, protection and health.

The role of the health sector/operational health agencies in emergencies is to provide essential health services that effectively reduce health risks.

Essential health services are priority health interventions (curative, preventative and promotional) that are effective in addressing the major causes of excess morbidity and mortality. The way health interventions are planned, organised and delivered in response to an emergency can either enhance or undermine the existing health system and its future recovery and development, so implementation of essential services should be carried out in a way to support and strengthen the health system, not undermine it.

Using Sphere Health Actions in Emergencies as a framework, this section provides an overview of key issues in relation to health systems and health services in emergencies, specifically focussing on those issues which have a relationship with/are significant in relation to nutrition status and/or nutrition programming. Please refer to Sphere and other referenced documents for more detailed information.

Health Systems

Health System Standard 1: Health Service Delivery

Sphere Health Service Delivery standard 1.1: Prioritising health services

People have access to health services that are prioritised to address the main causes of excess mortality and morbidity

Priority health interventions will vary from context to context /depending on the type of disaster and the impact, but should be based on evidence-based practices for public health benefit.

Access to health services should be based on principles of equity and impartiality without discrimination. The location and staffing of facilities should be organised to ensure optimal access and coverage; vulnerable groups should be identified and their needs addressed in the design of health services. Barriers to access (e.g. physical, financial and cultural) should be identified and addressed.

Sphere Health Service Delivery standard 1.2: Organisation of health services

People have equal access to effective, safe and quality health services that are standardised and follow accepted protocols and guidelines.

Level of care

In an emergency health services are provided through a variety of health facilities and community outreach workers. The health facilities are categorised according to size and services provided. The following table provides a guide for health facility needs in relation to population size.

Health promotion

An active programme of community health promotion should be initiated in the early stages of an emergency, in consultation with local health authorities and community representatives, ensuring a balanced representation of women and men and providing information on:

- Major health problems,
- Health risks,
- Availability and location of health services
- Behaviours that protect and promote good health
- Addressing and discouraging harmful practices

Public health messages and materials should utilise appropriate language and media, be culturally sensitive and easy to understand. Schools and child-friendly spaces are important venues for spreading information and reaching children and parents. It is essential that the various target audiences are adequately considered and appropriate messages developed for each key group. In many emergency situations young children are the carers of younger siblings so health promotion messages/activities should include these children as a target group. Refer to HTP module 19 for more information on behaviour change and communication in emergencies.

Mobile clinics

In some situations it may be necessary to operate mobile clinics to meet the needs of isolated or mobile communities that have limited access to the health care available through static facilities. Mobile clinics have been proven effective in increasing access to treatment in outbreaks where a large number of cases are expected. However mobile clinics should be introduced only in consultation with the lead health agency and the local health authorities as major issues of cost, effectiveness and sustainability need to be considered.
Table 4: Health Facility by level of care

<table>
<thead>
<tr>
<th>Level of care</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>1 Community Health Worker (CHW) per 1000 people</td>
</tr>
<tr>
<td>Peripheral health facility</td>
<td>1 basic health unit per 10,000 people</td>
</tr>
<tr>
<td>Central health facility</td>
<td>1 health facility per 50,000 people</td>
</tr>
<tr>
<td>Hospital</td>
<td>1 district/rural hospital per 250,000 people</td>
</tr>
<tr>
<td>Inpatient and maternity beds</td>
<td>&gt;10 beds per 10,000 people</td>
</tr>
</tbody>
</table>

Sphere Health System standard 4: Health financing
People have access to free primary health care services for the duration of the disaster

In terms of the impact on nutrition it is particularly important that child health services are free to facilitate and encourage early presentation of a sick or acutely malnourished child before the condition deteriorates.

A basic humanitarian principle is that services and goods provided by aid agencies should be free of charge to recipients. Where user fees are charged through the government system arrangements should be made for their abolition or temporary suspension for the duration of the emergency. Where an existing fee paying facility agrees not to charge fees the revenue lost and increased case load must be compensated (Staff incentives, provision of additional medicines). In contexts where this is not possible members of the emergency affected population may be provided with cash and/or vouchers to enable access to health services.

Working with communities
Active community participation is essential for effective health and nutrition programming in emergencies to ensure relevance and acceptability of activity and to enhance the sustainability of interventions.

Community Participation is the active involvement of the community in the planning, management, implementation, monitoring and evaluation of services and projects/programmes.

It is the responsibility of health and nutrition programme managers to proactively work to facilitate community participation of the population, ensuring women and marginalised groups are actively engaged in the decision-making process. This involves developing relationships of trust and establishing and working through transparent mechanisms for community participation, where programme managers and the population discuss current and planned activities and the population can provide feedback and input into programme decisions.

The importance of working with a community is reflected in the Sphere standards where ‘working with communities’ is one of the common standards in humanitarian assistance that all sectors should follow. While it is appreciated that the level of community participation will vary depending on the phase of an emergency and the physical, social and political circumstances of the disaster affected population, there is a responsibility for agencies to facilitate active community participation.

Sphere Common standard 1: People centred humanitarian response
People’s capacity and strategies to survive with dignity are integral to the design and approach of the humanitarian response.

Key action (1 of 9) Agencies should act to progressively increase the disaster affected people’s decision making power and ownership of programmes during the course of a response.

Community outreach
Humanitarian agencies depend on the work of a significant number of community outreach staff and/or volunteers to support health programme activities. These community extension cadres include CHWs and community health volunteers CHVs, nutrition educators, health and hygiene promoters, and traditional birth attendants. Some of these cadres may be employed as paid staff members and others may work on a voluntary basis.

In a humanitarian situation where several health and nutrition agencies are working in the same geographical area (Each with various technical responsibility) there are likely to be a whole network of community cadres employed/appointed on a voluntary basis: General health volunteers, environmental health volunteers and nutrition outreach workers. Often these groups are working independently with no coordination or communication between the various groups. This can lead to confusion, conflicting messages for the community and also a serious duplication of efforts/wastage of resources.
It is therefore essential that the work of the various extension workers is well coordinated, is complementary and that there is no duplication.

The sex ratio of CHWs also needs to be considered within the cultural context: In some situations it may be difficult for female CHWs to move from house to house and at times it may difficult for male CHWs to enter houses where there are no men present.

Where Community Health Volunteers are appointed it will be important to maintain motivation through some sort of non-cash incentives (These could include training, recognition and status, official identification (ID) and transport (E.g. bike), notebooks, boots, T-shirts etc.). Where Community Health Workers are paid a cash incentive it is important to ensure that the rates paid by the various agencies are relatively similar and not divisive to local/established systems/networks. Refer to HTP Module 19 for more information on community participation and working with community volunteers.

Essential Health Services

Communicable diseases

A communicable disease is one that can be transmitted by an infectious organism from one person to another. Transmission may be via Contact (scabies, trachoma, conjunctivitis), Vector (malaria, dengue, yellow fever), Water (non specific diarrhoea, amoebiasis and giardiasis, ascariasis, hookworm, cholera, shigella dysenteriae, typhoid, and hepatitis), Air (ARI, measles, meningitis, TB) or may be Sexually Transmitted (gonorrhoea, syphilis, HIV).

An epidemic is the occurrence of a number of cases of a disease that is unusually large or unexpected for a given place and time. Outbreaks and epidemics refer to the same thing.

Communicable disease outbreaks in emergencies have serious consequences and often result in high death rates, thus control of communicable diseases and prevention of communicable disease outbreaks is essential from the early stages of an emergency – including control of endemic diseases (Present on a regular basis).

A systematic approach to the control of communicable diseases is key to a quality humanitarian response and requires cooperation among agencies working at all levels and collaboration among relevant sectors involved in the response – including shelter, water and sanitation, food and nutrition and health.

Sphere outline three communicable disease standards

<table>
<thead>
<tr>
<th>Sphere Control of communicable diseases standard 1.1 prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>People have access to information and services that are designed to prevent the communicable diseases that contribute most significantly to excess morbidity and mortality</td>
</tr>
</tbody>
</table>

Key actions

- Develop and implement prevention measures in coordination with relevant sectors (this includes health promotion – (See below)
- Implement appropriate vector control measures for malaria, dengue and other vector-borne disease depending on local epidemiology
- Implement disease specific prevention measures, e.g. mass vaccination campaign against measles

General prevention measures

Shelter Sector – adequate numbers of climate appropriate shelters, well planned sites: sufficient space between shelters and well ventilated.

Water and Sanitation Sector – adequate quantity and quality water supply, adequate sanitation facilities, appropriate vector control interventions and hygiene promotion/education activity.

Food and Nutrition Sector – appropriate food basket ration (Quality and quantity), general nutrition support of the population and management of acute malnutrition and micronutrient deficiencies.

Health Sector – prevention (Vaccination and hygiene promotion), diagnosis and case management and outbreak detection, investigation and response.
Culturally appropriate health promotion messages for control of communicable diseases should be developed and disseminated on the following issues:

a) Hand washing  
b) Safe Disposal of faeces  
c) Keeping water safe/clean  
d) Safe storage and preparation of food  
e) Safe household refuse disposal  
f) Vaccination against measles (And in some contexts also against other vaccine preventable diseases – e.g. meningococcal meningitis)  
g) Use of Long Lasting Insecticide treated Nets (LLIN)  
h) Community level hygiene promotion measures: environmental cleanliness, refuse disposal, drainage of stagnant water etc.

Refer to HTP module 19 for more details on behaviour change and communication in emergencies.

Malaria prevention measures

Specific interventions to control malaria will vary from context to context depending on the potential disease risk which is influenced by phase of emergency/environment (shelter type/presence of pools of stagnant water etc), immunity status of population (population may have moved from non-endemic to endemic area), vector species and numbers.

Based on assessment of the situation, specific malaria control interventions may include Indoor Residual Spraying (IRS) with effective insecticide and distribution of LLINs.

IRS requires 80% coverage of dwellings to be effective as a community control measure; LLINs provide personal protection – however distribution of untreated nets is not recommended.

Sphere Control of communicable diseases standard 1.2 diagnosis and case management

People have access to effective diagnosis and treatment for those infectious diseases that contribute most significant to preventable excess morbidity and mortality

Key actions

- Develop public health education messages to encourage people to seek care early for fever, cough, diarrhoea etc
- Provide health care at all first level health facilities based on standard case management protocols Integrated Management of Childhood Illnesses (IMCI) and Integrated Management of Adult Illnesses, (Where implemented); with referral for management of severe illness
- Implement triage, diagnostic and case management protocols for early treatment of conditions such as pneumonia, malaria, diarrhoea, measles, meningitis, malnutrition, dengue, and train staff on protocols
- A comprehensive TB control programme should be introduced only when specific criteria can be met (See below)

Tuberculosis is a serious communicable disease and, when a humanitarian emergency develops interruption of TB treatment / loss of patients on TB treatment is a problem. However, while management of individual patients with TB may be possible during emergencies, poorly implemented TB control programmes can potentially do a lot of harm – prolonging infectivity and contributing to spread of multi-drug resistant bacilli.

A comprehensive TB programme should only be implemented where an agency is committed and has resources; there is an assured stability of the population for 12-15 months; and assuredness that a good quality programme can be implemented (Capacity of the agency). When TB programmes are established in a humanitarian scenario they should be integrated with the national country programme and follow the Direct Observation Treatment Strategy (Short course). Links should be established with HIV programmes where they exist/function. See notes on TB pages 19-20.
Nutrition staff should work with TB programme managers to ensure TB patients are receiving appropriate nutritional intake, as loss of appetite and weight loss is associated with TB.

**Sphere Control of communicable diseases standard ‘1.3 outbreak detection and response’**

Outbreaks are prepared for, detected, investigated and controlled in a timely and effective way

**Key actions**

**Detection**
- Establish disease EWARS based on risk assessment of communicable diseases,
- Train health facility staff and CHWs to detect and report potential outbreaks,
- Provide communities with simple information on symptoms of epidemic-prone diseases and where to go for help

**Preparedness**
- Prepare outbreak investigation and response plan
- Ensure protocols for investigation and control of common outbreaks, including relevant treatment protocols, are available and distributed to relevant health staff
- Ensure reserve stocks of essential materials are available for priority diseases (Or can be procured rapidly from a pre-identified source)
- Identify sites for isolation and treatment of infectious diseases in advance, e.g. cholera treatment centres
- Identify laboratory services that can provide confirmation of outbreaks (Locally, nationally or regionally)
- Ensure materials for sampling and transporting are available for the infectious agents most likely to cause a sudden outbreak

**Control**
- Describe the outbreak according to time, place and person, leading to identification of high risk groups and adapted control measures
- Implement appropriate control measures that are specific to the disease and context

**Case Fatality Rates**

The acceptable CFR for communicable diseases varies according to the general context, accessibility to health services and the speed and quality of case management.

According to Sphere, with appropriate case management CFRs for the following communicable diseases should be kept to the following:

- Cholera: 1% or lower
- Shigella dysentery: 1% or lower
- Typhoid: 1% or lower
- Meningococcal meningitis: varies 5-15%
- Malaria: <5% in severely ill malaria patients
- Measles: <5%

If CFRs exceed these levels an immediate evaluation of control measures should be undertaken and corrective steps taken to ensure CFRs are reduced to and maintained at acceptable levels.

**Child Health**

In any emergency situation children are especially vulnerable, and it is well documented that child morbidity and mortality rates increase significantly during emergencies – with children under-5 having the highest mortality rates.

In terms of emergency health programming it is therefore essential to establish child-focused health interventions which address the major causes of excess morbidity and mortality: ARI, diarrhoea, measles, malaria (Where prevalent), neonatal causes and undernutrition.

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16 CFRs as high a 21% have been reported in some conflict settings
Health interventions

**Sphere Child Health Standard 2.1 Prevention of vaccine preventable diseases**

Children aged 6 months to 15 years must have immunity against measles and access to routine Expanded Programme on Immunisation (EPI) services once the situation stabilises.

It is essential to estimate vaccination coverage of children aged 9 months – 15 years of the affected population at the outset of a disaster response to determine the risk of outbreaks (Review coverage data of the population for the last five years and whether a mass campaign has been conducted in the last 12 months).

Where coverage of children between 9 months and 15 years is below 90% or unknown a mass vaccination campaign should be conducted for children aged 6 months to 15 years.

Vitamin A should be administered at the same time to children between 6-59 months of age.

Infants that have been vaccinated between the ages of 6-9 months should have a follow up dose of measles vaccination at 9 months of age and a system should be established to ensure that any newcomers to the area or camp aged between 6 months and 15 years receive measles vaccination.

Routine EPI services for measles and other vaccine preventable diseases should be re-established as soon as conditions permit.

**Child Health Standard 2.2 Management of newborn and childhood illnesses**

Children have access to priority health services that are designed to address the major causes of newborn and childhood morbidity and mortality.

**Care of newborns**

Childbirth should be supported by a skilled practitioner, ideally at a health facility (See Reproductive Health previous section).

Care of the newborn just after birth includes (As part of Reproductive Health)

- Care of airway – resuscitation if required
- Care of umbilical cord
- Early initiation of breastfeeding and promotion of exclusive breastfeeding

- Care of body temperature ensure baby is kept warm – keeping next to mothers skin and wrapping in material – Kangaroo Mother Care
- Eye care – (Wash, prophylaxis ointment)
- Immunisation (Polio and BCG)
- Treatment for any infections – skin, eye, cord, mouth
- Identification and initial management of severe illness and referral for treatment
- Care of pre-term, low birth weight baby with breathing problems (Support for breastfeeding, kangaroo mother care)

Health care workers should promote and support the following practice at community level-

- Exclusive breastfeeding
- Infection prevention (General hygiene, hand washing, cord care, and safe disposal of babies faeces)
- Prevention of indoor air pollution
- Newborn stimulation and play
- Recognition of problems/illness and timely care seeking

**Care of children**

Health care for children should be provided at first level health facilities, using national protocols, or the IMCI guidelines where implemented, with referral to hospital for severely ill children.

IMCI was initiated in 1992 by WHO and UNICEF to reduce mortality and morbidity due to the major childhood illnesses: ARI, Diarrhoea, Malaria, Measles and Acute Malnutrition. IMCI uses a three pronged approach: a) improving case management skills of health care staff; b) improving overall health systems; and c) improving family and community health practices.

The cornerstone of the IMCI is the set of clinical guidelines for integrated management of childhood illnesses from two months to five years at first level health facilities. Using clinical algorithms formatted in flow charts, the guidelines take a health care worker through a logical process of correct diagnosis and provision of treatment of a sick child and provision of information to caregivers. Technical updates of the guidelines for IMCI were produced by WHO in 2005 for countries to use as they update national IMCI guidelines. An alternative guideline “Manual for the health care of children in emergencies” was developed by WHO in 2008, based on the IMCI guidelines and again using algorithms formatted as flow charts. However, in addition to the illnesses covered by IMCI, this guide also incorporates emergency resuscitation, management of trauma and burns, care of the newborn and young infants, and evaluation of mental health and psychosocial support.
It is essential to ensure that the nutritional status of all children attending health facilities is assessed and that those with acute malnutrition are referred for treatment. Assessment of nutritional status and potential feeding problems are incorporated into the IMCI integrated case management process, however it will be important to customise this to the country situation ensuring that the appropriate admission criteria and referral processes for acutely malnourished children are clear. For details of management of acute malnutrition see HTP modules 12 (Moderate acute malnutrition (MAM)) and 13 (Severe acute malnutrition (SAM)). For full details on prevention and treatment of micronutrient deficiencies see HTP modules 4 and 14.

