Reference values for Health Needs Assessments

This document lists reference norms for main health indicators in emergencies. Content is indicative, and other reference values may be used if appropriate. When analysing data, disaggregate by sex where possible; consider that gender influences patters of exposure to infectious agents, gender roles influence where men and women spend their time, and there are differences in the provision of health care to men and women globally.

1. Mortality Rates

Assumed Baseline	Emergency threshold
CMR: 0.5 per 10,000 per day	CMR ≥1 per 10,000 per day
U5MR: 1 per 10,000 per day	U5MR ≥ 2 per 10,000 per day

In an emergency situation, the *Crude Mortality Rate (CMR)* is usually expressed as deaths per 10,000 population per day. The population size most commonly used in the calculation is the estimated population size at the mid-point of the time period---the time period that the number of deaths represent (say the number of deaths during a month or a week or a day). The formula is:

CMR

$$\frac{\text{Total number of deaths during the time period}}{\text{Total population ad mid-point of time period that is at risk of death}} \times \frac{10,000}{\text{\# of days in Time period}} = \text{\# deaths / 10,000 persons/ day}$$

U5MR

$$\frac{\text{Total number of deaths in children <5 years of age during the time period}}{\text{Total number of children <5 years of age in the population at mid-point of time period that is at risk of death}} \times \frac{10,000}{\text{\# of days in time period}} = \text{\# deaths / 10,000 persons/ day}$$

If the top 5 causes of death is known and statistics have been collected the *percentage of deaths caused by a specific disease* can be calculated:

Percentage (<5) Cause of Death= $\frac{\text{\# of each major cause of (<5) deaths x 100}}{\text{\# of total (<5) deaths in that same period}}$

The *Case Fatality Rate (CFR)* can be calculated after a surveillance system has been functioning.

$\frac{\text{Total number of people dying from the disease during the last week}}{\text{Total number of people who had the disease during the last week}} \times 100 = X\%$

2. Morbidity Rates

Many deaths in emergency situations are caused by preventable conditions such as diarrhoeal disease, measles, malaria and acute respiratory infections. Incidence rates for common causes of morbidity are the number of new occurrences of an event included on standard morbidity reporting forms (from IPD/OPD/Feeding centres).

Disease specific incidence rate = $\frac{\text{\# of specific disease category cases x 100,000}}{\text{total population at risk}}$ =cases/100,000
(OPD+IPD+FC statistics)

% <5 OPD patients with specific disease = $\frac{\text{\# of specific disease <5 cases x 100}}{\text{total <5 visits}}$
(OPD statistics)

<5 Morbidity pattern = $\frac{\text{\# of each major disease <5 cases x 100}}{\text{total \# of <5 visits}}$
(OPD +IPD+FC statistics)

3. Measles vaccination coverage: Minimum 95% of children between 8 months and 15 years should be vaccinated

4. Nutritional Status

Global Acute Malnutrition Rate = $\frac{\text{\# of children < -2 Z score W/H (or < 80\% W/H) and/or oedema}}{\text{Total \# children measured}}$

Severe Acute Malnutrition Rate = $\frac{\text{\# of children < -3 Z score W/H (or < 70\% W/H) and/or oedema}}{\text{Total \# of children measured}}$

Cut off vales for MUAC and WFH for acute malnutrition:

	MUAC	WFH	
		Percentile	Z-score
Severe malnutrition	11.5	<70	< -3 SD
Global malnutrition	12.5	<80	< -2 SD