Nutrition Landscape Information System (NLiS)

Country profile indicators interpretation guide

2nd edition
CONTENTS

Acknowledgements ........................................................................................................ v
Abbreviations and acronyms ........................................................................................ vi
Introduction ....................................................................................................................... 1
Malnutrition in children ..................................................................................................... 2
Stunting, wasting, overweight and underweight .............................................................. 2
Low birth weight ............................................................................................................... 4
Overweight in school-age children and adolescents ....................................................... 5
Malnutrition in women ...................................................................................................... 7
Moderate and severe thinness, underweight, overweight and obesity............................. 7
Vitamin and mineral deficiencies ....................................................................................... 9
Anaemia ............................................................................................................................... 9
Vitamin A deficiency .......................................................................................................... 11
Iodine deficiency ............................................................................................................... 12
Health services .................................................................................................................. 15
Antenatal iron supplementation ....................................................................................... 15
Births attended by skilled health personnel .................................................................... 16
Births in baby-friendly facilities ...................................................................................... 17
Mothers of children aged 0–23 months receiving counselling, support or messages on
optimal breastfeeding .................................................................................................... 18
Availability of national-level provision for breastfeeding counselling services in public
health and/or nutrition programmes ............................................................................. 19
Children aged 1 year immunized against measles ......................................................... 21
Children aged 6–59 months receiving vitamin A supplements ........................................ 21
Children <5 years with diarrhoea receiving oral rehydration solution (ORS).................. 22
Children <5 years with diarrhoea receiving oral rehydration solution (ORS) and zinc
supplement ..................................................................................................................... 23
Improved sanitation facilities and drinking-water sources ............................................ 24
Food security ..................................................................................................................... 26
Population with less than the minimum dietary energy consumption (prevalence of
undernourishment) ......................................................................................................... 26
Households consuming adequately iodized salt (≥15 parts per million) ...................... 27
Population below the international poverty line ............................................................. 28
Caring practices ............................................................................................................... 29
Infant and young child feeding ....................................................................................... 29
Children <5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued
feeding ............................................................................................................................ 34
Adolescent birth rate (per 1000 women aged 15–19 years) ............................................. 34
Commitment ...................................................................................................................... 36
Health expenditure .......................................................................................................... 36
Nutrition component of the United Nations Development Assistance Framework/United
Nations Sustainable Development Cooperation Framework ....................................... 37
Nutrition component of poverty reduction strategy papers ........................................... 38
Nutrition governance ...................................................................................................... 39
Monitoring and enforcement of the International Code of Marketing of Breast-milk
Substitutes ...................................................................................................................... 41
Maternity protection indicators ........................................................................................................... 42

Capacity .................................................................................................................................................. 45
Degree training in nutrition exists .......................................................................................................... 45
Nutrition is part of medical curricula .................................................................................................... 46
Density of trained nutrition professionals per 100 000 population .................................................... 46
Density of nurses and midwives ............................................................................................................ 47
Gross domestic product (GDP) per capita and GDP per capita annual growth rate .......................... 48
Official development assistance (ODA) received .................................................................................. 49
Low-income food-deficit countries ....................................................................................................... 50

Meta-indicators ...................................................................................................................................... 52
Seats held by women in national parliament .......................................................................................... 52
Averaged aggregate governance indicators .......................................................................................... 52
Gender inequality index (GII) .................................................................................................................. 54
Gender parity index in primary education enrolment .............................................................................. 55
Global hunger index (GHI) ..................................................................................................................... 55
Human development index (HDI) ........................................................................................................... 56
Retention and school drop-out ................................................................................................................ 57
Under-five mortality ............................................................................................................................... 58
Female education levels ........................................................................................................................ 59
Acknowledgements

Development of the Nutrition Landscape Information System (NLIS) was one of three parallel activities of the Landscape Analysis project initiated in 2008. The other activities were the development of country typologies for “readiness” to accelerate action through the desk review, and the implementation of in-depth country assessments. The development of the NLIS was intended to raise awareness of, and concern about, the country profiles among country policy-makers and other stakeholders, including donors. Bringing together various existing nutrition-related databases in WHO, as well as those of other partner agencies would help presenting nutrition actions in a more comprehensive way.

The NLIS has since evolved and has been updated over the years to include other relevant indicators, such as the indicators of the Global Nutrition Monitoring Framework developed to monitor the progress towards achieving the Global Nutrition Targets 2025. The NLiS Country Profile Indicator Interpretation Guide is a living document that may be updated based on new research or feedback from users.

Special acknowledgement is made to the Bill & Melinda Gates Foundation for supporting the implementation of the Landscape Analysis on Countries’ Readiness to Accelerate Action in Nutrition. This support included the development of NLiS throughout 2008–2011, and its maintenance and further development throughout 2012–2019.

We also express our deep appreciation to the governments and the intersectoral and interagency country teams in respective countries who have undertaken the Landscape Analysis country assessments; to those who have shown great interest in undertaking these country assessments; and to the members of the Partner Agency Group, including United Nations (UN) agencies – in particular the Food and Agriculture Organization of the UN (FAO), the UN Children’s Fund (UNICEF), the UN System Standing Committee on Nutrition (UNSCN), the World Food Programme (WFP) and the World Bank – bilateral agencies, nongovernmental organizations (in particular, Helen Keller International and the Global Alliance for Improved Nutrition [GAIN]), research and academic institutions (e.g. the Medical Research Council in South Africa), and a number of collaborating experts who have provided support and guidance at various stages of the preparations and implementation of the Landscape Analysis.
**Abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>BFHI</td>
<td>Baby-friendly Hospital Initiative</td>
</tr>
<tr>
<td>BMI</td>
<td>body mass index</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>GGHE</td>
<td>general government expenditure on health</td>
</tr>
<tr>
<td>GHO</td>
<td>Global Health Observatory</td>
</tr>
<tr>
<td>GII</td>
<td>gender inequality index</td>
</tr>
<tr>
<td>GHI</td>
<td>global hunger index</td>
</tr>
<tr>
<td>GNI</td>
<td>gross national income</td>
</tr>
<tr>
<td>HDI</td>
<td>human development index</td>
</tr>
<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
</tr>
<tr>
<td>IBFAN</td>
<td>International Baby Food Action Network</td>
</tr>
<tr>
<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>INLPR</td>
<td>International Network on Leave Policies and Research</td>
</tr>
<tr>
<td>IQ</td>
<td>intelligence quotient</td>
</tr>
<tr>
<td>ISSA</td>
<td>International Social Security Association</td>
</tr>
<tr>
<td>IU</td>
<td>international units</td>
</tr>
<tr>
<td>LIFDC</td>
<td>low-income food-deficit countries</td>
</tr>
<tr>
<td>MAD</td>
<td>minimum acceptable diet</td>
</tr>
<tr>
<td>MDD</td>
<td>minimum dietary diversity</td>
</tr>
<tr>
<td>NCD</td>
<td>noncommunicable disease</td>
</tr>
<tr>
<td>NLIS</td>
<td>Nutrition Landscape Information System</td>
</tr>
<tr>
<td>ODA</td>
<td>official development assistance</td>
</tr>
<tr>
<td>ORS</td>
<td>oral rehydration solution</td>
</tr>
<tr>
<td>ORT</td>
<td>oral rehydration therapy</td>
</tr>
<tr>
<td>PPP</td>
<td>purchasing power parity</td>
</tr>
<tr>
<td>PRSP</td>
<td>poverty reduction strategy paper</td>
</tr>
<tr>
<td>SD</td>
<td>standard deviation</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNDAF</td>
<td>United Nations Development Assistance Framework</td>
</tr>
<tr>
<td>UNSDCF</td>
<td>United Nations Sustainable Development Cooperation Framework</td>
</tr>
<tr>
<td>UNDG</td>
<td>United Nations Development Group</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
Introduction

The Nutrition Landscape Information System (NLiS) was originally developed as part of the World Health Organization's (WHO's) Landscape Analysis on Readiness to Accelerate Action in Nutrition initiated in 2008. But it has since evolved and has been updated over the years to include other relevant indicators. Although many individual sources of data are publicly available, it can be a challenge to systematically identify, collect and organize those data, and to monitor any updates as new data become available. Therefore, the main aims of NLiS are the following:

• *Bring together nutrition-related indicators in a standardized form.* NLiS ensures access to a variety of nutrition indicators, as well as health, food, care, development and economic indicators related to nutrition, in a single easy-to-access and user-friendly location.

• *Track changes over time and monitor progress.* This comprehensive data collection system includes data from multiple time points, including both historical and recent data; also, it has the capacity to incorporate data from future time points as these become available.

• *Generate easy-to-interpret country profiles.* The concise country profiles include selected nutrition indicators and related indicators, and use visual presentations. They provide an easy-to-understand snapshot of key nutrition, health and development indicators at a national level, and are a powerful advocacy tool for communicating with policy-makers who might not have a background in health or nutrition.

NLiS now also incorporates the 21 indicators of the *Global Nutrition Monitoring Framework*, to monitor progress towards achieving the Global Nutrition Targets 2025. Those targets were endorsed by WHO’s Member States at the 65th World Health Assembly in 2012, and at the Second International Conference on Nutrition (ICN2) in 2014 and subsequently incorporated into the 2030 Sustainable Development Goals in 2015.

NLiS currently draws publicly available data from WHO, the United Nations Children’s Fund (UNICEF), the UN Statistics Division, the UN Development Programme (UNDP), the Food and Agriculture Organization of the UN (FAO), demographic and health surveys, the World Bank, the International Food Policy Research Institute (IFPRI) and the International Labour Organization (ILO). These data from external sources are being combined with data from the WHO global nutrition databases, which are brought together dynamically. Through this, NLiS has achieved:

• **efficiency** – improved access to comprehensive nutrition information across multiple sources;

• **integration** – combined information, leading to more integrated approaches to nutrition interventions;

• **timeliness** – linked dynamically to WHO global nutrition databases;

• **accessibility** – easy access to quality information, leading to more informed decision-making; and

• **comprehensiveness** – most indicators being available for all countries.

This interpretation guide provides information on all indicators included in the country profiles. For each indicator, the following aspects are addressed:

• What does this indicator tell us?

• How is this indicator defined?

• What are the consequences and implications?

• Data source, further reading and internet resources.
Malnutrition in children

**Stunting, wasting, overweight and underweight**

*What do these indicators tell us?*

The indicators stunting, wasting, overweight and underweight are used to measure nutritional imbalance; such imbalance results in either undernutrition (assessed from stunting, wasting and underweight) or overweight. Child growth is internationally recognized as an important indicator of nutritional status and health in populations.

The percentage of children with a low height-for-age (stunting) reflects the cumulative effects of undernutrition and infections since birth, and even before birth. This measure can therefore be interpreted as an indication of poor environmental conditions or long-term restriction of a child's growth potential. The percentage of children who have low weight-for-age (underweight) can reflect wasting (i.e. low weight-for-height), indicating acute weight loss or stunting, or both. Thus, underweight is a composite indicator that may be difficult to interpret.

Stunting, wasting and overweight in children aged under 5 years are included as primary outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework to monitor progress towards reaching Global Nutrition Targets 1, 4 and 6. These three indicators are also included in WHO’s Global reference list of 100 core health indicators.

*How are these indicators defined?*

These indicators are defined as follows:

- **stunting** – height-for-age < -2 SD of the WHO Child growth standards median;
- **wasting** – weight-for-height < -2 SD of the WHO Child growth standards median; and
- **overweight** – weight-for-height > +2 SD of the WHO Child growth standards median.
- **underweight** – weight-for-age < -2 standard deviations (SD) of the WHO Child growth standards median.

*What are the consequences and implications?*

**Stunting** – Children who suffer from growth retardation as a result of poor diets or recurrent infections tend to be at greater risk for illness and death. Stunting is the result of long-term nutritional deprivation, and often results in delayed mental development, poor school performance and reduced intellectual capacity. In turn, this affects economic productivity at the national level. Women of short stature are at greater risk for obstetric complications because of a smaller pelvis. Also, small women are at greater risk of delivering an infant with low birth weight, contributing to the intergenerational cycle of malnutrition, because infants of low birth weight or retarded intrauterine growth tend be smaller as adults.

**Wasting** – Wasting in children is a symptom of acute undernutrition, usually as a consequence of insufficient food intake or a high incidence of infectious diseases, especially diarrhoea. In turn, wasting impairs the functioning of the immune system and can lead to increased severity and duration of, and susceptibility to, infectious diseases, and an increased risk of death.

**Overweight** – Childhood obesity is associated with a higher probability of obesity in adulthood, which can lead to a variety of disabilities and diseases, such as diabetes and cardiovascular diseases. The risks for most noncommunicable diseases (NCDs) resulting from obesity depend partly on the age at onset and the duration of obesity. Obese children and adolescents are likely to suffer from both short-term and long-term health consequences, the most significant being:

- cardiovascular diseases, mainly heart disease and stroke
• diabetes
• musculoskeletal disorders, especially osteoarthritis and
cancers of the endometrium, breast and colon.

**Underweight** – Weight is easy to measure; hence, this is the indicator for which most data have been collected in the past. The mortality risk is increased in children who are even mildly underweight, and the risk is even greater in severely underweight children.

### Cut-off values for public health significance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunting</td>
<td>&lt;2.5%: very low</td>
</tr>
<tr>
<td></td>
<td>2.5 to &lt;10%: low</td>
</tr>
<tr>
<td></td>
<td>10 to &lt;20%: medium</td>
</tr>
<tr>
<td></td>
<td>20 to &lt;30%: high</td>
</tr>
<tr>
<td></td>
<td>≥30%: very high</td>
</tr>
<tr>
<td>Wasting</td>
<td>&lt;2.5%: very low</td>
</tr>
<tr>
<td></td>
<td>2.5 to &lt;5%: low</td>
</tr>
<tr>
<td></td>
<td>5 to &lt;10%: medium</td>
</tr>
<tr>
<td></td>
<td>10 to &lt;15%: high</td>
</tr>
<tr>
<td></td>
<td>≥15%: very high</td>
</tr>
<tr>
<td>Overweight</td>
<td>&lt;2.5%: very low</td>
</tr>
<tr>
<td></td>
<td>2.5 to &lt;5%: low</td>
</tr>
<tr>
<td></td>
<td>5 to &lt;10%: medium</td>
</tr>
<tr>
<td></td>
<td>10 to &lt;15%: high</td>
</tr>
<tr>
<td></td>
<td>≥15%: very high</td>
</tr>
</tbody>
</table>


**Source of data**

UNICEF-WHO-The World Bank Joint child malnutrition estimates. ([http://www.who.int/nutgrowthdb/estimates](http://www.who.int/nutgrowthdb/estimates))

WHO. Global database on child growth and malnutrition ([http://www.who.int/nutgrowthdb/en/](http://www.who.int/nutgrowthdb/en/)).

**Further reading**


Low birth weight

What does this indicator tell us?

At a population level, the proportion of infants with a low birth weight is an indicator of a multifaceted public health problem that includes long-term maternal malnutrition, ill-health and poor health care in pregnancy.

Low birth weight is included as a primary outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

Low birth weight has been defined by WHO as weight at birth of <2500 g (5.5 pounds).

What are the consequences and implications?

Low birth weight is caused by intrauterine growth restriction, prematurity or both. It contributes to a range of poor health outcomes; for example, it is closely associated with fetal and
neonatal mortality and morbidity, inhibited growth and cognitive development, and NCDs later in life. Low birth weight infants are about 20 times more likely to die than heavier infants.

Low birth weight is more common in developing than developed countries. However, data on low birth weight in developing countries is often limited because a significant portion of deliveries occur in homes or small health facilities, where cases of infants with low birth weight often go unreported. These cases are not reflected in official figures and may lead to a significant underestimation of the prevalence of low birth weight.

Source of data

UNICEF-WHO Joint Database on Low birth weight. (http://data.unicef.org/nutrition/low-birthweight; https://www.who.int/nutgrowthdb/lbw-estimates)

WHO. Global Health Observatory (GHO) data repository. Low birth weight, prevalence (%) (Child malnutrition) (http://apps.who.int/gho/data/view.main.LBWCOUNTRY).

Further reading


Internet resources


WHO. Global targets 2025 to improve maternal, infant and young child nutrition (http://www.who.int/nutrition/global-target-2025/en/).


Target 3: 30% reduction in low birth weight (http://www.who.int/elena/global-targets/en/#lowbirthweight).

Overweight in school-age children and adolescents

What does this indicator tell us?

This indicator reflects the percentage of school-age children and adolescents aged 5–19 years who are classified as overweight, based on age- and sex-specific values for body mass index (BMI). Overweight indicates excess body weight for a given height from fat, muscle, bone, water or a combination of these factors, whereas obesity is defined as having excess body fat.

Overweight in school-age children and adolescents aged 5–19 years is included as an intermediate outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It is also included in the NCD global monitoring framework, and in the WHO Global reference list of 100 core health indicators.
How is this indicator defined?

Prevalence of overweight in school-age children and adolescents is defined as the percentage of children aged 5–19 years with sex-specific BMI-for-age >+1 SD above the WHO 2007 reference median.

What are the consequences and implications?

The immediate consequences of overweight and obesity in school-age children and adolescents include a greater risk of asthma and cognitive impairment, in addition to the social and economic consequences for the child, for the child’s family and for society. In the long term, overweight and obesity in children increase the risk of health problems later in life, including obesity, diabetes, heart disease, some cancers, respiratory disease, mental health and reproductive disorders. Furthermore, obesity and overweight track over the life-course—an overweight adolescent girl is more likely to become an overweight woman; thus, her baby is likely to have a heavier birth weight.

Source of data

WHO. Global Health Observatory (GHO) data repository. Prevalence of overweight among children and adolescents, BMI > +1 standard deviations above the median, crude. (crude estimate) (%) (Noncommunicable diseases). Estimates by country, among children aged 5-19 years (http://apps.who.int/gho/data/view.main.BMIPLUS1C05-19v).

Further reading


Internet resources


WHO. Commission on ending childhood obesity (http://www.who.int/end-childhood-obesity/en/).


Target 7: Halt the rise in diabetes and obesity (http://www.who.int/elena/global-targets/en/#diabetesobesity).
Malnutrition in women

Moderate and severe thinness, underweight, overweight and obesity

What do these indicators tell us?

The values for BMI are age-independent for adult populations, and are the same for both genders. However, BMI may not correspond to the same degree of fatness in different populations, in part because of different body proportions. The health risks associated with increasing BMI are continuous, and the interpretation of the BMI grading in relation to risk may differ for different populations.

Proportions of underweight in women aged 15–49 years and of overweight in women aged 18 years or more are included as intermediate outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework. Adult overweight is also included in the NCD global monitoring framework, and in the WHO Global reference list of 100 core health indicators. Underweight in women aged 15–49 years is included as an additional indicator in the WHO Global reference list of 100 core health indicators.

How are these indicators defined?

BMI is a simple index of weight-to-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). For example, an adult who weighs 58 kg and has a height of 1.70 m will have a BMI of 20.1, where BMI = 58 kg/(1.70 m × 1.70 m) = 20.1. BMI values indicate the following:

- BMI <17.0: moderate and severe thinness
- BMI <18.5: underweight
- BMI 18.5–24.9: normal weight
- BMI ≥25.0: overweight
- BMI ≥30.0: obesity.

What are the consequences and implications?

Moderate and severe thinness – A BMI <17.0 indicates moderate and severe thinness in adult populations. It has been clearly linked to increases in illness in adults studied in three continents; therefore, it is a reasonable value to choose as a cut-off point for moderate risk. A BMI <16.0 is known to be associated with a markedly increased risk for ill-health, poor physical performance, lethargy and even death; therefore, this cut-off point is a valid extreme limit.

Underweight – The cut-off point of a BMI of 18.5 for underweight in both genders has less experimental validity as a cut-off point for moderate and severe thinness, but is a reasonable value for use pending further comprehensive studies. The proportion of the population with a low BMI that is considered to be a public health problem is closely linked to the resources available for correcting the problem, the stability of the environment and government priorities. About 3–5% of a healthy adult population has a BMI <18.5.

Overweight – A BMI ≥25 signifies overweight; it is a major determinant of many NCDs (e.g. non-insulin-dependent diabetes mellitus, coronary heart disease and stroke), and it increases the risks for several types of cancer, gallbladder disease, musculoskeletal disorders and respiratory symptoms. In some populations, the metabolic consequences of weight gain start at modest levels of overweight.
Obesity – A BMI ≥30 signifies obesity, which is a disease that is largely preventable through lifestyle changes. The costs attributable to obesity are high, not only in terms of premature death and health care, but also in terms of disability and a diminished quality of life.

Cut-off values for public health significance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult BMI &lt;18.5</td>
<td>5–9%: low prevalence (warning sign, monitoring required)</td>
</tr>
<tr>
<td>(underweight)</td>
<td>10–19%: medium prevalence (poor situation)</td>
</tr>
<tr>
<td></td>
<td>20–39%: high prevalence (serious situation)</td>
</tr>
<tr>
<td></td>
<td>≥40%: very high prevalence (critical situation)</td>
</tr>
</tbody>
</table>

BMI: body mass index


Sources of data


Further reading


Internet resources

WHO. Obesity and other diet-related chronic diseases list of publications. (http://www.who.int/nutrition/publications/obesity/en/).


Target 7: Halt the rise in diabetes and obesity (http://www.who.int/elena/global-targets/en/#diabetesobesity).
Vitamin and mineral deficiencies

Anaemia

What does this indicator tell us?

The indicator anaemia has a wide variety of causes. Iron deficiency is considered to be the most common cause of anaemia; other causes include acute and chronic infections that result in inflammation and blood loss; deficiencies of other vitamins and minerals, especially folate, vitamin B₁₂ and vitamin A; and genetically inherited traits, such as thalassaemia. Other conditions (e.g. malaria and other infections, genetic disorders, and cancer) can also play a role in anaemia. The terms “iron-deficiency anaemia” and “anaemia” are often used synonymously; also, the prevalence of anaemia has often been used as a proxy for iron-deficiency anaemia, although the degree of overlap between the two varies considerably from one population to another, according to gender and age.

Anaemia prevalence among pregnant and non-pregnant women are included as primary outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework. These indicators are used to monitor progress towards achieving Global Nutrition Target 2, which is a 50% reduction in anaemia among women of reproductive age by 2025. Anaemia in women of reproductive age and in children are also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

Anaemia is defined as a haemoglobin concentration below a specified cut-off point; that cut-off point depends on the age, gender, physiological status, smoking habits and altitude at which the population being assessed lives. WHO defines anaemia in children aged under 5 years and pregnant women as a haemoglobin concentration <110 g/L at sea level, and anaemia in non-pregnant women as a haemoglobin concentration <120 g/L.

Tests to measure haemoglobin levels are easy to administer. A few drops of blood obtained by a finger-stick can be used to assess haemoglobin concentrations in the field using a portable haemoglobinometer. The test could be easily integrated into regular health or prenatal visits or household surveys, to capture women of reproductive age, although the cost of the equipment and regular calibration needs to be taken into account.

What are the consequences and implications?

Anaemia is associated with increased risks for maternal and child mortality. Iron-deficiency anaemia reduces the work capacity of individuals and entire populations, with serious consequences for the economy and national development. In addition, the negative consequences of iron-deficiency anaemia on the cognitive and physical development of children and on physical performance – particularly the work productivity of adults – are major concerns. Anaemia is a global problem affecting all countries. Resource-poor areas are often more heavily affected because of the prevalence of infectious diseases. Malaria, HIV/AIDS, hookworm infestation, schistosomiasis and other infections such as tuberculosis contribute to the high prevalence of anaemia in some areas.

The main risk factors for iron-deficiency anaemia include a low dietary intake of iron or poor absorption of iron from diets rich in phytates or phenolic compounds. Population groups with greater iron requirements, such as growing children and pregnant women, are particularly at risk. Overall, the most vulnerable, poorest and least educated groups are disproportionately affected by iron-deficiency anaemia.
### Cut-off values for public health significance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>&lt;5%: no public health problem</td>
</tr>
<tr>
<td></td>
<td>5–19%: mild public health problem</td>
</tr>
<tr>
<td></td>
<td>20–39%: moderate public health problem</td>
</tr>
<tr>
<td></td>
<td>≥40%: severe public health problem</td>
</tr>
</tbody>
</table>


### Sources of data

WHO. Global Health Observatory (GHO) data repository.


### Further reading


### Internet resources


**Vitamin A deficiency**

*What does this indicator tell us?*

Vitamin A deficiency results from a dietary intake of vitamin A that is inadequate to satisfy physiological needs. It may be exacerbated by high rates of infection, especially diarrhoea and measles. It is common in developing countries, but rarely seen in developed countries. Vitamin A deficiency is a public health problem in more than half of all countries, especially those in Africa and South-East Asia. The most severe effects of this deficiency are seen in young children and pregnant women in low-income countries.