Box 3: Importance of linking child health services with therapeutic treatment services

In 2006 an international NGO was implementing a nutrition programme in two counties in south Sudan. The NGO was providing therapeutic treatment and supplementary care to children using a community based approach; holding weekly outpatient consultations in temporary static facilities and mobile clinics across both counties, with referral to an inpatient stabilisation centre for those children with SAM and medical complications. Another international NGO was providing maternal and child health care services (Sick children consultations and vaccinations) in static health facilities in the same geographical catchment area.

There was no coordination mechanism between these two agencies and no system for referral of acutely malnourished children for treatment. Subsequently many severely acutely malnourished children were not identified/did not present for treatment until the condition reached the late stages with medical complications having developed.

Coordination between these two agencies and establishment of a referral system for acutely malnourished children identified during sick children consultation would have facilitated earlier presentation of children with SAM – before medical complications set in – making for easier treatment (Outpatient rather than inpatient) and speedier recovery.

Sources: Personal communication Forsythe V

A key aspect of child health care in emergencies is promotion of key infant and young child feeding and care practices; therefore it will be important to design and disseminate culturally appropriate health promotion messages to:

a) Encourage the affected population to seek early care for any illness in newborns and young infants – (Symptoms of major diseases and information about where to go for treatment)

b) Promote optimal IYCF and care practices including:
   - Exclusive breastfeeding 0-6 months,
   - Prevention of infection (hand washing, care of cord, safe disposal of faeces, general, household and food hygiene practices)
   - Prevention of indoor air pollution
   - Vaccination
   - Newborn and infant stimulation and play

See Annex 4 “12 key family practices to improve child survival” and refer to HTP module 19 for more information on behaviour change and communication in emergencies.

Sexual and Reproductive Health

Inadequate provision of reproductive health services significantly contributes to excess maternal, neonatal and infant morbidity and mortality in emergencies. Thus reproductive health is a key health programme component that should be initiated in the early stages of an emergency. Planning for the integration of quality reproductive health services into the Primary Health Care (PHC) system from the outset of an emergency is essential to ensure sustainability of provision of services for maternal, neonatal and child care.

According to the Inter Agency Working Group (IAWG) on Reproductive Health in Crises, Sexual and Reproductive Health in Emergencies encompasses the following: A Minimum Initial Services Package (MISP), Adolescent Reproductive Health, Family Planning, Maternal and Newborn Care, Comprehensive Abortion Care, Gender based Violence (Protection and care), STI Care, and HIV Care.

The MISP outlines the most important services for preventing reproductive health morbidity and mortality among women, men and adolescents in humanitarian settings. It comprises a set of priority interventions to:

a) Prevent, and manage the consequences of sexual violence,

b) Reduce the transmission of HIV,

c) Prevent maternal and newborn morbidity and mortality, and

d) Begin planning for comprehensive RH services.

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17 Inter-Agency Woking Group on Reproductive health in Crises (2010), Inter-Agency Field Manual (IAFM) on Reproductive Health in Humanitarian settings.
Health interventions

MODULE 15
TECHNICAL NOTES

Sphere Sexual and Reproductive Health standard 3.1 Reproductive Health
People have access to the priority reproductive health services of the Minimum Initial Service Package (MISP) at the onset of an emergency and comprehensive reproductive health services as the situation stabilises.

Sphere Sexual and Reproductive Health standard 3.2 HIV&AIDS
People have access to the minimum set of HIV prevention, treatment and support services during disasters.

Key objectives of MISP and related activities are to:
Ensure a Lead Reproductive Health Agency is appointed from within the health sector/cluster to facilitate coordination of the MISP (includes health sector and multi-sector coordination)
- A Reproductive Health Officer should be nominated to provide support to agencies providing health services
- Regular stakeholder meetings should be held to facilitate the implementation of the MISP

Prevent and manage the consequences of sexual violence
- Put in place measures to protect the affected population, particularly girls and women.
- Make clinical care available for victims of rape
- Ensure the community is aware of available clinical services

Reduce HIV transmission
- Ensure safe blood transfusion
- Facilitate and enforce respect for standard precautions
- Make free condoms available

Prevent excess maternal and newborn morbidity and mortality
- Ensure availability of emergency obstetric care (EmOC) and newborn care services, including
  a) At health facilities: skilled birth attendants and supplies for normal births and for management of obstetric and newborn complications
  b) At referral hospitals: skilled medical staff and supplies for the management of obstetric and newborn emergencies.
- Establish a referral system to facilitate transport and communication from the community to the health centre and between the health centre and the hospital
- Provide clean delivery kits to visibly pregnant women and birth attendants to promote clean home deliveries when access to a health facility is not possible

Plan for comprehensive Reproductive Health services integrated into PHC as the situation permits.

MISP also highlights that it is important to ensure:
- Contraceptives are available to meet demand;
- Treatment of STIs is available to patients presenting with symptoms;
- Antiretrovirals (ART) are available to continue treatment for patients already on ART, including PMTCT; and
- Culturally appropriate menstrual protection materials are distributed to women and girls.

Comprehensive Reproductive Health Services
As the situation stabilizes comprehensive reproductive health services are established to augment MISP services and include the following services by component:18
- Family Planning – comprehensive family planning programming and community education
- GBV – expanded medical, psychological, social and legal care for survivors; prevent and address other form of GBV including domestic violence, forced/early marriage, female genital mutilation; provide community education; engage boys and men in GBV programming
- Maternal and Newborn Care – provide antenatal and postnatal care; increase access to basic and comprehensive EmOC and newborn care
- Prevention and treatment of STIs, including HIV establish comprehensive STI prevention and treatment services including STI surveillance systems; raise awareness of prevention, care and treatment services for STIs, including HIV (see below);

HIV service to be established as comprehensive reproductive health services are developed:
- Community education;
- Comprehensive service to provide care, support and treatment for people living with HIV and AIDS
- Establish links between HIV and TB programmes where TB programmes exist
- Establish referral for required health and nutritional care and support

18 IAWG Reproductive Health in Crises, (2010), IAFM Reproductive Health in humanitarian settings.
• Ensure provision of treatment, care and support for infants born from mothers known to be HIV-positive, including guidance and counselling on infant feeding.

• Ensure people who are at high risk of exposure to HIV have access to HIV prevention interventions for sexual transmission of HIV and access to clean injecting equipment for known injecting drug users where these services already exist.

• Broaden range of HIV control service in the post emergency phase.

• Ensure Post Exposure Prophylaxis (PEP) is available for individuals potentially exposed to HIV (occupational exposure and non-occupational exposure). PEP should be given within 72 hours.

The Inter-Agency Field Manual for Reproductive Health in humanitarian settings stresses that it will be important to design and disseminate key RH messages that are disseminated consistently by all the health and social welfare promoters throughout the community.

Sample RH messages:

• At the onset of humanitarian response (MISP implementation): “women experiencing problems during childbirth should seek care at the hospital near the water point”.

• As the situation stabilises (Comprehensive RH care): “spacing pregnancies at least two years apart promotes the health of women, children and families”.

Nutrition staff should work with providers of antenatal, newborn and postnatal care to ensure promotion of maternal nutrition (Diet and supplementation) and promotion of optimal infant nutrition (including promotion of early initiation of breastfeeding, exclusive breastfeeding from 0-6 months, vitamin A supplementation of babies, support of infant feeding in the context of mothers with HIV).

Nutrition staff should work with other providers of HIV-related care to ensure appropriate nutritional support for persons living with HIV including targeted food support and treatment of acute malnutrition.

Essential Health Services Standard 5: Mental health

“People have access to health services that prevent or reduce mental health problems associated with impaired functioning”

Enabling community members including marginalised groups to strengthen community self health and social support is a key element of overall multi-sector support including the health sector. Health sector may employ or engage with community workers and volunteers who can facilitate and enable community members, including marginalised groups, to increase self help and social support.

Specific services should include:

- **Psychological first aid.** Management of acute anxiety after exposure to extreme stressors should be by psychological first aid. This is not a clinical intervention, rather it provides support for a person who is suffering and entails non-intrusive pragmatic care focussing on listening, but not forcing to talk; assessing needs and concerns, ensuring basic needs are met; encouraging social support from others and protecting from further harm. Health facility staff and CHW and/or Community Health Volunteers (CHVs) should be trained to provide this support.

- **Basic mental health care.** People with severe mental health problems should have access to community based social supports and clinical care through available health facilities.

- People in institutions – mental hospitals and residential homes for people with severe mental problems – need to be visited regularly, especially in the early stages of an emergency, because risk of neglect or abuse of people in institutions is high. Safety, basic physical needs, human rights surveillance and basic psychiatric and psychosocial care must be provided throughout the crisis.

- Early recovery: Humanitarian crises increase the rates of a broad range of mental and psychosocial disorders and so plans need to be developed to scale up effective mental health treatment for the affected population.
Health interventions

**Mental health and psychosocial support services**

Post-traumatic mental and psychological stress is another major cause of excess morbidity in emergencies and when a mother is suffering from mental illness or psychological stress it is likely to impact her ability to provide optimal nutrition and care for her children; and this will subsequently affect their nutritional status.

Mental health and psychosocial support involves multi-sector interventions requiring coordinated implementation, which should be planned and overseen through a cross-cluster or cross-sector working group.

The IASC guidelines describe interventions by function/domains:

- **Part A:** Common functions across domains - Coordination; Assessment, monitoring and evaluation; Protection and human rights standards; and Human resources

- **Part B:** Core mental health and psychosocial support domains – community mobilisation and support; Health services; Education; Dissemination of Information

- **Part C:** Social consideration in sector domains – Food security and nutrition; Shelter and planning; Water and Sanitation.

The Sphere mental health standard focuses on actions that should be conducted by health actors.

Sphere has adapted the IASC intervention pyramid to show types of mental health and psychosocial services in emergencies:

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**Intervention pyramid**

- **Focused nospecialised supports**
- **Strengthening community and family supports**
- **Activating social networks**
- **Social considerations in basic services and security**

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The impact of MHPP issues on a mother’s ability to provide optimal feeding and care for a young infant is enormous. Nutrition staff should work with health and social care providers to facilitate/support optimal care of infants and children of carers suffering from mental health and psychosocial issues.

**Health and nutritional support for various vulnerable groups in emergencies**

People living with a variety of chronic medical conditions, will require appropriate medical treatment along with necessary nutritional support.

Specific consideration must also be given to the health and nutrition needs of the elderly to ensure that they have access to appropriate medical treatment, and that the vulnerable elderly receive an adequate and appropriate diet and that they have the capacity to prepare and cook food. See Annex 5 for guidelines on recognising basic clinical symptoms associated with severe malnutrition in older people.
Annex 1: Measles vaccination in emergencies

- It is essential to estimate vaccination coverage of children aged 9 months – 15 years of the affected population at the outset of a disaster response to determine the risk of outbreaks (review coverage data of the population for the last five years and whether a mass campaign has been conducted in the last 12 months).

- Where coverage of children between 9 months and 15 years is below 90% or unknown a mass vaccination campaign should be conducted for children aged 6 months to 15 years.

- Vitamin A should be administered at the same time to children between 6-59 months of age.

- Infants that have been vaccinated between the ages of 6-9 months should have a follow up dose of measles vaccination at 9 months of age and a system should be established to ensure that any newcomers to the area or camp aged between 6 months and 15 years receive measles vaccination.

- Routine EPI services for measles and other vaccine preventable diseases should be re-established as soon as conditions permit.
Annex 2: Prevention and care of illness in newborn children

The key elements of care of sick neonates are the following:

- **Warmth.** Keep the baby’s temperature between 36.5°C-37.5°C and ensure that the feet are pink and warm to the touch.
- **Stabilization.** Clear the mouth and the nose. Revive the baby if it is not breathing or has a slow heartbeat. Administer normal saline if there is poor circulation. Infuse glucose if low blood glucose levels are suspected.
- **Feeding and fluids.** If the baby can suck, offer direct breastfeeding. If not, provide expressed breastmilk with cup/spoon or feeding tube. If oral feeding is not possible, start intravenous fluids.
- **Specific therapy.** Administer antibiotics, oxygen, vitamin K or other medication as required.
- **Monitoring.** Monitor clinical signs to assess the progress of the baby.
- **Prevention.** Prevent infections by clean delivery, hand washing, and cord, skin and eye care. Prevent breastfeeding problems in the mother by milk expression and counselling. Prevent eye damage in preterm infants by avoiding excessive exposure to oxygen.
- **Communication.** Explain to the mother and family the condition of the baby and the treatment being given. At discharge, counsel the mother regarding care at home, exclusive breastfeeding, plans for follow up care, immunization and when to seek care.
Annex 3: IMCI case management for ages 2 months to 5 years

**OUTPATIENT HEALTH FACILITY**

Check for DANGER SIGNS
- Convulsions
- Lethargy/unconsciousness
- Inability to drink/breastfeed
- Vomiting

Assess MAIN SYMPTOMS
- Cough/difficulty breathing
- Diarrhoea
- Fever
- Ear problems

Assess NUTRITION and IMMUNIZATION STATUS and POTENTIAL FEEDING PROBLEMS

Check for OTHER PROBLEMS

CLASSIFY CONDITIONS and IDENTIFY TREATMENT ACTIONS
According to colour-coded treatment charts

**PINK**
Urgent referral

**OUTPATIENT HEALTH FACILITY**
- Pre-referral treatments
- Advise parents
- Refer child

**GREEN**
Home management

**HOME**
Caretaker is counselled on how to:
- Give oral drugs
- Treat local infections at home
- Continue feeding
- When to return immediately
- Follow-up

**YELLOW**
Treatment at outpatient health facility

**OUTPATIENT HEALTH FACILITY**
- Treat local infection
- Give oral drugs
- Advise and teach caretaker
- Follow-up

**REFERRER FACILITY**
- Emergency triage and treatment (ETAT)
- Diagnosis
- Treatment
- Monitoring and follow-up
Annex 4: 12 key family practices to improve child survival

Source: Ref WHO and UNICEF – retrieved 2011 from www.emro.int/cah/CommunityComponent-FamilyPactice

Communities need to be strengthened and families supported to provide the necessary care to improve child survival, growth and development. The evidence suggests that families should:

- Breastfeed infants exclusively for at least six months (Mothers found to be HIV positive require counselling about possible alternatives to breastfeeding).
- Starting at about six months of age, feed children freshly prepared energy and nutrient-rich complementary foods, while continuing to breastfeed for up to two years or longer.
- Ensure that children receive adequate amounts of micronutrients (Vitamin A and iron in particular) either in their diet or through supplementation.
- Dispose of faeces, including children’s faeces, safely and wash hands after defecation, before preparing meals, and before feeding children.
- Take children as scheduled to complete a full course of immunizations (BCG, DPT, OPV, and measles) before their first birthday.
- Protect children in malaria-endemic areas, by ensuring that they sleep under insecticide-treated mosquito nets.
- Promote mental and social development by responding to a child’s needs for care, and through talking, playing, and providing a stimulating environment.
- Continue to feed and offer more fluids, including breastmilk, to children when they are sick.
- Give sick children appropriate home treatment for infections.
- Recognize when sick children need treatment outside the home and seek care from appropriate providers.
- Follow the health worker’s advice about treatment, follow-up and referral.
- Ensure that every pregnant woman has adequate antenatal care. This includes having at least four antenatal visits with an appropriate health care provider, and receiving the recommended doses of the tetanus toxoid vaccination. The mother also needs support from her family and community in seeking care at the time of delivery and during the postpartum and lactation period.
Annex 5: Guidelines for recognising basic clinical symptoms associated with severe acute malnutrition in elderly people


These clinical symptoms can be observed through physical examination and patient consultation. A physician or senior health worker usually carries out a physical examination on patients admitted to a therapeutic feeding programme.

Clinical symptom or sign

Famine oedema
This occurs bilaterally, e.g., in both feet or legs (Accumulation of fluid in the tissues). On pressing down gently with a thumb a pit is formed which remains visible for a few seconds (Hence sometimes called ‘pitting oedema’).

Oedema occurring following sleep or immobility, disappears after some exercise and is usually a result of poor circulation or heart condition.

Inability to stand/immobile
Some patients will be too weak to stand and/or walk. These patients are usually carried on stretchers by family members or outreach workers. In some cases, this inability to stand may be part of the natural ageing process and general debilitation, e.g., kyphosis.

Extreme weakness
Patients do not have the strength to carry out daily tasks and may, in some cases, be too weak to prepare and eat food by themselves. Patients will spend long hours sitting or resting. Muscle strength is severely depleted and muscle tissue is wasted.

Dehydration
Patient has dry mucosal membranes and dry mouth. When the skin is gently lifted away from the bone, it remains upright for a few seconds.

