unicef

GOAL 2

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

TARGET 2.2

By 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

Target overview

SDG monitoring

SDG Target 2.2 includes the following indicators, described in more detail in this briefing note:

- 2.2.1: Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age

- 2.2.2: Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)[1]

1 Indicator 2.2.2 covers both wasting and overweight but these are reported separately.

Broader monitoring context

Many countries have been collecting data on children's anthropometric measurement (height and weight) for decades, and there is a well-established methodology for data collection and analysis. Most nationally representative anthropometric data come from household surveys, which can also provide information on the range of critical practices that can prevent malnutrition.

The focus of prevention efforts center around the "first 1000 days" – while a mother is pregnant and during a child's first two years of life – because this is when nutrition interventions have been proven to offer children the best chance to survive and reach optimal growth and development. Thus, it is necessary to look across a broader range of indicators when assessing progress toward Target 2.2.

Breastfeeding:
- Early initiation of breastfeeding (EIBF): Proportion of children born in the last 24 months who were put to the breast within one hour of birth
- Exclusive breastfeeding (EBF): Proportion of infants 0-5 months of age who are fed exclusively with breastmilk

Diet:
- Percent of Minimum Diet Diversity (MDD): Proportion of children 6-23 months of age who receive food from 5 or more out of 8 food groups
- Minimum Meal Frequency (MMF): Proportion of breastfed and non-breastfed children 6-23 months of age who receive solid, semi-solid, or soft foods the minimum number of times or more
- Minimum Acceptable Diet (MAD): Proportion of children 6-23 months of age who receive a minimum acceptable diet

Birthweight:
- Prevalence of Low Birthweight: Proportion of newborns weighing less than 2,500 grams
- Percentage of Newborns Weighed (or Unweighed): Percentage of live births that were weighed (or not weighed) at birth

Beyond the SDGs, the importance of child nutrition has also been highlighted in other initiatives. The Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition (MIYCN), endorsed by member states at the World Health Assembly (WHA) in 2012, as well as the Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) include these indicators.

UNICEF's role in monitoring

SDG Target 2.2 is firmly linked to Goal 1 of UNICEF's Strategic Plan – Every Child Survives and Thrives-- and specifically the result area of nutritional status of children. UNICEF, together with WHO and the World Bank, is a co-custodian for global monitoring of SDG indicators 2.2.1 and 2.2.2. UNICEF maintains global databases not only on the two SDG indicators, but also the broader range of infant and young child feeding (IYCF) and other indicators including Vitamin A coverage, household iodized salt consumption, and low birthweight and coverage of newborns weighed..

UNICEF also actively supports countries in data collection and analysis of all these indicators primarily through high-quality MICS surveys, as well as providing technical support to other surveys. In particular, for areas UNICEF maintains global databases for, UNICEF not only supports measurement in household surveys but also works with global partners to define technical standards for the collection and analysis of anthropometric data.

General information and resources

- UNICEF data: https://data.unicef.org/topic/nutrition/malnutrition/

- MICS: https://mics.unicef.org

- Global Nutritional Monitoring Framework: http://www.who.int/nutrition/topics/proposed_indicators_framework/en/

- SDG indicators: https://unstats.un.org/sdgs/

For further information, please contact the nutrition focal point at the Data & Analytics Section at UNICEF HQ via: data@unicef.org

INDICATOR 2.2.1

Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age

INDICATOR 2.2.2

Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)

Description

Definition and key terms

Stunting

Prevalence of stunting (height-for-age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age.

Numerator: Number of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median height-for-age of the reference population

Denominator: Children under 5 years of age in the surveyed population

Overweight

Prevalence of overweight (weight for height >+2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age.

Numerator: Number of under-fives above 2 standard deviations from the median weight-for-height of the reference population

Denominator: Children under 5 years of age in the surveyed population

Wasting

Prevalence of wasting (weight for height <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age.

Numerator: Number of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median weight-for-height of the reference population

Denominator: Children under 5 years of age in the surveyed population

Key terms:

- Prevalence of underweight, stunting and wasting among children under 5 is estimated by comparing actual measurements to an international standard reference population. Since their release in April 2006, the WHO Child Growth Standards have been the recommended standard, replacing the previously used National Center for Health Statistics (NCHS)/WHO reference population.

- A standard deviation measures a standard or typical distance that data are from the average

National data sources

Population-based surveys: Population-based surveys are the preferred data source in the majority of countries because it is essential to base measurement on a representative sample of children, including those who may not have contact with the health system. The most common population-based surveys collecting these data globally according to standard protocols are DHS, MICS and LSMS surveys. SMART surveys, which are conducted in a number of countries, may produce data not readily comparable to the other survey programmes subject to the methodology and scope of the surveys. Depending on the country, surveys collecting these data may be conducted every 3-5 years, or possibly at more frequent intervals.

Surveillance systems: Surveillance systems may be used if sufficient population coverage is documented (about 80%). They are used in a limited number of countries. These data may be used to track the indicator on an annual basis.

Regardless of the data source, the child's height and weight measurements have to be collected following recommended standard measuring techniques.

Data collection innovation

The equipment for measuring height presents a number of challenges that can impact on the quality of data collected. An innovation project is underway to identify new products with the potential to reduce error in taking, reading and recording length and height measurements. The Target Product Profile (TPP) for such a device was developed in 2016 and the request for proposals in line with the TPP[2] was launched in 2017 with the evaluation of prototypes set for Q2 2018.