*How is this indicator defined?*

Vitamin A deficiency can be defined clinically or subclinically. Xerophthalmia is the clinical spectrum of ocular manifestations of vitamin A deficiency; these range from the milder stages of night blindness and Bitot spots to the potentially blinding stages of corneal xerosis, ulceration and necrosis (keratomalacia). The various stages of xerophthalmia are regarded both as disorders and clinical indicators of vitamin A deficiency. Night blindness (in which it is difficult or impossible to see in relatively low light) is one of the clinical signs of vitamin A deficiency, and is common during pregnancy in developing countries. Retinol is the main circulating form of vitamin A in blood and plasma. Serum retinol levels reflect liver vitamin A stores when they are severely depleted or extremely high; however, between these extremes, plasma or serum retinol is homeostatically controlled and hence may not correlate well with vitamin A intake. Therefore, serum retinol is best used for the assessment of subclinical vitamin A deficiency in a population (not in an individual). Blood concentrations of retinol in plasma or serum are used to assess subclinical vitamin A deficiency. A plasma or serum retinol concentration <0.70 μmol/L indicates subclinical vitamin A deficiency in children and adults, and a concentration of <0.35 μmol/L indicates severe vitamin A deficiency.

*What are the consequences and implications?*

Night blindness is one of the first signs of vitamin A deficiency. In its more severe forms, vitamin A deficiency contributes to blindness by making the cornea very dry, thus damaging the retina and cornea. An estimated 250 000–500 000 children who are vitamin A-deficient become blind every year, and half of them die within 12 months of losing their sight. Deficiency of vitamin A is associated with significant morbidity and mortality from common childhood infections, and is the world’s leading preventable cause of childhood blindness. Vitamin A deficiency also contributes to maternal mortality and other poor outcomes of pregnancy and lactation. It also diminishes the ability to fight infections. Even mild, subclinical deficiency can be a problem, because it may increase children’s risk for respiratory and diarrhoeal infections, decrease growth rates, slow bone development and decrease the likelihood of survival from serious illness.

**Cut-off values for public health significance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum or plasma retinol</td>
<td>&lt;2%: no public health problem 2–9%: mild public health problem 10–19%: moderate public health problem ≥20%: severe public health problem</td>
</tr>
<tr>
<td>&lt;0.70 μmol/L in preschool-age children</td>
<td></td>
</tr>
<tr>
<td>Night blindness (XN) in pregnant women</td>
<td>≥5%: moderate public health problem</td>
</tr>
</tbody>
</table>

**Source of data**

**Further reading**


**Internet resources**
WHO. Vitamin A deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/vitamin_a_deficiency/en/).


**Iodine deficiency**

**What does this indicator tell us?**
This indicator allows an assessment of iodine deficiency at the population level. Iodine is an essential trace element that is present in the thyroid hormones, thyroxine and triiodothyronine. It occurs most frequently in areas where there is little iodine in the diet – typically, these are remote inland areas where no marine foods are eaten. Urinary iodine concentration in children aged 6–12 years is included as an additional indicator in the WHO Global reference list of 100 core health indicators.

**How is this indicator defined?**
Although goitre assessment by palpation or ultrasound may be useful for assessing thyroid function, results are difficult to interpret once salt iodization programmes have started. The median urinary iodine concentration is considered to be the main indicator of iodine status for all age groups, because its measurement is relatively non-invasive, cost-efficient and easy to perform. Since most of the iodine absorbed by the body is excreted in the urine, it is considered to be a sensitive marker of current iodine intake and can reflect recent changes in iodine status. Median urinary iodine concentrations have been most commonly measured in school children aged 6–12 years, because it is easy to access this population.

For school-age children (≥6 years of age), an adequate iodine level is defined as a population median urinary iodine concentration of 100–199 μg/L, whereas a population median of <100 μg/L indicates that the population’s iodine intake is insufficient. When the population median is <20 μg/L, the population is described as having severe iodine deficiency; at 20–49 μg/L, it is described as having moderate iodine deficiency; and at 50–99 μg/L, it is described as having mild iodine deficiency. A population of school-age children should have a median urinary iodine concentration of at least 100 μg/L, with less than 20% of values being <50 μg/L. For pregnant women, the median urinary iodine should be between 150 μg/L and 249 μg/L.
What are the consequences and implications?

Iodine-deficiency disorders, which can start before birth, jeopardize children’s mental health and often their very survival. During the neonatal period, childhood and adolescence, iodine-deficiency disorders can lead to hypothyroidism and hyperthyroidism. Serious iodine deficiency during pregnancy can result in stillbirth, spontaneous abortion and congenital abnormalities such as cretinism – a grave, irreversible form of mental retardation that affects people living in iodine-deficient areas of Africa and Asia. Of even greater significance is the less visible, yet pervasive, mental impairment that reduces intellectual capacity at home, in school and at work.

Cut-off values for public health significance in different target groups

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Concentration cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine deficiency measured by median urinary iodine concentration (μg/L) in school-age children (≥6 years)</td>
<td></td>
</tr>
<tr>
<td>Concentration</td>
<td>Iodine intake</td>
</tr>
<tr>
<td>&lt;20 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>20–49 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>50–99 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>100–199 μg/L</td>
<td>Adequate</td>
</tr>
<tr>
<td>200–299 μg/L</td>
<td>Above requirements</td>
</tr>
<tr>
<td>≥300 μg/L</td>
<td>Excessive</td>
</tr>
</tbody>
</table>

| Iodine deficiency measured by median urinary iodine concentration (μg/L) in pregnant women | | |
| Concentration | Iodine intake | Iodine status |
| <150 μg/L | Insufficient | |
| 150–249 μg/L | Adequate | |
| 250–499 μg/L | Above requirements | |
| ≥500 μg/L | Excessive | |

| Iodine deficiency measured by median urinary iodine concentration (μg/L) in lactating women and children aged <2 years | | |
| Concentration | Iodine intake | Iodine status |
| <100 μg/L | Insufficient | |
| ≥100 μg/L | Adequate | |

a Applies to adults, but not to pregnant and lactating women; b The term “excessive” means “in excess of the amount required to prevent and control iodine deficiency”; c Although lactating women have the same requirement as pregnant women, the median urinary iodine concentration is lower because iodine is excreted in breast milk.

Source of data


Further reading


Internet resources


WHO. Iodine deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/iodine_deficiency/en/).

Health services

Antenatal iron supplementation

What does this indicator tell us?

This indicator reflects the percentage of women who consumed any iron-containing supplements during their current or previous pregnancy within the past 2 years. It provides information about the quality and coverage of perinatal medical services.

Daily iron and folic acid supplementation is currently recommended by WHO as part of antenatal care, to reduce the risk of low birth weight, maternal anaemia and iron deficiency. It is suggested that the supplement contains 30-60 mg of iron, with the higher dose preferred in settings where anaemia in pregnant women is a severe public health problem (≥40%), along with 400 µg of folic acid. Daily supplementation throughout pregnancy, beginning as early as possible after conception, is recommended in all settings. Despite its proven efficacy and wide inclusion in antenatal care programmes, the use of iron and folic acid supplementation has been limited in programme settings. Possible reasons for this include a lack of compliance, concerns about the safety of the intervention among women with an adequate iron intake, and variable availability of the supplements at community level. Intermittent use of iron and folic acid supplements by non-anaemic women is a recommended alternative to prevent anaemia and improve gestational outcomes in areas where the prevalence of anaemia among pregnant women is lower than 20%. The suggested dose is 120 mg elemental iron and 2800 µg (2.8 mg) folic acid provided weekly throughout the pregnancy, beginning as early as possible after conception.

This indicator is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the proportion of women who consumed any iron-containing supplements during their current or previous pregnancy within the past 2 years. Data can be reported on any iron-containing supplement, including iron and folic acid tablets, multiple micronutrient tablets or powders, or iron-only tablets (which will vary, depending on the country policy).

What are the consequences and implications?

Improving the intake of iron and folic acid by women of reproductive age could improve pregnancy outcomes, and improve maternal and infant health. Iron and folic acid supplementation is used to improve the iron and folate status of women before and during pregnancy, in communities where food-based strategies are not yet fully implemented or effective. Folic acid supplementation (with or without iron) provided before conception and during the first trimester of pregnancy is also recommended for decreasing the risk of neural tube defects.

Anaemia during pregnancy places women at risk for poor pregnancy outcomes, including maternal mortality; it also increases the risks for perinatal mortality, premature birth and low birth weight. Infants born to anaemic mothers have less than one half the normal iron reserves. Morbidity from infectious diseases is increased in iron-deficient populations, owing to the adverse effect of iron deficiency on the immune system. Iron deficiency is also associated with reduced work capacity and reduced neurocognitive development.

Source of data

Demographic and health surveys (DHS) program STATcompiler (http://www.statcompiler.com).
Further reading


Internet resources

WHO. Global targets 2025 to improve maternal, infant and young child nutrition. (http://who.int/nutrition/global-target-2025/en/).

WHO. e-Library of Evidence for Nutrition Actions (eLENA)
- Daily iron and folic acid daily supplementation during pregnancy (http://www.who.int/entity/lena/titles/daily_iron_pregnancy/en).
- Intermittent iron and folic supplementation in non-anaemic pregnant women (http://www.who.int/lena/titles/guidance_summaries/intermittent_iron_pregnancy/en/)

Births attended by skilled health personnel

What does this indicator tell us?

The births attended by skilled health personnel indicator measures the health system’s ability to provide sufficient care during birth – a period of high risk of morbidity and mortality. In NLiS, it is used as a proxy for access to health services and maternal care. This indicator is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator gives the percentage of live births attended by skilled health personnel in a given period. A skilled birth attendant is an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (i.e. uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of women and neonates for complications. Traditional birth attendants, whether trained or not, are excluded from the category of “skilled attendant at delivery”. In developed countries and in many urban areas in developing countries, skilled care at delivery is usually provided in health facilities. Births do, however, take place in various other appropriate places, from homes to tertiary referral centres, depending on availability and need. WHO does not recommend a particular setting for giving birth. Home delivery may be appropriate for normal births, provided that the person attending the delivery is suitably trained and equipped, and that referral to a higher level of care is an option; however, this may lead to an overestimation of births attended by skilled personal, because infants delivered outside of a health facility may not have their birth method recorded.
What are the consequences and implications?

All women should have access to skilled care during pregnancy and at delivery, to ensure the detection and management of complications. One woman dies needlessly of pregnancy-related causes every minute, representing more than half a million mothers lost each year, a figure that has improved little over recent decades. Another 8 million or more women experience lifelong health consequences from the complications of pregnancy. Every woman, rich or poor, has a 15% risk for complications around the time of delivery, but almost no maternal deaths occur in developed regions. The lack of progress in reducing maternal mortality in many countries often reflects the low value placed on the lives of women and their limited role in setting public priorities. The lives of many women in developing countries could be saved by reproductive health interventions that people in rich countries take for granted, such as the presence of skilled health personnel at delivery.

Source of data

WHO. Global Health Observatory (GHO) data repository. Births attended by skilled health personnel. Data by country (http://apps.who.int/gho/data/view.main.GSWCAH02v).

Further reading


Births in baby-friendly facilities

What does this indicator tell us?

The Baby-friendly Hospital Initiative (BFHI), launched by WHO and UNICEF in 1991, is part of a global effort to protect, promote and support optimal breastfeeding practices. To be designated as “baby-friendly”, facilities must implement the Ten steps to successful breastfeeding to protect, promote and support breastfeeding. This indicator reflects the proportion of babies born in facilities that have been designated as baby-friendly.

The indicator “Proportion of births in baby-friendly facilities” is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the proportion of babies born in facilities designated as baby-friendly in a calendar year. To be counted as currently baby-friendly, the facility must have been designated within the past 5 years or have been reassessed within that time frame. Facilities may be designated as baby-friendly if they meet the minimum global criteria, which includes adherence to:

- the Ten steps for successful breastfeeding – these steps include having a breastfeeding policy that is routinely communicated to staff, having staff trained on policy implementation, informing pregnant women on the benefits and management of breastfeeding, and promoting early initiation of breastfeeding; and
- the International Code of Marketing of Breast-milk Substitutes – the Code restricts the distribution of free infant formula and promotional materials from infant formula companies.

What are the consequences and implications?
Research has found that adherence to BFHI’s Ten steps leads to improved breastfeeding outcomes, which positively impact the health of both the mother and child. The more of the Ten steps that the mother experiences, the better her success with breastfeeding. Improved breastfeeding practices worldwide could save the lives of more than 800 000 children every year.

Source of data


Further reading


Internet resources

WHO. Baby-friendly Hospital Initiative. (http://www.who.int/nutrition/bfhi/en/).


Mothers of children aged 0–23 months receiving counselling, support or messages on optimal breastfeeding

What does this indicator tell us?

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process, with important implications for the health of mothers. Optimal practices include early initiation of breastfeeding within 1 hour and exclusive breastfeeding for 6 months, followed by appropriate complementary with continued breastfeeding for 2 years or beyond. Although it is a natural act, breastfeeding is also a learnt behaviour. Almost all mothers can breastfeed, provided they have accurate information and have support within their families and communities, and from the health care system. Mothers should also have access to skilled practical help from, for example, trained health workers, lay and peer counsellors, and certified lactation consultants. These professionals can help to build a mother’s confidence, improve feeding technique, and prevent or resolve breastfeeding problems.

This indicator has been established to measure the proportion of mothers receiving breastfeeding counselling, support or messages. The proportion of mothers of children aged 0–23 months who have received counselling, support or messages on optimal breastfeeding at least once in the previous 12 months is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator gives the percentage of mothers of children aged 0–23 months who have received counselling, support or messages on optimal breastfeeding at least once in the past year.
WHO and UNICEF are in the process of further developing and validating this indicator. Meanwhile, an interim indicator has been established to measure the availability of all provision for breastfeeding counselling services in public health or nutrition programmes.

**What are the consequences and implications?**

Counselling and informational support on optimal breastfeeding practices for mothers improves initiation and duration of breastfeeding, which has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant needs in the first 6 months of life. Also, breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia, and it may have longer term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence. Breastfeeding has also been associated with a higher intelligence quotient (IQ) in children. Improved breastfeeding practices worldwide could save the lives of more than 800 000 children every year.

**Source of data**

To be determined.

**Further reading**


**Internet resources**

WHO. e-Library of Evidence for Nutrition Actions (eLENA)

- Breastfeeding education for increased breastfeeding duration (http://www.who.int/elena/titles/breastfeeding_education/en/).

**Availability of national-level provision for breastfeeding counselling services in public health and/or nutrition programmes**

**What does this indicator tell us?**

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Optimal practices include early initiation of breastfeeding within 1 hour and exclusive breastfeeding for 6 months, followed by appropriate complementary with continued breastfeeding for 2 years or beyond. Although it is a natural act, breastfeeding is also a learnt behaviour. Almost all mothers can breastfeed provided they have accurate information, and have support within their families and communities, and from the health care system. Mothers should also have access to skilled practical help from, for example, trained health workers, lay and peer counsellors, and certified lactation consultants.
These professionals can help to build a mother's confidence, improve feeding technique, and prevent or resolve breastfeeding problems.

This indicator has been established as an *interim* indicator, while the WHO-UNICEF Technical Expert Advisory group for nutrition Monitoring (TEAM) is further developing and validating the indicator “proportion of mothers receiving breastfeeding counselling, support or messages” – a process indicator in the core set of indicators for the *Global Nutrition Monitoring Framework*.

**How is this indicator defined?**

This indicator is defined as availability of a national programme that includes provision for delivering breastfeeding counselling services to mothers of infants aged 0–23 months, through health systems or other community-based platforms.

**What are the consequences and implications?**

Counselling and informational support on optimal breastfeeding practices for mothers improves initiation and duration of breastfeeding, which has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant needs in the first 6 months of life. Also, breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia, and it may have longer term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence. Breastfeeding has also been associated with higher IQ in children. Improved breastfeeding practices worldwide could save the lives of more than 800 000 children every year.

**Sources of data**


WHO. Global database on the implementation of nutrition action (GINA) ([https://extranet.who.int/nutrition/gina/](https://extranet.who.int/nutrition/gina/)).

International Baby Food Action Network (IBFAN). World breastfeeding trends initiative. ([http://worldbreastfeedingtrends.org](http://worldbreastfeedingtrends.org)).


**Further reading**


**Internet resources**

WHO. e-Library of Evidence for Nutrition Actions (eLENA)

Children aged 1 year immunized against measles

What does this indicator tell us?

Estimates of vaccination coverage of children aged 1 year are used to monitor vaccination services, to guide disease eradication and elimination programmes, and to indicate health system performance. Indicators for immunization coverage rate by vaccine for each vaccine in the national schedule are included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

Measles vaccination coverage is defined as the percentage of children aged 1 year who have received at least one dose of measles-containing vaccine in a given year. In countries that recommend that the first dose be given to children over 12 months of age, the indicator is calculated as the proportion of children aged under 24 months receiving one dose of measles-containing vaccine.

What are the consequences and implications?

Measles is a leading cause of vaccine-preventable childhood deaths, and unvaccinated populations are at risk of the disease. Measles is a significant infectious disease because it is highly contagious; thus, the number of nonimmune people who would suffer complications after an outbreak would quickly overwhelm available hospital resources. When vaccination rates fall, the number of nonimmune individuals in the community rises and, in turn, the risk of an outbreak of measles also rises. Vaccination is therefore critical to reducing child mortality rates.

Source of data

WHO. Global Health Observatory (GHO) data repository. Measles-containing-vaccine first-dose (MCV1). Immunization coverage estimates by country (http://apps.who.int/gho/data/view.main.80100).

Further reading


Internet resources

WHO. Immunization, vaccines and biologicals. Measles (http://www.who.int/topics/measles/en/).

Children aged 6–59 months receiving vitamin A supplements

What do these indicators tell us?

These indicators tell us what proportion of children aged 6–59 months received a dose of vitamin A through the main distribution mechanism during the first semester (January–June) and what proportion of children received a dose during the second semester (July–
December). Vitamin A supplementation coverage is included in the WHO Global reference list of 100 core health indicators.

**How are they defined?**

These indicators are defined as the proportion of children aged 6–59 months who receive a first and/or a second high dose of vitamin A supplements within a calendar year. The two-dose coverage can be determined by the semester that achieved the lower vitamin A supplementation coverage for children aged 6–59 months in the calendar year.

Current international recommendations call for high-dose vitamin A supplementation every 4–6 months for all children between the ages of 6 and 59 months living in affected areas. The recommended doses are 100 000 international units (IU) for children aged between 6 and 11 months, and 200 000 IU for children aged between 12 and 59 months.

**What are the consequences and implications?**

Programmes to control vitamin A deficiency increase children’s chances of survival, reduce the severity of childhood illnesses, ease the strain on health systems and hospitals, and contribute to the well-being of children, their families and communities.

Vitamin A is vital to child health and immune function; hence, in settings where vitamin A deficiency is a public health problem, vitamin A supplementation is recommended in infants and children aged 6–59 months as a public health intervention to reduce child morbidity and mortality. Measuring the proportion of children who have received two doses of vitamin A within the past year can be used to monitor coverage of interventions aimed at increasing child survival rates. Supplementation with vitamin A is a safe, cost-effective and efficient means for eliminating deficiency of this vitamin and improving child survival.

**Source of data**


**Further reading**


**Internet resources**

WHO. Vitamin A deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/vitamin_a_deficiency/en/).

WHO. Immunization, vaccines and biologicals. Vitamin A supplementation (http://www.who.int/immunization/programmes_systems/interventions/vitamin_A/en/).


**Children <5 years with diarrhoea receiving oral rehydration solution (ORS)**

**What does this indicator tell us?**

This indicator is the prevalence of children with diarrhoea who received oral rehydration solution (ORS). The percentage of children aged under 5 years with diarrhoea receiving ORS
is an intermediate outcome indicator of the Global Nutrition Targets. Coverage of diarrhoea treatment is also included in the Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator is the proportion of children aged 0–59 months who had diarrhoea in the previous 2 weeks and who received ORS (fluids made from ORS packets or pre-packaged ORS fluids). Diarrhoea is defined as the passage of three or more loose or liquid stools per day.

What are the consequences and implications?

Diarrhoeal diseases remain one of the major causes of mortality among children aged under 5 years, accounting for 9% of deaths among children worldwide. Most of the deaths in children from diarrhoea could be averted by using ORS and zinc supplementation during episodes of diarrhoea, and basic interventions to improve drinking water, sanitation and hygiene (WASH). It is estimated that ORS alone can prevent 93% of deaths due to diarrhoea, and zinc supplementation can decrease deaths from diarrhoea by 23%.

Source of data

WHO. Global Health Observatory (GHO) data repository. Preventing child deaths. Data by country (http://apps.who.int/gho/data/view.main.1600).

Further reading


Children <5 years with diarrhoea receiving oral rehydration solution (ORS) and zinc supplement

What does this indicator tell us?

This indicator reflects the prevalence of children who were given zinc as part of treatment for acute diarrhoea. There are no readily available data on this indicator, which is maintained in the NLiS to encourage countries to collect and compile data on these aspects, in order to assess their national capacity.

How is this indicator defined?

There is no internationally accepted indicator for zinc treatment of children with diarrhoea; however, this indicator could be defined as the percentage of children aged under 5 years with acute diarrhoea who were given supplements of 20 mg zinc daily for 10–14 days, or supplements of 10 mg/day for infants under 6 months.

What are the consequences and implications?

One of the measures used to prevent childhood diarrhoeal episodes is the promotion of zinc intake. Diarrhoeal diseases account for nearly 2 million deaths a year among children aged under 5, making such diseases the second most common cause of child death worldwide. Zinc supplementation improves the outcomes of diarrhoeal treatment.
Protective and preventive measures against acute diarrhoea recommended by WHO and UNICEF are exclusive breastfeeding, adequate complementary feeding and continued breastfeeding, vitamin A supplementation, improved hygiene, better access to clean sources of drinking-water and sanitation facilities, and vaccination against rotavirus. Zinc supplementation, oral rehydration therapy and continued feeding are among the recommended safe and effective methods of treating diarrhoea. Specifically, zinc supplements given during an episode of acute diarrhoea reduce the duration and severity of the episode, and giving zinc supplements for 10–14 days lowers the incidence of diarrhoea in the following 2–3 months.

Source of data


Further reading


Internet resources


Improved sanitation facilities and drinking-water sources

What do these indicators tell us?

These indicators are the percentage of the population with access to improved sanitation facilities and access to an improved drinking-water source.

The two indicators – “proportion of population using safely managed sanitation services” and “proportion of population using safely managed drinking services” – are included as intermediate outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework.

How are these indicators defined?

Improved drinking-water sources are defined as those that are likely to be protected from outside contamination, and from faecal matter in particular. Improved water sources include household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. Unimproved water sources include unprotected wells, unprotected springs, surface water (e.g. river, dam or lake), vendor-provided water, bottled water (unless water for other uses is available from an improved source) and tanker–provided water.

According to the WHO/UNICEF joint monitoring programme, basic drinking-water services are defined as drinking water from an improved source, provided that collection time is not more than 30 minutes for a roundtrip, including queuing. Basic sanitation services are defined as use of improved sanitation facilities that are not shared with other households. This is identical to the “improved but not shared” category used in previous reports.

Improved sanitation facilities are defined as those that hygienically separate human waste from human contact. Improved sanitation includes flush or pour-flush to piped sewer system, septic tank pit latrines, ventilated-improved pit latrines, or pit latrines with slab or composting toilets. Shared or public-use sanitation facilities are not considered to be improved. Also, flush
or pour-flush to elsewhere, pit latrines without slabs or open pits, bucket latrines, hanging latrines or open defecation are not considered to be improved sanitation.

**What are the consequences and implications?**

Access to safe drinking water and improved sanitation are fundamental needs and human rights that are vital for the dignity and health of everyone. The health and economic benefits of a safe water supply to households and individuals (especially children) are well documented.

**Source of data**

WHO. Global Health Observatory (GHO) data repository.
- Basic and safely managed drinking water services. Data by country. ([http://apps.who.int/gho/data/node.main.WSHWATER?lang=en](http://apps.who.int/gho/data/node.main.WSHWATER?lang=en)).
- Basic and safely managed sanitation services. Data by country. ([http://apps.who.int/gho/data/node.main.WSHSANITATION?lang=en](http://apps.who.int/gho/data/node.main.WSHSANITATION?lang=en)).

**Further reading**


**Internet resources**

WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) ([https://washdata.org](https://washdata.org)).


Food security

Population with less than the minimum dietary energy consumption (prevalence of undernourishment)

What does this indicator tell us?

This indicator is the percentage of the population whose food intake falls below the minimum level of dietary energy requirements and who, therefore, are undernourished or food-deprived.

How is this indicator defined?

The prevalence of undernourishment is essentially estimated by measuring food deprivation based on calculations of three parameters for each country: the average amount of food available for human consumption per person, the level of inequality in gaining access to that food and the minimum number of calories required for an average person.

The average amount of food available for human consumption is derived from national “food balance sheets” compiled by FAO each year, which show how much of each food commodity a country produces, imports and withdraws from their stocks for other, non-food purposes. The energy equivalent of all the food available for human consumption is divided by the total population to derive a country’s average daily energy consumption.