Anorexia
Patient is vomiting and unable to keep food in their stomach. Often the patient will refuse to take food.
**Annex 6: Essential elements of a focused approach to antenatal care**

(From World Health Organization (2006), ‘Opportunities for Africa’s newborns: Practical data, policy and programmatic support for newborn care in Africa; The Partnership for Maternal, Newborn and Child Health)

- Identification and surveillance of the pregnant woman and her expected child
- Recognition and management of pregnancy-related complications, particularly pre-eclampsia
- Recognition and treatment of underlying or concurrent illness
- Screening for conditions and diseases such as anaemia, STIs (particularly syphilis), HIV infection, mental health problems and/or symptoms of stress or domestic violence
- Preventive measures, including tetanus toxoid immunisation, de-worming, iron and folic acid, intermittent preventive treatment of malaria in pregnancy (IPTp), insecticide-treated mosquito nets (ITN)
- Advice and support to the woman and her family for developing healthy home behaviours and a birth and emergency preparedness plan to:
  - Increase awareness of maternal and newborn health needs and self-care during pregnancy and the postnatal period, including the need for social support during and after pregnancy.
  - Promote healthy behaviours in the home, including healthy lifestyles and diet, safety and injury prevention, and support and care in the home, such as advice and adherence support for preventive interventions such as iron supplementation, condom use, and use of ITN.
  - Support care seeking behaviour, including recognition of danger signs for the woman and the newborn as well as transport and funding plans in case of emergencies.
  - Help the pregnant woman and her partner prepare emotionally and physically for the birth and care of their baby, particularly preparing for early and exclusive breastfeeding and essential newborn care and considering the role of a supportive companion at birth.
  - Promote postnatal family planning/birth spacing.
### Annex 7: Routing postnatal care: What When, Where and Who?

#### What is routine PNC?
Preventive care practices and routine assessment to identify and manage or refer complications for both mother and baby including:

#### Essential routine PNC for all mothers
- Assess and check for bleeding, check temperature.
- Support breastfeeding, checking the breasts to prevent mastitis.
- Manage anaemia, promote nutrition and insecticide treated bednets, give vitamin A supplementation.
- Complete tetanus toxoid immunization, if required.
- Provide counseling and a range of options for family planning.
- Refer for complications such as bleeding, infections, or postnatal depression.
- Counsel on danger signs and home care.

#### Essential routine PNC for all newborns
- Assess for danger signs, measure and record weight, and check temperature and feeding.
- Support optimal feeding practices, particularly exclusive breastfeeding.
- Promote hygiene and good skin, eye and cord care.
  - If prophylactic eye care is local policy and has not been given, it is still effective until 12 hours after birth.
  - Promote clean, dry cord care.
  - Identify superficial skin infection, such as pus draining from umbilicus, redness extending from umbilicus to skin, more than 10 skin pustules, and swelling, redness and hardness of skin, and treat or refer if the baby also has danger signs.
- Ensure warmth by delaying the baby’s first bath to after the first 24 hours, practicing skin-to-skin care, and putting a hat on the baby.
- Encourage and facilitate birth registration.
- Refer for routine immunizations.
- Counsel on danger signs and home care.

#### Extra care for low birthweight (LBW) or small babies and other vulnerable babies, such as those born to HIV-infected mother (two or three extra visits)

The majority of newborn deaths occur in LBW babies, many of whom are preterm. Intensive care is not needed to save the majority of these babies. Around one third could be saved with simple care, including:
- Identify the small baby.
- Assess for danger signs and manage or refer as appropriate.
- Provide extra support for breastfeeding, including expressing milk and cup feeding, if needed.
- Pay extra attention to warmth promotion, such as skin-to-skin care or Kangaroo Mother Care.
- Ensure early identification and rapid referral of babies who are unable to breastfeed or accept expressed breastmilk.
- Provide extra care of babies whose mothers are HIV-positive, particularly for feeding support (Section III chapter 7).

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### WHAT is routine PNC? (continued)

#### Early identification and referral/management of emergencies for mother and baby

Appropriate detection, management, or referral are necessary to save mothers and babies in the events of life-threatening complications

<table>
<thead>
<tr>
<th>Danger signs for the mother</th>
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<tbody>
<tr>
<td>• Excessive bleeding</td>
<td></td>
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<tr>
<td>• Foul smelling vaginal discharge</td>
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<tr>
<td>• Fever with or without chills</td>
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<tr>
<td>• Severe abdominal pain</td>
<td></td>
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<tr>
<td>• Excessive tiredness or breathlessness</td>
<td></td>
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<tr>
<td>• Swollen hands, face and legs with severe headaches or blurred vision</td>
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<tr>
<td>• Painful, engorged breasts or sore, cracked bleeding nipples</td>
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</table>

<table>
<thead>
<tr>
<th>Danger signs for the baby</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Convulsions</td>
<td></td>
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<tr>
<td>• Movement only when stimulated or no movement, even when stimulate</td>
<td></td>
</tr>
<tr>
<td>• Not felling well</td>
<td></td>
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<tr>
<td>• Fast breathing (more than 60 breaths per minutes), grunting or severe chest in drawing</td>
<td></td>
</tr>
<tr>
<td>• Fever (above 38°C)</td>
<td></td>
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<tr>
<td>• Low baby temperature (below 35.5°C)</td>
<td></td>
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<tr>
<td>• Very small baby (less than 1500 grams or born more than two months early)</td>
<td></td>
</tr>
<tr>
<td>• Bleeding</td>
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#### WHEN and how many postnatal visits should occur?

The optimum number and timing of PNC visits, especially in limited resources settings, is a subject of debate. Although no large-scale systematic reviews have been carried out to determine this protocol, three of four postnatal visits have been suggested. Early country should make decision based on the local context and existing care provisions, including who can deliver the PNC package where it can be delivered. The following are offered as a guide:

- **First contact:**
  - If the mother is in a facility, she and her baby should be assessed within one hour of birth and again before discharge
  - Encouraging women to stay for 24 hours, especially after a complicated birth, should be considered
  - If the birth occurs at home, the first visit should target the crucial first 24 hours after birth
- **Follow up contacts are recommended at least at 2-3 days, 6-7 days, and at 6 weeks**
- **Extra contacts for babies needing extra care (LBW or those whose mothers have HIV) should have two or three visits in addition to the routine visits**

#### WHERE should PNC be provided and WHO can provide it?

There are a number of possible strategies for delivery of PNC and many of the routine tasks can be delegated, although supervision and linkages are crucial:

- **At a facility:** This is more likely if the mother gives birth in the health facility, but even then women and babies do not necessarily receive an effective PNC contact before discharge from the health facility, and even if mother initially come to facilities for birth, they may not return in the first few days after discharge from a facility
- **Through outreach services:** A skilled provider can visit the home to offer PNC to the mother and baby
- **Home visits from a community health worker (CHW):** Where health systems are not as strong and human resources are limited, certain tasks can be delegated to CHW, linking to health facilities for referral as required
- **Combination of care in the facility and at home:** PNC may be provided in the health facility following childbirth, at the home during the first crucial two to three days, with subsequent visits to the facility after six to seven days and six weeks, when the mother is better able to leave her home.

Sources: Adapted from references

Note: This information is not intended to be a detailed clinical guide.
# Annex 8: Malaria Intervention Strategy

Malaria intervention strategies during pregnancy, according to transmission intensity of malaria

<table>
<thead>
<tr>
<th>Transmission Intensity</th>
<th>Insecticide Treated Bednets (ITN)</th>
<th>Intermittent Preventive Treatment during Pregnancy (IPTp)</th>
<th>Case Management</th>
</tr>
</thead>
</table>
| High/medium transmission Perennial (Stable) | Begin use of ITN early in pregnancy and continue after childbirth | Provide pregnant women with a standard IPTp dose at first scheduled ANC visit after quickening. At the next routine provide an IPTp dose, with a minimum of two doses given at not less than one-month intervals | Limited risk of febrile illness and severe malaria  
- Screen and treat anaemia with antimalarial and iron supplements  
- Promptly recognize and treat all potential malaria illness with effective drug. |
| High/medium transmission Seasonal (Stable) | Encourage the practice of young children sleeping under ITN | | |
| Low transmission (Unstable) | Base on current evidence, IPTp cannot be recommended in these areas* | | Risk for febrile illness and anaemia is high  
- Risk for severe malaria illness is high  
- Promptly recognize and treat all potential malaria illness with effective drug.  
- Asymptomatic malaria – Screen and treat anaemia with antimalarial and iron supplements. Consider *P. vivax* in East Africa |

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* In low transmission settings, the risk of malaria is low; the benefit from the presumptive use of drugs is likely to be reduced. And, because women in these settings are more likely to have symptoms with their malaria infection, control programmes should focus on case management strategies and use of ITN.

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The trainer’s guide is the third of four parts contained in this module. It is NOT a training course. This guide provides guidance on how to design a training course by giving tips and examples of tools that the trainer can use and adapt to meet training needs. The trainer’s guide should only be used by experienced trainers to help develop a training course that meets the needs of a specific audience. The trainer’s guide is linked to the technical information found in Part 2 of the module.

Module 15 outlines the relationship between undernutrition and disease and the major causes of morbidity and mortality in emergencies, with particular focus on those diseases which have an impact on nutritional status. The module then outlines key priority health interventions that will have a positive impact on the nutritional status of an emergency affected population and describes how health and nutrition programming should be linked.

This module has been developed for health and nutrition programme managers to facilitate better understanding of the links between health and nutrition status and health and nutrition programming and to encourage integration of planning, implementation, monitoring and evaluation of health and nutrition interventions in emergencies.

Navigating your way around the guide

The trainer’s guide is divided into six sections.

1. **Tips for trainers** provide pointers on how to prepare for and organize a training course.
2. **Learning objectives** set out examples of learning objectives for this module that can be adapted for a particular participant group.
3. **Testing knowledge** contains an example of a questionnaire that can be used to test participants’ knowledge either at the start or at the end of a training course.
4. **Classroom exercises** provide examples of practical exercises that can be done in a classroom context by participants individually or in groups.
5. **Case studies** three case studies have been provided, two from Africa and one from another Asia; and accompanying exercises have been set to get participants to think by using real-life scenarios.
6. **A Field-based exercise** is provided which may be conducted as part of a longer training course.
CONTENTS

1. Tips for trainers
2. Learning objectives
3. Testing knowledge
   - Exercise 1: What do you know about key health interventions that impact nutritional status?
   - Handout 1a: What do you know about key health interventions that impact on nutritional status?: Questionnaire
   - Handout 1b: What do you know about key health interventions that impact on nutritional status?: Answers
4. Classroom exercises
   - Exercise 2: Identifying underlying causes & contributory factors of diseases with high impact on nutritional status
   - Handout 2a: Identifying underlying causes and contributory factors of diseases with high impact on nutritional status – Questionnaire
   - Handout 2b: Identifying underlying causes and contributory factors of diseases with high impact on nutritional status – Answers
   - Exercise 3: Identifying priority intervention which will impact on key diseases which impact on nutritional status
   - Handout 3a: Identifying priority intervention which will impact on key diseases which impact on nutritional status – Questionnaire
   - Handout 3b: Identifying priority intervention which will impact on key diseases which impact on nutritional status – Answers and trainer guidance
   - Exercise 4: Understanding the links between reproductive health and maternal and child health and the child health status and the linkages and relationships between common illnesses
   - Handout 4a: Understanding the links between reproductive health and maternal and child health and the child health status and the linkages and relationships between common illnesses – Questions
   - Training guidance 4b: Understanding the links between reproductive health and maternal and child health and the child health status and the linkages and relationships between common illnesses – Trainer guidance
   - Exercise 5: Understanding the links between poverty, vulnerability, chronic disease and undernutrition.
   - Handout 5a: Links between poverty, vulnerability, chronic disease and undernutrition – Photo and questions
   - Handout 5b: Links between poverty, vulnerability, chronic disease and undernutrition – Answers
   - Exercise 6: HIV in emergencies
   - Handout 6a: HIV in emergencies – Questions
   - Handout 6b: HIV in emergencies – Answers
5. Case studies

Exercise 7: Examining the needs of refugees and host populations
Handout 7a: Case study I: Health and nutrition data, and information about programmes for refugees and host populations in Chad 2005-2006 and exercise

Exercise 8: Examining health and nutrition in an impoverished society affected by natural hazards
Handout 8a: Case study II: Health and nutrition in an impoverished state affected by natural hazards in Orissa state, India 2007 and exercise

Exercise 9: Three optional exercises i) Responding to a suspected outbreak of measles, ii) establishment of a reproductive and child health programme and iii) establishment of a health promotion initiative
Handout 9a: Case study of south Sudan 2007 and exercise(s)
Training guidance 9b: Three optional exercises i) Responding to a suspected outbreak of measles, ii) establishment of a reproductive and child health programme and iii) establishment of a health promotion initiative – Trainer guidance

6. Field-based exercises

Exercise 10: Field-based analysis of how disease and malnutrition are linked in a real situation.
Handout 10a: Stakeholder questionnaire on health and nutrition
1. Tips for trainers

Step 1: Do the reading!

- Read Part 2 of this module.
- Familiarise yourself with the technical terms from the glossary.
- Read through the following key documents
  - The Sphere Project. (2011). *Humanitarian Charter and Minimum Standards in Humanitarian Response*, Chapters 1, 2 and 5, (The Core Standards; Minimum Standards in Water Supply, Sanitation and Hygiene Promotion; and Minimum Standards in Health Action)
- See part 4 for full list of reference materials for this module

Step 2: Know your audience!

- Find out about your participants in advance of the training:
  - How many participants will there be?
  - Do any of the participants already have experience of implementing health and nutrition programmes in emergencies or chronic crises?
  - Could participants with health and nutrition field experience be involved in the sessions by preparing a case study or contribute through describing their practical experience?

Step 3: Design the training!

- Decide how long the training will be and what activities can be covered within the available time. In general, the following can be guide can be used:
  - A **90-minute** classroom-based training can provide a basic overview of health interventions with a high impact on nutritional status.
  - A **half-day** classroom-based training can provide an overview of health interventions with a high impact on nutritional status and include some practical exercises.
  - A **one-day** classroom-based training can provide a more in-depth understanding of health interventions with a high impact on nutritional status and will include a number of practical exercises and/or one case study.
  - A **three- to eight-day** classroom plus field-based training can provide a full training in on health interventions with high impact on nutritional status and would include a number of case studies and field practical exercises.
- Identify appropriate learning objectives. This will depend on your participants, their level of understanding and experience, and the aim and length of the training.
- Decide exactly which technical points to cover based on the learning objectives that you have identified.
- Divide the training into manageable sections. One session should generally not last longer than an hour.
- Ensure the training is a good combination of activities; mix PowerPoint presentations in plenary sessions with more active participation through classroom-based exercises, mix individual exercises with group work.
**Step 4: Get prepared!**

- Prepare PowerPoint presentations with notes (if they are going to be used) in advance and do a trial run. Time yourself! Slides can be prepared from the technical notes found in Part 2.
- Prepare exercises and case studies. These can be based on the examples given in this trainer’s guide but should be adapted to be suitable for the particular training context and participant mix.
- Prepare a ‘kit’ of materials for each participant. These should be given out at the start of the training and should include:
  - Timetable showing break times (coffee and lunch) and individual sessions
  - Parts 1 and 2 of this module
  - Pens and paper

**REMEMBER**

People remember 20 per cent of what they are told, 40 per cent of what they are told and read, and 80 per cent of what they find out for themselves.

People learn differently. They learn from what they read, what they hear, what they see, what they discuss with others and what they explain to others. A good training is therefore one that offers a variety of learning methods which suit the variety of individuals in any group. Such variety will also help reinforce messages and ideas so that they are more likely to be learned.
2. Learning objectives

Below are examples of learning objectives for a session on nutrition IEC. Trainers may wish to develop alternative learning objectives that are appropriate to their particular participant group. The number of learning objectives should be limited; up to five per day of training is appropriate. Each exercise should be related to at least one of the learning objectives.

Examples of learning objectives

At the end of the training, participants will:

- Understand the links between health and nutrition status
- Understand how nutrition and health status is related to extreme poverty and vulnerability, how these are exacerbated by natural hazards.
- Be aware of the major causes of excess morbidity and mortality in emergencies and the links with under nutrition
- Beware of the key health interventions that can impact nutritional status in emergencies
- Be familiar with the Sphere health actions and standards that are related to nutrition
- Be aware of the interventions required from other sectors to ensure optimal health and nutritional status in an emergency
- Understand the importance of planning for host populations as well as emergency affected populations
- Understand the importance of coordination between health and nutrition programme staff and how to better coordinate and/or integrate health and nutrition interventions.
- Understand how to plan for high impact nutrition and health interventions.
3. Testing knowledge

This section contains one exercise which is an example of a questionnaire that can be used to test participants' knowledge of health interventions that have a high impact on nutritional status either at the start or at the end of a training session. The questionnaire should be adapted by the trainer to ensure the questions are relevant to the specific participant group.

Exercise 1: What do you know about health interventions that impact on nutritional status?

