

# Collecting Data on Early Childhood Development in Household Surveys



© United Nations Children’s Fund (UNICEF), Division of Data, Analytics, Planning and Monitoring, February 2024

Permission is required to reproduce any part of this publication. Permission will be freely granted to educational or non-profit organizations. To request permission or for any other information on this publication, please contact:

UNICEF Data and Analytics Section  
Division of Data, Analytics, Planning and Monitoring  
3 United Nations Plaza  
New York, NY 10017, USA  
Telephone: +1 212 326 7000  
Email: [data@unicef.org](mailto:data@unicef.org)

All reasonable precautions have been taken by UNICEF to verify the information contained in this publication. For any updates subsequent to release, please visit [data.unicef.org](http://data.unicef.org).

Suggested citation: United Nations Children’s Fund, *Collecting Data on Early Childhood Development in Household Surveys*, UNICEF, New York, 2024.

Cover photo credit: © UNICEF/UN0527099/Cus

## ACKNOWLEDGEMENTS

The preparation of this publication was led by Claudia Cappa and Nicole Petrowski (Data and Analytics Section, UNICEF Headquarters), with inputs from Tashrik Ahmed (Data and Analytics Section, UNICEF Headquarters), Liliana Carvajal (formerly with Data and Analytics Section, UNICEF Headquarters), Samuel Chakwera (formerly with Data and Analytics Section, UNICEF Headquarters), Lauren Francis (Data and Analytics Section, UNICEF Headquarters), Monica Giuffrida (formerly with Data and Analytics Section, UNICEF Headquarters), Chika Hayashi (Data and Analytics Section, UNICEF Headquarters), Julia Krasevec (Data and Analytics Section, UNICEF Headquarters), Vrinda Mehra (Data and Analytics Section, UNICEF Headquarters), Padraic Murphy (formerly with Data and Analytics Section, UNICEF Headquarters), Jennifer Requejo (formerly with Data and Analytics Section, UNICEF Headquarters), and Khaing Soe (Data and Analytics Section, UNICEF Headquarters). Jean Marie Place (independent consultant) and Elga Filipa de Castro (formerly with Data and Analytics Section, UNICEF Headquarters) assisted with the preparation of earlier drafts.

The report was edited by Tina Johnson, proofread by Alice Cresswell and designed by Era Porth (independent consultants).

# Contents

<b>1. Introduction</b>	<b>7</b>
<b>2. What it means and what it takes to measure ECD through household surveys</b>	<b>9</b>
Box 2.1 The Nurturing Care Framework.....	11
Box 2.2 UNICEF's role in monitoring ECD .....	12
Box 2.3 ECD in the Sustainable Development Goals .....	15
<b>3. Indicator metadata</b>	<b>17</b>
<b>3.1 Early childhood development outcomes.....</b>	<b>17</b>
Children who are developmentally on track in health, learning and psychosocial well-being (SDG 4.2.1).....	17
<b>3.2 Early childhood development inputs .....</b>	<b>20</b>
<b>3.2.1 Good health and adequate nutrition .....</b>	<b>20</b>
Feeding practices .....	20
Early initiation of breastfeeding	
Exclusive breastfeeding	
Minimum acceptable diet	
Nutritional status .....	26
Stunting (SDG 2.2.1)	
Overweight (SDG 2.2.2a)	
Wasting (SDG 2.2.2b)	
Maternal and child health.....	34
Antenatal care	
Postnatal care for newborns	
Postnatal care for mothers	
Care-seeking for acute respiratory infection	
Diarrhoea treatment with oral rehydration salts and zinc	
Immunization (SDG 3.b.1)	
<b>3.2.2 Safety and security.....</b>	<b>45</b>
Birth registration (SDG 16.9.1) .....	45
Disciplinary practices.....	48
Violent discipline (SDG 16.2.1)	
Non-violent discipline	
Attitudes towards physical punishment	
<b>3.2.3 Opportunities for early learning .....</b>	<b>54</b>
Children's books at home .....	54
Playthings at home .....	55
Attendance in early childhood education .....	56
<b>3.2.4 Responsive caregiving .....</b>	<b>58</b>
Early stimulation and responsive care .....	58
Inadequate supervision.....	60
<b>3.3 Addressing inequities .....</b>	<b>62</b>
Children with functional difficulties .....	62