Data from household surveys are used to derive a coefficient of variation, to account for the degree of inequality in access to food. Similarly, because a large adult needs almost twice as much dietary energy as a 3-year-old child, the minimum energy requirement per person in each country is based on averages of age, gender and body sizes in that country.

The minimum dietary energy requirement is derived from the results of a FAO/WHO/UN University expert consultation in 2001 (published in 2004), which established energy standards for different gender and age groups with sedentary physical activity levels and with a minimum acceptable body weight for attained height.

The average energy requirement is the amount of food energy needed to balance energy expenditure in order to maintain body weight, body composition, and levels of necessary and desirable physical activity that are consistent with long-term good health. It includes the energy needed for the optimal growth and development of children, along with the deposition of tissues during pregnancy and secretion of milk during lactation that are consistent with the good health of the mother and child. The recommended level of dietary energy intake for a population group is the mean energy requirement of the healthy, well-nourished individuals who constitute that group.

FAO reports the proportion of the population whose daily food intake falls below that minimum energy requirement as “undernourished”. Trends in undernourishment are due mainly to:

- changes in food consumption as reported on country food balance sheets;
- changes in the distribution of dietary energy consumption in a population, due to changes in the distribution of both dietary energy consumption by income level and dietary energy requirements based on weight for attained height by gender and age; and
- changes in the minimum dietary energy consumption, due to changes in attained height and the structure of the population by gender and age.

What are the consequences and implications?

The indicator is a measure of an important aspect of food insecurity in a population. Sustainable development requires a concerted effort to reduce poverty, including providing solutions to hunger and malnutrition. Alleviating hunger is a prerequisite for reducing poverty.
sustainably, because undernourishment seriously affects labour productivity and earning capacity. Malnutrition can arise from a range of circumstances. For poverty reduction strategies to be effective, they must address food access, availability and safety.

Source of data


Further reading


**Households consuming adequately iodized salt (≥15 parts per million)**

*What does this indicator tell us?*

Salt iodization has been adopted as the main strategy to eliminate iodine-deficiency disorders as a public health problem; the aim is to achieve universal salt iodization. While other foodstuffs can be iodized, salt has the advantage of being both widely consumed and inexpensive. Salt has been iodized routinely in some industrialized countries since the 1920s. This indicator is a measure of whether a country's fortification programme is reaching the target population adequately.

*How is this indicator defined?*

The indicator is a measure of the percentage of households consuming iodized salt, which is defined as salt containing 15–40 parts per million of iodine. Preferably, household access to iodized salt should be >90%.

*What are the consequences and implications?*

Iodine deficiency is most commonly and visibly associated with thyroid problems (e.g. hyperthyroidism or hypothyroidism, goitre or an enlarged thyroid gland). However, it takes its greatest toll in impaired mental growth and development in children, which contribute to poor school performance, reduced intellectual ability and impaired work performance.

Source of data


Internet resources

WHO. Micronutrient deficiencies: iodine deficiency disorders. (http://www.who.int/nutrition/topics/idd/en/).
Population below the international poverty line

What does this indicator tell us?

This indicator gives the prevalence of people living in extreme poverty, as measured by their daily consumption or income. It allows comparisons and aggregation of data on the progress of countries in reducing extreme poverty, as well as monitoring of global trends. It is also an indicator for Sustainable Development Goal (SDG) 1: “End poverty in its all forms everywhere”.

How is this indicator defined?

The proportion of the population living below the international poverty line is the percentage living on less than US$ 1.90 a day at 2011 international prices. The US$ 1.90 per day poverty line is compared with consumption or income per person (including consumption of their own production and income in kind), and it reflects the minimum level necessary to meet basic needs. This poverty line has fixed purchasing power across countries or areas; hence, it is often called the “international poverty line”.

Purchasing power parity is defined by comparing economies on the basis of standardized international US$ price weights, rather than on the basis of official currency exchange rates.

The value of the international poverty line is subject to periodic updates, in efforts to hold the real value of the poverty line constant in order to accurately assess rates of poverty.

What are the consequences and implications?

The proportion of the population below the international poverty line is used to assess and monitor poverty at the global level; however, as with other indicators, it is not equally relevant in all regions because countries have different definitions of poverty. People living in extreme poverty are at a high risk of malnutrition which, in turn, is one of the most important risk factors for disease. In the presence of poverty, malnutrition can result in a downward spiral that may end in death:

- poor people may consume too little nutritious food, making them more susceptible to disease;
- inadequate or inappropriate food consumption leads to stunted development or premature death;
- nutrient-deficient diets increase the risk of health problems; and
- disease decreases a person’s ability to cultivate or purchase nutritious foods.

Source of data


Further reading

Caring practices

**Infant and young child feeding**

To enable mothers to establish and sustain exclusive breastfeeding for 6 months, WHO and UNICEF recommend:

- initiation of breastfeeding within the first hour of life;
- exclusive breastfeeding (i.e. only breast milk with no additional food or drink, not even water);
- breastfeeding on demand, as often the child wants, day and night; and
- no use of bottles, teats or pacifiers.

The recommendations for feeding infants and young children (6–23 months) include:

- continued breastfeeding;
- introduction of solid, semisolid or soft foods at 6 months;
- appropriate food diversity (at least five food groups per day);
- appropriate frequency of meals: two to three times a day between 6 and 8 months, increasing to three to four times a day between 9 and 23 months, with nutritious snacks offered once or twice a day as desired;
- safe preparation of foods; and
- feeding infants in response to their cues.

The caring practice indicators for feeding infants and young children that are available on the NLI$S$ country profiles include:

- proportion of children aged 0–23 months who were put to the breast within 1 hour of birth;
- proportion of infants under 6 months who are exclusively breastfed;
- proportion of children who are continued breastfed at 12-15 months;
- proportion of children who are continued breastfed at 20-23 months;
- proportion of infants aged 6–8 months who receive solid, semisolid or soft foods;
- proportion of children aged 6–23 months who receive a minimum dietary diversity; and
- proportion of children aged 6–23 months who receive a minimum acceptable diet.

**Early initiation of breastfeeding**

*What does this indicator tell us?*

This indicator is the percentage of infants who are put to the breast within 1 hour of birth.

*How is this indicator defined?*

Early initiation of breastfeeding is defined as the proportion of children born in the previous 24 months who were put to the breast within 1 hour of birth.

*What are the consequences and implications?*
Breastfeeding improves child health, and there is evidence that delayed initiation of breastfeeding increases a child’s risk for mortality.

**Infants under 6 months who are exclusively breastfed**

*What does this indicator tell us?*

This indicator is the percentage of infants aged 0–5 months who are exclusively breastfed.

*How is this indicator defined?*

This is the proportion of infants aged 0–5 months who are fed exclusively on breast milk, with no other food or drink, including water. The infant is, however, allowed to receive oral rehydration solution (ORS) and drops or syrups containing vitamins, minerals and medicine.

*What are the consequences and implications?*

Exclusive breastfeeding is an unequalled way of providing the ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process, with important health benefits for mothers. An expert review of evidence showed that, on a population basis, exclusive breastfeeding for the first 6 months is the optimal way of feeding infants.

Breast milk is the natural first food for infants, providing all the energy and nutrients that the infant needs for the first months of life. It continues to provide half or more of a child’s nutritional needs during the second 6 months of the first year, and up to one third during the second year of life.

Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality from common childhood illnesses, such as diarrhoea and pneumonia, and means that the child is likely to recover more quickly from illness.

Breastfeeding contributes to the health and well-being of mothers, by helping to space children, reducing their risks for ovarian and breast cancers, and saving family and national resources. It is a secure way of feeding and is safe for the environment.

**Continued breastfeeding at 1 year in children 12-15 months (%).**

*What does this indicator tell us?*

This indicator is the percentage of children between 12-15 months of age who received breast milk during the previous day.

*How is this indicator defined?*

This indicator is defined as the proportion of children aged 12-15 months who received breast milk during the previous day. It includes breastfeeding by a wet nurse and feeding expressed breast milk.

*What are the consequences and implications?*

Breast milk is a significant source of energy and nutrients in children 6-23 months of age. It provides one half or more of a child’s energy needs between 6 and 12 months of age, and one third of energy between 12 and 24 months.
Continued breastfeeding at 2 years in children 20-23 months (%)

What does this indicator tell us?

This indicator is the percentage of children between 20-23 months of age who receive breast milk during the previous day.

How is this indicator defined?

This indicator is defined as the proportion of children aged 20-23 months who received breast milk during the previous day. It includes breastfeeding by a wet nurse and feeding expressed breast milk.

What are the consequences and implications?

Infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, in order to meet their evolving nutritional requirements, children should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond.

Infants aged 6–8 months who receive solid, semisolid or soft foods

What does this indicator tell us?

This indicator is the percentage of infants between 6–8 months of age who receive solid, semisolid or soft foods. WHO recommends starting complementary feeding at 6 months of age.

How is this indicator defined?

This indicator is defined as the proportion of infants aged 6–8 months who received solid, semisolid or soft foods during the previous day.

What are the consequences and implications?

When breast milk alone no longer meets the nutritional needs of the infant, complementary foods should be added. The transition from exclusive breastfeeding to family foods, referred to as “complementary feeding”, typically occurs between 6 and 18–24 months of age. This vulnerable period is the time when malnutrition often starts, which contributes significantly to the high prevalence of malnutrition among children aged under 5 years worldwide.

Children aged 6–23 months who receive a minimum dietary diversity (MDD)

What does this indicator tell us?

This indicator is the percentage of children aged 6–23 months who receive a minimum dietary diversity.

The indicator “proportion of children aged 6–23 months who receive a minimum dietary diversity” is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

In June 2017, the WHO-UNICEF Technical Expert Advisory group on nutrition Monitoring (TEAM) recommended a revision of the minimum dietary diversity (MDD) indicator as defined by WHO (2008), to make it feasible and meaningful for Member State reporting. The revision concerned adding “breast milk” as an eighth food group and shifting the criterion for MDD.
accordingly, from four of seven groups to five of eight groups. Thus, dietary diversity is present when the diet contains five or more of the following food groups:

- breast milk
- grains, roots and tubers
- legumes and nuts
- dairy products (e.g. milk, yogurt, cheese)
- flesh foods (e.g. meat, fish, poultry, liver or other organs)
- eggs
- vitamin A-rich fruits and vegetables
- other fruits and vegetables.

**Children aged 6–23 months who receive a minimum acceptable diet (MAD)**

*What does this indicator tell us?*

This indicator is the percentage of children aged 6–23 months who receive a minimum acceptable diet.

*How is this indicator defined?*

The composite indicator of a minimum acceptable diet is calculated from:

- the proportion of breastfed children aged 6–23 months who had at least the MDD and minimum meal frequency during the previous day; and
- the proportion of non-breastfed children aged 6–23 months who received at least two milk feedings and had at least the MDD, not including milk feeds, and minimum meal frequency during the previous day.

Dietary diversity is present when the diet contained five or more of the following food groups:

- breast milk
- grains, roots and tubers
- legumes and nuts
- dairy products (e.g. milk, yogurt and cheese)
- flesh foods (e.g. meat, fish, poultry, liver or other organs)
- eggs
- vitamin A–rich fruits and vegetables
- other fruits and vegetables.

The minimum daily meal frequency is defined as:

- twice for breastfed infants aged 6–8 months
- three times for breastfed children aged 9–23 months
- four times for non-breastfed children aged 6–23 months.

*What are the consequences and implications?*
A minimum acceptable diet is essential to ensure appropriate growth and development for feeding infants and children aged 6–23 months. Without adequate dietary diversity and meal frequency, infants and young children are vulnerable to malnutrition, especially stunting and micronutrient deficiencies, and to increased morbidity and mortality.

Sources of data


WHO. Global Health Observatory (GHO) data repository. Exclusive breastfeeding under 6 months. Data by country (http://apps.who.int/gho/data/view.main.NUT1730).


Further reading


Internet resources


WHO. Global targets 2025 to improve maternal, infant and young child nutrition. (http://who.int/nutrition/global-target-2025/en/).


WHO. e-Library of Evidence for Nutrition Actions (eLENA):

**Children <5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued feeding**

**What does this indicator tell us?**

This indicator is the prevalence of children with diarrhoea who receive oral rehydration therapy and continued feeding. The percentage of children aged under 5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued feeding during illness is included as an additional indicator in the Global reference list of 100 core health indicators.

**How is this indicator defined?**

This is the proportion of children aged 0–59 months who had diarrhoea in the previous 2 weeks and who received ORT (oral rehydration salts, recommended home fluids or increased fluids) and continued feeding. Diarrhoea is defined as the passage of three or more loose or liquid stools per day.

**What are the consequences and implications?**

Diarrhoeal diseases remain one of the major causes of mortality among children aged under 5 years, accounting for 9% of deaths among children worldwide. Most of the deaths in children from diarrhoea could be averted by using ORS and zinc supplementation during episodes of diarrhoea, and basic interventions to improve drinking water, sanitation and hygiene (WASH). It is estimated that ORS alone can prevent 93% of deaths due to diarrhoea, and zinc supplementation can decrease deaths from diarrhoea by 23%.

**Sources of data**


**Further reading**


**Internet resources**


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**Adolescent birth rate (per 1000 women aged 15–19 years)**

**What does this indicator tell us?**

The adolescent birth rate, technically known as the age-specific fertility rate, provides a basic measure of reproductive health that focuses on adolescent women as a vulnerable group.

The adolescent birth rate (per 1000 women aged 15–19 years) is included as an intermediate outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

**How is this indicator defined?**

This indicator is defined as the annual number of births to women aged 15–19 years per 1000 women in that age group. It is also referred to as the age-specific fertility rate for women aged 15–19.
What are the consequences and implications?

There is substantial agreement in the literature that women who become pregnant and give birth early in their reproductive lives are subject to higher risks of complications, or even death, during pregnancy and birth, and their children are also more vulnerable. Therefore, preventing adolescent pregnancy is an important measure to improve maternal health and reduce infant mortality. Furthermore, women who have children at an early age experience a curtailment of their opportunities for socioeconomic improvement, particularly because young mothers are unlikely to keep studying and, if they need to work, may find it especially difficult to combine family and work responsibilities. The adolescent birth rate also provides indirect evidence on access to reproductive health education, since young people, and unmarried adolescent women in particular, often experience difficulties in accessing reproductive health care.

Source of data

WHO. Global Health Observatory (GHO) data repository. Adolescent birth rate. Data by country (http://apps.who.int/gho/data/view.main.GSWCAH31v).

Further reading


Internet resources


WHO. Reproductive health library_Adolescent sexual and reproductive health (https://extranet.who.int/rhl/topics/adolescent-sexual-and-reproductive-health).
Commitment

Health expenditure

What do these indicators tell us?

Health expenditure includes all expenditures for the provision of health services, family planning activities, nutrition activities and emergency aid designated for health, but it excludes the provision of drinking water and sanitation.

Health financing is a critical component of health systems. National health accounts provide a large set of indicators based on information about expenditure collected within an internationally recognized framework. These accounts are a synthesis of the financing and spending flows recorded in a health system's operation, from funding sources and agents to the distribution of funds between providers and functions of health systems. It is also reflective of SDG 3: "Ensure healthy lives and promote well-being for all at all ages".

How are these indicators defined?

General government expenditure on health as a percentage of total government expenditure – This indicator is defined as the level of general government expenditure on health (GGHE) expressed as a percentage of total government expenditure. It shows the weight of public spending on health within the total value of public sector operations. This indicator includes not just the resources channelled through government budgets, but also the expenditures channelled through government entities for health by parastatals, extrabudgetary entities and, notably, compulsory health insurance. The indicator refers to resources collected and pooled by public agencies, including all revenue modalities.

Total expenditure on health as a percentage of gross domestic product (GDP) – This indicator is defined as the level of total expenditure on health expressed as a percentage of GDP, where GDP is the value of all final goods and services produced within a nation in a given year. It provides information on the level of resources channelled to health, relative to a country’s wealth.

Per capita total expenditure on health – This indicator is defined as the per capita total expenditure on health, expressed at the average exchange rate for that year in US$. It shows the total expenditure on health relative to the beneficiary population, expressed in US$ to facilitate international comparisons.

What are the consequences and implications?

These indicators reflect government and total expenditure on health resources, access and services, including nutrition, in relation to government expenditure, the country’s wealth, and the population. Although increasing health expenditure is associated with better health outcomes, especially in low-income countries, there is no "recommended" level of spending on health. The larger the per capita income, the greater the expenditure on health. Some countries, however, spend appreciably more than would be expected from their income levels, and some appreciably less. When a government attributes proportionately less of its total expenditure on health, this may indicate that health, including nutrition, is not regarded as a priority.

Source of data

WHO. Global Health Observatory (GHO) data repository.

Domestic general government health expenditure (GGHE-D) as percentage of general government expenditure (GGE) (%). Data by country (http://apps.who.int/gho/data/node.main.GHEDGGHEDGGESHA2011?lang=en).
Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%). Data by country ([http://apps.who.int/gho/data/node.main.GHEDCHEGDPSHA2011?lang=en](http://apps.who.int/gho/data/node.main.GHEDCHEGDPSHA2011?lang=en)).


### Internet resources

WHO. Health accounts ([http://www.who.int/health-accounts/en/](http://www.who.int/health-accounts/en/)).


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#### What does this indicator tell us?

This indicator describes the strength of nutrition in the United Nations Development Assistance Framework (UNDAF), the strategic programme framework for UN country teams. In 2019, the UNDAF was renamed as the United Nations Sustainable Development Cooperation Framework (UNSDCF). UNDAFs usually focus on three to five areas in which the country team can make the greatest difference, in addition to activities that are supported by other agencies in response to national demands, but fall outside the common UNDAF results matrix. For each national priority selected for UN country team support, the UNDAF results matrix gives the following outcome(s); the outcomes and outputs of other agencies, working alone or together; the role of partners; resource mobilization targets for each agency outcome; and coordination mechanisms and programme modalities. The nutrition component of the UNDAF reflects the priority attributed to nutrition by the UN agencies in each country, and gives an indication of how much the UN system is committed to helping governments improve their food and nutrition situation.

#### How is this indicator defined?

The indicator is “strong”, “medium” or “weak”, depending on the degree to which nutrition is being addressed in the UNDAF’s expected outcomes and outputs.

UNDAF documents follow a predefined format, with a core narrative and a results matrix. The matrix lists the high-level expected results (“the UNDAF outcomes”); the outcomes to be reached by agencies, working alone or together; and agency outputs. The results matrix in the UNDAF document was used to assess commitment to nutrition, because it represents a synthesis of the strategy proposed in the document and is available in the same format in most country documents. The most recent UNDAF documents on the United Nations Development Group (UNDG) website were used, with outcomes and outputs specifically related to nutrition identified and compared with key areas in nutrition. The method and scoring are described in detail by Engesveen et al. (2009).

#### What are the implications?

A strong nutrition component in the UNDAF document means that the UN agencies consider nutrition to be a joint priority. A weak nutrition component in the UNDAF document does not necessarily imply that no UN agency is working to improve nutrition in the country. However, unless such efforts are mentioned in strategy documents such as the UNDAF, they may receive inadequate attention from development partners to ensure the necessary sustainability or scale-up to adequately address nutrition problems in that country. The multisectoral nature of nutrition means that it must be addressed by a wide range of actors.
Basing such action within frameworks for overall development ensures the accountability of UN partners.

Source of data

WHO. Global database on the implementation of nutrition action (GINA) (https://extranet.who.int/nutrition/gina/).

Further reading


Internet resources


WHO. Landscape analysis on countries’ readiness to accelerate action in nutrition. (http://www.who.int/nutrition/landscape_analysis/en/).

Nutrition component of poverty reduction strategy papers

What does this indicator tell us?

This indicator describes the strength of nutrition in the country’s poverty reduction strategy paper (PRSP). The poverty reduction strategy approach was introduced in 1999, empowering governments to set their own priorities, and encouraging donors to provide predictable, harmonized assistance aligned with a country’s priorities. The PRSP should state the development priorities, and should specify the policies, programmes and resources needed to meet these goals. It is prepared by governments in a participatory process that involves civil society and development partners, including the World Bank and the International Monetary Fund, and should result in a comprehensive, country-based strategy for poverty reduction.

How is this indicator defined?

This indicator is “strong”, “medium” or “weak”, depending on the degree to which nutrition is addressed in the PRSP, in terms of the recognition of undernutrition as a development problem; use of information on nutrition to analyse poverty; and support for appropriate nutrition policies, strategies and programmes. The indicator has been defined and estimated within the “WHO Landscape Analysis”, using a methodology proposed by the World Bank (Shekar & Lee, 2006). The most recent PRSPs available on the World Bank website were used. The papers were systematically searched for keywords to identify the sections that concerned nutrition, food security, health outcomes and interventions that would be relevant for the World Bank method. To classify the commitments to nutrition in the PRSPs, a scoring system was developed, which is described in more detail by Engesveen et al. (2009).

What are the implications?

The emphasis given to nutrition in a country’s PRSP reflects the extent to which the government considers it essential to improve nutrition for poverty reduction and national development. In other words, it can indicate the government’s priority on improving nutrition.
A strong nutrition component in a PRSP means that the country's government considers nutrition a priority for poverty reduction and national development. A weak nutrition component in the document does not necessarily imply that no government department is working to improve nutrition in the country; however, unless such efforts are mentioned in strategy documents such as PRSPs, they may not be sufficiently sustainable or scaled-up to adequately address nutrition problems in that country. The multisectoral nature of nutrition means that it must be addressed by a wide range of actors. Basing such action within frameworks for overall development ensures the accountability of relevant government departments.

Source of data

WHO. Global database on the implementation of nutrition action (GINA) (https://extranet.who.int/nutrition/gina/).


Further reading


Internet resources

WHO. Landscape analysis on countries’ readiness to accelerate action in nutrition. (http://www.who.int/nutrition/landscape_analysis/en/).

**Nutrition governance**

*What does this indicator tell us?*

This indicator is a description of a country's strengths and weaknesses in various aspects of nutrition governance.

*How is this indicator defined?*

The nutrition governance score is “strong”, “medium” or “weak”, depending on the presence of a set of elements identified by the countries themselves as crucial for successful development and implementation of national nutrition policies and strategies. The following 10 elements or characteristics are used to assess and describe the strength of a country’s nutrition governance:
• existence of an intersectoral mechanism to address nutrition;
• existence of a national nutrition plan or strategy;
• whether the national nutrition plan or strategy is adopted;
• whether the national nutrition plan or strategy is part of the overall national development plan;
• existence of a national nutrition policy;
• whether the nutrition policy is adopted;
• existence of national dietary guidelines;
• allocation of budget for implementation of the national nutrition plan, strategy or policy;
• regular nutrition monitoring and surveillance; and
• existence of a line for nutrition in the government's health budget.

These elements were identified by countries as key elements for successful development and implementation of national nutrition policies and strategies, during a review of the progress of countries in implementing the World Declaration and Plan of Action for Nutrition. This plan was adopted by the 1992 International Conference on Nutrition, the first intergovernmental conference on nutrition (Nishida et al., 2003). The method and scoring are described in detail by Engesveen et al. (2009).

What are the consequences and implications?

The components of the composite indicator have been identified by countries as important for determining the completeness of national nutrition plans and policies (Nishida, Mutru & Imperial Laue, 2003). For instance, a national nutrition plan and policy was considered to provide the political basis for initiating action. In many countries, the official government endorsement or adoption of a national nutrition plan or policy facilitated its implementation. The role of an intersectoral coordinating committee in implementing national nutrition plans and policies was also considered to be crucial, although the nature (i.e. whether executive or advisory), members, organizational structure and location of the committee determined its effectiveness. Additional important elements were regular surveys and other means of collecting data on nutrition. A national nutrition information system being updated periodically, and data on food and nutrition being collected routinely, were considered important for evaluating the effectiveness of national nutrition plans and policies, and for identifying subsequent actions.

Source of data

WHO. Global database on the implementation of nutrition action (GINA) (https://extranet.who.int/nutrition/gina/).

Further reading


Monitoring and enforcement of the International Code of Marketing of Breast-milk Substitutes

What does this indicator tell us?

This indicates whether a government has adopted legislation to monitor and enforce the International Code of Marketing of Breast-milk Substitutes (the Code) – an international health policy framework that was adopted by the World Health Assembly in 1981 – and its subsequent related resolutions. The Code is a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats. The Code aims to contribute “to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution” (Article 1).

The number of countries with legislation or regulations that fully implement the Code, and the subsequent relevant resolutions adopted by the Health Assembly, is included as a policy environment and capacity indicator in the Global Nutrition Monitoring Framework. It is also included as an additional indicator in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator is defined on the basis of whether a government has adopted legislation covering few, many or full provisions of the Code.

What are the consequences and implications?

The improper marketing and promotion of food products that compete with breastfeeding often negatively affect the choices and ability of a mother to feed her infant optimally, by discouraging the practice of breastfeeding. The Code was formulated in response to the realization that such marketing resulted in poor infant feeding practices, which in turn negatively affect the growth, health and development of children, and are a major cause of mortality in infants and young children. The Code seeks to promote the practice of breastfeeding and ensure that substitutes, if necessary, are used safely.