What is the learning objective?
- To test participants’ knowledge about health interventions that effect nutritional status

When should this exercise be done?
- Either at the start of a training session to establish knowledge level
- Or at the end of a training session to check how much participants have learned

How long should the exercise take?
- 10 minutes for each participant to complete the questionnaire. Alternatively this exercise is more fun and interactive if done in the form of a quiz, with participants divided up into groups of 3 or 4, and each group then discussing the answers and completing the questionnaire. More time will be required if conducted as a group exercise
- Allow 10 minutes for self-marking and clarification of answers – again allow more time if carried out in groups.

What materials are needed?
- Handout 1a: What do you know about key health interventions that impact nutritional status ?: Questionnaire
- Handout 1b: What do you know about key health interventions that impact nutritional status?: Answers

What does the trainer need to prepare?
- Familiarize yourself with the questions and answers.
- Adapt the questions based on your understanding of the participant’s knowledge base.

Instructions
Step 1: Give each participant a copy of Handout 1a.
Step 2: Give participants 10 minutes to complete the questionnaire working alone or 15 minute if working in groups.
Step 3: Give each participant a copy of Handout 1b.
Step 4: Give participants 5 minutes to mark their own questionnaires and clarify the answers where necessary, or 10 minutes if the exercise was carried out in groups.
Handout 1a: What do you know about key health interventions that impact on nutritional status? Questionnaire

Time for completion: 10 to 15 minutes

Answer all the questions.

For questions 2 to 8, add up the number of correct answers.

1. Read the following statements about health action in emergencies and indicate if they are True or False

   a) The aim of emergency response in humanitarian crises is to decrease the crude mortality and under-five mortality rates to less than twice the baseline documented for the population prior to the emergency

   b) An emergency affected populations should have access to free primary health care services for the duration of an emergency

   c) A measles mass vaccination campaign may be required at the outset of an emergency – where this is required the target age group for a mass measles vaccination campaign is 9 months to 15 years

   d) The acceptable case fatality rates for cholera, shigella dysentery and typhoid are less than 5 per cent

   e) TB is a serious communicable disease and a TB control programme should be established in the early stages of an emergency

2. What are the five most common causes of mortality in emergencies

3. Read the following statements and indicate if they are True or False?

   a) In an emergency the highest proportion of child deaths occur between six and seven months, when a child is weaned

   b) The neonatal period is the first 48 hour of life

   c) Undernutrition is an underlying factor in 10 per cent of under-five death

4. List a number of underlying causes/factors (in addition to under nutrition) which contribute to excess maternal and child mortality and morbidity in emergencies – (alternatively ask question 5

5. What are the specific underlying causes/factors which contribute to

   • ARI
   • Diarrhoeal diseases
   • Malaria
   • Measles

6. Read the following statements and indicate if they are True or False?

   a) Babies with a low birth weight weigh less than 4 kg

   b) Kangaroo care means that the premature baby is held by the mother in a small pouch made of soft leather.

   c) It is best for HIV-positive mothers to artificially feed their new born babies

   d) Health facilities carrying out deliveries should be equipped with supplies and materials and have trained staff to carry out emergency obstetric and neonatal care.

   e) Maternal deaths are primarily caused by haemorrhage and dehydration

   f) Neonatal deaths are primarily caused by the baby being born with a low birth weight

   g) Increased use of family planning by mothers has a high impact in reducing mortality, sickness and acute malnutrition in children
7. What is the purpose of an Early Warning and Response System in emergencies?

8. Maternal health and nutritional status of a mother will impact on the health and nutritional status of the child – list ten key reproductive health interventions which will positively impact the health and nutrition status of an infant.

9. At the outset of an emergency an active programme of health promotion should be initiated. What information should the health promotion programme provide at this stage and who should be consulted and involved in this process?

10. The Integrated Management of Childhood Illness aims to reduce death, illness and disability of children through tick the correct answers.
    a) Improving case management skills of health staff at first level health care facilities
    b) Improving family and community health care practices
    c) Improving behaviour of children under five years of age
    d) Improving case management skills of health staff at specialised referral hospitals.
Handout 1b: What do you know about key health interventions that impact on nutritional status? Answers

1. Read the following statements about health action in emergencies and indicate if they are True or False
   a) The aim of emergency response in humanitarian crises is to decrease the crude mortality and under-five mortality rates to less than twice the baseline documented for the population prior to the emergency. **TRUE**
   b) An emergency affected populations should have access to free primary health care services for the duration of an emergency. **TRUE**
   c) A measles mass vaccination campaign may be required at the outset of an emergency – where this is required the target age group for a mass measles vaccination campaign is 9 months to 15 years. **FALSE** – when a mass measles vaccination campaign is carried out – all children between 6 months and 15 years should be vaccinated – then important to ensure that those infants vaccinated between 6-9 months should received another dose on reaching 9 months.
   d) The acceptable case fatality rates for cholera, shigella dysentery and typhoid are less than 5 per cent. **FALSE** – The acceptable case fatality rate for those disease should be less than 1 per cent;
   e) A TB control programme should be established in the early stages of an emergency. **FALSE** – TB control is not a priority in the acute stages of an emergency; when mortality rates are high owing to ARI, diarrhoeal diseases, measles, malaria and under nutrition. A TB control programme should not be implemented until CMR are below 1 per 10,000 pop per day and there is some stability in the population so that patients commencing the treatment complete the full 6-8 month treatment however – TB control is a particularly important disease in long term emergencies where refugees or IDPs are in camps or overcrowded living conditions for long periods and TB risk factors are prevalent, hence when there is some stability with the population so that they can complete the treatment and resources, organisational commitment and capacity is available then a TB programme should be established.

2. What are the five most common causes of mortality in emergencies – ?
   ARI, diarrhoeal diseases, measles, malaria and undernutrition.

3. Read the following statements and indicate if they are True or False?
   a) In an emergency the highest proportion of child deaths occur between six and seven months, when a child is weaned. **FALSE** – the highest proportion of child death occur in the neonatal period (First 28 days) and particularly in the first 2 days. Several studies indicate however that the relative increase in mortality (Due to the emergency) is likely to be in children older than one year.
   b) The neonatal period is the first 48 hour of life. **FALSE** – the neonatal period is the first 28 days of life
   c) Undernutrition is an underlying factor in 10 per cent of under-five death. **FALSE** – Undernutrition is a contributory factor in over one third of deaths of children under 5 years.

4. List a number of underlying causes/factors (In addition to under nutrition) which contribute to excess maternal and child mortality and morbidity in emergencies – (Alternatively ask question 5) Underlying causes of excess maternal and child mortality include
   a) Low birth weight baby
   b) Mother not exclusively breastfeeding infant for first six months of life
   c) Lack of clean water at household level
   d) Lack of adequate sanitation facilities in community
   e) Inadequate shelter and poorly planned sites for displaced population
   f) Poor ventilation at household level
Health interventions

5. Specific underlying causes/factors which contribute to following diseases are –

**ARI** – Inadequate shelter – crowded with poor ventilation – lack of blankets and clothing -indoor cooking in living area – undernutrition

**Diarrhoeal diseases** – Overcrowding -contaminated water and food -poor personal hygiene -poor washing facilities -poor sanitation facilities -lack of soap – undernutrition

**Malaria** – New environment to area with higher endemic levels/strain to which the refugees are not immune -interruption of vector control measures – increased population density -stagnant water -flooding -inadequate health care services undernutrition

**Measles** -Overcrowding – vaccination coverage below 90% -undernutrition

6. Read the following statements and indicate if they are True or False?

a) Babies with a low birth weight weigh less than 4 kg. **FALSE** a low birth weight is below 2.5kg

b) Kangaroo care means that the premature baby is held by the mother in a small pouch made of soft leather. **FALSE** A blanket is used to wrap the baby next to the skin of the mother by

c) It is best for HIV-positive mothers to artificially feed their new born babies. **FALSE** The most appropriate infant feeding option for an infant of an HIV-positive mother depends on the individual circumstances- Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) for them and their infants before that time.

d) Health facilities carrying out deliveries should be equipped with supplies and materials and have trained staff to carry out emergency obstetric and neonatal care. **TRUE**

e) Maternal deaths are primarily caused by haemorrhage and dehydration **FALSE** Maternal deaths are primarily caused by haemorrhage and infection

f) Neonatal deaths are primarily caused by the baby being born with a low birth weight. **FALSE** Neonatal deaths are primarily caused by pre-term birth, birth asphyxia (lack of breathing) and infections

g) Increased use of family planning by mothers has a high impact in reducing mortality, sickness and acute malnutrition in children **TRUE**

7. What is the purpose of an Early Warning and Response System in emergencies?

**The purpose of EWARS is to detect and respond to communicable diseases with outbreak potential.**

8. Maternal health and nutritional status of a mother will impact on the health and nutritional status of the child – list ten key reproductive health interventions which will positively impact the health and nutrition status of an infant.

Key effective interventions at various stages of care include the following

**Care pre pregnancy**
- Nutrition promotion, especially in girls and adolescents
- Prevention and management of HIV and sexually transmitted infections (STI)
- Family planning
Care during pregnancy

- Intermittent preventive treatment for malaria in pregnancy and insecticide-treated mosquito nets (ITN)
- Maternal nutrition during pregnancy, including iron and folate
- Treatment of disease, and mebendazole for worms
- Tetanus toxoid vaccination (At least 2 doses) for pregnant women
- Identification of high risk pregnancies and referral
- Prevention of mother-to-child transmission of HIV
- Preparation of a birth plan

Care during child birth

- Skilled attendance at birth and clean delivery
- Emergency obstetric care
- Essential newborn care – delayed chord clamping, resuscitation, drying the baby, warmth, cleanliness
- Improved linking of home and health facility
- Companion of the woman’s choice at birth
- Preventing mother-to-child transmission (PMTCT) through antiretroviral therapy and safer infant feeding practices
- Active management of the third stage of labour

Care after birth

- Routine postnatal care (PNC) for early identification and referral for illness as well as preventive care:
  - for the mother: Promotion of healthy behaviours, danger sign recognition and family planning
  - for the baby: Promotion of healthy behaviours by mothers – hygiene, warmth, early and exclusive breastfeeding, clean cord care and immunization
- Extra care for babies with other problems (E.g., mothers with HIV/AIDS)
- Management and care of low birth weight (LBW) babies including Kangaroo Mother Care (KMC)
- Case management of neonatal illness especially sepsis
- Early and exclusive breastfeeding for babies
- Vitamin A supplementation for the mother

9. At the onset of an emergency an active programme of health promotion should be initiated. Who should be consulted and involved in this process and what information should the health promotion programme provide at this stage?

A health promotion initiative should be established in consultation with local health authorities and community representatives, ensuring a balanced representation of women and men and providing information on:

- Major health problems,
- Health risks,
- Availability and location of health services
- Behaviours that protect and promote good health
- Addressing and discouraging harmful practices

10. The Integrated Management of Childhood Illness aims to reduce death, illness and disability of children through

   tick the correct answers.

   a) improving case management skills of health staff at first level health care facilities  Correct
   b) improving family and community health care practices  Correct
   c) improving behaviour of children under five years of age  Incorrect  IMCI does not focus on improving behaviour of children
   d) improving case management skills of health staff at specialised referral hospitals  Incorrect – the focus of IMCI is at first level health facilities
4. Classroom exercises

This section provides examples of practical exercises that can be carried out in a classroom context by participants individually or in groups. Practical exercises are useful between plenary sessions, where the trainer has done most of the talking, as they provide an opportunity for participants to engage actively in the session. The choice of classroom exercises will depend upon the learning objectives and the time available. Trainers should adapt the exercises presented in this section to make them appropriate to the particular participant group. Ideally, trainers should use case examples with which they are familiar.

Exercise 2: Identifying underlying causes and contributory factor of diseases with high impact on nutritional status

What is the aim?
• To ensure participants have understanding of underlying causes and contributory factors of diseases with high impact on nutritional status

When should this exercise be done?
• In the early stages of the training – after an introduction to health in emergencies and links with nutrition

How long should the exercise take?
• 15 minutes to discuss possible underlying causes and contributory factors in groups
• 25 minutes for feedback and discussion in plenary

What materials are needed?
• Handout 2a: Identifying health interventions with the highest impact on nutritional status
• Handout 2b: Identifying health interventions with the highest impact on nutritional status: answers and trainer guidance

What does the trainer need to prepare?
• Prepare a PowerPoint presentation based on the technical notes in part 2 – referring to the section on major causes of excess morbidity and mortality in emergencies and links with under nutrition

Instructions
Step 1: Give each participant a copy of Handout 2a and divide participants into group of maximum five people.
Step 2: Allow participants 15 minutes to work in groups to discuss the underlying causes and record answers for reporting back.
Step 3: Allow up 15 minutes for reporting from all groups
Step 4: Use remaining time to facilitate discussion on feedback – ensuring that the key points have been raised/discussed.
Handout 2a: Identifying underlying causes and contributory factors of diseases with high impact on nutritional status – Question

Exercise – Discuss the underlying causes and contributory factors of diseases with high impact on nutritional status and record answers

<table>
<thead>
<tr>
<th>Causes of morbidity and mortality in emergencies</th>
<th>Underlying causes and contributory factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI</td>
<td></td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td></td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td></td>
</tr>
<tr>
<td>Teenage pregnancy</td>
<td></td>
</tr>
<tr>
<td>Multiple pregnancies and in close succession</td>
<td></td>
</tr>
<tr>
<td>Maternal haemorrhage or infection</td>
<td></td>
</tr>
<tr>
<td>Neonatal asphyxiation</td>
<td></td>
</tr>
<tr>
<td>Neonatal infection</td>
<td></td>
</tr>
<tr>
<td>Low birth weight baby</td>
<td></td>
</tr>
<tr>
<td>HIV infected baby</td>
<td></td>
</tr>
<tr>
<td>SAM</td>
<td></td>
</tr>
</tbody>
</table>
### Handout 2b: Identifying underlying causes and contributory factors of diseases with high impact on nutritional status - Answers

Exercise – Discuss the underlying causes and contributory factors of diseases with high impact on nutritional status and record answers – Answers

<table>
<thead>
<tr>
<th>Causes of morbidity and mortality in emergencies</th>
<th>Underlying causes and contributory factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI</td>
<td>Inadequate shelter – crowded with poor ventilation - lack of blankets and cooking in living area – undernutrition</td>
</tr>
<tr>
<td>Diarrhoeal diseases</td>
<td>Overcrowding - contaminated water and food – poor personal hygiene - poor washing facilities - poor sanitation facilities - lack of soap – undernutrition</td>
</tr>
<tr>
<td>Malaria</td>
<td>New environment to area with higher endemic levels / strain to which the emergency affected population is not immune - interruption of vector control measures – increased population density - stagnant water - flooding - inadequate health care services - undernutrition</td>
</tr>
<tr>
<td>Measles</td>
<td>Overcrowding – vaccination coverage below 90% - undernutrition</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Overcrowding – undernutrition – HIV</td>
</tr>
<tr>
<td>Teenage pregnancy</td>
<td>Lack of availability/utilisation of Family Planning services</td>
</tr>
<tr>
<td>Multiple pregnancies and in close succession</td>
<td>Lack of availability/utilisation of Family Planning services</td>
</tr>
<tr>
<td>Maternal haemorrhage or infection</td>
<td>Lack of availability/utilisation of safe delivery services</td>
</tr>
<tr>
<td>Neonatal asphyxiation</td>
<td>Lack of availability/utilisation of safe delivery services</td>
</tr>
<tr>
<td>Neonatal infection</td>
<td>Lack of availability/utilisation of safe delivery services and neonatal services</td>
</tr>
<tr>
<td>Low birth weight baby</td>
<td>Poor maternal health and nutrition status before and during pregnancy</td>
</tr>
<tr>
<td>HIV infected baby</td>
<td>MTCT of HIV during pregnancy, delivery and breastfeeding - Lack of availability/utilisation of ART for prevention of MTCT</td>
</tr>
<tr>
<td>SAM</td>
<td>Maternal undernutrition</td>
</tr>
<tr>
<td></td>
<td>Inadequate IYCF and caring practices</td>
</tr>
<tr>
<td></td>
<td>Food insecurity</td>
</tr>
<tr>
<td></td>
<td>Inadequate household food distribution</td>
</tr>
<tr>
<td></td>
<td>Illness/infections</td>
</tr>
</tbody>
</table>
Exercise 3: Identifying priority interventions to address the diseases which have high impact on nutritional status

What is the aim?
- To ensure participants have understanding of the priority interventions to address the diseases which have a high impact on nutritional status

When should this exercise be done?
- In the early stages of the training – and after discussion on underlying causes of diseases which impact nutritional status and after exercise 2 if (exercise 2 is) conducted

How long should the exercise take?
- 20 minutes to discuss priority interventions which will have high impact on diseases which impact nutritional status
- 30 minutes for feedback and discussion in plenary

What materials are needed?
- Handout 3a: Identifying priority interventions with the highest impact on health and nutritional status – Questions
- Handout 3b: Identifying priority interventions with the highest impact on health and nutritional status – Answers

What does the trainer need to prepare?
- Prepare a PowerPoint presentation based on the technical notes – referring to section on major causes of excess morbidity and mortality in emergencies and links with under nutrition (As per exercise 2)

Instructions
Step 1: Give each participant a copy of Handout 3a and divide participants into group of maximum five people.
Step 2: Allow participants 20 minutes to work in groups to discuss the priority interventions and package of care which should be established to address these diseases and to record answers for reporting back.
Step 3: Allow up 15 minutes for reporting back from all groups
Step 4: Use remaining time to facilitate discussion on feedback – ensuring that the key points have been raised/discussed.
Handout 3a: Identify priority interventions which will impact each of these diseases.

