## Appendix 3: Indicators relating to the calculation of mortality rates

| Indicators for Warning during Emergency Situations | Cut Off Values |
|---|---|
| **Daily Crude Mortality Rate**<br>Definition: Total number of deaths in one day divided by total population multiplied by 10,000 (see CMR formula below) | 1 or more deaths per 10,000 per day |
| **Daily Under Five Mortality Rate**<br>Definition: Total number of deaths of under five years old in one day divided by total under five population multiplied by 10,000 | >2 deaths per 10,000 per day |
| **Acute Malnutrition (Weight for Height or MUAC)** | 10 % or more children (age >5 years) with malnutrition |
| **Growth Faltering Rate in Under 5 year olds** | 30 % or more of monitored children with growth faltering |
| **Low Birth Weight (<2.5 kg)** | 7 % or more live births with low birth weight |

Adapted from: *The Sphere Project*
*Humanitarian Charter and Minimum Standards in Disaster Response,* 2003

**Crude Mortality Rate (CMR) Formula**

$$\frac{\text{Total number of deaths in one week}}{\text{Total population}} \times \frac{10{,}000 \text{ persons}}{7 \text{ days}} = \text{deaths/10,000 persons/ day}$$

Example: 37 deaths in one week among a population of 30,000 persons:

$$\frac{37 \text{ deaths}}{30{,}000 \text{ persons}} \times \frac{10{,}000 \text{ persons}}{7 \text{ days}} = 1.8 \text{ deaths/10,000 / day}$$

When the baseline rate is unknown, health agencies should aim to maintain the CMR at below 1.0/10,000/day. In the acute phase daily death rates should be calculated.

Adapted from: *The Sphere Project*
*Humanitarian Charter and Minimum Standards in Disaster Response,* 2003

**Under-5 Mortality Rate**

Definition: The number of deaths of children less than 5 years old per 10,000 children less than 5 years old per day (age-specific mortality rate for children less than 5 years)

$$\frac{\text{Total number of deaths in children} < 5 \text{ years in one week}}{\text{Total number of children} < 5 \text{ years}} \times \frac{10{,}000 \text{ persons}}{7 \text{ days}} = \text{deaths/10,000/ day}$$

When the baseline U5MR is unknown, health agencies should aim to maintain the U5MR at below 2.0/10,000/day.

Adapted from: *The Sphere Project*
*Humanitarian Charter and Minimum Standards in Disaster Response,* 2003

| Baseline Reference Mortality Data By Region | | | | |
|---|---|---|---|---|
| **Region** | **CMR** (deaths/ 10,000/day) | **CMR** emergency threshold | **U5MR** (deaths/ 10,000 U5s/day) | **U5MR** Emergency threshold |
| Sub-Saharan Africa | 0.4 | 0.9 | 1.14 | 2.3 |
| Middle East and North Africa | 0.16 | 0.3 | 0.36 | 0.7 |
| South Asia | 0.25 | 0.5 | 0.59 | 1.2 |
| East Asia and Pacific | 0.19 | 0.4 | 0.24 | 0.5 |
| Latin America and Caribbean | 0.16 | 0.3 | 0.19 | 0.4 |
| Central and Eastern European Region/CIS and Baltic States | 0.30 | 0.6 | 0.20 | 0.4 |
| Industrialised countries | 0.25 | 0.5 | 0.04 | 0.1 |
| Developing countries | 0.25 | 0.5 | 0.53 | 1.1 |
| Least developed countries | 0.38 | 0.8 | 1.03 | 2.1 |
| World | 0.25 | 0.5 | 0.48 | 1.0 |

Adapted from: *The Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response*, 2003, p. 261