Worldwide, breastfeeding practices are not yet optimal, both in developing and developed countries, especially regarding exclusive breastfeeding under 6 months of age. In addition to the risks posed by the lack of breast milk’s protective qualities, breast-milk substitutes and feeding bottles are associated with a high risk of contamination, which can lead to life-threatening infections in young infants. Infant formula is not a sterile product, and it may carry infectious agents that can cause fatal illnesses. Artificial feeding is expensive, it requires clean water, the ability of the mother or caregiver to read and comply with mixing instructions, and a minimum standard of overall household hygiene. These factors are not present in many of the world’s households.
Source of data


Further reading


Internet resources


Maternity protection indicators

What do these indicators tell us?

These indicators provide information on national policies for legal entitlement to maternity protection, including leave from work during pregnancy and after birth, as well breastfeeding entitlements after return to work.

Since the ILO was founded in 1919, international labour standards have been established to provide maternity protection for women workers. The ILO Maternity Protection Convention, 2000 (No. 183) represents the minimum standards, whereas the accompanying ILO Maternity Protection Recommendation, 2000 (No. 191) encourages additional measures. Key elements of maternity protection include the following:

- **Maternity leave duration** – The mother’s right to a period of rest in relation to childbirth is a crucial means of safeguarding the health and nutrition of the mother and her child. Convention No. 183 states that maternity leave should not be less than 14 weeks, while Recommendation No. 191 suggests that maternity leave should be at least 18 weeks.

- **Amount of maternity leave cash benefits** – The right to cash benefits during maternity leave is intended to ensure that the woman can maintain herself and her child in proper conditions of health, and with a suitable standard of living. Maternity leave cash benefits aim to replace a portion of the income lost due to the woman’s economic activities being interrupted, giving a practical effect to the provision for leave. Convention No. 183 states that cash benefits should not be less than two thirds of the woman’s earnings before taking leave, while Recommendation No. 191 encourages raising the benefits to the full amount of her previous earnings.

- **Source of maternity leave cash benefits** – The source of the cash benefits is important, owing to potential discrimination in the labour market if employers have to bear the full costs. Convention No. 183 stipulates that cash benefits shall be provided through compulsory social insurance or public funds, and that individual employers shall not be liable for maternity leave benefits without that employer’s specific agreement.
• **Breastfeeding breaks and breastfeeding facilities** – The right to continue breastfeeding a child after returning to work is important, because the duration of leave entitlements is generally shorter than WHO’s recommended duration of exclusive and continued breastfeeding. Convention No. 183 states that women shall have the right to one or more daily breaks, or a daily reduction of hours of work for breastfeeding, which is to be counted as working time and remunerated accordingly. Recommendation No. 191 states that, where practicable, provision should be made for the establishment of facilities for breastfeeding or expressing breast milk under adequate hygienic conditions, at or near the workplace.

A composite indicator on maternity protection is included as a policy environment and capacity indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It currently uses the ILO classification of compliance with Convention No. 183 on three key provisions: leave duration, remuneration and source of cash benefits. However, an alternative method is under development, taking into account the higher standards stated in Recommendation No. 191, as well as breastfeeding entitlements. The number of countries with maternity protection laws or regulations in place is also included as an additional indicator in the WHO Global reference list of 100 core health indicators.

**How are these indicators defined?**

The ILO periodically publishes information on the above key indicators, including an assessment of compliance with Convention No. 183, as part of the TRAVAIL Database of Conditions of Work and Employment Laws, and the NATLEX Database of National Labour, Social Security and Related Human Rights Legislation. The legislative data are collected by the ILO through periodical reviews of national labour and social security legislation, and secondary sources, such as the International Social Security Association and International Network on Leave Policies and Research, as well as consultations with ILO experts in regional and national ILO offices worldwide.

Maternity protection is a composite indicator that is included in the Global Nutrition Monitoring Framework; it is currently defined as whether the country has maternity protection laws or regulations in place that are compliant with the provisions for leave duration, remuneration and source of cash benefits in Convention No. 183. However, an alternative method is under development, which may use a scale to indicate the degree of compliance. This method will also take into account the higher standards for leave duration and remuneration in Recommendation No. 191, as well as the breastfeeding entitlements within both the Convention and Recommendation. Meanwhile, the data displayed are from the 2019 WHO&UNICEF Global breastfeeding scorecard. The indicator was calculated based on three aspects of Convention No. 183 and Recommendation No. 191: length of maternity leave, amount of previous earnings paid during leave, and source of funding.

**What are the consequences and implications?**

Pregnancy and maternity are a potentially vulnerable time for working women and their families. Expectant and breastfeeding mothers require special protection to prevent any potential adverse effects for them and their infants. They need adequate time to give birth, to recover from the delivery process and to breastfeed their children. At the same time, these women require income security and protection, to ensure that they will not suffer from income loss or job loss because of pregnancy and maternity leave. Such protection ensures not only a woman’s equal access and right to employment, but also economic sustainability for the well-being of her family. The need to return to work after maternity leave has been identified as a significant cause for never starting breastfeeding, early cessation of breastfeeding and lack of exclusive breastfeeding. In most low- and middle-income countries, paid maternity leave is either limited to formal sector employment or not always provided in practice. The ILO estimates that more than 800 million women lack economic security around childbirth, with adverse effects on the health, nutrition and well-being of mothers and their children.
Source of data


Further reading


Internet resources


Capacity

Degree training in nutrition exists

What does the indicator tell us?

This indicator reflects the capacity of a country to train professionals in nutrition. It is based on the presence of national higher education institutions that offer training in nutrition.

How is this indicator defined?

This indicator is defined as the existence in the country of higher education institutions that offer training in nutrition. Higher education training institutions include universities and other schools, offering graduate and post-graduate degrees in nutrition or dietetics with focus areas such as public health nutrition, community nutrition, clinical nutrition (dietetics), food and nutrition policy, nutrition science and epidemiology, and nutrition education or counselling skills. Such higher level training may lead to a technical certificate or diploma (2 years or less), bachelor’s degree, master’s degree or doctoral degree.

What are the consequences and implications?

Trained nutrition professionals work at health facilities and at the population and community levels; they may influence nutrition policies, as well as the design and implementation of nutrition intervention programmes at various levels. They also play an important role in training other health and non-health cadres to plan and deliver nutrition interventions in various settings. The availability of a sufficient workforce with appropriate training in nutrition within a country will lead to better outcomes for country-specific nutrition and health concerns.

Source of data


Further reading


**Nutrition is part of medical curricula**

*What does the indicator tell us?*

This indicator reflects the inclusion of maternal, infant and young child nutrition in the pre-service training of health personnel.

*How is this indicator defined?*

This indicator is defined as the existence of pre-service training in maternal, infant and young child nutrition for health personnel. The second global nutrition policy review survey investigates training in three key areas of maternal, infant and young child nutrition – namely, growth monitoring and promotion, breastfeeding and complementary feeding, and management of severe or moderate acute malnutrition. The first two of these three topics are relevant for all forms of malnutrition, whereas the third only pertains to undernutrition. Training on other topics (e.g. obesity, healthy diets and micronutrients) was not covered in the survey; this is not because they are less important, but because there are no widely rolled-out training packages for these topics.

*What are the consequences and implications?*

Adequate training of health professionals is essential to ensure that the professionals include nutrition activities in their regular health care activities.

*Source of data*


*Further reading*


**Density of trained nutrition professionals per 100 000 population**

*What does the indicator tell us?*

This indicator reflects the capacity of a country to design and implement nutrition policies and programmes effectively.

It focuses on individuals who are trained to pursue a professional career in nutrition, described in most countries as dietitians or nutritionists (including nutrition scientists, nutritional epidemiologists and public health nutritionists). These individuals are trained sufficiently in nutrition practice to demonstrate defined competencies, and to meet the
certification or registration requirements of national or global nutrition or dietetics professional organizations. This training, at universities or other tertiary or higher education institutions, may occur at bachelor, post-graduate certificate or diploma, masters or doctoral degree levels.

Only in some countries do dietitians and nutritionists complete the same training and perform the same functions. Similarly, professional registration or accreditation of dietitians and nutritionists only occurs in some countries, and where it does occur it may be joint or separate. Countries are encouraged to implement the professional registration or accreditation of dietitians and nutritionists, to provide a guarantee of appropriate training and professional competence.

The indicator “number of trained nutrition professionals per 100 000 population” is included as a policy environment and capacity indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the number of trained nutrition professionals per 100 000 population in the country in a specified year.

What are the consequences and implications?

Trained nutrition professionals work at facilities including health facilities and at population and community levels; they may influence nutrition policies and design as well as the implementation of nutrition intervention programmes at various levels. They also play an important role in training other health and non-health cadres to plan and deliver nutrition interventions in various settings. The requirement for a “trained nutrition professionals” indicator is based on recognition that the availability of a sufficient workforce with appropriate training in nutrition within a country will lead to better outcomes for country-specific nutrition and health concerns. Validation of the indicator has shown that it can predict several maternal, infant and young child nutrition outcomes.

Source of data


Further reading


Density of nurses and midwives

What does the indicator tell us?

Nurse and midwife density indicates whether nurses and midwifery personnel are available to address the health care needs of a given population. Health worker density is included as an
indicator for SDG 3: “Ensure healthy lives and promote well-being for all at all ages”. Health worker density and distribution is included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator is the number of nursing and midwifery personnel, and their density per 1000 population. These personnel include professional nurses and midwives, auxiliary nurses and midwives, enrolled nurses and midwives, and other personnel such as dental nurses and primary care nurses. Traditional birth attendants are not counted in this number, but are classed as community or traditional health workers.

What are the consequences and implications?

There is no gold standard for what a sufficient health workforce would be to address the health care needs of a given population. It has been estimated, however, that countries with fewer than 25 health care professionals (counting only physicians, nurses and midwives) per 10 000 population fail to achieve adequate coverage rates for important primary health care interventions.

Source of data


Further reading


Internet resources


Gross domestic product (GDP) per capita and GDP per capita annual growth rate

What do these indicators tell us?

GDP per capita and GDP per capita annual growth rate are widely used by economists to gauge the health of an economy. The annual growth rate of real GDP per capita is included as an indicator for SDG 8: “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”.

How are these indicators defined?

GDP per capita, purchasing power parity (PPP) (current international $) – This is the GDP divided by the midyear population, where GDP is the total value of goods and services for final use produced by resident producers in an economy, regardless of the allocation to domestic and foreign claims. It does not include deductions for the depreciation of physical
capital, or the depletion and degradation of natural resources. PPP indicates the rate of exchange that accounts for price differences across countries, allowing for international comparisons of real output and incomes. An international dollar has the same purchasing power in the domestic economy as the US dollar has in the United States. PPP rates allow for standard comparisons of real prices among countries, just as conventional price indexes allow for comparisons of real values over time. The use of normal exchange rates could result in overvaluation or undervaluation of purchasing power.

**GDP per capita annual growth rate** – This is defined as the least-squares annual growth rate, calculated from the constant price GDP per capita in local currency units.

### What are the consequences and implications?

Higher income is usually associated with lower rates of malnutrition. Improving income, however, reduces malnutrition to only a small degree (World Bank, 2006). For example, when the gross national product (GDP plus the net factor income residents receive from abroad for factor services [labor and capital], minus the income earned by foreign residents contributing to the domestic economy) per capita in developing countries doubled, the nutrition situation did improve, but reductions in underweight rates were only modest. On the basis of the correlation between growth and nutrition, it is estimated that sustained per capita economic growth would indeed reduce malnutrition, but not by a drastic amount. These estimates suggest that countries cannot depend on economic growth alone to reduce malnutrition within an acceptable time.

### Sources of data


### Further reading


### Internet resources


### Official development assistance (ODA) received

#### What does this indicator tell us?

Official development assistance (ODA) received – that is, net disbursements as a percentage of gross national income (GNI) – is a measure of the flow of aid, private capital and debt, compared with the value of goods and services produced within the country.

#### How is this indicator defined?

This indicator is the ODA received as a percentage of the GNI. Net ODA consists of grants or loans to countries or territories from the official sector, with the main objective of promoting economic development and welfare, at concessional financial terms. GNI is the sum of value added by all resident producers plus any product taxes (minus subsidies) not included in the valuation of output, plus net receipts of primary income (compensation of employees and property income) from abroad.
What are the consequences and implications?

When ODA makes up a large proportion of the GNI, a country is highly aid dependent, with the risk that it relies on unpredictable aid and donor-driven aid programmes. This can affect the resources allocated to nutrition, which are often not a donor priority in the sector-wide aid strategies promoted by the Paris Declaration (2005).

Source of data


Further reading


Low-income food-deficit countries

What does this indicator tell us?

This indicator identifies countries with low income and food inadequacy.

How is this indicator defined?

The Food and Agriculture Organization of the United Nations (FAO) classifies countries as "low-income food-deficit" for analytical purposes on the basis of low income and food inadequacy, and when the country itself agrees with the status. The classification applies to countries that have a per capita income below the ceiling used by the World Bank to determine eligibility for International Development Association assistance and for 20-year terms from the International Bank for Reconstruction and Development, applied to countries included in World Bank categories I and II. The second criterion is based on the net (i.e. gross imports minus gross exports) food trade position of a country, averaged over the preceding 3 years. Trade volumes of a broad range of basic foodstuffs (e.g. cereals, roots and tubers, pulses, oilseeds and oils other than tree crop oils, meat and dairy products) are converted and aggregated by the calorie content of the individual commodities. The third criterion, which is self-exclusion, is applied when countries that meet the above two criteria specifically request to be excluded from the low-income food-deficit category. To avoid too-frequent changes of low-income food-deficit status, usually reflecting short-term exogenous shocks, an additional factor is taken into consideration. This factor, called "persistence of position", postpones the "exit" of a country from the list, even if it does not meet the low-income or food-deficit criteria, until the change in its status is verified for 3 consecutive years. In other words, the country is considered to be in a transitional phase during these 3 years. A country is taken off the list in the 4th year, after confirming a sustained improvement in its position.

What are the consequences and implications?

The rationale behind the low-income food-deficit classification is that, being simultaneously in food deficit and having a low income, a country lacks the resources not only to import food but also to produce sufficient amounts domestically. This combination of factors makes a country both food insecure and susceptible to both domestic and external shocks, which could affect the nutritional status of vulnerable populations. The low-income food-deficit list, therefore, is intended to capture this aspect of the food problem.

In comparison with countries in other classifications commonly used for analytical and operational purposes (e.g. “least developed countries”, the World Bank’s “low-income countries” and “heavily indebted poor countries”), low-income food-deficit countries have demonstrated better nutrition- and health-related outcomes.
Source of data


Further reading

Meta-indicators

Seats held by women in national parliament

What does this indicator tell us?

This is an indicator of gender equality and empowerment of women, and is indicative of SDG 5: “Achieve gender equality and empower all women and girls”. Women’s representation in parliaments is one aspect of their opportunities in political and public life, and is therefore linked to women’s empowerment.

How is this indicator defined?

The proportion of seats held by women in national parliaments is obtained by dividing the number of parliamentary seats occupied by women by the total number of seats occupied. National parliaments consist of one or two chambers. For international comparisons, generally only the single, or lower, house is considered when calculating the indicator.

What are the implications?

Women are underrepresented in all decision-making bodies and political parties, particularly at the higher echelons. Women still face many practical obstacles to fully exercising their role in political life. Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

Source of data


Further reading


Averaged aggregate governance indicators

What does this indicator tell us?

The World Bank Institute defines governance as the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of the citizens and state for the institutions that govern economic and social interactions among them. The world governance indicators measure six broad definitions of governance, capturing the key elements of this definition:

- voice and accountability – the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media;
• political stability and absence of violence or terrorism – the likelihood that the
government will be destabilized by unconstitutional or violent means, including
terrorism;
• effectiveness – the quality of public services, the capacity of the civil service and its
independence from political pressures, and the quality of policy formulation;
• regulatory quality – the ability of the government to provide sound policies and
regulations that both enable and promote private sector development;
• rule of law – the extent to which agents have confidence in and abide by the rules of
society, including the quality of contract enforcement and property rights, the
effectiveness of police and the courts, and the likelihood of crime and violence; and
• control of corruption – the extent to which public power is exercised for private gain,
including both petty and grand forms of corruption, as well as “capture” of the state by
elites and private interests.

How is this indicator defined?

The averaged aggregate governance indicators in the NLiS country profiles represent the
aggregated average of the six world governance indicators. The indicators represent the
views of thousands of stakeholders worldwide, including respondents to household and
corporate surveys, experts from nongovernmental organizations, public sector agencies and
providers of commercial business information. The NLiS averaged aggregate governance
indicators are calculated from the average of the z scores (a measure of SD away from the
mean) of the six world governance indicators. Each of the six indicators are expressed as
standard normal units, ranging from around –2.5 to 2.5. The higher the score a country has,
the better the assessment it has received regarding the six governance elements.

What are the consequences and implications?

Policy-makers, civil society groups, aid donors and scholars worldwide increasingly agree that
good governance affects development. This consensus has emerged from a proliferation of
empirical measures of institutional quality and governance, the investment climate and
research (World Bank Institute, 2009).

For nutrition, the importance of good governance is reflected in the UNICEF conceptual
framework of factors in the “control and management of resources influenced by political and
ideological structures in society” (Jonsson, 1995). Reports from the UNSCN show how a
nutrition perspective can help to improve governance. Good governance is also recognized
by countries themselves as an essential factor for sustained economic growth, sustainable
development, eradication of poverty and hunger, and the realization of all human rights,
including the right to adequate food.

Source of data


Further reading

FAO. Voluntary guidelines to support the progressive realization of the right to adequate food
in the context of national food security. Rome: Food and Agriculture Organization of the


Jonsson U. Towards an improved strategy for nutrition surveillance. Food and Nutrition
Gender inequality index (GII)

What does this indicator tell us?

The gender inequality index (GII) provides insights into gender disparities in health, empowerment and the labour market. Unlike the human development index (HDI), however, higher values in the GII indicate worse achievements.

How is this indicator defined?

The GII is a composite measure, reflecting inequality in achievements between women and men in three dimensions: reproductive health, empowerment and the labour market.

- The health dimension is measured by the maternal mortality ratio and the adolescent fertility rate.
- The empowerment dimension is measured by the share of parliamentary seats held by each gender, and by secondary and higher education attainment levels.
- The labour dimension is measured by women’s participation in the workforce.

The GII varies between 0 (when women and men fare equally) and 1 (when men or women fare poorly compared to the other in all dimensions). It is designed to reveal the extent to which national human development achievements are eroded by gender inequality, and to provide empirical foundations for policy analysis and advocacy efforts.

What are the implications?

Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

Source of data


Further reading


Internet resources
Gender parity index in primary education enrolment

What does this indicator tell us?

This is an indicator of gender equality and is related to SDG 4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”.

How is this indicator defined?

The gender parity index in primary education is the ratio of the number of female students enrolled at the primary level of education to the number of male students. To standardize the effects of the population structure regarding the appropriate age groups, the gross enrolment ratio for each level of education is used.

What are the implications?

Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

Source of data


Further reading


Global hunger index (GHI)

What does this indicator tell us?

The global hunger index is a means of monitoring whether countries are achieving hunger-related SDGs. It can be used for international ranking.

How is this indicator defined?

The global hunger index captures three dimensions of hunger: insufficient availability of food, shortfalls in the nutritional status of children and child mortality (which is, to a large extent, attributable to undernutrition). Accordingly, the index includes three equally weighted indicators: the proportion of people who are food energy-deficient, as estimated by FAO; the prevalence of underweight in children aged under 5 years, as compiled by WHO; and the mortality rate of children aged under 5 years, as reported by UNICEF. A regression analysis of the global hunger index on GNI per capita is performed to identify countries that are notably better or worse off with regard to hunger and undernutrition than would be expected from their GNI per capita. Countries are ranked on a 100-point scale, with 0 and 100 being the best and worst possible scores, respectively.
What are the consequences and implications?

Hunger is one of the world’s major problems and, therefore, one of its most important challenges. Hunger and undernourishment form a vicious circle, which is often “passed on” from generation to generation. The children of impoverished parents are often born underweight and are less resistant to disease; they grow up under conditions that impair their intellectual capacity for their whole lives. Factors that contribute to a high global hunger index have been identified as low income and poverty, war and violent conflict, general lack of freedom, low women’s status, and poorly targeted and delivered health and nutrition programmes.

GHI severity scale

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Severity scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHI</td>
<td>≥50: extremely alarming</td>
</tr>
<tr>
<td></td>
<td>35–49.9: alarming</td>
</tr>
<tr>
<td></td>
<td>20–34.9: serious</td>
</tr>
<tr>
<td></td>
<td>10–19.9: moderate</td>
</tr>
<tr>
<td></td>
<td>≤9.9: low</td>
</tr>
</tbody>
</table>

Source: International Food Policy Research Institute. Understanding the GHI.

Source of data


Further reading


Internet resources

IFPRI. Understanding the GHI (https://www.globalhungerindex.org/about/#ghi-severity).

IFPRI. Global hunger index reports (https://www.ifpri.org/previous-global-hunger-index-ghi-reports).


Human development index (HDI)

What does this indicator tell us?

The HDI is a summary measure of human development.

How is this indicator defined?
The HDI is a summary composite measure of a country's average achievements in three basic aspects of human development: health, knowledge and standard of living. It is a measure of a country's average achievements in three dimensions of human development:

- a long and healthy life, as measured by life expectancy at birth;
- knowledge, as measured by mean years of schooling and expected years of schooling; and
- a decent standard of living, as measured by GNI per capita in PPP terms in US$.

The HDI sets a minimum and a maximum for each dimension, called “goalposts”, then shows where each country stands in relation to these goalposts. This is expressed as a value between 0 and 1. The higher a country's human development, the higher its HDI value.

What are the consequences and implications?

The HDI is used to capture the attention of policy-makers, the media and nongovernmental organizations, and to change the focus from the usual economic statistics to human outcomes. It was created to re-emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth.

The HDI is also used to question national policy choices and to determine how two countries with the same level of income per person can have widely different human development outcomes. For example, two countries may have similar incomes per person, but have drastically differing life expectancy and literacy levels, such that one of the countries has a much higher HDI than the other. These contrasts stimulate debate on government policies concerning health and education to determine why what can be achieved in one country is beyond the reach of the other.

The HDI is also used to highlight differences within countries, between provinces or states, and across genders, ethnicities and other socioeconomic groupings. Highlighting internal disparities along these lines has raised the national debate in many countries.

Source of data


Further reading


Internet resources


Retention and school drop-out

What does this indicator tell us?

This indicator is the percentage of female and male pupils starting first grade who reach the last grade of primary education; it is a measure of the success of an education system in retaining students from one grade to the next, as well as its internal efficiency. It illustrates the schools’ retention of pupils from grade to grade and, conversely, the drop-out rate by grade. This indicator relates to SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

How is this indicator defined?
The proportion of pupils starting in the first grade who reach the last grade of primary education, known as the “survival rate to last grade of primary”, is the percentage of a cohort of pupils in a given school year enrolled in the first grade of primary education who are expected to reach the last grade of primary school, regardless of repetition. The survival rate is a percentage of the cohort of pupils (i.e. children who have already entered school), not a percentage of all school-aged children.

What are the implications?

Level of education, especially among women, plays a role in a child’s nutritional status. Every additional year of female education reduces child mortality by 5–10%. A recent analysis found that the risk of stunting was significantly lower among mothers with primary schooling, and even more so among mothers with secondary schooling, although the exact pathways have not been tested.

Source of data


Further reading


Under-five mortality

What does this indicator tell us?

This indicator is the number of children who die by the age of 5 years, per 1000 live births. It is an indicator for SDG 3: “Ensure healthy lives and promote well-being for all at all ages”. It is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

The mortality rate of children aged under 5 years is the probability that a child born in a specific year or period will die before reaching the age of 5 years, subject to the age-specific mortality rates of that period.

What are the consequences and implications?

This indicator is linked to internationally recognized goals for general development standards and children’s rights. Similar to the infant mortality rate, the mortality rate of children aged under 5 years is a baseline indicator of how a country is progressing towards assuring children’s rights – in particular, their rights to life, health care services, nutrition, water, social security and protection. Article 24 of the United Nations Convention on the Rights of the Child specifically obliges all States to take appropriate measures to reduce the child death rate.

Source of data
WHO. Global Health Observatory (GHO) data repository. Number of under-five deaths (thousands). Data by country (http://apps.who.int/gho/data/view.main.CM1320N).

Further reading


Internet resources


Female education levels

What does this indicator tell us?

This indicator is a country’s level of education among women of reproductive age.

How is this indicator defined?

This indicator gives the percentage distribution of women aged 15–49 years by the highest level of schooling attended or completed.

What are the consequences and implications?

Gender parity in education is important, not only because education is a fundamental human right for all, but also because educated girls tend to marry later and have fewer, healthier and better nourished children. Recent analyses have found that the risk of stunting is significantly lower among mothers with primary schooling, and even more so among mothers with secondary schooling, although the exact pathways have not been tested.