Question

Exercise – Discuss the priority interventions which will have high impact on each of the diseases in terms of prevention and treatment and including health sector interventions and also intervention from other sectors

- ARI
- Diarrhoeal diseases
- Malaria
- Measles
- TB
- Multiple pregnancies in close succession
- Maternal haemorrhage and maternal infection
- Neonatal asphyxiation
- Neonatal infection
- Low birth weight baby
- HIV infected baby
- SAM

Outline the various packages of care and the key health interventions in each pack of care which would tackle these problems – specifically focussing on the interventions which will have the highest impact on health and nutrition status.
Handout 3b: Identifying health interventions with the highest impact on nutritional status: Answers

Model answer: (There is plenty of flexibility in how this information may be presented by groups and the model answer may be augmented by the trainer)

Communicable diseases (Will address ARI, Diarrhoeal diseases, Malaria, Measles, TB and other communicable diseases)

Shelter Sector - Adequate numbers of climate appropriate shelters, well planned sites – sufficient space between shelters and well ventilated.

Water and Sanitation Sector – Adequate quantity and quality water supply, adequate sanitation facilities, appropriate vector control interventions and hygiene promotion/education activity.

Food and Nutrition Sector – Appropriate food basket ration (Quality and quantity), general nutrition support of population; and management of acute malnutrition and micronutrient deficiencies.

Health Sector – Prevention (Vaccination and hygiene promotion), diagnosis and case management; and outbreak detection, investigation and response.

Reproductive health care key interventions by phase of care

<table>
<thead>
<tr>
<th>Health programme</th>
<th>Problems addressed</th>
<th>Key interventions</th>
</tr>
</thead>
</table>
| Care for girls and women before pregnancy | Under nutrition, diseases, teen pregnancy, multiple pregnancies, | – Education  
– Family planning  
– Nutrition |
| Care during pregnancy | Maternal death and malnutrition, anaemia Low birth weight, Maternal-to-child transmission or HIV | – Focused antenatal care  
– Nutrition promotion and support including supplementation  
– Malaria prevention  
– Treatment of illnesses  
– Detection and transfer of high risk pregnancies  
– Prevention of mother to child HIV transmission |
| Care during childbirth | Maternal death, haemorrhage and infection Newborn asphyxia and infection | – Skilled attendance at birth  
– Emergency obstetric care  
– Skilled care of newborn |
| Care after birth | Maternal deaths High rates of newborn deaths in first few days. | – Postnatal care for mother  
– Newborn care – body temp, umbilical cord – treatment of infections, identification and management of illness and referral of severe illness for treatment – care of pre-term and low birth weight babies with breathing problems  
– Promotion of exclusive breastfeeding |
### Child Health Care – Key interventions

<table>
<thead>
<tr>
<th>Health programme</th>
<th>Problems addressed</th>
<th>Key interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care for children under age five</td>
<td>Illness and undernutrition including SAM</td>
<td>- Immunisation and vitamin A supplementation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Health promotion on optimal IYCF and care practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Promote early care seeking when child ill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provision of basic health care services for children at front line health facilities – using IMCI guidelines/international best practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Use of Long Lasting Insecticide Nets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Screening for acute malnutrition and referral for treatment as required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Additional micronutrient supplementation (As required)</td>
</tr>
</tbody>
</table>
Exercise 4: To understand the links between reproductive health and child health – and the linkages and relationships between common illnesses.

What is the aim?

- To understand the links between reproductive health and maternal and child health status and the linkages and relationships between common illnesses.

When should this exercise be done?

- As part of a short training course – after an introduction to causes of undernutrition

How long should the exercise take?

- 30 to 45 minutes

What materials are needed?

- Handout 4a: linkages between reproductive health and maternal and child health status and the linkages and relationships between common illnesses -Questions
- Handout 4b: linkages between reproductive health and maternal and child health status and the linkages and relationships between common illnesses -Answers

What does the trainer need to prepare?

- Read through the relevant sections in part 2 of this module

Instructions

Step 1: Give each participant a copy of Handout 4a and divide participants into group of maximum five people.

Step 2: Allow participants 20 minutes to work in groups to discuss the underlying causes and record answers for reporting back.

Step 3: Allow up 15 minutes for reporting from all groups

Step 4: Use remaining time to facilitate discussion on feedback – ensuring that the key points have been raised/discussed
Handout 4a: Exercise to illustrate the links between reproductive health and child health – and the linkages and relationships between common illnesses.

There are clear links between reproductive health and maternal and child health status. The health and nutritional status of pregnant women will significantly impact the health well being and nutritional status of the infants and the health and well being of the women. Furthermore there are linkages and relationships between common illnesses.

Read the following summary of a young girl and her baby and then discuss and answer the questions below.

A young girl aged 15 is anaemic because of heavy periods and malaria before getting pregnant. During pregnancy she only has enough food to eat a proper meal once a day and does not put on weight as would be expected during pregnancy, although she takes folate supplements and expensive Perfect Baby high energy supplements. The girl had two episodes of malaria during the pregnancy, which further weakens her condition.

The girl delivers a premature baby (36 weeks) at home with the assistance of her relatives. Although the baby was not weighed it was very small and clearly a low weight birth. Because the baby was small and weak the girl gives the baby some sugar-water; and then expresses some breastmilk, which she dilutes with water from the local stream before giving it to the baby.

After a few weeks the girl starts breastfeeding the baby – although she continues to give the baby thin porridge and weak tea. Although the baby starts to gain some weight, its weight and length remain very low for its age. The baby has frequent bouts of diarrhoea which the girl treats with local / traditional medicine and the baby was not taken to the health facility for vaccination. At eight months old the baby dies from an episode of malaria.

Questions

1) Identify any positive actions that the girl took to benefit her own and her child health

2) Discuss the various factors which contributed to the poor health and subsequent death of this infant and how they are interlinked

3) List the key interventions which would have had a positive impact on the health and nutritional status of the girl and her baby from before pregnancy through to when the baby died at eight months of age.
Handout 4b: Exercise to illustrate the links between reproductive health and child health – and the linkages and relationships between common illnesses.

**Trainer guidance**

1) Identify any positive actions that the girl took to benefit her own and her child health – The mother does do a couple of positive things that will benefit her own health and that of the babies – taking folate during pregnancy and breast feeding the child once it is stronger.

2) Discuss the various factors which contributed to the poor health and subsequent death of this infant and how they are interlinked – All the other actions which the mother took are likely to have contributed to the child’s poor heath and nutritional status and subsequent death.

3) Refer to list of key interventions from pre – pregnancy through to after birth and the child health carer section for key interventions that would have had a positive impact on the infant’s health – Additionally – it is likely that if the mother had brought the infant to the health facility for treatment for diarrhoea and/or for vaccination the infant’s condition and failure to thrive would have been identified and appropriate support provided to enable the mother to improve key infant feeding and care practices.
Exercise 5: To understand the links between malnutrition, chronic disease, poverty and vulnerability

What is the aim?
- To understand the links between malnutrition, chronic disease, poverty and vulnerability

When should this exercise be done?
- After the multiple causes of under nutrition have been presented

How long should the exercise take?
- 35 to 45 minutes

What materials are needed?
- Handout 5a: Photo from Kenya 2005
- Handout 5b: Photo from Kenya 2005: Model answers

What does the trainer need to prepare?
- Read part 2 of this module and the answers on handout 5b and prepare to facilitate the discussion.

Instructions
Step 1: The photo is shown to the participants (Either in PowerPoint, or a large photo is printed off).
Step 2: In a plenary session the trainer asks questions and facilitates discussion on each of the questions

Discussion points for feedback in plenary
- Links between extreme poverty, malnutrition, adult sickness and loss of parents and child illness (In this case HIV, TB, infections and malnutrition)
- Need for multidisciplinary planning between nutritionists, health workers, and social workers
- Injustices that cause extreme poverty, HIV, malnutrition
- Importance of economic support/income generation/micro credit to turn around the fortunes of marginalized impoverished families
Handout 5a: Photo from Kenya 2005

This photo was taken in Kenya in 2005. The boy has a cough.

Answer the questions.
1. What kind of environment do these two people live in?
2. Who do you think they are, and who is missing?
3. What do you think about the boy's health and nutrition (He is 12)?
4. What kind of emergencies do these people face on a daily basis?
5. What health and nutrition interventions are needed?
6. What long-term help does this family need?
Handout 5b: Photo from Kenya 2005: Model answers

1. What kind of environment do these two people live in?
   Urban slum

2. Who do you think they are, and who is missing?
   A boy and his grandmother who looks after him. The parents are missing, perhaps they died from HIV. The grandfather has died.

3. What do you think about the boy’s health and nutrition (He is 12)?
   He is malnourished. He might be living with HIV. He is sad/depressed, so is the grandmother.

4. What kind of emergencies do these people face on a daily basis?
   - On-going chronic disease, and suffering
   - Daily hunger
   - Not able to work, no money, poverty, daily worries about paying rent, and might face eviction
   - Danger in the slums
   - No sanitation or clean water supply
   - They have no land to grow food on.
   - They have to pay bribes to local authorities just to stay where they are.
   - Depression, sadness and hopelessness

5. What health and nutrition interventions are needed?
   - Intensive nutritional support – CTC, or fortified foods/high protein and energy foods and micronutrient supplements
   - Intensive medical support – including TB treatment, ART, antibiotics for treating opportunistic infections, rehydration for diarrhoeal disease

6. What long-term help does this family need?
   - Economic support, including income generating capacity
   - Long term free ART and other drugs
   - On-going nutritional support if economic means stay very limited
   - Security on their accommodation (Ownership, affordable rent, etc.)
   - Clean water and proper sanitation
Exercise 6: To have an understanding of HIV in emergencies and key health interventions in relation to HIV in the various phases of an emergency

**What is the aim?**
- To understand the factors which exacerbate HIV transmission in a humanitarian crisis and key HIV related interventions that should be implemented by the health sector /health agencies in the acute stage of an emergency and as a humanitarian crises progresses

**When should this exercise be done?**
- As part of a longer training course – i.e. 1 day or longer

**How long should the exercise take?**
- 45 to 60 minutes

**What materials are needed?**
- Handout 6a: HIV in emergencies -Questions
- Handout 6b: HIV in emergencies -Answers

**What does the trainer need to prepare?**
- Read through the HIV related sections in part 2 of this module and also HTP module 18 relating to HIV

**Instructions**

**Step 1:** Give each participant a copy of Handout 2a and divide participants into group of maximum five people.

**Step 2:** Allow participants 20 minutes to work in groups to discuss the underlying causes and record answers for reporting back.

**Step 3:** Allow up 15 minutes for reporting from all groups

**Step 4:** Use remaining time to facilitate discussion on feedback – ensuring that the key points have been raised/discussed
Handout 6a: HIV in emergencies -Questions

Humanitarian crises, which are often linked to displacement, food insecurity and poverty, increase vulnerability to HIV and negatively affect the lives of people living with HIV.

Discuss the following questions in groups and prepare feedback on a flip chart.

1) What are the factors which exacerbate HIV transmission in a humanitarian crisis?

2) What are the key HIV related interventions that should be implemented by the health sector/health agencies in the acute stage of an emergency?

3) As a humanitarian crisis progresses beyond the first phase, what additional HIV interventions should be implemented by the health sector?
Handout 6b: HIV in emergencies – Answers

1) What are the factors which exacerbate HIV transmission in a humanitarian crisis?

The factors that determine HIV transmission during a humanitarian crisis are complex and depend on the context

- Existing gender inequalities may be further exacerbated, making women and children disproportionately more vulnerable to HIV, e.g. sex work and sexual exploitation may increase as a consequence of loss of livelihood and lack of employment opportunities.
- Population displacement may lead to separation of family members and breakdown of community cohesion and of the social and sexual norms that regulate behaviour.
- Women and children may be used by armed groups and may be particularly vulnerable to HIV infection as a result of sexual violence and exploitation, while rape may be used as a weapon of war.
- Pre emergency HIV services may be disrupted during humanitarian crises – people may no longer have access to information about HIV prevention, to Voluntary Counselling and Testing (VCT), to condoms or to services for Prevention of Mother to Child Transmission (PMTCT).
- Breakdown in reproductive health services leading to lack of availability of family planning services, antenatal and safe delivery services, and treatment of STIs may also accelerate the spread of HIV in emergencies.

2) What are the key HIV related interventions that should be implemented by the health sector /health agencies in the acute stage of an emergency?

- The Minimum Initial Service Package for Reproductive Health in emergencies includes Reduction of HIV transmission through – Ensuring safe blood transfusion – Facilitating and enforcing respect for standard precautions and Making free condoms available – The other key interventions are – syndromic treatment of STIs for patients presenting with symptoms;  and ART available to continue treatment for patients already on ART, including PMTCT; and

3) As a humanitarian crisis progresses beyond the first phase, what additional HIV interventions should be implemented by the health sector?

Comprehensive services should be established as appropriate including

- Community education;
- Comprehensive service to provide care, support and treatment for people living with HIV/AIDS with
- Establish links between HIV and TB programmes where TB programmes exist
- Establish referral for required health and nutritional care and support
- Ensure provision of treatment, care and support for infants born from mothers known to be HIV-positive including guidance and counselling on infant feeding.
- Ensure people who are high risk of exposure to HIV have access to HIV prevention interventions for sexual transmission of HIV and access to clean injecting equipment for known injecting drug users where these services already exist
- Broaden range of HIV control service in the post emergency phase
- Ensure Post Exposure Prophylaxis (PEP) is available for individuals potentially exposed to HIV (Occupational exposure and none-occupational exposure) PEP should be given within 72 hours
5. Case studies

Three case studies are presented in this section, one from Chad, one from Sudan and one from India. Case studies are useful for getting participants to think through real-life scenarios. They also provide an opportunity for participants to work in a group and develop their analytical and decision-making skills. Trainers should develop their own case studies which are contextually appropriate to the particular participant group. Ideally, trainers should use scenarios with which they are familiar.

Exercise 7: Examining the needs of refugees and host populations

What is the aim?
- To emphasize the importance of planning for host populations as well as refugees, and how to integrate nutrition and health programming

When should this exercise be done?
- As part of a longer in-depth training

How long should the exercise take?
- 2 hours

What materials are needed?
- Handout 7a: Health and nutrition data, and information about programmes for refugees and host populations in Chad 2005-2006

What does the trainer need to prepare?
- Prepare copies of the case study on Handout 9a or create a similar study related to the country in which the workshop is being held. Other relevant documents that the trainer may want to read are inter-agency health and nutrition reports on Chad:

Note: Answers are open-ended and require participants to examine available data and also to imagine likely scenarios, so no model answer is given. Therefore the trainer is advised to read Handout 9a very carefully and work through some potential answers.

Instructions

Step 1: Give each participant a copy of Handout 9a and allocate 10 minutes for participants to read through the handout.

Step 2: Divide the participants into groups of (maximum) five people.

Step 3: Give the groups 40 to 50 minutes to discuss the questions and prepare for presentation of their answers. The trainer circulates among the groups to help guide the discussions, as necessary.

Step 4: Give each group 10 minutes for feedback in plenary.

Step 5: Use remaining time to facilitate discussion on feedback – ensuring that the key points have been raised/discussed.
Handout 7a: Case study I: Health and nutrition data, and information about programmes for refugees and host populations in Chad 2005-2006

Time for completion: 2 hours

Read the following case study from Chad, and discuss the questions in groups.

Prepare a brief presentation of your discussion that will be discussed when the groups come back together again.

Background

Chad is one of the poorest countries in the world with a UNDP Human Development Index of 173 (of 177) for 2004. Four fifths of its population live on less than US$1 a day. It has a high population growth rate of 3.2 per cent with an estimated population of over 9 million. The country is extremely unstable, with an influx of 234,000 Sudanese refugees from Darfur, and 48,000 from the Central African Republic. The fighting in both neighbouring countries has spilled over into Chad, which now has at least three rebel groups operating in the east of the country. One rebel group took the main eastern town of Abéché in November 2006 and threatened to move on to the capital N’djamena. Janjaweed militia have combined with local groups to attack communities near Goz Beida, which has caused the internal displacement of 100,000 Chadians, and further Chadian refugees have moved into Sudan. Insecurity has plagued humanitarian agencies that operate principally in the east and south where the refugees and IDPs are. There are very few agencies working specifically with Chadian populations outside the conflict zones. UNHCR initially coordinated all of the humanitarian response, with OCHA now giving more attention to the Chadian population. UNHCR coordinates health and nutrition activities in the refugee camps, UNICEF for the IDPs, and WHO for the rest of the country. UNICEF has increased its leadership in the nutrition cluster.