2 See Target Product Profile <https://www.unicef.org/supply/files/HMD_TPP_V2.0.pdf>

Using the indicators

Interpretation

Malnutrition, which encompasses both undernutrition and overweight, jeopardizes children's survival, health, growth and development. Although malnutrition is often an invisible problem, it can have enormous lifelong consequences and affect countries' socio-economic development and potential to reduce poverty.

Stunting refers to a child who is too short for his or her age. Stunting is the failure to grow both physically and cognitively and is the result of chronic or recurrent malnutrition. The devastating effects of stunting can last a lifetime.

Overweight refers to a child who is too heavy for his or her height. This form of malnutrition results from expending too few calories for the amount consumed from food and drinks and increases the risk of noncommunicable diseases later in life.

Wasting refers to a child who is too thin for his or her height. Wasting, or acute malnutrition, is the result of recent rapid weight loss or the failure to gain weight. A child who is moderately or severely wasted has an increased risk of death, but treatment and recovery is sometimes possible.

Some children suffer from more than one form of malnutrition – such as stunting and overweight or stunting and wasting.

Prevalence estimates for stunting and overweight are relatively robust. It is therefore possible to track changes in these two conditions over time. Wasting is an acute condition that can change frequently and rapidly (for example, a population may experience rapid fluctuations over the course of a given year) which can make it difficult to generate reliable trends over time.

Disaggregation

Disaggregated country data are available in a majority of household surveys, and typically include sex, age groups, household wealth, mothers' education, residence. UNICEF's expanded databases include disaggregated data.

Common pitfalls

Poor quality data are unfortunately all too common. Accurate estimates of stunting, overweight and wasting rely on accurate measurement of height and weight as well as child's age. Surveys with field personnel who are not well trained or well supervised may yield poor quality data, and so the global household survey programmes such as MICS and DHS not only provide detailed guidelines on training and fieldwork implementation but also run specific data quality checks on the collected data in order to assess data quality.

Data from household surveys are collected infrequently and measure malnutrition at one point in time (e.g. during several months of field work), making it difficult to capture the rapid fluctuations in wasting that can occur over the course of a given year.

Although stunting and overweight are more stable, it may also be challenging to compare estimates over time. Beyond the previously noted issue of poor data quality, estimates may not be comparable if they are based on different reference populations or children of different ages. Furthermore, some surveys that collect anthropometric data are not nationally representative, either by design (deliberately collecting data in a specific part of the country) or through flaws in the sample design and/or implementation.

Table 1. Prevalence thresholds have been established to classify levels of stunting, wasting and overweight

WASTING			OVERWEIGHT			STUNTING		
Prevalence thresholds (%)	Labels	# of countries	Prevalence thresholds (%)	Labels	# of countries	Prevalence thresholds (%)	Labels	# of countries
< 2.5	Very low	28	< 2.5	Very low	16	< 2.5	Very low	4
2.5 - < 5	Low	41	2.5 - < 5	Low	35	2.5 - < 5	Low	26
5 - 9	Medium	39	5 - 9	Medium	50	5 - 9	Medium	30
10 - 14	High	14	10 - 14	High	18	10 - 14	High	30
≥ 15	Very high	10	≥ 15	Very high	9	≥ 15	Very high	44

Monitoring and reporting

National

National Statistical Offices, Ministries of Health

Global

Agencies: UNICEF, WHO and the World Bank group

Process: UNICEF, WHO and the World Bank group jointly review new data sources to update the country level estimates. Each agency uses their existing mechanisms for obtaining data, with UNICEF relying on annual updates from its network of field offices through the CRING (Country Reporting on Indicators for Goals) as well as its survey repository with weekly updates of all major surveys conducted. Currently, regional and global estimates are modelled based on available national-level data.

A Technical Expert Advisory Group on Nutrition Monitoring (TEAM), jointly established by UNICEF and WHO, provides advice on key priorities for nutrition monitoring.

Timing: Global and regional estimates are released annually every May. The country level dataset is updated and released more often than the global/regional estimates.

Note that the entire time series is updated yearly and should not be compared with previously released estimates.

Discrepancies with national estimates: There are several reasons why discrepancies between global and national estimates may exist.

1. Exclusion due to data quality: Before inclusion in global databases, country data are subjected to a careful data quality review. Any estimate that is not nationally representative or that does not met specific data quality criteria in terms of consistent measurements or age reporting is not accepted.

2. Age adjustments: If a survey collected data based on a non-standard age group (for example, under 3 years of age), then some age adjustment needs to be applied to make these estimates comparable to those based on the standard age range of 0-59 months.

3. Adjustment of reference population: Prevalence estimates need to be calculated according to the same reference population in order to be comparable. In the event that a country has an estimate based on the previously used NCHS/WHO reference population, UNICEF HQ will recalculate so that the estimate is based on the current WHO Child Growth Standards.

Key resources

Indicator information and cross-country comparable estimates:

*   UNICEF Data: https://data.unicef.org/topic/nutrition/malnutrition/

*   SDG metadata: https://unstats.un.org/sdgs/metadata/

Methodological information on global estimation of child nutritional status:

*   Estimates of Global Prevalence of Childhood Underweight in 1990 and 2015. JAMA. 2004; 291(21):2600-2606. doi:10.1001/jama.291.21.2600