Source of data

Demographic and health surveys (DHS) program STATcompiler (http://www.statcompiler.com/).

Further reading


Nutrition Landscape Information System (NLiS)

Country profile indicators interpretation guide

2nd edition
Nutrition Landscape Information System (NLiS) country profile indicators: interpretation guide, second edition


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CONTENTS

Acknowledgements .............................................................................................................. v
Abbreviations and acronyms ............................................................................................ vi
Introduction .......................................................................................................................... 1
Malnutrition in children ...................................................................................................... 2
  Stunting, wasting, overweight and underweight ............................................................... 2
  Low birth weight .............................................................................................................. 4
  Overweight in school-age children and adolescents ....................................................... 5
Malnutrition in women ....................................................................................................... 7
  Moderate and severe thinness, underweight, overweight and obesity ......................... 7
Vitamin and mineral deficiencies ....................................................................................... 9
  Anaemia .......................................................................................................................... 9
  Vitamin A deficiency ..................................................................................................... 11
  Iodine deficiency .......................................................................................................... 12
Health services .................................................................................................................. 15
  Antenatal iron supplementation .................................................................................... 15
  Births attended by skilled health personnel ................................................................. 16
  Births in baby-friendly facilities .................................................................................... 17
  Mothers of children aged 0–23 months receiving counselling, support or messages on
  optimal breastfeeding .................................................................................................... 18
  Availability of national-level provision for breastfeeding counselling services in public
  health and/or nutrition programmes .............................................................................. 19
  Children aged 1 year immunized against measles ....................................................... 21
  Children aged 6–59 months receiving vitamin A supplements ..................................... 21
  Children <5 years with diarrhoea receiving oral rehydration solution (ORS) .................. 22
  Children <5 years with diarrhoea receiving oral rehydration solution (ORS) and zinc
  supplement ..................................................................................................................... 23
  Improved sanitation facilities and drinking-water sources ........................................... 24
Food security ....................................................................................................................... 26
  Population with less than the minimum dietary energy consumption (prevalence of
  undernourishment) ........................................................................................................ 26
  Households consuming adequately iodized salt (≥15 parts per million) ...................... 27
  Population below the international poverty line .......................................................... 28
Caring practices ................................................................................................................... 29
  Infant and young child feeding ..................................................................................... 29
  Children <5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued
  feeding ............................................................................................................................ 34
  Adolescent birth rate (per 1000 women aged 15–19 years) .......................................... 34
Commitment ......................................................................................................................... 36
  Health expenditure ....................................................................................................... 36
  Nutrition component of the United Nations Development Assistance Framework/United
  Nations Sustainable Development Cooperation Framework ......................................... 37
  Nutrition component of poverty reduction strategy papers .......................................... 38
  Nutrition governance .................................................................................................... 39
  Monitoring and enforcement of the International Code of Marketing of Breast-milk
  Substitutes ....................................................................................................................... 41
Maternity protection indicators .......................................................... 42

Capacity ................................................................................................. 45
Degree training in nutrition exists ........................................................ 45
Nutrition is part of medical curricula .................................................... 46
Density of trained nutrition professionals per 100,000 population .... 46
Density of nurses and midwives ............................................................. 47
Gross domestic product (GDP) per capita and GDP per capita annual growth rate .... 48
Official development assistance (ODA) received ................................ 49
Low-income food-deficit countries ....................................................... 50

Meta-indicators ....................................................................................... 52
Seats held by women in national parliament ....................................... 52
Averaged aggregate governance indicators ........................................ 52
Gender inequality index (GII) ................................................................. 54
Gender parity index in primary education enrolment ......................... 55
Global hunger index (GHI) .................................................................. 55
Human development index (HDI) .......................................................... 56
Retention and school drop-out .............................................................. 57
Under-five mortality .............................................................................. 58
Female education levels ....................................................................... 59
Acknowledgements

Development of the Nutrition Landscape Information System (NLIS) was one of three parallel activities of the Landscape Analysis project initiated in 2008. The other activities were the development of country typologies for “readiness” to accelerate action through the desk review, and the implementation of in-depth country assessments. The development of the NLIS was intended to raise awareness of, and concern about, the country profiles among country policy-makers and other stakeholders, including donors. Bringing together various existing nutrition-related databases in WHO, as well as those of other partner agencies would help presenting nutrition actions in a more comprehensive way.

The NLIS has since evolved and has been updated over the years to include other relevant indicators, such as the indicators of the Global Nutrition Monitoring Framework developed to monitor the progress towards achieving the Global Nutrition Targets 2025. The NLiS Country Profile Indicator Interpretation Guide is a living document that may be updated based on new research or feedback from users.

Special acknowledgement is made to the Bill & Melinda Gates Foundation for supporting the implementation of the Landscape Analysis on Countries’ Readiness to Accelerate Action in Nutrition. This support included the development of NLiS throughout 2008–2011, and its maintenance and further development throughout 2012–2019.

We also express our deep appreciation to the governments and the intersectoral and interagency country teams in respective countries who have undertaken the Landscape Analysis country assessments; to those who have shown great interest in undertaking these country assessments; and to the members of the Partner Agency Group, including United Nations (UN) agencies – in particular the Food and Agriculture Organization of the UN (FAO), the UN Children’s Fund (UNICEF), the UN System Standing Committee on Nutrition (UNSCN), the World Food Programme (WFP) and the World Bank – bilateral agencies, nongovernmental organizations (in particular, Helen Keller International and the Global Alliance for Improved Nutrition [GAIN]), research and academic institutions (e.g. the Medical Research Council in South Africa), and a number of collaborating experts who have provided support and guidance at various stages of the preparations and implementation of the Landscape Analysis.
Abbreviations and acronyms

AIDS acquired immunodeficiency syndrome
BFHI Baby-friendly Hospital Initiative
BMI body mass index
GDP gross domestic product
GGHE general government expenditure on health
GHO Global Health Observatory
GII gender inequality index
GHI global hunger index
GNI gross national income
HDI human development index
HIV human immunodeficiency virus
IBFAN International Baby Food Action Network
IFPRI International Food Policy Research Institute
ILO International Labour Organization
INLPR International Network on Leave Policies and Research
IQ intelligence quotient
ISSA International Social Security Association
IU international units
LIFDC low-income food-deficit countries
MAD minimum acceptable diet
MDD minimum dietary diversity
NCD noncommunicable disease
NLIS Nutrition Landscape Information System
ODA official development assistance
ORS oral rehydration solution
ORT oral rehydration therapy
PPP purchasing power parity
PRSP poverty reduction strategy paper
SD standard deviation
SDG Sustainable Development Goal
UN United Nations
UNDAF United Nations Development Assistance Framework
UNDG United Nations Development Group
UNDP United Nations Development Programme
UNICEF United Nations Children’s Fund
WHO World Health Organization
Introduction

The Nutrition Landscape Information System (NLiS) was originally developed as part of the World Health Organization’s (WHO’s) Landscape Analysis on Readiness to Accelerate Action in Nutrition initiated in 2008. But it has since evolved and has been updated over the years to include other relevant indicators. Although many individual sources of data are publicly available, it can be a challenge to systematically identify, collect and organize those data, and to monitor any updates as new data become available. Therefore, the main aims of NLiS are the following:

- **Bring together nutrition-related indicators in a standardized form.** NLiS ensures access to a variety of nutrition indicators, as well as health, food, care, development and economic indicators related to nutrition, in a single easy-to-access and user-friendly location.

- **Track changes over time and monitor progress.** This comprehensive data collection system includes data from multiple time points, including both historical and recent data; also, it has the capacity to incorporate data from future time points as these become available.

- **Generate easy-to-interpret country profiles.** The concise country profiles include selected nutrition indicators and related indicators, and use visual presentations. They provide an easy-to-understand snapshot of key nutrition, health and development indicators at a national level, and are a powerful advocacy tool for communicating with policy-makers who might not have a background in health or nutrition.

NLiS now also incorporates the 21 indicators of the Global Nutrition Monitoring Framework, to monitor progress towards achieving the Global Nutrition Targets 2025. Those targets were endorsed by WHO’s Member States at the 65th World Health Assembly in 2012, and at the Second International Conference on Nutrition (ICN2) in 2014 and subsequently incorporated into the 2030 Sustainable Development Goals in 2015.

NLiS currently draws publicly available data from WHO, the United Nations Children’s Fund (UNICEF), the UN Statistics Division, the UN Development Programme (UNDP), the Food and Agriculture Organization of the UN (FAO), demographic and health surveys, the World Bank, the International Food Policy Research Institute (IFPRI) and the International Labour Organization (ILO). These data from external sources are being combined with data from the WHO global nutrition databases, which are brought together dynamically. Through this, NLiS has achieved:

- **efficiency** – improved access to comprehensive nutrition information across multiple sources;
- **integration** – combined information, leading to more integrated approaches to nutrition interventions;
- **timeliness** – linked dynamically to WHO global nutrition databases;
- **accessibility** – easy access to quality information, leading to more informed decision-making; and
- **comprehensiveness** – most indicators being available for all countries.

This interpretation guide provides information on all indicators included in the country profiles. For each indicator, the following aspects are addressed:

- What does this indicator tell us?
- How is this indicator defined?
- What are the consequences and implications?
- Data source, further reading and internet resources.
Malnutrition in children

**Stunting, wasting, overweight and underweight**

*What do these indicators tell us?*

The indicators stunting, wasting, overweight and underweight are used to measure nutritional imbalance; such imbalance results in either undernutrition (assessed from stunting, wasting and underweight) or overweight. Child growth is internationally recognized as an important indicator of nutritional status and health in populations.

The percentage of children with a low height-for-age (stunting) reflects the cumulative effects of undernutrition and infections since birth, and even before birth. This measure can therefore be interpreted as an indication of poor environmental conditions or long-term restriction of a child's growth potential. The percentage of children who have low weight-for-age (underweight) can reflect wasting (i.e. low weight-for-height), indicating acute weight loss or stunting, or both. Thus, underweight is a composite indicator that may be difficult to interpret.

Stunting, wasting and overweight in children aged under 5 years are included as primary outcome indicators in the core set of indicators for the *Global Nutrition Monitoring Framework* to monitor progress towards reaching Global Nutrition Targets 1, 4 and 6. These three indicators are also included in WHO's *Global reference list of 100 core health indicators*.

*How are these indicators defined?*

These indicators are defined as follows:

- **Stunting** – height-for-age <-2 SD of the WHO Child growth standards median;
- **Wasting** – weight-for-height <-2 SD of the WHO Child growth standards median; and
- **Overweight** – weight-for-height >+2 SD of the WHO Child growth standards median;
- **Underweight** – weight-for-age <-2 standard deviations (SD) of the WHO Child growth standards median;

*What are the consequences and implications?*

**Stunting** – Children who suffer from growth retardation as a result of poor diets or recurrent infections tend to be at greater risk for illness and death. Stunting is the result of long-term nutritional deprivation, and often results in delayed mental development, poor school performance and reduced intellectual capacity. In turn, this affects economic productivity at the national level. Women of short stature are at greater risk for obstetric complications because of a smaller pelvis. Also, small women are at greater risk of delivering an infant with low birth weight, contributing to the intergenerational cycle of malnutrition, because infants of low birth weight or retarded intrauterine growth tend be smaller as adults.

**Wasting** – Wasting in children is a symptom of acute undernutrition, usually as a consequence of insufficient food intake or a high incidence of infectious diseases, especially diarrhoea. In turn, wasting impairs the functioning of the immune system and can lead to increased severity and duration of, and susceptibility to, infectious diseases, and an increased risk of death.

**Overweight** – Childhood obesity is associated with a higher probability of obesity in adulthood, which can lead to a variety of disabilities and diseases, such as diabetes and cardiovascular diseases. The risks for most noncommunicable diseases (NCDs) resulting from obesity depend partly on the age at onset and the duration of obesity. Obese children and adolescents are likely to suffer from both short-term and long-term health consequences, the most significant being:

- cardiovascular diseases, mainly heart disease and stroke
• diabetes
• musculoskeletal disorders, especially osteoarthritis and
cancers of the endometrium, breast and colon.

*Underweight* – Weight is easy to measure; hence, this is the indicator for which most data have been collected in the past. The mortality risk is increased in children who are even mildly underweight, and the risk is even greater in severely underweight children.

**Cut-off values for public health significance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
</table>
| Stunting    | <2.5%: very low  
               2.5 to <10%: low  
               10 to <20%: medium  
               20 to <30%: high  
               ≥30%: very high |
| Wasting     | <2.5%: very low  
               2.5 to <5%: low  
               5 to <10%: medium  
               10 to <15%: high  
               ≥15%: very high |
| Overweight  | <2.5%: very low  
               2.5 to <5%: low  
               5 to <10%: medium  
               10 to <15%: high  
               ≥15%: very high |


**Source of data**

([http://www.who.int/nutgrowthdb/estimates](http://www.who.int/nutgrowthdb/estimates))

WHO. Global database on child growth and malnutrition ([http://www.who.int/nutgrowthdb/en/](http://www.who.int/nutgrowthdb/en/)).

**Further reading**


Low birth weight

What does this indicator tell us?

At a population level, the proportion of infants with a low birth weight is an indicator of a multifaceted public health problem that includes long-term maternal malnutrition, ill-health and poor health care in pregnancy.

Low birth weight is included as a primary outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

Low birth weight has been defined by WHO as weight at birth of <2500 g (5.5 pounds).

What are the consequences and implications?

Low birth weight is caused by intrauterine growth restriction, prematurity or both. It contributes to a range of poor health outcomes; for example, it is closely associated with fetal and
neonatal mortality and morbidity, inhibited growth and cognitive development, and NCDs later in life. Low birth weight infants are about 20 times more likely to die than heavier infants.

Low birth weight is more common in developing than developed countries. However, data on low birth weight in developing countries is often limited because a significant portion of deliveries occur in homes or small health facilities, where cases of infants with low birth weight often go unreported. These cases are not reflected in official figures and may lead to a significant underestimation of the prevalence of low birth weight.

Source of data

UNICEF-WHO Joint Database on Low birth weight. (http://data.unicef.org/nutrition/low-birthweight; https://www.who.int/nutgrowthdb/lbw-estimates)

WHO. Global Health Observatory (GHO) data repository. Low birth weight, prevalence (%) (Child malnutrition) (http://apps.who.int/gho/data/view.main.LBW COUNTRYv).

Further reading


Internet resources


WHO. Global targets 2025 to improve maternal, infant and young child nutrition (http://who.int/nutrition/global-target-2025/en/).


Target 3: 30% reduction in low birth weight (http://www.who.int/elena/global-targets/en/#lowbirthweight).

Overweight in school-age children and adolescents

What does this indicator tell us?

This indicator reflects the percentage of school-age children and adolescents aged 5–19 years who are classified as overweight, based on age- and sex-specific values for body mass index (BMI). Overweight indicates excess body weight for a given height from fat, muscle, bone, water or a combination of these factors, whereas obesity is defined as having excess body fat.

Overweight in school-age children and adolescents aged 5–19 years is included as an intermediate outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It is also included in the NCD global monitoring framework, and in the WHO Global reference list of 100 core health indicators.
How is this indicator defined?

Prevalence of overweight in school-age children and adolescents is defined as the percentage of children aged 5–19 years with sex-specific BMI-for-age >+1 SD above the WHO 2007 reference median.

What are the consequences and implications?

The immediate consequences of overweight and obesity in school-age children and adolescents include a greater risk of asthma and cognitive impairment, in addition to the social and economic consequences for the child, for the child’s family and for society. In the long term, overweight and obesity in children increase the risk of health problems later in life, including obesity, diabetes, heart disease, some cancers, respiratory disease, mental health and reproductive disorders. Furthermore, obesity and overweight track over the life-course – an overweight adolescent girl is more likely to become an overweight woman; thus, her baby is likely to have a heavier birth weight.

Source of data

WHO. Global Health Observatory (GHO) data repository. Prevalence of overweight among children and adolescents, BMI > +1 standard deviations above the median, crude. (crude estimate) (%)(Noncommunicable diseases). Estimates by country, among children aged 5-19 years (http://apps.who.int/gho/data/view.main.BMIPLUS1C05-19v).

Further reading


Internet resources


WHO. Commission on ending childhood obesity (http://www.who.int/end-childhood-obesity/en/).


Target 7: Halt the rise in diabetes and obesity (http://www.who.int/elena/global-targets/en/#diabetesobesity).
Malnutrition in women

**Moderate and severe thinness, underweight, overweight and obesity**

*What do these indicators tell us?*

The values for BMI are age-independent for adult populations, and are the same for both genders. However, BMI may not correspond to the same degree of fatness in different populations, in part because of different body proportions. The health risks associated with increasing BMI are continuous, and the interpretation of the BMI grading in relation to risk may differ for different populations.

Proportions of underweight in women aged 15–49 years and of overweight in women aged 18 years or more are included as intermediate outcome indicators in the core set of indicators for the *Global Nutrition Monitoring Framework*. Adult overweight is also included in the *NCD global monitoring framework*, and in the WHO *Global reference list of 100 core health indicators*. Underweight in women aged 15–49 years is included as an additional indicator in the WHO *Global reference list of 100 core health indicators*.

*How are these indicators defined?*

BMI is a simple index of weight-to-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). For example, an adult who weighs 58 kg and has a height of 1.70 m will have a BMI of 20.1, where BMI = 58 kg/(1.70 m × 1.70 m) = 20.1. BMI values indicate the following:

- **BMI <17.0:** moderate and severe thinness
- **BMI <18.5:** underweight
- **BMI 18.5–24.9:** normal weight
- **BMI ≥25.0:** overweight
- **BMI ≥30.0:** obesity.

*What are the consequences and implications?*

**Moderate and severe thinness** – A BMI <17.0 indicates moderate and severe thinness in adult populations. It has been clearly linked to increases in illness in adults studied in three continents; therefore, it is a reasonable value to choose as a cut-off point for moderate risk. A BMI <16.0 is known to be associated with a markedly increased risk for ill-health, poor physical performance, lethargy and even death; therefore, this cut-off point is a valid extreme limit.

**Underweight** – The cut-off point of a BMI of 18.5 for underweight in both genders has less experimental validity as a cut-off point for moderate and severe thinness, but is a reasonable value for use pending further comprehensive studies. The proportion of the population with a low BMI that is considered to be a public health problem is closely linked to the resources available for correcting the problem, the stability of the environment and government priorities. About 3–5% of a healthy adult population has a BMI <18.5.

**Overweight** – A BMI ≥25 signifies overweight; it is a major determinant of many NCDs (e.g. non-insulin-dependent diabetes mellitus, coronary heart disease and stroke), and it increases the risks for several types of cancer, gallbladder disease, musculoskeletal disorders and respiratory symptoms. In some populations, the metabolic consequences of weight gain start at modest levels of overweight.
Obesity – A BMI ≥30 signifies obesity, which is a disease that is largely preventable through lifestyle changes. The costs attributable to obesity are high, not only in terms of premature death and health care, but also in terms of disability and a diminished quality of life.

**Cut-off values for public health significance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult BMI &lt;18.5 (underweight)</td>
<td>5–9%: low prevalence (warning sign, monitoring required)</td>
</tr>
<tr>
<td></td>
<td>10–19%: medium prevalence (poor situation)</td>
</tr>
<tr>
<td></td>
<td>20–39%: high prevalence (serious situation)</td>
</tr>
<tr>
<td></td>
<td>≥40%: very high prevalence (critical situation)</td>
</tr>
</tbody>
</table>

BMI: body mass index


**Sources of data**


**Further reading**


**Internet resources**

WHO. Obesity and other diet-related chronic diseases list of publications. (http://www.who.int/nutrition/publications/obesity/en/).


Target 7: Halt the rise in diabetes and obesity (http://www.who.int/elena/global-targets/en/#diabetescobesity).
Vitamin and mineral deficiencies

**Anaemia**

*What does this indicator tell us?*

The indicator anaemia has a wide variety of causes. Iron deficiency is considered to be the most common cause of anaemia; other causes include acute and chronic infections that result in inflammation and blood loss; deficiencies of other vitamins and minerals, especially folate, vitamin B₁₂ and vitamin A; and genetically inherited traits, such as thalassaemia. Other conditions (e.g. malaria and other infections, genetic disorders, and cancer) can also play a role in anaemia. The terms “iron-deficiency anaemia” and “anaemia” are often used synonymously; also, the prevalence of anaemia has often been used as a proxy for iron-deficiency anaemia, although the degree of overlap between the two varies considerably from one population to another, according to gender and age.

Anaemia prevalence among pregnant and non-pregnant women are included as primary outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework. These indicators are used to monitor progress towards achieving Global Nutrition Target 2, which is a 50% reduction in anaemia among women of reproductive age by 2025. Anaemia in women of reproductive age and in children are also included in the WHO Global reference list of 100 core health indicators.

*How is this indicator defined?*

Anaemia is defined as a haemoglobin concentration below a specified cut-off point; that cut-off point depends on the age, gender, physiological status, smoking habits and altitude at which the population being assessed lives. WHO defines anaemia in children aged under 5 years and pregnant women as a haemoglobin concentration <110 g/L at sea level, and anaemia in non-pregnant women as a haemoglobin concentration <120 g/L.

Tests to measure haemoglobin levels are easy to administer. A few drops of blood obtained by a finger-stick can be used to assess haemoglobin concentrations in the field using a portable haemoglobinometer. The test could be easily integrated into regular health or prenatal visits or household surveys, to capture women of reproductive age, although the cost of the equipment and regular calibration needs to be taken into account.

*What are the consequences and implications?*

Anaemia is associated with increased risks for maternal and child mortality. Iron-deficiency anaemia reduces the work capacity of individuals and entire populations, with serious consequences for the economy and national development. In addition, the negative consequences of iron-deficiency anaemia on the cognitive and physical development of children and on physical performance – particularly the work productivity of adults – are major concerns. Anaemia is a global problem affecting all countries. Resource-poor areas are often more heavily affected because of the prevalence of infectious diseases. Malaria, HIV/AIDS, hookworm infestation, schistosomiasis and other infections such as tuberculosis contribute to the high prevalence of anaemia in some areas.

The main risk factors for iron-deficiency anaemia include a low dietary intake of iron or poor absorption of iron from diets rich in phytates or phenolic compounds. Population groups with greater iron requirements, such as growing children and pregnant women, are particularly at risk. Overall, the most vulnerable, poorest and least educated groups are disproportionately affected by iron-deficiency anaemia.
Cut-off values for public health significance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>&lt;5%: no public health problem 5–19%: mild public health problem 20–39%: moderate public health problem ≥40%: severe public health problem</td>
</tr>
</tbody>
</table>


Sources of data

WHO. Global Health Observatory (GHO) data repository.

Further reading


Internet resources


**Vitamin A deficiency**

What does this indicator tell us?

Vitamin A deficiency results from a dietary intake of vitamin A that is inadequate to satisfy physiological needs. It may be exacerbated by high rates of infection, especially diarrhoea and measles. It is common in developing countries, but rarely seen in developed countries. Vitamin A deficiency is a public health problem in more than half of all countries, especially those in Africa and South-East Asia. The most severe effects of this deficiency are seen in young children and pregnant women in low-income countries.

How is this indicator defined?

Vitamin A deficiency can be defined clinically or subclinically. Xerophthalmia is the clinical spectrum of ocular manifestations of vitamin A deficiency; these range from the milder stages of night blindness and Bitot spots to the potentially blinding stages of corneal xerosis, ulceration and necrosis (keratomalacia). The various stages of xerophthalmia are regarded both as disorders and clinical indicators of vitamin A deficiency. Night blindness (in which it is difficult or impossible to see in relatively low light) is one of the clinical signs of vitamin A deficiency, and is common during pregnancy in developing countries. Retinol is the main circulating form of vitamin A in blood and plasma. Serum retinol levels reflect liver vitamin A stores when they are severely depleted or extremely high; however, between these extremes, plasma or serum retinol is homeostatically controlled and hence may not correlate well with vitamin A intake. Therefore, serum retinol is best used for the assessment of subclinical vitamin A deficiency in a population (not in an individual). Blood concentrations of retinol in plasma or serum are used to assess subclinical vitamin A deficiency. A plasma or serum retinol concentration <0.70 μmol/L indicates subclinical vitamin A deficiency in children and adults, and a concentration of <0.35 µmol/L indicates severe vitamin A deficiency.

What are the consequences and implications?

Night blindness is one of the first signs of vitamin A deficiency. In its more severe forms, vitamin A deficiency contributes to blindness by making the cornea very dry, thus damaging the retina and cornea. An estimated 250 000–500 000 children who are vitamin A-deficient become blind every year, and half of them die within 12 months of losing their sight. Deficiency of vitamin A is associated with significant morbidity and mortality from common childhood infections, and is the world’s leading preventable cause of childhood blindness. Vitamin A deficiency also contributes to maternal mortality and other poor outcomes of pregnancy and lactation. It also diminishes the ability to fight infections. Even mild, subclinical deficiency can be a problem, because it may increase children’s risk for respiratory and diarrhoeal infections, decrease growth rates, slow bone development and decrease the likelihood of survival from serious illness.