Water and sanitation

In November 2006, 7 out of 12 camps did not have enough latrines, and in 2005 and 2006 there had been epidemics of hepatitis E, and shigella dysentery and diarrhoea had been endemic. A total of 27 per cent of the morbidity in refugee camps was attributable to diarrhoea, but there had been a substantial decrease in cases since the refugees first arrived in 2005. As a country, Chad has the second worst access to clean drinking water in the world (E.g., 30 per cent, with only 45 per cent of the population using a latrine), according to a UNDP study. In the east of the country, only 2 per cent of the population has access to drinking water.

Nutrition

In 2006 there has been significant improvement in the nutritional status of children in refugee camps due to the collective efforts of all partners in increasing food rations, in effective nutritional rehabilitation, the impact of curative and preventive health care and thanks to a good harvest in 2005 and 2006. Most therapeutic feeding centres (TFCs) in the camps were only treating a few cases per week in late 2006. It had planned to close some therapeutic feeding centres but the arrival of undernourished children amongst the displaced population in the districts of Goz Beida and Adré required keeping the TFCs open. In the Amnabak and Gaga camps, the acute malnutrition rate was still over 10 per cent at the end of 2006.

The nutritional situation of the host population is still very worrying. In July, 35 per cent of monitored children at sentinel sites in the east were acutely malnourished. In August, in the village of Doroti the acute malnutrition rate was 23 per cent for children under-five diagnosed using upper arm circumference (MUAC). A survey conducted by UNICEF in the region of Guerra in August revealed an acute malnutrition rate of 24 per cent among children between six months and five years. Outside of camps, there are no feeding centres in the country.

A detailed study on the environmental impact of the refugees has been carried out. One agency, the Women’s Commission, is exploring the various sustainable solutions available to diversify the domestic sources of energy in order to reduce the risks of sexual violence against women when they collect firewood.

Health services

Mortality rates decrease in the refugee camps in 2006. The main cause of mortality of children under age five in camps in the south in 2006 was malaria and diarrhoea, and in the east it was malaria, respiratory infection and neonatal complications. There were isolated cases of meningitis, but only one epidemic, of hepatitis E in the eastern camps, with 280 cases and 3 deaths. The lab in Abéché has bacteriological equipment to test for epidemics like cholera and meningitis, and there are pre-positioned stocks of perfusions and other supplies ready for epidemics.

1 This is taken from Chad – a country in crisis, A follow-up report, Interagency Health and Nutrition Evaluation (IHE), from www.unhcr.org/publ/RESEARCH/45ebf2d82.pdf.
There is no mortality data available from surrounding villages, apart from the demographic and health surveys (which showed that under-five mortality had not decreased – it was 194/1000 in 1997 and 191/1000 in 2004, and infant mortality rate was 102/1000 in 2004). UNICEF compared under-five mortality in the camps of 45 per 1000 with some surrounding villages where it was 191 per 1000 – four times higher! Consultation rates in health facilities not assisted by humanitarian agencies do not reach 0.1 per person per year. 13.5 per cent of children in eastern Chad suffer with acute malnutrition (wasting) and 41 per cent have chronic malnutrition (stunting). Maternal mortality for the country have increased from 827 per 100,000 live births in 1997 to 1099/100,000 in 2004, and 19 per cent of children were born underweight. A total of 59 cases of neonatal tetanus were reported in 2006, with 20 deaths in health districts in the east.

In the refugee camps, by comparison, the maternal mortality rate was 240/100,000 and neonatal mortality rate was 6.7/100,000. The rate of assisted delivery in health facilities was 90 per cent in one camp but only 5 per cent in another, in a camp where the agency promoted assisted home delivery. Abéché hospital had a mortality rate of 1227 per 100,000 births partially because there were so many late referrals – but that was not the only reason. Near Am-dam hospital there is a graveyard with many women who died after needing to be transfer to Abéché to deliver – but in the wet season there is no road to get there.

The health information system in Chad is very rudimentary, so there is very little data available from health facilities. Local populations living close to refugee camps have benefited with better health care, but three district hospitals are still not supported by humanitarian agencies. Blood transfusion is not available in these hospitals, and as there are no working generators, the operating theatres do not work. The regional hospital in Abéché has a good operating theatre and lab, and a blood bank is being set up.

UNICEF organized a large distribution of insecticide-treated mosquito nets for displaced people, but a study carried out by the Mentor initiative showed that 40 per cent of these nets had been resold. In the camps, less than 50 per cent of the nets were kept by beneficiaries.

In 2006 there was no national prevention of mother-to-child transmission of HIV in Chad, and only one voluntary counselling and testing centre in the east, at Abéché. Humanitarian partners have done a lot of work in promoting messages about condom use and HIV prevention. UNICEF increased its support of the expanded programme of immunization in the east, and in the first six months of 2006 there were only 23 reported cases of measles in the Ouaddai region, compared with 1319 cases in 2005.

Some donors supporting health systems across the country had actually withdrawn their support because of problems related to management of resources, including the World Bank (who spent $45 million between 2001 and 2005) and the IMF (which had supported HIV projects). The European Development Fund remains the main donor in the health sector, and gives some support to pharmacies, district hospitals and health facilities.

Questions are to be discussed in groups, and answers formulated into a short report.

1. What are your impressions of health and nutrition care for refugees in eastern and southern Chad. How have the humanitarian agencies lead by UNHCR done in meeting their needs? What are the challenges?
2. What are your impressions of the health and nutrition status of the surrounding Chadian population?
3. From the available data, what are the principal causes of sickness, undernutrition and under-five deaths? What do you suppose are the other causes in the surrounding villages for which no data exists? Can you spot any link between reproductive health, birth weight, newborn care and rates of death and malnutrition for under-fives?
4. What are the priorities for health and nutrition care in the refugee camps? How about for the Chadian displaced people?
5. Design a health programme for the villages in one health district in the east, ensuring inclusion of priority interventions with high impact on health and nutrition status.
Exercise 8: Examining health and nutrition in an impoverished society affected by natural hazards

**What is the aim?**
- To understand how nutrition and health status is related to extreme poverty and vulnerability, how these are exacerbated by natural hazards, and to learn how to plan for high impact nutrition and health interventions

**When should this exercise be done?**
- As part of a longer in-depth training

**How long should the exercise take?**
- 2 hours

**What materials are needed?**
- **Handout 8a:** Case study II: Health and nutrition in an impoverished state affected by natural hazards in Orissa state, India 2007

**What does the trainer need to prepare?**
- Prepare copies of the case study on Handout 10a or create a similar study related to the country in which the workshop is being held. For India, the trainer may want to read: World Bank, *India: Undernourished children: A call for reform and action*, found at: http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1147272668285/IndiaUndernourishedChildrenFinal.pdf. There are many online resources dealing with the natural hazards and health and nutrition data in Orissa. If the training is spread out over several days, participants could look for material themselves from online sources.

*Note:* Answers are open-ended and require participants to examine available data and also to imagine likely scenarios, so no model answer is given. Therefore the trainer should read Handout 10 a very carefully and work through some potential answers.

**Instructions**

**Step 1:** Give each participant a copy of Handout 8a and give them 15 minutes to read through the document.

**Step 2:** Divide the participants into groups of (Maximum) five people.

**Step 3:** Give the groups 40 minutes to discuss the questions and prepare for presentation of their answers. The trainer circulates among the groups to help guide the discussions, as necessary.

**Step 4:** Give each group 5 to 10 minutes for feedback in plenary

**Step 5:** Use remaining time to facilitate discussion on feedback – ensuring that the key issues have been raised/discussed.
Handout 8a: Case study II: Health and nutrition in an impoverished state affected by natural hazards in Orissa state, India 2007

Time for completion: 1.5 to 2 hours

Read the following case study from Orissa, India and discuss the questions in groups. Prepare a brief presentation of your discussion that will be discussed when the groups come back together again.

One in four of the 10 million under-five child deaths worldwide occur in India, and one in five maternal deaths are in India. Although rates of under-five child mortality are not as high in the Indian subcontinent as in sub-Saharan Africa, rates of malnutrition are as bad, and because of the size of India’s population, the highest numbers of malnourished children in the world are found there.

India: facts and figures

- Population: 1.1 billion, with 300 million under $1 a day
- Under-five mortality has fallen from 123 to 90 deaths per 1000 live births (1990 to 2002) and infant mortality has fallen from 84 to 65 deaths per 1000 live births (1990 to 2002).
- The maternal mortality rate (per 100,000 live births) stands at 407.
- 47% of children under three are malnourished, ranging from 21% in the best states to 56% in worst.
- 77.9% have access to improved water and 36% have access to improved sanitation. Good progress is being made on water and primary education targets.
- HIV prevalence is 0.9%, with a total 5.2 million cases.

India is politically stable and is the world’s largest democracy. The economic growth rate is 8 per cent per year since 2002. If sustained, India will be the world’s fourth largest economy within 20 years. A total of 83 per cent of children attend primary school; 91 per cent boys and 76 per cent girls. Yet despite this, India still has the highest numbers of child deaths and of malnourished children in the world. Although there is progress on the MDG goal for income poverty, even meeting that target would still leave over 250 million poor in 2015. According to a World Bank report, malnutrition and poverty are concentrated in a relatively small number of states, districts and villages – 50 per cent of villages in five states account for about 80 per cent of all malnutrition cases, and when these figures are disaggregated, the worst affected groups are girls, rural area populations, the poorest and certain tribes and castes. These inequalities appear to be increasing. The following excerpt is taken from the report.

“Malnutrition in India has been estimated to be associated with about half of all child deaths and more than half of child deaths from major diseases, such as malaria (57 per cent), diarrhoea (61 per cent) and pneumonia (52 per cent), as well as 45 per cent of deaths from measles (45 per cent). In India, child malnutrition is responsible for 22 per cent of the country’s burden of disease. Undernutrition also affects cognitive and motor development and undermines educational attainment. A total of 30 per cent of Indian children are born with low birth weight. Micronutrient deficiencies alone may cost India US$2.5 billion annually. More than 75 per cent of pre-school children suffer from iron deficiency anaemia (IDA) and 57 per cent of pre-school children have sub-clinical vitamin A deficiency (VAD). Iodine deficiency is endemic in 85 per cent of districts. Progress in reducing the prevalence of micronutrient deficiencies in India has been slow – IDA has not declined much, in part due to the high prevalence of hookworm. As with underweight, the prevalence of different micronutrient deficiencies varies widely across states. Economic growth alone is unlikely to be sufficient to lower the prevalence of malnutrition substantially – certainly not sufficiently to meet the nutrition Millennium Development Goal of halving the prevalence of underweight children between 1990 and 2015. It is only with a rapid scaling-up of health, nutrition, education and infrastructure interventions that this MDG can be met.

2 From DFID country profile, India at www.dfid.gov.uk/countries/asia/india.asp.
Protein-energy malnutrition weakens immune response and aggravates the effects of infection and, so, children who are malnourished tend to have more severe diarrhoeal episodes and are at a higher risk of pneumonia. Underweight and stunted women are also at more risk of obstetric complications (because of smaller pelvic size) and low birth weight deliveries. The result is an intergenerational cycle of malnutrition since low birth weight infants tend to attain smaller stature as adults. In addition, malnutrition in early infancy is associated with increased susceptibility to chronic disease in adulthood, including coronary heart disease, diabetes and high blood pressure. Although the precise mechanisms are not clear, protein-energy malnutrition in early childhood is also associated with poor cognitive and motor development.

It is also noteworthy that although Rajasthan, Orissa and Manipur are the only states identified as experiencing increases in total underweight prevalence from 1992 to 1998.4

Child mortality and malnutrition rates in Orissa are among the highest in the country, despite a relatively rapid fertility decline and quite high levels of antenatal coverage. There are, however, extremely low levels of investment in the health sector and the quality of care in health facilities is not reported to be very high.5 There may be good coverage of a service, but that doesn’t guarantee its quality. See the box below for an example of the angry reaction of one local journalist.6

The rot in Orissa’s reproductive health services

Although the reproductive and child health programme was introduced in Orissa in 1997 and 1998, and external donors, such as the World Bank, the European Commission and the United Nations Population Fund (UNFPA), poured in funds to the tune of hundreds of crores of rupees, Orissa’s health indicators continue to show little progress. The state’s infant mortality rate (IMR), which improved from 1996 in 2000, now is the second highest in the country, at 87 (Rural: 91). That’s much higher than the national IMR of 64. While the national doctor/population ratio is 1 to 1916, in Orissa it is an alarming 1 to 7462. When doctors are posted to remote areas of the state, they respond by going on leave. The reasons are not difficult to come by. As an overwhelming number of testimonies showed, there is wilful neglect at public health facilities and at the hands of government health personnel. These include childbirth deaths, pregnancies that occur after family planning operations have been carried out, babies delivered after abortions, STI and RTI infections and, above all, payment for services that are meant to be free. The public hearing clearly exposed that one of the major reasons for high-interest borrowing was expenses incurred to save loved ones from ‘health sharks’.

The most important reason cited by the Orissa State Government’s Department of Health and Family Welfare for the high num-bers of infant deaths is maternal malnutrition and lack of antenatal care for mothers. “For reducing infant mortality, interventions for improving maternal health and nutrition are essentially required. To reduce infant deaths, care of the newborn is also an essential intervention.”7 On paper, there are 158 community health centres, 157 primary health centres, 1167 primary health centres, 115 area hospitals and 32 district hospitals in the state, however, numbers give no indication of quality. There are 32 million people that live in the state, 87 per cent in rural areas, with one third of the rural population not owning any land. A total of 24 per cent of the population are from tribal minorities, coming from 62 different ethnic communities, many of these quite marginalized.

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6 Manipadma, Jena, writing for Info change India. Available at www.infochangeindia.org/features221.jsp.
7 Government of Orissa, Department of Health and Family Welfare.
Another factor increasing Orissa’s vulnerability is its geographical location, in the Bay of Bengal. On 29 October 1999 a super cyclone smashed into the eastern seaboard of the state, affecting 12 million people and leaving more than 10,000 dead, 774,000 homes destroyed and 1 million animals lost (And an estimated economic loss of $2.5 billion, including 2 million tonnes of rice crop). The cyclone had been spotted in advance, but relief efforts only started three days after the storm hit. Five days after the storm, the coordination centre consisted of six workers, two telephones and a fax machine. In 2001, 1 million people in Orissa were stranded by floods, which have occurred repeatedly in 2003, 2006 and 2007, the latter affecting 1 million people and causing 38 deaths. As well as displacing people, the floods waterlog farmland and destroy crops. For more than a decade Orissa has experienced contrasting extreme weather conditions with heat waves and droughts, floods and cyclones. A heat wave in 1998 was estimated to have killed 1500 people. Ironically the worst drought was in 2001, the same year as the worst ever recorded flood. These natural hazards have severely weakened the economy. A cholera outbreak in August 2007 following the floods hospitalized at least 700 people, with at least 58 deaths.

Questions to be discussed in groups, and answers formulated into a short report.

- Why will India not meet its MDGs for nutrition and child health?
- Why are malnutrition and under-five death rates so high, and where are these cases concentrated?
- Why does Orissa have much higher rates of malnutrition and child deaths?
- Why is Orissa so exposed to natural hazards?
- Why do these hazards become disasters for the state?
- Design a health and nutrition programme for a population of 20,000 people on the eastern seaboard of the state, with one reference health centre and five primary health centres. Concentrate on the elements that will have a high impact on childhood malnutrition and death rates.
- What disaster and epidemic preparedness measures are necessary? How can the effect of future floods, droughts and cyclones be mitigated? What measures are needed in other sectors (water, sanitation, education, economy) that will have a high impact on child malnutrition and health?
- When should humanitarian agencies respond to Orissa’s problems – when the next cyclone hits or drought occurs, or should agencies work with government programmes in creating sustainable programmes that can tackle the root causes of the poverty, vulnerability, malnutrition and mortality, thereby reducing vulnerability to the predictable natural hazards?
Exercise 9: Health programming in a chronic emergency scenario

What is the aim?
- To understand the multiple linkages between health and nutrition and how to plan key health interventions which will impact on nutritional status – specifically response to measles outbreak, reproductive and child health care and health promotion initiatives

When should this exercise be done?
- As part of a half day or longer training

How long should the exercise take?
- One and half hours to two hours

What materials are needed?
- Handout 9a: South Sudan Case Study 2007

What does the trainer need to prepare?
- Prepare copies of the case study on Handout 9a or create a similar study related to the country in which the workshop is being held.
- Depending on the participant mix and time available the trainer may select to focus on one or all of the three optional exercises provided

Note: Answers require participants to examine available information and to imagine the likely scenarios, so model answers are not given. The trainer should read Handout 9a carefully and then back to the technical guidance in part 2 of this module to work through some potential answers – see trainer guidance in Handout 10 b

Instructions
Step 1: Give each participant a copy of Handout 11a and give them 15 minutes to read through the document.
Step 2: Divide the participants into groups of (maximum) five people.
Step 3: Give the groups 20-40 minutes to discuss the questions and prepare for presentation of their answers. If each group has to answer questions from all three exercises then 40 minutes will be required. The trainer circulates among the groups to help guide the discussions, as necessary.
Step 4: Give each group 10 minutes for feedback in plenary.
Step 5: Use remaining time to facilitate discussion on feedback – ensuring that the key issues have been raised/discussed for each exercise.
Handout 9a: Case study III: South Sudan – case study (This case study has been adapted from a Concern WorldWide Project Document)

Time for completion: one and half hour to two hours

Read the following case study from south Sudan and discuss the three sets of questions in groups. Prepare a brief presentation of your discussion for feedback in plenary session

General information

Southern Sudan has recently emerged from nearly five decades of war, which claimed more than two million lives, caused huge internal displacement (with estimates of over 4 million persons displaced) and was responsible for the erosion of health, education and other vital public services. The obvious and very visible ramifications of this pre-longed war include food insecurity, entrenched poverty, paucity of basic services provision, stunted infrastructure development, and a severe paucity of educated human capital.

Against most indicators, southern Sudan is one of the most deprived areas in the world: The proportion of population earning less than a dollar day is over 90%.8 Although the south is primarily dependant on subsistence agriculture/agro-pastoralists, about half the counties in the south are “highly” or “moderately” food insecure, 47% of households do not own livestock and one in three people rely on food aid. In terms of water and environmental sanitation,9 75% of the rural population lacks access to safe water, up to 65% of safe water sources may be out of order at any one time, 70% of the population lacks access to appropriate sanitation facilities and the general level of hygiene awareness is very low. In terms of education, 70% of primary age boys and 90% of primary age girls are out of school, 28% of those who enrol make it to grade 5 while the primary completion rate is 2%, education quality is very poor with 6% of teachers fully trained, and 76% of adults are illiterate10. All food production/access and basic social service indicators show marked regional variation across southern Sudan with Equatoria significantly better off than Bahr-el-Ghazal and Upper Nile.

Health profile

The health profile11 for Southern Sudan is sobering: The infant mortality rate is 150 per 1000 live births and the under-five mortality rate is 250 per 1000, with 48% of under-five deaths attributed to water related diseases, primarily malaria and diarrhoea. The maternal mortality ratio is 1,700 per 100,000 with a lifetime risk of one in nine of dying in pregnancy or childbirth. 95% of deliveries are at home while the proportion of births attended by trained health staff is 5%. The percentage of children who have received full DPT vaccination coverage (DPT1-DPT3) is estimated at 5%, with 24% of one year olds immunized against TB, up to 95% of under-5s against polio and 24.3% against measles. Antenatal care coverage is estimated at 16%, and contraceptive prevalence at below 1%. Malaria is endemic across southern Sudan while the TB incidence is 325 per 100,000 per year. Malnutrition levels vary across the regions, with seasonal GAM rates above 15%, in many areas, resulting in requirement for on-going emergency feeding programmes.

Health services provision

Overall the heath service provision in south Sudan is grossly inadequate and the distribution of health facilities among the States is unequal: Three Equatorian States which accounts for 26% of south Sudan’s population had 48% of the facilities, while Bahr-el-Ghazal’s four States with 49% of the population had only 21% of the facilities. Grossly inadequate health facilities and limited transportation options has resulted in a situation where the majority of the population of south Sudan has very poor access to health services. The lack of trained health staff and inadequate equipment and drug supply at facility level means that even where services are available the quality is poor. During the war, the responsibility for health care for the majority of south Sudan with the exception of those living in the garrison towns, was shouldered primarily by the international community (staff remuneration, training, equipment and supplies, medicines, infrastructure and maintenance, etc.) with over 60 agencies (UN and NGOs), involved in its provision. This health service support was carried out in a fairly ad hoc uncoordinated and fragmented fashion and in the absence of any regulatory framework. While the SPLM Secretariat for Health based in Rumbeck had a role in co-ordination of services to some extent, as most of the international agencies were based in Nairobi and many passed to project areas via Locki rather than Rumbeck coordination was not easy…

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9 Joint Assessment Mission (JAM) Basic Social Services Cluster Report, 2005
10 UNICEF/Africa Educational Trust, 2003, School Baseline Assessment Report for south Sudan
Health Provider Staff

The number of trained health staff in South Sudan is seriously inadequate and distribution is not equitable, with most of the better qualified staff working in the main towns. Away from the main towns many of the personnel providing health services have limited or no training. During the war middle and university level training previously located in Juba, Wau and Malakal was relocated to Khartoum. A number of training institutes continued to function in the south during the war, with support from international agencies, primarily offering training for Clinical Officers, Nurses, Midwives, CHW and MCHW and Laboratory Technicians. Student course fees and living costs were generally sponsored by NGOs. In addition to pre-service training a number of INGOs carried out significant in service training for staff health staff in their employment.

Information about Aweil West and North counties in Bahr-el-Ghazal

The population of Aweil West and North Counties is predominantly Dinka, who in the past were primarily agro-pastoralists. However, major asset depletion -including livestock- during the protracted war has severely disrupted their livelihoods mechanisms and resulted in widespread poverty. Resultantly, poor socio-economic households, currently constituting 57% of the population, principally depend on wild foods and fish, with grain being their third most important food source. Typically poor households produce a maximum of half the grain they consume and consequently have a high dependence on relief food for most of the year. Aweil West and North have been identified as two of the most food deficient counties of south Sudan. The food situation in both counties has been exacerbated significantly over the last 3 years by large numbers of returnee arrivals, who are placing an additional strain on their already overstretched kin.

Health related indictors

Access to safe water in Aweil West and North Counties is severely limited with an average of over 3,500 persons per safe water source. A KAP study conducted by an NGO in 2006 showed that 38-46% of households are dependent on unsafe pond and river water, while access to appropriate sanitation facilities is virtually non-existent.

Child health indicators

The top three causes of infant morbidity and mortality in Aweil West and North are malaria, diarrhoea, and respiratory infections. And it is consistently reported (by mothers in nutrition surveys) that between 40 and 60% of children under-five may be sick at any one time. In another survey of Aweil west and north carried out by an NGO in 2006, more than 90% of families stated that they had cases of diarrhoea in the family, and that children under five suffered ‘regularly’ from diarrhoea. Malaria (P. falciparum strain) is endemic to Aweil West and North. The risk of malaria is high primarily April through December, with a peak in cases during June to September. As the dry season advances (generally February and March), malaria risk lessens but the incidence of diarrhoea tends to increase as the quantity and quality of water available for washing and drinking declines. Eye and respiratory infections also tend to be worse during the dry season, and intestinal worms are a common condition throughout.

KAP surveys carried out in 2005 and 2006 showed that hygiene practices are very poor and some 20% of under-5 children have diarrhoea within a 2 week period during the wet season.

Measles vaccination coverage is estimated to be approximately 50%. Vitamin A coverage is high, at approximately 80%, due in large part to the polio campaigns that have been conducted and to the fact children admitted to a nutrition programme for supplementary or therapeutic care received vitamin A on admission.

Persistent high levels of malnutrition have been recorded in both counties. Of 12 nutrition assessments conducted in the area by an NGO between 2003 and 2006, nine have revealed under-5 global acute malnutrition rates ranging from 17.4% to 24.3%. On only three occasions, following relatively good grain and fish harvests in 2003, 2005 and 2006, the rates dropped to between 12.5 and 14.9%, marginally below the threshold for emergency intervention.

A Causal Analysis study carried out in Aweil west and north showed high rates of under nutrition among pregnant and lactating women which showed a highly significant correlation with under nutrition among their children. This backs up the evidence that undernutrition in pregnant mothers is commonly linked to low birth weight infants; and that these infants are susceptible to infections that could lead to undernutrition and death if the situation is not addressed early enough.
Reproductive health situation
Despite the lack of available quantitative reproductive health indicators from the project area the reproductive health situation in the area is recognised to be extremely poor.

Health service provision in Aweil west and north.
The quality of the provision of basic health care services in Aweil West and North has been inadequate for a number of years.

Within the programme area there are 31 primary health care facilities; 3 Primary Health Care Centres and 28 Primary Health Care Units. During the war and INGO was providing support to the 3 PCHC and 12 PHCU, support included provision of drugs and supplies, payment of small salary and some supervision of facilities. The INGO also trained and provided some support to TBAs across the two counties, however supportive supervision for TBAs was limited. During the war the quality of care at these INGO supported facilities was poor; the facilities were in poor physical disrepair, staff were often absent; drugs and supplies often unavailable and supervision was limited. The NGO discontinued support of the health facilities in June 2006 leaving a situation where there is no provision of basic health services in the area.

UNICEF also provided drugs to a number of PHCU across the 2 counties, however in the absence of any supervision, the quality of care provided by unpaid, community volunteers at these PHCU was questionable.

In the period 2001-2006 the poor quality of health service provision (Basic curative care and vaccination services) was repeatedly noted as a contributing factor to the on-going cycle of child illness and malnutrition.

An international NGO has been implementing a community based programme for the treatment of acute malnutrition for a number of years (supplementary and therapeutic treatment). Weekly outpatient nutrition consultations are held in mobile clinics across both counties, with children with SAM and medical complications being referred to an inpatient stabilisation centre which was also managed by the NGO.

During the war there was an established system and support for the referral of medical/obstetrical emergencies to Loki in Kenya, however this service discontinued mid 2006 leaving a situation where medical/obstetrical emergencies need to be transported to the hospital in Aweil town. This presents problems given distance, lack of transportation and in some places general security.

Optional Case Study Exercises to be carried out by working groups:

i) Responding to a suspected outbreak of measles
High numbers of cases of measles have been reported across several villages in two counties in Bahr-el-Ghazal. The cases are mainly among children under five years of age although there are a few reported cases of older children. The children are presenting with high fever, red eye, cough and rash - and some also presenting with diarrhoea.

As Health Programme Manager of an international agency responsible for leading the response what are the steps you would take to
a) Confirm the outbreak
b) Control the outbreak
c) Ensure effective diagnosis and case management of those children with measles

ii) Establishment of a reproductive and child health programme
You are a programme manager of an international NGO that has just arrived in the area to establish a reproductive and child health programme across both counties –

a) What are the key components/proved effective interventions which will significantly impact the nutritional status of the population?
b) Why is it important to coordinate activities with other agencies?
c) Who are the key stakeholders that you need to coordinate with at county and sub county level?
iii) Establishment of health promotion initiative

You are a programme manager of an international NGO responsible for establishing a health promotion initiative in one of the counties:

a) List the key areas that should be included in a health promotion initiative
b) Outline some of the specific messages that should be disseminated to the population
c) List the key stakeholder who should be consulted and involved in this initiative
d) Discuss the methods that may be used and key issues that should be considered in terms of how this context initiative is implemented
Handout 9b: Trainer guidance on optional Case Study Exercises

i) Responding to a suspected outbreak of measles

Read through the technical notes in part 2 of this module – basic information about important communicable diseases (Measles), control of communicable diseases - diagnosis and management and outbreak detection; and child health programming – prevention of vaccine preventable diseases.

ii) Establishment of a reproductive and child health programme

Read through the technical notes in part 2 of this module.

Key components/proved effective interventions which will significantly impact the nutritional status of the population should include:

- Reproductive health care interventions along the various phases of care from pre pregnancy to care after delivery
- Child health care components should include prevention of vaccine preventable diseases, management of newborn and childhood illnesses and promotion of key behaviours to improve child survival

Coordination of activities with other agencies prevents duplication of activity and facilitates greater collaboration as appropriate – sharing of information and resources and establishment of referral system, etc. It also facilitates standardisation/complimentary of key health information/messages that are being disseminated to the community.

Key stakeholders to coordinate with at county and sub county level include Government, UN and other NGO health and nutrition agencies operating in the area, local administration officials and community representatives and other UN and NGO agencies providing interventions which impact on health and nutrition status eg shelter; and water and sanitation sectors.

iii) Establishment of health promotion initiative

The trainer should read through the technical notes in part 2 of this module – See health promotion under Sphere health service delivery standard 1.2 and also refer to the child health programming and sexual and reproductive health programming sections.

HP is covered fully in HTP module 19 – and the trainer may wish to refer to this module for greater detail on HP approaches and methods.
6. Field based exercises

The section outlines an exercise that can be carried out as part of a field visit. Field visits require a lot of preparation. An organization that is actively involved in programming or nutrition surveillance has to be identified to ‘host’ the visit. This could be a government agency, an international NGO or a United Nations agency. The agency needs to identify an area that can be easily and safely visited by participants. Permission has to be sought from all the relevant authorities and care taken not to disrupt or take time away from programming activities. Despite these caveats, field based learning is probably the best way of providing information that participants will remember.

Exercise 10: Field-based analysis of how disease and malnutrition are linked in a real life situation

<table>
<thead>
<tr>
<th>What is the aim?</th>
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<tbody>
<tr>
<td>• To provide the opportunity for participants to explore how undernutrition and illness are linked in a real life situation</td>
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<tr>
<th>When should this exercise be done?</th>
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<tbody>
<tr>
<td>• As part of an in-depth course, after participants have worked through most of the technical guidelines and have also conducted some of the classroom based exercises.</td>
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<tr>
<th>How long should the exercise take?</th>
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<tr>
<td>• 1 to 2 days in total for participant briefing and preparation, travel to site and conducting the exercise, presentation and analysis of findings and review of process.</td>
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<tr>
<th>What materials are needed?</th>
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<tbody>
<tr>
<td>• Handout 10a: Stakeholder questionnaire on nutrition and health</td>
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</table>

<table>
<thead>
<tr>
<th>What does the trainer need to prepare?</th>
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<tbody>
<tr>
<td>• The trainer needs to ask permission from authorities at each of the sites chosen for the field study. The trainer should visit the sites in advance of the exercise to identify the various settings and key informant groups; and identify potential problems.</td>
</tr>
<tr>
<td>• Organise and brief translators where required.</td>
</tr>
<tr>
<td>• Transport and food will need to be arranged and it is important to ensure there are no security concerns.</td>
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</table>
Exercise 10: Field-based analysis of how disease and malnutrition are linked in a real life situation (continued)

Steps to be taken day by the trainer before travel to site

- Adapt and/or contextualize the questionnaire and print out multiple copies of questionnaire/answer sheet for each group/pair (Depending on how many interviews/focus group discussions are planned).
- Brief the participants on the objective of the exercise and the scenario.
- Review the questionnaire with participants and explain how the exercise will be conducted: with each group (Or pair) of participants conducting interviews with individuals and/or focussed discussion with small groups at health facility and/or community level.
- Emphasise that the questions are open ended and that participants will need to take notes during the interview/group discussion, so the group will need to organise a system for someone to ask questions and someone to take notes.
- It would be useful to role-play a few interviews/group discussions; to help participants practice asking the questions and recording the answers.
- Explain that participants should also make their own observations; and that on completion of the exercise they will prepare a short report for presentation
- Outline the issue of confidentiality to participants and explain that participants must explain why they are asking the questions, the type of questions they will be asking; and get the consent of each individual and group they interview before starting to ask questions.
- Divide participants into small groups or pairs and allocate responsibility for specific aspects of the exercise, depending on the number of participants and the context and ensuring that as wide a range of key stakeholders are included in the exercise as is possible.

Site visit

- During the site visit the trainer should support and supervise the participants as they undertake their respective tasks, and may sit in on some of the interviews and group discussions.

Post visit activity

- Following the site visit each group/pair should spend some time preparing a report on their work for feedback
- The trainer and participants should then meet for a feedback session and the trainer should facilitate
- Presentation of findings from each of the groups/pairs and discussion and identification of key issues
- Analysis of the links between undernutrition and health based on the findings from the site visit
- Relating findings from the site visit back to the conceptual framework for factors associated with undernutrition and ill health

The feedback session would ideally happen on the afternoon of the field study day, preferably after participants have had lunch or the next day.
Handout 10a: Stakeholder questionnaire on health and nutrition

Time for completion: 7 to 8 hours over 2 to 3 days

Three to five groups are needed for this exercise. Each group will interview stakeholders in different settings. On day 1 in the classroom, each group will be shown the questionnaire and will choose which setting they will visit. The field visits will take between three to four hours, plus travel time usually the morning of day 2. The feedback session with presentation of participants reports happens ideally on the after the field visits or the next day. An hour is needed for groups to discuss their findings and prepare their presentation.

There are between three and five groups who will interview stakeholders in different settings. These interviews will normally be carried out with individuals, or families, but can also be with small community groups. The type of settings will depend on the situation in which the module is being taught but it is envisaged that each group would interview five to eight stakeholders (or families) in one of the following settings:

- Parents of malnourished children at a CTC distribution or admitted for therapeutic and medical care
- Parents of sick children (and/or malnourished children) admitted to a health centre or hospital
- Vulnerable elderly people admitted to a health centre or hospital
- Families in a village, urban slum, in a displaced camp or refugee camp (house to house visit).
- Women with newborn babies on a maternity ward
- Women at an antenatal clinic
- Parents at an under-five/vaccination clinic

The following questionnaire acts only as a guide to the questions that could be asked. They will need to be contextualised, and of course translators may well be needed. The style of questioning is qualitative (With open ended answers) rather than quantitative (numbers), so this is not a statistical exercise. Participants are also encouraged to note their observations. Participants may also ask the health and nutrition professional team about the persons they have been interviewing, and are encouraged to use their initiative to find out more information in their own way.
Questionnaire

Note that these questions have not been numbered as they will need to be adapted for each situation (and may be further adapted by each group). The sheet that the questionnaire is printed on will need to allow enough space for the answer, or alternatively other sheets can be used for the answers. Enough space is needed for observations and other questions that will be thought of at the time of the visits.