**Cut-off values for public health significance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Prevalence cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum or plasma retinol &lt;0.70 μmol/L in preschool-age children</td>
<td>&lt;2%: no public health problem&lt;br&gt;2–9%: mild public health problem&lt;br&gt;10–19%: moderate public health problem&lt;br&gt;≥20%: severe public health problem</td>
</tr>
<tr>
<td>Night blindness (XN) in pregnant women</td>
<td>≥5%: moderate public health problem</td>
</tr>
</tbody>
</table>

**Source of data**


**Further reading**


**Internet resources**

WHO. Vitamin A deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/vitamin_a_deficiency/en/).


---

**Iodine deficiency**

**What does this indicator tell us?**

This indicator allows an assessment of iodine deficiency at the population level. Iodine is an essential trace element that is present in the thyroid hormones, thyroxine and triiodothyronine. It occurs most frequently in areas where there is little iodine in the diet – typically, these are remote inland areas where no marine foods are eaten. Urinary iodine concentration in children aged 6–12 years is included as an additional indicator in the WHO Global reference list of 100 core health indicators.

**How is this indicator defined?**

Although goitre assessment by palpation or ultrasound may be useful for assessing thyroid function, results are difficult to interpret once salt iodization programmes have started. The median urinary iodine concentration is considered to be the main indicator of iodine status for all age groups, because its measurement is relatively non-invasive, cost-efficient and easy to perform. Since most of the iodine absorbed by the body is excreted in the urine, it is considered to be a sensitive marker of current iodine intake and can reflect recent changes in iodine status. Median urinary iodine concentrations have been most commonly measured in school children aged 6–12 years, because it is easy to access this population.

For school-age children (≥6 years of age), an adequate iodine level is defined as a population median urinary iodine concentration of 100–199 μg/L, whereas a population median of <100 μg/L indicates that the population’s iodine intake is insufficient. When the population median is <20 μg/L, the population is described as having severe iodine deficiency; at 20–49 μg/L, it is described as having moderate iodine deficiency; and at 50–99 μg/L, it is described as having mild iodine deficiency. A population of school-age children should have a median urinary iodine concentration of at least 100 μg/L, with less than 20% of values being <50 μg/L. For pregnant women, the median urinary iodine should be between 150 μg/L and 249 μg/L.
What are the consequences and implications?

Iodine-deficiency disorders, which can start before birth, jeopardize children’s mental health and often their very survival. During the neonatal period, childhood and adolescence, iodine-deficiency disorders can lead to hypothyroidism and hyperthyroidism. Serious iodine deficiency during pregnancy can result in stillbirth, spontaneous abortion and congenital abnormalities such as cretinism – a grave, irreversible form of mental retardation that affects people living in iodine-deficient areas of Africa and Asia. Of even greater significance is the less visible, yet pervasive, mental impairment that reduces intellectual capacity at home, in school and at work.

Cut-off values for public health significance in different target groups

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Concentration cut-off values for public health significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine deficiency measured by median urinary iodine concentration (μg/L) in school-age children (≥6 years)</td>
<td>Concentration</td>
</tr>
<tr>
<td>&lt;20 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>20–49 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>50–99 μg/L</td>
<td>Insufficient</td>
</tr>
<tr>
<td>100–199 μg/L</td>
<td>Adequate</td>
</tr>
<tr>
<td>200–299 μg/L</td>
<td>Above requirements</td>
</tr>
<tr>
<td>≥300 μg/L</td>
<td>Excessive&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

| Iodine deficiency measured by median urinary iodine concentration (μg/L) in pregnant women | Concentration | Iodine intake | Iodine status |
|<150 μg/L | Insufficient |
| 150–249 μg/L | Adequate |
| 250–499 μg/L | Above requirements |
| ≥500 μg/L | Excessive<sup>b</sup> |

| Iodine deficiency measured by median urinary iodine concentration (μg/L) in lactating women and children aged <2 years | Concentration | Iodine intake | Iodine status |
|<100 μg/L | Insufficient |
| ≥100 μg/L | Adequate |

<sup>a</sup> Applies to adults, but not to pregnant and lactating women; <sup>b</sup> The term “excessive” means “in excess of the amount required to prevent and control iodine deficiency”; <sup>c</sup> Although lactating women have the same requirement as pregnant women, the median urinary iodine concentration is lower because iodine is excreted in breast milk.

Source of data


Further reading


Internet resources


WHO. Iodine deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/iodine_deficiency/en/).

Health services

Antenatal iron supplementation

What does this indicator tell us?

This indicator reflects the percentage of women who consumed any iron-containing supplements during their current or previous pregnancy within the past 2 years. It provides information about the quality and coverage of perinatal medical services.

Daily iron and folic acid supplementation is currently recommended by WHO as part of antenatal care, to reduce the risk of low birth weight, maternal anaemia and iron deficiency. It is suggested that the supplement contains 30–60 mg of iron, with the higher dose preferred in settings where anaemia in pregnant women is a severe public health problem (≥40%), along with 400 µg of folic acid. Daily supplementation throughout pregnancy, beginning as early as possible after conception, is recommended in all settings. Despite its proven efficacy and wide inclusion in antenatal care programmes, the use of iron and folic acid supplementation has been limited in programme settings. Possible reasons for this include a lack of compliance, concerns about the safety of the intervention among women with an adequate iron intake, and variable availability of the supplements at community level. Intermittent use of iron and folic acid supplements by non-anaemic women is a recommended alternative to prevent anaemia and improve gestational outcomes in areas where the prevalence of anaemia among pregnant women is lower than 20%. The suggested dose is 120 mg elemental iron and 2800 µg (2.8 mg) folic acid provided weekly throughout the pregnancy, beginning as early as possible after conception.

This indicator is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the proportion of women who consumed any iron-containing supplements during their current or previous pregnancy within the past 2 years. Data can be reported on any iron-containing supplement, including iron and folic acid tablets, multiple micronutrient tablets or powders, or iron-only tablets (which will vary, depending on the country policy).

What are the consequences and implications?

Improving the intake of iron and folic acid by women of reproductive age could improve pregnancy outcomes, and improve maternal and infant health. Iron and folic acid supplementation is used to improve the iron and folate status of women before and during pregnancy, in communities where food-based strategies are not yet fully implemented or effective. Folic acid supplementation (with or without iron) provided before conception and during the first trimester of pregnancy is also recommended for decreasing the risk of neural tube defects.

Anaemia during pregnancy places women at risk for poor pregnancy outcomes, including maternal mortality; it also increases the risks for perinatal mortality, premature birth and low birth weight. Infants born to anaemic mothers have less than one half the normal iron reserves. Morbidity from infectious diseases is increased in iron-deficient populations, owing to the adverse effect of iron deficiency on the immune system. Iron deficiency is also associated with reduced work capacity and reduced neurocognitive development.

Source of data

Demographic and health surveys (DHS) program STATcompiler (http://www.statcompiler.com).
Further reading


Internet resources

WHO. Global targets 2025 to improve maternal, infant and young child nutrition. (http://who.int/nutrition/global-target-2025/en/).

WHO. e-Library of Evidence for Nutrition Actions (eLENA)

- Daily iron and folic acid daily supplementation during pregnancy (http://www.who.int/entity/elenatitles/daily_iron_pregnancy/en).
- Intermittent iron and folic supplementation in non-anaemic pregnant women (http://www.who.int/elenatitles/guidance_summaries/intermittent_iron_pregnancy/en/)

Births attended by skilled health personnel

What does this indicator tell us?

The births attended by skilled health personnel indicator measures the health system’s ability to provide sufficient care during birth – a period of high risk of morbidity and mortality. In NLiS, it is used as a proxy for access to health services and maternal care. This indicator is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator gives the percentage of live births attended by skilled health personnel in a given period. A skilled birth attendant is an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (i.e. uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of women and neonates for complications. Traditional birth attendants, whether trained or not, are excluded from the category of “skilled attendant at delivery”.

In developed countries and in many urban areas in developing countries, skilled care at delivery is usually provided in health facilities. Births do, however, take place in various other appropriate places, from homes to tertiary referral centres, depending on availability and need. WHO does not recommend a particular setting for giving birth. Home delivery may be appropriate for normal births, provided that the person attending the delivery is suitably trained and equipped, and that referral to a higher level of care is an option; however, this may lead to an overestimation of births attended by skilled personal, because infants delivered outside of a health facility may not have their birth method recorded.
What are the consequences and implications?

All women should have access to skilled care during pregnancy and at delivery, to ensure the detection and management of complications. One woman dies needlessly of pregnancy-related causes every minute, representing more than half a million mothers lost each year, a figure that has improved little over recent decades. Another 8 million or more women experience lifelong health consequences from the complications of pregnancy. Every woman, rich or poor, has a 15% risk for complications around the time of delivery, but almost no maternal deaths occur in developed regions. The lack of progress in reducing maternal mortality in many countries often reflects the low value placed on the lives of women and their limited role in setting public priorities. The lives of many women in developing countries could be saved by reproductive health interventions that people in rich countries take for granted, such as the presence of skilled health personnel at delivery.

Source of data

WHO. Global Health Observatory (GHO) data repository. Births attended by skilled health personnel. Data by country (http://apps.who.int/gho/data/view.main.GSWCAH02v).

Further reading


Births in baby-friendly facilities

What does this indicator tell us?

The Baby-friendly Hospital Initiative (BFHI), launched by WHO and UNICEF in 1991, is part of a global effort to protect, promote and support optimal breastfeeding practices. To be designated as “baby-friendly”, facilities must implement the Ten steps to successful breastfeeding to protect, promote and support breastfeeding. This indicator reflects the proportion of babies born in facilities that have been designated as baby-friendly.

The indicator “Proportion of births in baby-friendly facilities” is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the proportion of babies born in facilities designated as baby-friendly in a calendar year. To be counted as currently baby-friendly, the facility must have been designated within the past 5 years or have been reassessed within that time frame. Facilities may be designated as baby-friendly if they meet the minimum global criteria, which includes adherence to:

- the Ten steps for successful breastfeeding – these steps include having a breastfeeding policy that is routinely communicated to staff, having staff trained on policy implementation, informing pregnant women on the benefits and management of breastfeeding, and promoting early initiation of breastfeeding; and
- the International Code of Marketing of Breast-milk Substitutes – the Code restricts the distribution of free infant formula and promotional materials from infant formula companies.

What are the consequences and implications?
Research has found that adherence to BFHI's *Ten steps* leads to improved breastfeeding outcomes, which positively impact the health of both the mother and child. The more of the *Ten steps* that the mother experiences, the better her success with breastfeeding. Improved breastfeeding practices worldwide could save the lives of more than 800,000 children every year.

*Source of data*


*Further reading*


*Internet resources*

WHO. Baby-friendly Hospital Initiative. (http://www.who.int/nutrition/bfhi/en/).


**Mothers of children aged 0–23 months receiving counselling, support or messages on optimal breastfeeding**

*What does this indicator tell us?*

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process, with important implications for the health of mothers. Optimal practices include early initiation of breastfeeding within 1 hour and exclusive breastfeeding for 6 months, followed by appropriate complementary with continued breastfeeding for 2 years or beyond. Although it is a natural act, breastfeeding is also a learnt behaviour. Almost all mothers can breastfeed, provided they have accurate information and have support within their families and communities, and from the health care system. Mothers should also have access to skilled practical help from, for example, trained health workers, lay and peer counsellors, and certified lactation consultants. These professionals can help to build a mother’s confidence, improve feeding technique, and prevent or resolve breastfeeding problems.

This indicator has been established to measure the proportion of mothers receiving breastfeeding counselling, support or messages. The proportion of mothers of children aged 0–23 months who have received counselling, support or messages on optimal breastfeeding at least once in the previous 12 months is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

*How is this indicator defined?*

This indicator gives the percentage of mothers of children aged 0–23 months who have received counselling, support or messages on optimal breastfeeding at least once in the past year.
WHO and UNICEF are in the process of further developing and validating this indicator. Meanwhile, an interim indicator has been established to measure the availability of all provision for breastfeeding counselling services in public health or nutrition programmes.

**What are the consequences and implications?**

Counselling and informational support on optimal breastfeeding practices for mothers improves initiation and duration of breastfeeding, which has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant needs in the first 6 months of life. Also, breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia, and it may have longer term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence.Breastfeeding has also been associated with a higher intelligence quotient (IQ) in children. Improved breastfeeding practices worldwide could save the lives of more than 800,000 children every year.

**Source of data**

To be determined.

**Further reading**


**Internet resources**

WHO. e-Library of Evidence for Nutrition Actions (eLENA)


**Availability of national-level provision for breastfeeding counselling services in public health and/or nutrition programmes**

**What does this indicator tell us?**

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Optimal practices include early initiation of breastfeeding within 1 hour and exclusive breastfeeding for 6 months, followed by appropriate complementary with continued breastfeeding for 2 years or beyond. Although it is a natural act, breastfeeding is also a learnt behaviour. Almost all mothers can breastfeed provided they have accurate information, and have support within their families and communities, and from the health care system. Mothers should also have access to skilled practical help from, for example, trained health workers, lay and peer counsellors, and certified lactation consultants.
These professionals can help to build a mother’s confidence, improve feeding technique, and prevent or resolve breastfeeding problems.

This indicator has been established as an *interim* indicator, while the WHO-UNICEF Technical Expert Advisory group for nutrition Monitoring (TEAM) is further developing and validating the indicator “proportion of mothers receiving breastfeeding counselling, support or messages” – a process indicator in the core set of indicators for the *Global Nutrition Monitoring Framework*.

**How is this indicator defined?**

This indicator is defined as availability of a national programme that includes provision for delivering breastfeeding counselling services to mothers of infants aged 0–23 months, through health systems or other community-based platforms.

**What are the consequences and implications?**

Counselling and informational support on optimal breastfeeding practices for mothers improves initiation and duration of breastfeeding, which has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant needs in the first 6 months of life. Also, breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia, and it may have longer term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence. Breastfeeding has also been associated with higher IQ in children. Improved breastfeeding practices worldwide could save the lives of more than 800 000 children every year.

**Sources of data**


WHO. Global database on the implementation of nutrition action (GINA) ([https://extranet.who.int/nutrition/gina/](https://extranet.who.int/nutrition/gina/)).

International Baby Food Action Network (IBFAN). World breastfeeding trends initiative. ([http://worldbreastfeedingtrends.org](http://worldbreastfeedingtrends.org)).


**Further reading**


**Internet resources**

WHO. e-Library of Evidence for Nutrition Actions (eLENA)


**Children aged 1 year immunized against measles**

*What does this indicator tell us?*

Estimates of vaccination coverage of children aged 1 year are used to monitor vaccination services, to guide disease eradication and elimination programmes, and to indicate health system performance. Indicators for immunization coverage rate by vaccine for each vaccine in the national schedule are included in the WHO Global reference list of 100 core health indicators.

*How is this indicator defined?*

Measles vaccination coverage is defined as the percentage of children aged 1 year who have received at least one dose of measles-containing vaccine in a given year. In countries that recommend that the first dose be given to children over 12 months of age, the indicator is calculated as the proportion of children aged under 24 months receiving one dose of measles-containing vaccine.

*What are the consequences and implications?*

Measles is a leading cause of vaccine-preventable childhood deaths, and unvaccinated populations are at risk of the disease. Measles is a significant infectious disease because it is highly contagious; thus, the number of nonimmune people who would suffer complications after an outbreak would quickly overwhelm available hospital resources. When vaccination rates fall, the number of nonimmune individuals in the community rises and, in turn, the risk of an outbreak of measles also rises. Vaccination is therefore critical to reducing child mortality rates.

*Source of data*

WHO. Global Health Observatory (GHO) data repository. Measles-containing-vaccine first-dose (MCV1). Immunization coverage estimates by country (http://apps.who.int/gho/data/view.main.80100).

*Further reading*


*Internet resources*

WHO. Immunization, vaccines and biologicals. Measles (http://www.who.int/topics/measles/en/).

**Children aged 6–59 months receiving vitamin A supplements**

*What do these indicators tell us?*

These indicators tell us what proportion of children aged 6–59 months received a dose of vitamin A through the main distribution mechanism during the first semester (January–June) and what proportion of children received a dose during the second semester (July–
Vitamin A supplementation coverage is included in the WHO Global reference list of 100 core health indicators.

How are they defined?

These indicators are defined as the proportion of children aged 6–59 months who receive a first and/or a second high dose of vitamin A supplements within a calendar year. The two-dose coverage can be determined by the semester that achieved the lower vitamin A supplementation coverage for children aged 6–59 months in the calendar year.

Current international recommendations call for high-dose vitamin A supplementation every 4–6 months for all children between the ages of 6 and 59 months living in affected areas. The recommended doses are 100 000 international units (IU) for children aged between 6 and 11 months, and 200 000 IU for children aged between 12 and 59 months.

What are the consequences and implications?

Programmes to control vitamin A deficiency increase children’s chances of survival, reduce the severity of childhood illnesses, ease the strain on health systems and hospitals, and contribute to the well-being of children, their families and communities.

Vitamin A is vital to child health and immune function; hence, in settings where vitamin A deficiency is a public health problem, vitamin A supplementation is recommended in infants and children aged 6–59 months as a public health intervention to reduce child morbidity and mortality. Measuring the proportion of children who have received two doses of vitamin A within the past year can be used to monitor coverage of interventions aimed at increasing child survival rates. Supplementation with vitamin A is a safe, cost-effective and efficient means for eliminating deficiency of this vitamin and improving child survival.

Source of data


Further reading


Internet resources

WHO. Vitamin A deficiency list of publications. (http://www.who.int/nutrition/publications/micronutrients/vitamin_a_deficiency/en/).

WHO. Immunization, vaccines and biologicals. Vitamin A supplementation (http://www.who.int/immunization/programmes_systems/interventions/vitamin_A/en/).


Children <5 years with diarrhoea receiving oral rehydration solution (ORS)

What does this indicator tell us?

This indicator is the prevalence of children with diarrhoea who received oral rehydration solution (ORS). The percentage of children aged under 5 years with diarrhoea receiving ORS
is an intermediate outcome indicator of the Global Nutrition Targets. Coverage of diarrhoea treatment is also included in the Global reference list of 100 core health indicators.

*How is this indicator defined?*

This indicator is the proportion of children aged 0–59 months who had diarrhoea in the previous 2 weeks and who received ORS (fluids made from ORS packets or pre-packaged ORS fluids). Diarrhoea is defined as the passage of three or more loose or liquid stools per day.

*What are the consequences and implications?*

Diarrhoeal diseases remain one of the major causes of mortality among children aged under 5 years, accounting for 9% of deaths among children worldwide. Most of the deaths in children from diarrhoea could be averted by using ORS and zinc supplementation during episodes of diarrhoea, and basic interventions to improve drinking water, sanitation and hygiene (WASH). It is estimated that ORS alone can prevent 93% of deaths due to diarrhoea, and zinc supplementation can decrease deaths from diarrhoea by 23%.

*Source of data*

WHO. Global Health Observatory (GHO) data repository. Preventing child deaths. Data by country (http://apps.who.int/gho/data/view.main.1600).

*Further reading*


*Children <5 years with diarrhoea receiving oral rehydration solution (ORS) and zinc supplement*

*What does this indicator tell us?*

This indicator reflects the prevalence of children who were given zinc as part of treatment for acute diarrhoea. There are no readily available data on this indicator, which is maintained in the NLiS to encourage countries to collect and compile data on these aspects, in order to assess their national capacity.

*How is this indicator defined?*

There is no internationally accepted indicator for zinc treatment of children with diarrhoea; however, this indicator could be defined as the percentage of children aged under 5 years with acute diarrhoea who were given supplements of 20 mg zinc daily for 10–14 days, or supplements of 10 mg/day for infants under 6 months.

*What are the consequences and implications?*

One of the measures used to prevent childhood diarrhoeal episodes is the promotion of zinc intake. Diarrhoeal diseases account for nearly 2 million deaths a year among children aged under 5, making such diseases the second most common cause of child death worldwide. Zinc supplementation improves the outcomes of diarrhoeal treatment.
Protective and preventive measures against acute diarrhoea recommended by WHO and UNICEF are exclusive breastfeeding, adequate complementary feeding and continued breastfeeding, vitamin A supplementation, improved hygiene, better access to clean sources of drinking-water and sanitation facilities, and vaccination against rotavirus. Zinc supplementation, oral rehydration therapy and continued feeding are among the recommended safe and effective methods of treating diarrhoea. Specifically, zinc supplements given during an episode of acute diarrhoea reduce the duration and severity of the episode, and giving zinc supplements for 10–14 days lowers the incidence of diarrhoea in the following 2–3 months.

Source of data

Further reading


Internet resources

Improved sanitation facilities and drinking-water sources

What do these indicators tell us?
These indicators are the percentage of the population with access to improved sanitation facilities and access to an improved drinking-water source.

The two indicators – “proportion of population using safely managed sanitation services” and “proportion of population using safely managed drinking services” – are included as intermediate outcome indicators in the core set of indicators for the Global Nutrition Monitoring Framework.

How are these indicators defined?
Improved drinking-water sources are defined as those that are likely to be protected from outside contamination, and from faecal matter in particular. Improved water sources include household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. Unimproved water sources include unprotected wells, unprotected springs, surface water (e.g. river, dam or lake), vendor-provided water, bottled water (unless water for other uses is available from an improved source) and tanker truck–provided water. According to the WHO/UNICEF joint monitoring programme, basic drinking-water services are defined as drinking water from an improved source, provided that collection time is not more than 30 minutes for a roundtrip, including queuing. Basic sanitation services are defined as use of improved sanitation facilities that are not shared with other households. This is identical to the “improved but not shared” category used in previous reports.

Improved sanitation facilities are defined as those that hygienically separate human waste from human contact. Improved sanitation includes flush or pour-flush to piped sewer system, septic tank pit latrines, ventilated-improved pit latrines, or pit latrines with slab or composting toilets. Shared or public-use sanitation facilities are not considered to be improved. Also, flush
or pour-flush to elsewhere, pit latrines without slabs or open pits, bucket latrines, hanging latrines or open defecation are not considered to be improved sanitation.

What are the consequences and implications?

Access to safe drinking water and improved sanitation are fundamental needs and human rights that are vital for the dignity and health of everyone. The health and economic benefits of a safe water supply to households and individuals (especially children) are well documented.

Source of data

WHO. Global Health Observatory (GHO) data repository.


Further reading


Internet resources


WHO. Water sanitation hygiene (http://www.who.int/water_sanitation_health/en/).

Food security

Population with less than the minimum dietary energy consumption (prevalence of undernourishment)

What does this indicator tell us?
This indicator is the percentage of the population whose food intake falls below the minimum level of dietary energy requirements and who, therefore, are undernourished or food-deprived.

How is this indicator defined?
The prevalence of undernourishment is essentially estimated by measuring food deprivation based on calculations of three parameters for each country: the average amount of food available for human consumption per person, the level of inequality in gaining access to that food and the minimum number of calories required for an average person.

The average amount of food available for human consumption is derived from national “food balance sheets” compiled by FAO each year, which show how much of each food commodity a country produces, imports and withdraws from their stocks for other, non-food purposes. The energy equivalent of all the food available for human consumption is divided by the total population to derive a country’s average daily energy consumption.

Data from household surveys are used to derive a coefficient of variation, to account for the degree of inequality in access to food. Similarly, because a large adult needs almost twice as much dietary energy as a 3-year-old child, the minimum energy requirement per person in each country is based on averages of age, gender and body sizes in that country.

The minimum dietary energy requirement is derived from the results of a FAO/WHO/UN University expert consultation in 2001 (published in 2004), which established energy standards for different gender and age groups with sedentary physical activity levels and with a minimum acceptable body weight for attained height.

The average energy requirement is the amount of food energy needed to balance energy expenditure in order to maintain body weight, body composition, and levels of necessary and desirable physical activity that are consistent with long-term good health. It includes the energy needed for the optimal growth and development of children, along with the deposition of tissues during pregnancy and secretion of milk during lactation that are consistent with the good health of the mother and child. The recommended level of dietary energy intake for a population group is the mean energy requirement of the healthy, well-nourished individuals who constitute that group.

FAO reports the proportion of the population whose daily food intake falls below that minimum energy requirement as “undernourished”. Trends in undernourishment are due mainly to:
- changes in food consumption as reported on country food balance sheets;
- changes in the distribution of dietary energy consumption in a population, due to changes in the distribution of both dietary energy consumption by income level and dietary energy requirements based on weight for attained height by gender and age; and
- changes in the minimum dietary energy consumption, due to changes in attained height and the structure of the population by gender and age.

What are the consequences and implications?
The indicator is a measure of an important aspect of food insecurity in a population. Sustainable development requires a concerted effort to reduce poverty, including providing solutions to hunger and malnutrition. Alleviating hunger is a prerequisite for reducing poverty.
sustainably, because undernourishment seriously affects labour productivity and earning capacity. Malnutrition can arise from a range of circumstances. For poverty reduction strategies to be effective, they must address food access, availability and safety.