- Are you/is your child sick at the moment? If so, with what disease are you/is your child suffering with?
- Has your child had a disease with fever, cough or diarrhoea in the past two weeks?
- Do you/does your child suffer with a chronic/long-term disease?
- Is your child vaccinated?
- Are you/is your child suffering from malnutrition.
- What/how often do you eat? Is your diet sufficient? What are you short of?
- Do you have access to clean water at home? How do you make sure it is clean?
- Do you have a latrine at home, or access to a latrine?
- Has anyone in the family died recently? If so, do you know from what disease?
- Have you been sick in this pregnancy? Was it dangerous when you gave birth?
- Has your child been sick since birth? Are you breastfeeding? Did you give any other liquid to the child apart from breastmilk, if so what, and why? Has your baby needed treatment since birth?

* Other questions at the participant’s discretion.
* Observations made by the participants.
* Discussion with any health or nutrition professionals who work in the setting.
* Discussion with any local authorities who may have been met during the visit.
PART 4: TRAINING RESOURCE LIST

The training resource list is the fourth of four parts contained in this module. It provides a comprehensive list of reference material relevant to this module including guidelines, training courses and reference manuals. Part 4 provides background documents for trainers who are preparing training material.

What can you expect to find here?

1. An inventory of existing guidelines and manuals listed alphabetically by agency name with details about their availability.
2. A list of known training courses listed alphabetically by agency name with details as available about:
   - Overall content
   - Intended use
   - Target audience
   - Length of time the course session has been designed for
3. Training materials that a trainer may use to organise health assessment training

Guidelines and manuals

   A fascinating evidence based account reviewing research of how malnutrition and HIV and TB interrelate, and the importance of intensive nutritional support for people with HIV.

2. *Inter-agency Field Handbook Malaria control in complex emergencies 2005.*
   Developed by the Inter-agency group working on Malaria control in complex emergencies.
   Available electronically [www.who.int/malaria](http://www.who.int/malaria)

3. *Inter-agency Field Manual for Reproductive Health in Humanitarian settings 2010.*
   Developed by the Inter-agency working group on Reproductive health issues in Humanitarian Settings and is an update of the Reproductive Health in Refugee settings Field Manual 1999.
   Available in hard copy and electronically [www.aiwg.net/resources](http://www.aiwg.net/resources) and via [www.oneresponse.info](http://www.oneresponse.info) and/or [www.humanitarianinfo.org](http://www.humanitarianinfo.org)

   Availability: Hard copy and electronically via [www.oneresponse.info](http://www.oneresponse.info) and/or [www.humanitarianinfo.org](http://www.humanitarianinfo.org)
Provides guidance for Health Cluster lead agency, coordinator and partners to work together during a humanitarian crisis to achieve the aim of reducing avoidable mortality, morbidity and disability and restore the delivery of equitable access to preventative and curative health care as quickly as possible.  

6. **Inter-agency Standing Committee (UN-IASC), Health, Nutrition and WASH Clusters (2009). Initial Rapid Assessment (IRA) 2009 version.**  
A tool for conducting inter-cluster/agency rapid assessments, by WASH, health and nutrition clusters.  

7. **Inter-Agency Standing Committee (2010), Guidelines for addressing HIV/AIDS in humanitarian settings; UN, New York.**  
The guidelines outline background information on HIV in humanitarian crises and provide guidance on a) coordination, planning and resource mobilisation, b) responses to HIV for the nine key sectors including health and food security, nutrition and livelihood support; c) key monitoring and evaluation activities for the response to HIV in humanitarian settings.  
Available in hard copy and CD Rom and electronically via link from www.oneresponse.info and/or www.humanitarianinfo.org

Availability: Hard copies, CD-ROM and electronically via www.oneresponse.info and/or www.humanitarianinfo.org

This practical guide covers the nature of emergencies and disasters, pre-disaster activities, response and recovery. Part II deals with various sectors and how they interact, including communicable diseases. Food safety and nutrition is covered in Chapter 9.  

This is a guide for emergency public health. Of particular relevance are the chapters on disaster epidemiology with a section calculating mortality rates and rapid needs assessments; on health care systems in an emergency; and mental health.  
Contact: http://www.ifrc.org/what/health/relief/guide.asp

The new edition of the Sphere Handbook takes into account recent developments in humanitarian practice in water and sanitation, food, shelter and health, together with feedback from practitioners in the field, research institutes and cross-cutting experts in protection, gender, children, older people, disabled people, HIV/AIDS and the environment. It is the product of an extensive collaborative effort that reflects the collective will and shared experience of the humanitarian community, and its determination to improve on current knowledge in humanitarian assistance programmes.  
Availability: Will be available in English, French, Spanish, Arabic in hard copy, CD ROM and electronically via www.sphereproject.org

A manual and a set of training tools, including PowerPoint presentations, exercises and survey tools aimed at staff who collect and analyse nutrition and mortality data.

Availability: Electronic version of manual and training material

Contact: www.wfp.org

Available at: www.unscn.org/en/resource_portal


A manual, including the prevention, surveillance and outbreak control of communicable diseases. Of particular relevance: Chapter 1. Rapid Assessment, with sections on: objectives, composition of the team, methods of data collection, survey and sampling methods, data to be collected, analysis and presentation of results.


Contact: www.who.int


A manual linked to the training course (see below), with the aim of providing guidance to analysts of troubled health sectors. This includes countries on the verge of an economic, political and/or military catastrophe, protracted crises and situations of transition from disaster to recovery. The intended users are apprentice analysts, already with field experience, familiar with quantitative techniques, attempting to analyse a disrupted health sector.


A set of clinical guidelines for the integrated management of childhood illnesses from two months to five years of age at first level health facilities. Using clinical algorithms formatted in flow charts, the guidelines take a health care worker through a logical process of correct diagnosis and provision of treatment of a sick child and provision of information to caregivers. Technical updates of the guidelines for IMCI were produced by WHO in 2005 – for countries to use as they update national IMCI guidelines.

Availability: electronic version available to download from www.who.int/child_adolescent_health/documents/IMCI


This alternative guideline is based on the original IMCI guidelines and again uses algorithms formatted as flow charts – however in addition to the illnesses covered by IMCI, this guide also incorporates emergency resuscitation, management of trauma and burns, care of the new born and young infants, and evaluation of mental health and psychosocial support.

Availability: Electronic version download from www.who.int/topics/emergencies

**Technical papers**


Training courses

Organised by: Centre for Research on the Epidemicology of Disasters (CRED) Belgium (course in English)
Timing: Two weeks.
This two-week intensive course is designed to familiarise professionals with the epidemiological techniques to determine the health impacts of disasters and conflicts. The course has practical application in the field and covers the different use of quantitative tools for the assessment of health needs in populations affected by catastrophic events. An international faculty, comprised of reputable professors invited from various prestigious institutions, teach the course. The course introduces participants to the methods and tools of epidemiology in the context of humanitarian emergencies. Topics covered include malnutrition, infectious diseases, mortality, morbidity, mental health, reproductive health, and population displacement. The course takes place in Brussels, Belgium.
Contact: http://www.CRED.belgium

22. International Rescue Committee: Public Health in Complex Emergencies
Organised by: International Rescue Committee in conjunction with several other institutions, and conducted jointly with these other institutions several times a year and in different places in the world
Timing: Two week residential course
Content: Broad introduction to public health in emergencies; focuses on critical public health issues faced by NGO/PVO personnel working in complex emergencies, aiming to enhance the capacity of humanitarian workers and their organisations to respond to the health needs of emergency affected populations. Participants will master the key competencies in the following sectors: context of emergencies, epidemiology, communicable disease, environmental health, nutrition, reproductive health, weapon violence and trauma, protection and security, psychosocial issues, coordination.
Participants
a. NGO/PVO staff who are or will in future be responsible for making decisions that affect the health of emergency-affected populations
b. District Medical Officer (DMO) and other MOH staff working in areas affected by emergencies
c. Staff from international and government organisations who are instrumental in planning services for emergency-affected populations.

23. International Committee of the Red Cross, Health Emergencies in Large Populations (H.E.L.P.)
Organised by: ICRC in partnership with WHO, National Red Cross Societies and various academic institutions.
In 2011 will be held in the US, Kenya, Benin, Switzerland, Japan, China, Mexico and South Africa.
Timing: Three weeks
Content: An intensive course in humanitarian assistance, public health principles and disaster epidemiology
Target audience: Humanitarian aid workers, physicians, nurses, public health practitioners
Contact help.gva@icrc.org or visit website: http://www.icrc.org/eng/resources/documents/misc/help_course.htm

24. Liverpool School of Tropical Medicine, UK.
Public health in humanitarian emergencies
Timing: A two week course held once a year in Liverpool, UK.
The aim of the course is to provide students with knowledge and critical understanding of common public health problems in humanitarian emergencies; to enable students to adopt an evidence-based and reasoned approach to the critical assessment and management of the problems and to develop and evaluate strategies for their prevention.
Target audience: Any person working in international development and humanitarianism would benefit from attending this course. Also people who work in the area of public health, health protection and disease control would benefit.
Contact: http://www.lstmliverpool.ac.uk/learning—teaching/lstm-courses/short-courses/h500—public-health-in-humanitarian-emergencies
25. **Liverpool School of Tropical Medicine, UK**  
**Health interventions**  
**Complex Humanitarian Emergencies – Impact on Health and Well Being**  
**Timing:** A four week course held once a year in Liverpool, UK  
**The aim** of the course is to provide students with a knowledge and critical understanding of current key themes and debates in the social sciences concerning humanitarian emergencies, including fragile and collapsed states and the politics of intervention, nation building efforts, the anthropology of conflict and complex emergencies, child soldiers and the challenge of reintegration into society, humanitarian assistance in the 21st century, vulnerability and livelihood.  
**Target audience:** Any person wishing to or already working in international development and humanitarianism would benefit from attending this course.  
**Contact:** [http://www.lstmliverpool.ac.uk/learning—teaching/lstm-courses/short-courses/hs807—complex-humanitarian-emergencies](http://www.lstmliverpool.ac.uk/learning—teaching/lstm-courses/short-courses/hs807—complex-humanitarian-emergencies)

26. **Liverpool School of Tropical Medicine, UK**  
**Management of Refugee and Displaced populations**  
**Timing:** A two week course held once a year in Liverpool, UK  
**The aim** of the course is to provide students with the knowledge, skill and critical understanding needed to adopt an evidence-based and reasoned approach to the critical assessment and management of refugee and displaced populations across the spectrum from emergency relief to sustainable development.  
**Target audience:** Any person working in international development and humanitarianism would benefit from attending this course.  
**Contact:** [http://www.lstmliverpool.ac.uk/learning—teaching/lstm-courses/short-courses/hs941—management-of-refugee—displaced-populations](http://www.lstmliverpool.ac.uk/learning—teaching/lstm-courses/short-courses/hs941—management-of-refugee—displaced-populations)

27. **Merlin: Public Health in Crises and Transitional Contexts**  
**Organised by:** Merlin, UK  
**Timing:** Seven days, non-residential, various locations  
**Objective:** To give participants an overview of public health in acute humanitarian crises and early recovery phases  
**Content:** Includes principles of public health, needs assessment and programme delivery  
**Target audience:** Public health and other professionals with interest in the humanitarian sector  
**Contact:** [www.merlin.org.uk](http://www.merlin.org.uk)

28. **WHO: Analysing Disrupted Health Systems in Countries in Crisis**  
**Organised by:** WHO in collaboration with IRC and Merlin  
**Timing:** 12 days, residential  
**Objective:** To expand and strengthen the capacity of health professionals in analysing the health systems of countries in crisis, developing adequate response and recovery sector strategies, planning and implementing effective interventions  
**Overall content:** Centred on the analysis of health systems of countries affected by, or recovering from protracted crises, for improving response strategies and plans  
**Target audience:** Health professionals of countries in crisis: WHO staff, health personnel working in government institutions, NGOs, United Nations agencies and other organisations of the health and nutrition clusters.  
**Contact:** [http://www.who.int/hac/techguidance/training/analysing_health_systems/en/index.html](http://www.who.int/hac/techguidance/training/analysing_health_systems/en/index.html)

29. **WHO Public Health Pre-Deployment (PHPD)**  
**Organised by:** WHO Health Cluster, Health Action in Crises (HAC), Departments of Emergency Preparedness and Capacity Building (EPC) and WHO Mediterranean Centre for Health Risk Reduction (WMC).  
**Timing:** It is a two-week residential course delivered by a pool of experienced humanitarian and public health experts from WHO and academic and technical institutions as well as non-governmental organisations to ensure effective readiness of the Member States, and to enable them to respond effectively to emergencies and crises.  
**Course aims:** To prepare public health and other professionals, who are specific subject experts or those experienced in emergency settings, to work effectively and safely in emergency and crisis situations. These professionals are expected to effectively and efficiently work with national emergency health teams and also with the health cluster and other clusters at country level. Eventually, the course prepares professionals and humanitarian aid workers to respond better to emergencies.  
Training materials on health in emergencies


31. **UNHCR Health Information System Reference manual**
   The manual forms the core reference document for a five-day “Training of Trainers” workshop. This is the prelude to country-level training for implementing partner staff, followed by camp-based deployment of the Health Information System (HIS). The modules are designed to be reproduced and used independently of the manual, in field trainings and exercise work for frontline health staff.

   - **Part One: Introduction**
     Part One presents an overview of the HIS. It describes the purpose of data collection, the process of selecting standards and indicators, and the importance of standardised health information. It also introduces the concept of the data cycle; the key partners involved; and explains the frequency of reporting at each level of health management.

   - **Part Two: Technical Sections**
     Part Two introduces the technical sections in the HIS. The HIS contains 10 technical modules, which correspond to the primary healthcare model upon which services are planned, organised and delivered (see list below). The modules identify the sources required for data collection; define who is responsible for the data; and provide guidance on the “what, how and when” of collecting and reporting health information. Each has been designed as a reproducible, field-based guide that can be used independently of the manual to train staff at the camp level.

     - Module 1: Population
     - Module 2: Mortality
     - Module 3: Morbidity
     - Module 4: IPD and Referral
     - Module 5: Laboratory
     - Module 6: Disease Control
     - Module 7: Expanded Programme of Immunization (EPI)
     - Module 8: Nutrition
     - Module 9: Reproductive Health
     - Module 10: HIV/AIDS

   - **Part Three: Data Management and Support**
     Part Three contains core topics related to data management and data validation; internal auditing and quality control; and database management. It also describes how new toolkits will be updated and replaced in the field.

     - Module 1: Using the Excel Sheet
     - Module 2: Using the Database

     Available to download via [http://www.who.int/hac/global_health_cluster/guide/tools/en/index.html](http://www.who.int/hac/global_health_cluster/guide/tools/en/index.html) and/or CD-ROM can be ordered via the link.
Useful sources of health data

Demographic and Health Surveys available for most countries
Available at: www.measuredhs.com/pubs

There is a useful presentation of figures for malnutrition from UNICEF's global database for 2007, and progress towards MDGs 1-7 is assessed by regions. Availability: Downloadable from www.unicef.org/progressforchildren/2007n6/files/Progress_for_Children_-_No._6.pdf


Useful websites

1. www.humanitarianreform.org for information on all the clusters, including meeting reports, training courses and resource materials
2. www.oneresponse.info for information on all the clusters, including meeting reports, training courses, and resource materials
3. www.reliefweb.int for information on emergencies and training resources
4. www.smartindicators.org for information on Standardized Monitoring and Assessment of Relief and Transitions (SMART) initiative: for a description of rationale for and objective of SMART, the software, protocols and case studies; and for related training materials.
5. www.who.int for general information on health,
6. www.who.int/hac for information on Humanitarian Action in Crisis Situations
7. www.who.int/hac/global_health_cluster/en/ for information on health cluster aims, objectives, policies, activities, reports on training courses and meetings, information on upcoming trainings and resource materials
8. www.who.pmnch website for the Partnership for Maternal Newborn and Child Health – wide range of news and resources on MNCH including the Continuum of Care for MNCH
9. http://helid.desastres.net/ provides a resource of over 650 texts relating to health in disasters, in English, Spanish, French, and some documents in Russian. It is inter-agency and contains documents not only from WHO, but also UNHCR, UNICEF, the Red Cross movement, NGOs and other institutions.
10. www.sphereproject.org to download Sphere handbook and Sphere training materials and information on Sphere training and TOT courses
11. www.ennonline.net/ife for a wide range of information on IYCF in emergencies
12. www.ifrc.org for a wide range of information and reports on emergencies
13. www.medinesanfrontiers.org for a wide of information and reports on emergencies also
14. www.refbooks.msf for MSF publications
15. www.odihpn.org A wide range of humanitarian related resources Humanitarian Exchange Magazine, Humanitarian Network Papers, Good Practice Reviews and Meeting reports