**Source of data**


**Further reading**


**Households consuming adequately iodized salt (≥15 parts per million)**

*What does this indicator tell us?*

Salt iodization has been adopted as the main strategy to eliminate iodine-deficiency disorders as a public health problem; the aim is to achieve universal salt iodization. While other foodstuffs can be iodized, salt has the advantage of being both widely consumed and inexpensive. Salt has been iodized routinely in some industrialized countries since the 1920s. This indicator is a measure of whether a country's fortification programme is reaching the target population adequately.

*How is this indicator defined?*

The indicator is a measure of the percentage of households consuming iodized salt, which is defined as salt containing 15–40 parts per million of iodine. Preferably, household access to iodized salt should be >90%.

*What are the consequences and implications?*

Iodine deficiency is most commonly and visibly associated with thyroid problems (e.g. hyperthyroidism or hypothyroidism, goitre or an enlarged thyroid gland). However, it takes its greatest toll in impaired mental growth and development in children, which contribute to poor school performance, reduced intellectual ability and impaired work performance.

**Source of data**


**Internet resources**

WHO. Micronutrient deficiencies: iodine deficiency disorders. (http://www.who.int/nutrition/topics/idd/en/).
Population below the international poverty line

What does this indicator tell us?

This indicator gives the prevalence of people living in extreme poverty, as measured by their daily consumption or income. It allows comparisons and aggregation of data on the progress of countries in reducing extreme poverty, as well as monitoring of global trends. It is also an indicator for Sustainable Development Goal (SDG) 1: “End poverty in its all forms everywhere”.

How is this indicator defined?

The proportion of the population living below the international poverty line is the percentage living on less than US$ 1.90 a day at 2011 international prices. The US$ 1.90 per day poverty line is compared with consumption or income per person (including consumption of their own production and income in kind), and it reflects the minimum level necessary to meet basic needs. This poverty line has fixed purchasing power across countries or areas; hence, it is often called the “international poverty line”.

Purchasing power parity is defined by comparing economies on the basis of standardized international US$ price weights, rather than on the basis of official currency exchange rates.

The value of the international poverty line is subject to periodic updates, in efforts to hold the real value of the poverty line constant in order to accurately assess rates of poverty.

What are the consequences and implications?

The proportion of the population below the international poverty line is used to assess and monitor poverty at the global level; however, as with other indicators, it is not equally relevant in all regions because countries have different definitions of poverty. People living in extreme poverty are at a high risk of malnutrition which, in turn, is one of the most important risk factors for disease. In the presence of poverty, malnutrition can result in a downward spiral that may end in death:

- poor people may consume too little nutritious food, making them more susceptible to disease;
- inadequate or inappropriate food consumption leads to stunted development or premature death;
- nutrient-deficient diets increase the risk of health problems; and
- disease decreases a person’s ability to cultivate or purchase nutritious foods.

Source of data


Further reading

Caring practices

**Infant and young child feeding**

To enable mothers to establish and sustain exclusive breastfeeding for 6 months, WHO and UNICEF recommend:

- initiation of breastfeeding within the first hour of life;
- exclusive breastfeeding (i.e. only breast milk with no additional food or drink, not even water);
- breastfeeding on demand, as often the child wants, day and night; and
- no use of bottles, teats or pacifiers.

The recommendations for feeding infants and young children (6–23 months) include:

- continued breastfeeding;
- introduction of solid, semisolid or soft foods at 6 months;
- appropriate food diversity (at least five food groups per day);
- appropriate frequency of meals: two to three times a day between 6 and 8 months, increasing to three to four times a day between 9 and 23 months, with nutritious snacks offered once or twice a day as desired;
- safe preparation of foods; and
- feeding infants in response to their cues.

The caring practice indicators for feeding infants and young children that are available on the NLiS country profiles include:

- proportion of children aged 0–23 months who were put to the breast within 1 hour of birth;
- proportion of infants under 6 months who are exclusively breastfed;
- proportion of children who are continued breastfed at 12-15 months;
- proportion of children who are continued breastfed at 20-23 months;
- proportion of infants aged 6–8 months who receive solid, semisolid or soft foods;
- proportion of children aged 6–23 months who receive a minimum dietary diversity; and
- proportion of children aged 6–23 months who receive a minimum acceptable diet.

**Early initiation of breastfeeding**

*What does this indicator tell us?*

This indicator is the percentage of infants who are put to the breast within 1 hour of birth.

*How is this indicator defined?*

Early initiation of breastfeeding is defined as the proportion of children born in the previous 24 months who were put to the breast within 1 hour of birth.

*What are the consequences and implications?*
Breastfeeding improves child health, and there is evidence that delayed initiation of breastfeeding increases a child’s risk for mortality

**Infants under 6 months who are exclusively breastfed**

*What does this indicator tell us?*

This indicator is the percentage of infants aged 0–5 months who are exclusively breastfed.

*How is this indicator defined?*

This is the proportion of infants aged 0–5 months who are fed exclusively on breast milk, with no other food or drink, including water. The infant is, however, allowed to receive oral rehydration solution (ORS) and drops or syrups containing vitamins, minerals and medicine.

*What are the consequences and implications?*

Exclusive breastfeeding is an unequalled way of providing the ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process, with important health benefits for mothers. An expert review of evidence showed that, on a population basis, exclusive breastfeeding for the first 6 months is the optimal way of feeding infants.

Breast milk is the natural first food for infants, providing all the energy and nutrients that the infant needs for the first months of life. It continues to provide one half or more of a child’s nutritional needs during the second 6 months of the first year, and up to one third during the second year of life.

Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality from common childhood illnesses, such as diarrhoea and pneumonia, and means that the child is likely to recover more quickly from illness.

Breastfeeding contributes to the health and well-being of mothers, by helping to space children, reducing their risks for ovarian and breast cancers, and saving family and national resources. It is a secure way of feeding and is safe for the environment.

**Continued breastfeeding at 1 year in children 12-15 months (%).**

*What does this indicator tell us?*

This indicator is the percentage of children between 12-15 months of age who received breast milk during the previous day.

*How is this indicator defined?*

This indicator is defined as the proportion of children aged 12-15 months who received breast milk during the previous day. It includes breastfeeding by a wet nurse and feeding expressed breast milk.

*What are the consequences and implications?*

Breast milk is a significant source of energy and nutrients in children 6-23 months of age. It provides one half or more of a child’s energy needs between 6 and 12 months of age, and one third of energy between 12 and 24 months.
Continued breastfeeding at 2 years in children 20-23 months (%)

What does this indicator tell us?

This indicator is the percentage of children between 20-23 months of age who receive breast milk during the previous day.

How is this indicator defined?

This indicator is defined as the proportion of children aged 20-23 months who received breast milk during the previous day. It includes breastfeeding by a wet nurse and feeding expressed breast milk.

What are the consequences and implications?

Infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, in order to meet their evolving nutritional requirements, children should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond.

Infants aged 6–8 months who receive solid, semisolid or soft foods

What does this indicator tell us?

This indicator is the percentage of infants between 6–8 months of age who receive solid, semisolid or soft foods. WHO recommends starting complementary feeding at 6 months of age.

How is this indicator defined?

This indicator is defined as the proportion of infants aged 6–8 months who received solid, semisolid or soft foods during the previous day.

What are the consequences and implications?

When breast milk alone no longer meets the nutritional needs of the infant, complementary foods should be added. The transition from exclusive breastfeeding to family foods, referred to as “complementary feeding”, typically occurs between 6 and 18–24 months of age. This vulnerable period is the time when malnutrition often starts, which contributes significantly to the high prevalence of malnutrition among children aged under 5 years worldwide.

Children aged 6–23 months who receive a minimum dietary diversity (MDD)

What does this indicator tell us?

This indicator is the percentage of children aged 6–23 months who receive a minimum dietary diversity.

The indicator “proportion of children aged 6–23 months who receive a minimum dietary diversity” is included as a process indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

In June 2017, the WHO-UNICEF Technical Expert Advisory group on nutrition Monitoring (TEAM) recommended a revision of the minimum dietary diversity (MDD) indicator as defined by WHO (2008), to make it feasible and meaningful for Member State reporting. The revision concerned adding “breast milk” as an eighth food group and shifting the criterion for MDD.
accordingly, from four of seven groups to five of eight groups. Thus, dietary diversity is present when the diet contains five or more of the following food groups:

- breast milk
- grains, roots and tubers
- legumes and nuts
- dairy products (e.g. milk, yogurt, cheese)
- flesh foods (e.g. meat, fish, poultry, liver or other organs)
- eggs
- vitamin A-rich fruits and vegetables
- other fruits and vegetables.

Children aged 6–23 months who receive a minimum acceptable diet (MAD)

*What does this indicator tell us?*

This indicator is the percentage of children aged 6–23 months who receive a minimum acceptable diet.

*How is this indicator defined?*

The composite indicator of a minimum acceptable diet is calculated from:

- the proportion of breastfed children aged 6–23 months who had at least the MDD and minimum meal frequency during the previous day; and
- the proportion of non-breastfed children aged 6–23 months who received at least two milk feedings and had at least the MDD, not including milk feeds, and minimum meal frequency during the previous day.

Dietary diversity is present when the diet contained five or more of the following food groups:

- breast milk
- grains, roots and tubers
- legumes and nuts
- dairy products (e.g. milk, yogurt and cheese)
- flesh foods (e.g. meat, fish, poultry, liver or other organs)
- eggs
- vitamin A–rich fruits and vegetables
- other fruits and vegetables.

The minimum daily meal frequency is defined as:

- twice for breastfed infants aged 6–8 months
- three times for breastfed children aged 9–23 months
- four times for non-breastfed children aged 6–23 months.

*What are the consequences and implications?*
A minimum acceptable diet is essential to ensure appropriate growth and development for feeding infants and children aged 6–23 months. Without adequate dietary diversity and meal frequency, infants and young children are vulnerable to malnutrition, especially stunting and micronutrient deficiencies, and to increased morbidity and mortality.

Sources of data


WHO. Global Health Observatory (GHO) data repository. Exclusive breastfeeding under 6 months. Data by country (http://apps.who.int/gho/data/view.main.NUT1730).


Further reading


Internet resources


WHO. Global targets 2025 to improve maternal, infant and young child nutrition. (http://who.int/nutrition/global-target-2025/en/).


WHO. e-Library of Evidence for Nutrition Actions (eLENA):

**Children <5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued feeding**

*What does this indicator tell us?*

This indicator is the prevalence of children with diarrhoea who receive oral rehydration therapy and continued feeding. The percentage of children aged under 5 years with diarrhoea receiving oral rehydration therapy (ORT) and continued feeding during illness is included as an additional indicator in the Global reference list of 100 core health indicators.

*How is this indicator defined?*

This is the proportion of children aged 0–59 months who had diarrhoea in the previous 2 weeks and who received ORT (oral rehydration salts, recommended home fluids or increased fluids) and continued feeding. Diarrhoea is defined as the passage of three or more loose or liquid stools per day.

*What are the consequences and implications?*

Diarrhoeal diseases remain one of the major causes of mortality among children aged under 5 years, accounting for 9% of deaths among children worldwide. Most of the deaths in children from diarrhoea could be averted by using ORS and zinc supplementation during episodes of diarrhoea, and basic interventions to improve drinking water, sanitation and hygiene (WASH). It is estimated that ORS alone can prevent 93% of deaths due to diarrhoea, and zinc supplementation can decrease deaths from diarrhoea by 23%.

*Sources of data*


*Further reading*


*Internet resources*


**Adolescent birth rate (per 1000 women aged 15–19 years)**

*What does this indicator tell us?*

The adolescent birth rate, technically known as the age-specific fertility rate, provides a basic measure of reproductive health that focuses on adolescent women as a vulnerable group.

The adolescent birth rate (per 1000 women aged 15–19 years) is included as an intermediate outcome indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

*How is this indicator defined?*

This indicator is defined as the annual number of births to women aged 15–19 years per 1000 women in that age group. It is also referred to as the age-specific fertility rate for women aged 15–19.
What are the consequences and implications?

There is substantial agreement in the literature that women who become pregnant and give birth early in their reproductive lives are subject to higher risks of complications, or even death, during pregnancy and birth, and their children are also more vulnerable. Therefore, preventing adolescent pregnancy is an important measure to improve maternal health and reduce infant mortality. Furthermore, women who have children at an early age experience a curtailment of their opportunities for socioeconomic improvement, particularly because young mothers are unlikely to keep studying and, if they need to work, may find it especially difficult to combine family and work responsibilities. The adolescent birth rate also provides indirect evidence on access to reproductive health education, since young people, and unmarried adolescent women in particular, often experience difficulties in accessing reproductive health care.

Source of data

WHO. Global Health Observatory (GHO) data repository. Adolescent birth rate. Data by country (http://apps.who.int/gho/data/view.main.GSWCAH31v).

Further reading


Internet resources


Commitment

Health expenditure

What do these indicators tell us?

Health expenditure includes all expenditures for the provision of health services, family planning activities, nutrition activities and emergency aid designated for health, but it excludes the provision of drinking water and sanitation.

Health financing is a critical component of health systems. National health accounts provide a large set of indicators based on information about expenditure collected within an internationally recognized framework. These accounts are a synthesis of the financing and spending flows recorded in a health system’s operation, from funding sources and agents to the distribution of funds between providers and functions of health systems. It is also reflective of SDG 3: “Ensure healthy lives and promote well-being for all at all ages”.

How are these indicators defined?

General government expenditure on health as a percentage of total government expenditure – This indicator is defined as the level of general government expenditure on health (GGHE) expressed as a percentage of total government expenditure. It shows the weight of public spending on health within the total value of public sector operations. This indicator includes not just the resources channelled through government budgets, but also the expenditures channelled through government entities for health by parastatals, extrabudgetary entities and, notably, compulsory health insurance. The indicator refers to resources collected and pooled by public agencies, including all revenue modalities.

Total expenditure on health as a percentage of gross domestic product (GDP) – This indicator is defined as the level of total expenditure on health expressed as a percentage of GDP, where GDP is the value of all final goods and services produced within a nation in a given year. It provides information on the level of resources channelled to health, relative to a country’s wealth.

Per capita total expenditure on health – This indicator is defined as the per capita total expenditure on health, expressed at the average exchange rate for that year in US$. It shows the total expenditure on health relative to the beneficiary population, expressed in US$ to facilitate international comparisons.

What are the consequences and implications?

These indicators reflect government and total expenditure on health resources, access and services, including nutrition, in relation to government expenditure, the country’s wealth, and the population. Although increasing health expenditure is associated with better health outcomes, especially in low-income countries, there is no “recommended” level of spending on health. The larger the per capita income, the greater the expenditure on health. Some countries, however, spend appreciably more than would be expected from their income levels, and some appreciably less. When a government attributes proportionately less of its total expenditure on health, this may indicate that health, including nutrition, is not regarded as a priority.

Source of data

WHO. Global Health Observatory (GHO) data repository.

Domestic general government health expenditure (GGHE-D) as percentage of general government expenditure (GGE) (%). Data by country (http://apps.who.int/gho/data/node.main.GHEDGGHEDGGESHA2011?lang=en).
Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%). Data by country (http://apps.who.int/gho/data/node.main.GHEDCHEGDPSHA2011?lang=en).


Internet resources

WHO. Health accounts (http://www.who.int/health-accounts/en/).


What does this indicator tell us?

This indicator describes the strength of nutrition in the United Nations Development Assistance Framework (UNDAF), the strategic programme framework for UN country teams. In 2019, the UNDAF was renamed as the United Nations Sustainable Development Cooperation Framework (UNSDCF). UNDAFs usually focus on three to five areas in which the country team can make the greatest difference, in addition to activities that are supported by other agencies in response to national demands, but fall outside the common UNDAF results matrix. For each national priority selected for UN country team support, the UNDAF results matrix gives the following outcome(s); the outcomes and outputs of other agencies, working alone or together; the role of partners; resource mobilization targets for each agency outcome; and coordination mechanisms and programme modalities. The nutrition component of the UNDAF reflects the priority attributed to nutrition by the UN agencies in each country, and gives an indication of how much the UN system is committed to helping governments improve their food and nutrition situation.

How is this indicator defined?

The indicator is “strong”, “medium” or “weak”, depending on the degree to which nutrition is being addressed in the UNDAF’s expected outcomes and outputs.

UNDAF documents follow a predefined format, with a core narrative and a results matrix. The matrix lists the high-level expected results (“the UNDAF outcomes”); the outcomes to be reached by agencies, working alone or together; and agency outputs. The results matrix in the UNDAF document was used to assess commitment to nutrition, because it represents a synthesis of the strategy proposed in the document and is available in the same format in most country documents. The most recent UNDAF documents on the United Nations Development Group (UNDG) website were used, with outcomes and outputs specifically related to nutrition identified and compared with key areas in nutrition. The method and scoring are described in detail by Engesveen et al. (2009).

What are the implications?

A strong nutrition component in the UNDAF document means that the UN agencies consider nutrition to be a joint priority. A weak nutrition component in the UNDAF document does not necessarily imply that no UN agency is working to improve nutrition in the country. However, unless such efforts are mentioned in strategy documents such as the UNDAF, they may receive inadequate attention from development partners to ensure the necessary sustainability or scale-up to adequately address nutrition problems in that country. The multisectoral nature of nutrition means that it must be addressed by a wide range of actors.
Basing such action within frameworks for overall development ensures the accountability of UN partners.

Source of data

WHO. Global database on the implementation of nutrition action (GINA) (https://extranet.who.int/nutrition/gina/).

Further reading


Internet resources


WHO. Landscape analysis on countries’ readiness to accelerate action in nutrition. (http://www.who.int/nutrition/landscape_analysis/en/).

**Nutrition component of poverty reduction strategy papers**

What does this indicator tell us?

This indicator describes the strength of nutrition in the country’s poverty reduction strategy paper (PRSP). The poverty reduction strategy approach was introduced in 1999, empowering governments to set their own priorities, and encouraging donors to provide predictable, harmonized assistance aligned with a country’s priorities. The PRSP should state the development priorities, and should specify the policies, programmes and resources needed to meet these goals. It is prepared by governments in a participatory process that involves civil society and development partners, including the World Bank and the International Monetary Fund, and should result in a comprehensive, country-based strategy for poverty reduction.

How is this indicator defined?

This indicator is “strong”, “medium” or “weak”, depending on the degree to which nutrition is addressed in the PRSP, in terms of the recognition of undernutrition as a development problem; use of information on nutrition to analyse poverty; and support for appropriate nutrition policies, strategies and programmes. The indicator has been defined and estimated within the “WHO Landscape Analysis”, using a methodology proposed by the World Bank (Shekar & Lee, 2006). The most recent PRSPs available on the World Bank website were used. The papers were systematically searched for keywords to identify the sections that concerned nutrition, food security, health outcomes and interventions that would be relevant for the World Bank method. To classify the commitments to nutrition in the PRSPs, a scoring system was developed, which is described in more detail by Engesveen et al. (2009).

What are the implications?

The emphasis given to nutrition in a country’s PRSP reflects the extent to which the government considers it essential to improve nutrition for poverty reduction and national development. In other words, it can indicate the government’s priority on improving nutrition.
A strong nutrition component in a PRSP means that the country’s government considers nutrition a priority for poverty reduction and national development. A weak nutrition component in the document does not necessarily imply that no government department is working to improve nutrition in the country; however, unless such efforts are mentioned in strategy documents such as PRSPs, they may not be sufficiently sustainable or scaled-up to adequately address nutrition problems in that country. The multisectoral nature of nutrition means that it must be addressed by a wide range of actors. Basing such action within frameworks for overall development ensures the accountability of relevant government departments.

**Source of data**

WHO. Global database on the implementation of nutrition action (GINA) ([https://extranet.who.int/nutrition/gina/](https://extranet.who.int/nutrition/gina/)).


**Further reading**


**Internet resources**

WHO. Landscape analysis on countries’ readiness to accelerate action in nutrition. ([http://www.who.int/nutrition/landscape_analysis/en/](http://www.who.int/nutrition/landscape_analysis/en/)).

**Nutrition governance**

**What does this indicator tell us?**

This indicator is a description of a country’s strengths and weaknesses in various aspects of nutrition governance.

**How is this indicator defined?**

The nutrition governance score is “strong”, “medium” or “weak”, depending on the presence of a set of elements identified by the countries themselves as crucial for successful development and implementation of national nutrition policies and strategies. The following 10 elements or characteristics are used to assess and describe the strength of a country’s nutrition governance:
• existence of an intersectoral mechanism to address nutrition;
• existence of a national nutrition plan or strategy;
• whether the national nutrition plan or strategy is adopted;
• whether the national nutrition plan or strategy is part of the overall national development plan;
• existence of a national nutrition policy;
• whether the nutrition policy is adopted;
• existence of national dietary guidelines;
• allocation of budget for implementation of the national nutrition plan, strategy or policy;
• regular nutrition monitoring and surveillance; and
• existence of a line for nutrition in the government's health budget.

These elements were identified by countries as key elements for successful development and implementation of national nutrition policies and strategies, during a review of the progress of countries in implementing the World Declaration and Plan of Action for Nutrition. This plan was adopted by the 1992 International Conference on Nutrition, the first intergovernmental conference on nutrition (Nishida et al., 2003). The method and scoring are described in detail by Engesveen et al. (2009).

**What are the consequences and implications?**

The components of the composite indicator have been identified by countries as important for determining the completeness of national nutrition plans and policies (Nishida, Mutru & Imperial Laue, 2003). For instance, a national nutrition plan and policy was considered to provide the political basis for initiating action. In many countries, the official government endorsement or adoption of a national nutrition plan or policy facilitated its implementation. The role of an intersectoral coordinating committee in implementing national nutrition plans and policies was also considered to be crucial, although the nature (i.e. whether executive or advisory), members, organizational structure and location of the committee determined its effectiveness. Additional important elements were regular surveys and other means of collecting data on nutrition. A national nutrition information system being updated periodically, and data on food and nutrition being collected routinely, were considered important for evaluating the effectiveness of national nutrition plans and policies, and for identifying subsequent actions.

**Source of data**

WHO. Global database on the implementation of nutrition action (GINA) (https://extranet.who.int/nutrition/gina/).

**Further reading**


Monitoring and enforcement of the International Code of Marketing of Breast-milk Substitutes

What does this indicator tell us?

This indicates whether a government has adopted legislation to monitor and enforce the International Code of Marketing of Breast-milk Substitutes (the Code) – an international health policy framework that was adopted by the World Health Assembly in 1981 – and its subsequent related resolutions. The Code is a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats. The Code aims to contribute “to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution” (Article 1).

The number of countries with legislation or regulations that fully implement the Code, and the subsequent relevant resolutions adopted by the Health Assembly, is included as a policy environment and capacity indicator in the Global Nutrition Monitoring Framework. It is also included as an additional indicator in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

This indicator is defined on the basis of whether a government has adopted legislation covering few, many or full provisions of the Code.

What are the consequences and implications?

The improper marketing and promotion of food products that compete with breastfeeding often negatively affect the choices and ability of a mother to feed her infant optimally, by discouraging the practice of breastfeeding. The Code was formulated in response to the realization that such marketing resulted in poor infant feeding practices, which in turn negatively affect the growth, health and development of children, and are a major cause of mortality in infants and young children. The Code seeks to promote the practice of breastfeeding and ensure that substitutes, if necessary, are used safely.

Worldwide, breastfeeding practices are not yet optimal, both in developing and developed countries, especially regarding exclusive breastfeeding under 6 months of age. In addition to the risks posed by the lack of breast milk’s protective qualities, breast-milk substitutes and feeding bottles are associated with a high risk of contamination, which can lead to life-threatening infections in young infants. Infant formula is not a sterile product, and it may carry infectious agents that can cause fatal illnesses. Artificial feeding is expensive, it requires clean water, the ability of the mother or caregiver to read and comply with mixing instructions, and a minimum standard of overall household hygiene. These factors are not present in many of the world’s households.
**Source of data**


**Further reading**


**Internet resources**


**Maternity protection indicators**

**What do these indicators tell us?**

These indicators provide information on national policies for legal entitlement to maternity protection, including leave from work during pregnancy and after birth, as well breastfeeding entitlements after return to work.

Since the ILO was founded in 1919, international labour standards have been established to provide maternity protection for women workers. The ILO Maternity Protection Convention, 2000 (No. 183) represents the minimum standards, whereas the accompanying ILO Maternity Protection Recommendation, 2000 (No. 191) encourages additional measures. Key elements of maternity protection include the following:

- **Maternity leave duration** – The mother’s right to a period of rest in relation to childbirth is a crucial means of safeguarding the health and nutrition of the mother and her child. Convention No. 183 states that maternity leave should not be less than 14 weeks, while Recommendation No. 191 suggests that maternity leave should be at least 18 weeks.

- **Amount of maternity leave cash benefits** – The right to cash benefits during maternity leave is intended to ensure that the woman can maintain herself and her child in proper conditions of health, and with a suitable standard of living. Maternity leave cash benefits aim to replace a portion of the income lost due to the woman’s economic activities being interrupted, giving a practical effect to the provision for leave. Convention No. 183 states that cash benefits should not be less than two thirds of the woman’s earnings before taking leave, while Recommendation No. 191 encourages raising the benefits to the full amount of her previous earnings.

- **Source of maternity leave cash benefits** – The source of the cash benefits is important, owing to potential discrimination in the labour market if employers have to bear the full costs. Convention No. 183 stipulates that cash benefits shall be provided through compulsory social insurance or public funds, and that individual employers shall not be liable for maternity leave benefits without that employer’s specific agreement.
• **Breastfeeding breaks and breastfeeding facilities** – The right to continue breastfeeding a child after returning to work is important, because the duration of leave entitlements is generally shorter than WHO’s recommended duration of exclusive and continued breastfeeding. Convention No. 183 states that women shall have the right to one or more daily breaks, or a daily reduction of hours of work for breastfeeding, which is to be counted as working time and remunerated accordingly. Recommendation No. 191 states that, where practicable, provision should be made for the establishment of facilities for breastfeeding or expressing breast milk under adequate hygienic conditions, at or near the workplace.

A composite indicator on maternity protection is included as a policy environment and capacity indicator in the core set of indicators for the Global Nutrition Monitoring Framework. It currently uses the ILO classification of compliance with Convention No. 183 on three key provisions: leave duration, remuneration and source of cash benefits. However, an alternative method is under development, taking into account the higher standards stated in Recommendation No. 191, as well as breastfeeding entitlements. The number of countries with maternity protection laws or regulations in place is also included as an additional indicator in the WHO Global reference list of 100 core health indicators.

**How are these indicators defined?**

The ILO periodically publishes information on the above key indicators, including an assessment of compliance with Convention No. 183, as part of the TRAVAIL Database of Conditions of Work and Employment Laws, and the NATLEX Database of National Labour, Social Security and Related Human Rights Legislation. The legislative data are collected by the ILO through periodical reviews of national labour and social security legislation, and secondary sources, such as the International Social Security Association and International Network on Leave Policies and Research, as well as consultations with ILO experts in regional and national ILO offices worldwide.

Maternity protection is a composite indicator that is included in the Global Nutrition Monitoring Framework; it is currently defined as whether the country has maternity protection laws or regulations in place that are compliant with the provisions for leave duration, remuneration and source of cash benefits in Convention No. 183. However, an alternative method is under development, which may use a scale to indicate the degree of compliance. This method will also take into account the higher standards for leave duration and remuneration in Recommendation No. 191, as well as the breastfeeding entitlements within both the Convention and Recommendation. Meanwhile, the data displayed are from the 2019 WHO&UNICEF Global breastfeeding scorecard. The indicator was calculated based on three aspects of Convention No. 183 and Recommendation No. 191: length of maternity leave, amount of previous earnings paid during leave, and source of funding.

**What are the consequences and implications?**

Pregnancy and maternity are a potentially vulnerable time for working women and their families. Expectant and breastfeeding mothers require special protection to prevent any potential adverse effects for them and their infants. They need adequate time to give birth, to recover from the delivery process and to breastfeed their children. At the same time, these women require income security and protection, to ensure that they will not suffer from income loss or job loss because of pregnancy and maternity leave. Such protection ensures not only a woman’s equal access and right to employment, but also economic sustainability for the well-being of her family. The need to return to work after maternity leave has been identified as a significant cause for never starting breastfeeding, early cessation of breastfeeding and lack of exclusive breastfeeding. In most low- and middle-income countries, paid maternity leave is either limited to formal sector employment or not always provided in practice. The ILO estimates that more than 800 million women lack economic security around childbirth, with adverse effects on the health, nutrition and well-being of mothers and their children.
Source of data


Further reading


Internet resources


Capacity

**Degree training in nutrition exists**

*What does the indicator tell us?*

This indicator reflects the capacity of a country to train professionals in nutrition. It is based on the presence of national higher education institutions that offer training in nutrition.

*How is this indicator defined?*

This indicator is defined as the existence in the country of higher education institutions that offer training in nutrition. Higher education training institutions include universities and other schools, offering graduate and post-graduate degrees in nutrition or dietetics with focus areas such as public health nutrition, community nutrition, clinical nutrition (dietetics), food and nutrition policy, nutrition science and epidemiology, and nutrition education or counselling skills. Such higher level training may lead to a technical certificate or diploma (2 years or less), bachelor’s degree, master’s degree or doctoral degree.

*What are the consequences and implications?*

Trained nutrition professionals work at health facilities and at the population and community levels; they may influence nutrition policies, as well as the design and implementation of nutrition intervention programmes at various levels. They also play an important role in training other health and non-health cadres to plan and deliver nutrition interventions in various settings. The availability of a sufficient workforce with appropriate training in nutrition within a country will lead to better outcomes for country-specific nutrition and health concerns.

*Source of data*


*Further reading*


**Nutrition is part of medical curricula**

*What does the indicator tell us?*

This indicator reflects the inclusion of maternal, infant and young child nutrition in the pre-service training of health personnel.

*How is this indicator defined?*

This indicator is defined as the existence of pre-service training in maternal, infant and young child nutrition for health personnel. The second global nutrition policy review survey investigates training in three key areas of maternal, infant and young child nutrition – namely, growth monitoring and promotion, breastfeeding and complementary feeding, and management of severe or moderate acute malnutrition. The first two of these three topics are relevant for all forms of malnutrition, whereas the third only pertains to undernutrition. Training on other topics (e.g. obesity, healthy diets and micronutrients) was not covered in the survey; this is not because they are less important, but because there are no widely rolled-out training packages for these topics.

*What are the consequences and implications?*

Adequate training of health professionals is essential to ensure that the professionals include nutrition activities in their regular health care activities.

*Source of data*


*Further reading*


**Density of trained nutrition professionals per 100 000 population**

*What does the indicator tell us?*

This indicator reflects the capacity of a country to design and implement nutrition policies and programmes effectively.

It focuses on individuals who are trained to pursue a professional career in nutrition, described in most countries as dietitians or nutritionists (including nutrition scientists, nutritional epidemiologists and public health nutritionists). These individuals are trained sufficiently in nutrition practice to demonstrate defined competencies, and to meet the
certification or registration requirements of national or global nutrition or dietetics professional organizations. This training, at universities or other tertiary or higher education institutions, may occur at bachelor, post-graduate certificate or diploma, masters or doctoral degree levels.

Only in some countries do dietitians and nutritionists complete the same training and perform the same functions. Similarly, professional registration or accreditation of dietitians and nutritionists only occurs in some countries, and where it does occur it may be joint or separate. Countries are encouraged to implement the professional registration or accreditation of dietitians and nutritionists, to provide a guarantee of appropriate training and professional competence.

The indicator “number of trained nutrition professionals per 100 000 population” is included as a policy environment and capacity indicator in the core set of indicators for the Global Nutrition Monitoring Framework.

How is this indicator defined?

This indicator is defined as the number of trained nutrition professionals per 100 000 population in the country in a specified year.

What are the consequences and implications?

Trained nutrition professionals work at facilities including health facilities and at population and community levels; they may influence nutrition policies and design as well as the implementation of nutrition intervention programmes at various levels. They also play an important role in training other health and non-health cadres to plan and deliver nutrition interventions in various settings. The requirement for a “trained nutrition professionals” indicator is based on recognition that the availability of a sufficient workforce with appropriate training in nutrition within a country will lead to better outcomes for country-specific nutrition and health concerns. Validation of the indicator has shown that it can predict several maternal, infant and young child nutrition outcomes.

Source of data


Further reading


Density of nurses and midwives

What does the indicator tell us?

Nurse and midwife density indicates whether nurses and midwifery personnel are available to address the health care needs of a given population. Health worker density is included as an
indicator for SDG 3: “Ensure healthy lives and promote well-being for all at all ages”. Health worker density and distribution is included in the WHO *Global reference list of 100 core health indicators*.

**How is this indicator defined?**

This indicator is the number of nursing and midwifery personnel, and their density per 1000 population. These personnel include professional nurses and midwives, auxiliary nurses and midwives, enrolled nurses and midwives, and other personnel such as dental nurses and primary care nurses. Traditional birth attendants are not counted in this number, but are classed as community or traditional health workers.

**What are the consequences and implications?**

There is no gold standard for what a sufficient health workforce would be to address the health care needs of a given population. It has been estimated, however, that countries with fewer than 25 health care professionals (counting only physicians, nurses and midwives) per 10 000 population fail to achieve adequate coverage rates for important primary health care interventions.

**Source of data**


**Further reading**


**Internet resources**


**Gross domestic product (GDP) per capita and GDP per capita annual growth rate**

**What do these indicators tell us?**

GDP per capita and GDP per capita annual growth rate are widely used by economists to gauge the health of an economy. The annual growth rate of real GDP per capita is included as an indicator for SDG 8: “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”.

**How are these indicators defined?**

**GDP per capita, purchasing power parity (PPP) (current international $)** – This is the GDP divided by the midyear population, where GDP is the total value of goods and services for final use produced by resident producers in an economy, regardless of the allocation to domestic and foreign claims. It does not include deductions for the depreciation of physical
capital, or the depletion and degradation of natural resources. PPP indicates the rate of exchange that accounts for price differences across countries, allowing for international comparisons of real output and incomes. An international dollar has the same purchasing power in the domestic economy as the US dollar has in the United States. PPP rates allow for standard comparisons of real prices among countries, just as conventional price indexes allow for comparisons of real values over time. The use of normal exchange rates could result in overvaluation or undervaluation of purchasing power.

**GDP per capita annual growth rate** – This is defined as the least-squares annual growth rate, calculated from the constant price GDP per capita in local currency units.

**What are the consequences and implications?**

Higher income is usually associated with lower rates of malnutrition. Improving income, however, reduces malnutrition to only a small degree (World Bank, 2006). For example, when the gross national product (GDP plus the net factor income residents receive from abroad for factor services [labour and capital], minus the income earned by foreign residents contributing to the domestic economy) per capita in developing countries doubled, the nutrition situation did improve, but reductions in underweight rates were only modest. On the basis of the correlation between growth and nutrition, it is estimated that sustained per capita economic growth would indeed reduce malnutrition, but not by a drastic amount. These estimates suggest that countries cannot depend on economic growth alone to reduce malnutrition within an acceptable time.

**Sources of data**


**Further reading**


**Internet resources**


**Official development assistance (ODA) received**

**What does this indicator tell us?**

Official development assistance (ODA) received – that is, net disbursements as a percentage of gross national income (GNI) – is a measure of the flow of aid, private capital and debt, compared with the value of goods and services produced within the country.

**How is this indicator defined?**

This indicator is the ODA received as a percentage of the GNI. Net ODA consists of grants or loans to countries or territories from the official sector, with the main objective of promoting economic development and welfare, at concessional financial terms. GNI is the sum of value added by all resident producers plus any product taxes (minus subsidies) not included in the valuation of output, plus net receipts of primary income (compensation of employees and property income) from abroad.
What are the consequences and implications?

When ODA makes up a large proportion of the GNI, a country is highly aid dependent, with the risk that it relies on unpredictable aid and donor-driven aid programmes. This can affect the resources allocated to nutrition, which are often not a donor priority in the sector-wide aid strategies promoted by the Paris Declaration (2005).

Source of data


Further reading


Low-income food-deficit countries

What does this indicator tell us?

This indicator identifies countries with low income and food inadequacy.

How is this indicator defined?

The Food and Agriculture Organization of the United Nations (FAO) classifies countries as “low-income food-deficit" for analytical purposes on the basis of low income and food inadequacy, and when the country itself agrees with the status. The classification applies to countries that have a per capita income below the ceiling used by the World Bank to determine eligibility for International Development Association assistance and for 20-year terms from the International Bank for Reconstruction and Development, applied to countries included in World Bank categories I and II. The second criterion is based on the net (i.e. gross imports minus gross exports) food trade position of a country, averaged over the preceding 3 years. Trade volumes of a broad range of basic foodstuffs (e.g. cereals, roots and tubers, pulses, oilseeds and oils other than tree crop oils, meat and dairy products) are converted and aggregated by the calorie content of the individual commodities. The third criterion, which is self-exclusion, is applied when countries that meet the above two criteria specifically request to be excluded from the low-income food-deficit category. To avoid too-frequent changes of low-income food-deficit status, usually reflecting short-term exogenous shocks, an additional factor is taken into consideration. This factor, called “persistence of position", postpones the “exit" of a country from the list, even if it does not meet the low-income or food-deficit criteria, until the change in its status is verified for 3 consecutive years. In other words, the country is considered to be in a transitional phase during these 3 years. A country is taken off the list in the 4th year, after confirming a sustained improvement in its position.

What are the consequences and implications?

The rationale behind the low-income food-deficit classification is that, being simultaneously in food deficit and having a low income, a country lacks the resources not only to import food but also to produce sufficient amounts domestically. This combination of factors makes a country both food insecure and susceptible to both domestic and external shocks, which could affect the nutritional status of vulnerable populations. The low-income food-deficit list, therefore, is intended to capture this aspect of the food problem.

In comparison with countries in other classifications commonly used for analytical and operational purposes (e.g. “least developed countries", the World Bank’s “low-income countries” and “heavily indebted poor countries"), low-income food-deficit countries have demonstrated better nutrition- and health-related outcomes.
Source of data


Further reading

Meta-indicators

**Seats held by women in national parliament**

*What does this indicator tell us?*

This is an indicator of gender equality and empowerment of women, and is indicative of SDG 5: “Achieve gender equality and empower all women and girls”. Women’s representation in parliaments is one aspect of their opportunities in political and public life, and is therefore linked to women’s empowerment.

*How is this indicator defined?*

The proportion of seats held by women in national parliaments is obtained by dividing the number of parliamentary seats occupied by women by the total number of seats occupied. National parliaments consist of one or two chambers. For international comparisons, generally only the single, or lower, house is considered when calculating the indicator.

*What are the implications?*

Women are underrepresented in all decision-making bodies and political parties, particularly at the higher echelons. Women still face many practical obstacles to fully exercising their role in political life. Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

*Source of data*


*Further reading*


**Averaged aggregate governance indicators**

*What does this indicator tell us?*

The World Bank Institute defines governance as the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of the citizens and state for the institutions that govern economic and social interactions among them. The world governance indicators measure six broad definitions of governance, capturing the key elements of this definition:

- *voice and accountability* – the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media;
• **political stability and absence of violence or terrorism** – the likelihood that the government will be destabilized by unconstitutional or violent means, including terrorism;

• **effectiveness** – the quality of public services, the capacity of the civil service and its independence from political pressures, and the quality of policy formulation;

• **regulatory quality** – the ability of the government to provide sound policies and regulations that both enable and promote private sector development;

• **rule of law** – the extent to which agents have confidence in and abide by the rules of society, including the quality of contract enforcement and property rights, the effectiveness of police and the courts, and the likelihood of crime and violence; and

• **control of corruption** – the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.

**How is this indicator defined?**

The averaged aggregate governance indicators in the NLiS country profiles represent the aggregated average of the six world governance indicators. The indicators represent the views of thousands of stakeholders worldwide, including respondents to household and company surveys, experts from nongovernmental organizations, public sector agencies and providers of commercial business information. The NLiS averaged aggregate governance indicators are calculated from the average of the z scores (a measure of SD away from the mean) of the six world governance indicators. Each of the six indicators are expressed as standard normal units, ranging from around −2.5 to 2.5. The higher the score a country has, the better the assessment it has received regarding the six governance elements.

**What are the consequences and implications?**

Policy-makers, civil society groups, aid donors and scholars worldwide increasingly agree that good governance affects development. This consensus has emerged from a proliferation of empirical measures of institutional quality and governance, the investment climate and research (World Bank Institute, 2009).

For nutrition, the importance of good governance is reflected in the UNICEF conceptual framework of factors in the “control and management of resources influenced by political and ideological structures in society” (Jonsson, 1995). Reports from the UNSCN show how a nutrition perspective can help to improve governance. Good governance is also recognized by countries themselves as an essential factor for sustained economic growth, sustainable development, eradication of poverty and hunger, and the realization of all human rights, including the right to adequate food.

**Source of data**


**Further reading**


Gender inequality index (GII)

What does this indicator tell us?

The gender inequality index (GII) provides insights into gender disparities in health, empowerment and the labour market. Unlike the human development index (HDI), however, higher values in the GII indicate worse achievements.

How is this indicator defined?

The GII is a composite measure, reflecting inequality in achievements between women and men in three dimensions: reproductive health, empowerment and the labour market.

- The health dimension is measured by the maternal mortality ratio and the adolescent fertility rate.
- The empowerment dimension is measured by the share of parliamentary seats held by each gender, and by secondary and higher education attainment levels.
- The labour dimension is measured by women’s participation in the workforce.

The GII varies between 0 (when women and men fare equally) and 1 (when men or women fare poorly compared to the other in all dimensions). It is designed to reveal the extent to which national human development achievements are eroded by gender inequality, and to provide empirical foundations for policy analysis and advocacy efforts.

What are the implications?

Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

Source of data


Further reading


Internet resources

**Gender parity index in primary education enrolment**

*What does this indicator tell us?*

This is an indicator of gender equality and is related to SDG 4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”.

*How is this indicator defined?*

The gender parity index in primary education is the ratio of the number of female students enrolled at the primary level of education to the number of male students. To standardize the effects of the population structure regarding the appropriate age groups, the gross enrolment ratio for each level of education is used.

*What are the implications?*

Low status restricts women’s opportunities and freedom, giving them less interaction with others and fewer opportunities for independent behaviour, restricting the transmission of new knowledge, and damaging their self-esteem and self-expression. It is a particularly important determinant of two resources for care: mothers’ physical and mental health, and their autonomy and control over household resources. Low status restricts women’s capacity to act in their own and their children’s best interests. There is a demonstrated association between women’s status and malnutrition in children.

*Source of data*


*Further reading*


**Global hunger index (GHI)**

*What does this indicator tell us?*

The global hunger index is a means of monitoring whether countries are achieving hunger-related SDGs. It can be used for international ranking.

*How is this indicator defined?*

The global hunger index captures three dimensions of hunger: insufficient availability of food, shortfalls in the nutritional status of children and child mortality (which is, to a large extent, attributable to undernutrition). Accordingly, the index includes three equally weighted indicators: the proportion of people who are food energy-deficient, as estimated by FAO; the prevalence of underweight in children aged under 5 years, as compiled by WHO; and the mortality rate of children aged under 5 years, as reported by UNICEF. A regression analysis of the global hunger index on GNI per capita is performed to identify countries that are notably better or worse off with regard to hunger and undernutrition than would be expected from their GNI per capita. Countries are ranked on a 100-point scale, with 0 and 100 being the best and worst possible scores, respectively.
What are the consequences and implications?

Hunger is one of the world’s major problems and, therefore, one of its most important challenges. Hunger and undernourishment form a vicious circle, which is often “passed on” from generation to generation. The children of impoverished parents are often born underweight and are less resistant to disease; they grow up under conditions that impair their intellectual capacity for their whole lives. Factors that contribute to a high global hunger index have been identified as low income and poverty, war and violent conflict, general lack of freedom, low women’s status, and poorly targeted and delivered health and nutrition programmes.

**GHI severity scale**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Severity scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHI</td>
<td>≥50: extremely alarming</td>
</tr>
<tr>
<td></td>
<td>35–49.9: alarming</td>
</tr>
<tr>
<td></td>
<td>20–34.9: serious</td>
</tr>
<tr>
<td></td>
<td>10–19.9: moderate</td>
</tr>
<tr>
<td></td>
<td>≤9.9: low</td>
</tr>
</tbody>
</table>

Source: International Food Policy Research Institute. Understanding the GHI.

**Source of data**


**Further reading**


**Internet resources**

IFPRI. Understanding the GHI ([https://www.globalhungerindex.org/about/#ghi-severity](https://www.globalhungerindex.org/about/#ghi-severity)).

IFPRI. Global hunger index reports ([https://www.ifpri.org/previous-global-hunger-index-ghi-reports](https://www.ifpri.org/previous-global-hunger-index-ghi-reports)).


**Human development index (HDI)**

*What does this indicator tell us?*

The HDI is a summary measure of human development.

*How is this indicator defined?*
The HDI is a summary composite measure of a country's average achievements in three basic aspects of human development: health, knowledge and standard of living. It is a measure of a country's average achievements in three dimensions of human development:

- a long and healthy life, as measured by life expectancy at birth;
- knowledge, as measured by mean years of schooling and expected years of schooling; and
- a decent standard of living, as measured by GNI per capita in PPP terms in US$.

The HDI sets a minimum and a maximum for each dimension, called “goalposts”, then shows where each country stands in relation to these goalposts. This is expressed as a value between 0 and 1. The higher a country's human development, the higher its HDI value.

What are the consequences and implications?

The HDI is used to capture the attention of policy-makers, the media and nongovernmental organizations, and to change the focus from the usual economic statistics to human outcomes. It was created to re-emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth.

The HDI is also used to question national policy choices and to determine how two countries with the same level of income per person can have widely different human development outcomes. For example, two countries may have similar incomes per person, but have drastically differing life expectancy and literacy levels, such that one of the countries has a much higher HDI than the other. These contrasts stimulate debate on government policies concerning health and education to determine why what can be achieved in one country is beyond the reach of the other.

The HDI is also used to highlight differences within countries, between provinces or states, and across genders, ethnicities and other socioeconomic groupings. Highlighting internal disparities along these lines has raised the national debate in many countries.

Source of data


Further reading


Internet resources


Retention and school drop-out

What does this indicator tell us?

This indicator is the percentage of female and male pupils starting first grade who reach the last grade of primary education; it is a measure of the success of an education system in retaining students from one grade to the next, as well as its internal efficiency. It illustrates the schools' retention of pupils from grade to grade and, conversely, the drop-out rate by grade. This indicator relates to SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

How is this indicator defined?
The proportion of pupils starting in the first grade who reach the last grade of primary education, known as the “survival rate to last grade of primary”, is the percentage of a cohort of pupils in a given school year enrolled in the first grade of primary education who are expected to reach the last grade of primary school, regardless of repetition. The survival rate is a percentage of the cohort of pupils (i.e. children who have already entered school), not a percentage of all school-aged children.

What are the implications?

Level of education, especially among women, plays a role in a child’s nutritional status. Every additional year of female education reduces child mortality by 5–10%. A recent analysis found that the risk of stunting was significantly lower among mothers with primary schooling, and even more so among mothers with secondary schooling, although the exact pathways have not been tested.

Source of data


Further reading


Under-five mortality

What does this indicator tell us?

This indicator is the number of children who die by the age of 5 years, per 1000 live births. It is an indicator for SDG 3: “Ensure healthy lives and promote well-being for all at all ages”. It is also included in the WHO Global reference list of 100 core health indicators.

How is this indicator defined?

The mortality rate of children aged under 5 years is the probability that a child born in a specific year or period will die before reaching the age of 5 years, subject to the age-specific mortality rates of that period.

What are the consequences and implications?

This indicator is linked to internationally recognized goals for general development standards and children’s rights. Similar to the infant mortality rate, the mortality rate of children aged under 5 years is a baseline indicator of how a country is progressing towards assuring children’s rights – in particular, their rights to life, health care services, nutrition, water, social security and protection. Article 24 of the United Nations Convention on the Rights of the Child specifically obliges all States to take appropriate measures to reduce the child death rate.

Source of data
WHO. Global Health Observatory (GHO) data repository. Number of under-five deaths (thousands). Data by country (http://apps.who.int/gho/data/view.main.CM1320N).

Further reading


Internet resources


Female education levels

What does this indicator tell us?

This indicator is a country’s level of education among women of reproductive age.

How is this indicator defined?

This indicator gives the percentage distribution of women aged 15–49 years by the highest level of schooling attended or completed.

What are the consequences and implications?

Gender parity in education is important, not only because education is a fundamental human right for all, but also because educated girls tend to marry later and have fewer, healthier and better nourished children. Recent analyses have found that the risk of stunting is significantly lower among mothers with primary schooling, and even more so among mothers with secondary schooling, although the exact pathways have not been tested.

Source of data

Demographic and health surveys (DHS) program STATcompiler (http://www.statcompiler.com/).

Further reading


The Nutrition Landscape Nutrition Information System (NLIS) is one of three components of the Landscape Analysis on countries’ readiness to accelerate action in nutrition. Linking dynamically all existing WHO Global Nutrition Databases, as well as other existing food and nutrition-related data from partner agencies, NLIS was developed as a web-based tool that provides nutrition and nutrition-related health and development data in the form of automated country profiles and user-defined downloadable data.

Data presented in the Country Profiles are structured by the UNICEF conceptual framework for causes of malnutrition and intend to give an overview snapshot of a country’s nutrition, health, and development at the national level.

This Indicator Interpretation Guide provides information on all indicators included in the Country Profile. For each indicator, the Guide gives a general understanding and scientific definition, a description of consequences or implications, including cut-off-values for public health significance where these have been established, and reference to the source of information and suggested further reading.

NLIS is available at www.who.int/nutrition/nlis

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