## Acronyms and abbreviations

<b>ARI</b>	acute respiratory infection
<b>BMI</b>	body mass index
<b>CFM</b>	Child Functioning Module
<b>CRAVE</b>	Country Reporting and Validation Exercise
<b>CRC</b>	Convention on the Rights of the Child
<b>CRVS</b>	civil registration and vital statistics
<b>CTS</b>	Conflict Tactics Scale
<b>DHS</b>	Demographic and Health Surveys
<b>DTP</b>	diphtheria-tetanus-pertussis
<b>ECD</b>	early childhood development
<b>ECDI</b>	Early Childhood Development Index
<b>ECDI2030</b>	Early Childhood Development Index 2030
<b>IAEG-SDGs</b>	Inter-agency and Expert Group on SDG Indicators
<b>JME</b>	Joint Malnutrition Estimates
<b>JRF</b>	Joint Reporting Form
<b>LSMS</b>	Living Standards Measurement Surveys
<b>MICS</b>	Multiple Indicator Cluster Surveys
<b>MUAC</b>	mid upper arm circumference
<b>MGRS</b>	Multicentre Growth Reference Study
<b>NCHS</b>	National Center for Health Statistics
<b>ORS</b>	oral rehydration salts
<b>SDG</b>	Sustainable Development Goal
<b>SMART</b>	Standardized Monitoring and Assessment of Relief and Transition
<b>UNICEF</b>	United Nations Children's Fund
<b>UNSD</b>	United Nations Statistics Division
<b>WHO</b>	World Health Organization
<b>WUENIC</b>	WHO/UNICEF Estimates of National Immunization Coverage





## 1. Introduction

Early childhood, which spans the period up to 8 years of age, is critical for cognitive, social, emotional and physical development. Optimal brain development requires a stimulating environment, adequate nutrients and nurturing engagement with attentive caregivers.<sup>1</sup> This combination of nature and nurture establishes the foundation of children's futures. Early childhood development (ECD) is a key driver of our global future too. Investments in ECD are recognized as one of the most cost-effective strategies to promote inclusive economic growth, expand equal opportunities and eradicate extreme poverty.<sup>2</sup> Such investments require child- and family-centred policies that ensure the provision of services and care that promote health, nutrition, safety and security, responsive caregiving, and the best opportunities for children to survive, learn and thrive.

The rights to develop to "the maximum extent possible" (article 6) and "to a standard of living adequate for the child's physical, mental, spiritual, moral and social development" (article 27) are clearly stated in the Convention on the Rights of the Child (CRC). Governments around the globe have ratified the CRC and further committed to achieving a number of targets that directly impact ECD through the Sustainable Development Goals (SDGs).

Despite these commitments, many countries still lack data on both the status and determinants of ECD that are needed to measure progress and to understand how young children are faring. Establishing effective monitoring and accountability systems of ECD, at both global and country levels, requires high-quality data on key indicators, including data on inputs that can have an influence on developmental outcomes among children, and strong cross-sectoral collaboration among data producers.

This publication is meant to guide the collection of reliable, internationally comparable data on key ECD indicators, the selection of which was informed by the Nurturing Care Framework (see Box 2.1). While data on ECD come from different sources, this publication focuses on those that can be produced through household surveys. Detailed information on the selected indicators is provided along with guidance for the collection, analysis, monitoring and reporting on these indicators at national and global levels. In cases where an indicator refers to a wider age range, the indicator metadata includes a suggested age range most relevant for the period of early childhood.







## 2. What it means and what it takes to measure ECD through household surveys

In order to generate estimates about the status of children's development and well-being across populations, data must be collected through population-based measurement. This requires the use of valid and reliable measures, representative sampling of the population and repeated administration over time for tracking changes.<sup>3</sup> The purpose of this type of measurement is to generate data on current levels and monitor trends over time, as well as report on inequities, rather than to use assessments to make decisions about individuals or to evaluate the effectiveness of programmes. That said, all types of measurement are useful and can be complementary, but they serve different purposes and are attached to specific conditions and requirements. Therefore, countries need to carefully assess the purpose and objectives of data collection from the outset in order to select the appropriate type of measurement and related measures/tools.

Household surveys – administered via dedicated enumerators or, in some cases, via self-report – obtain data from individuals in households and are one vehicle through which to conduct population-based measurement of early childhood development (ECD). Data can be collected on breastfeeding practices, the prevalence of violent discipline or the amount of learning stimulation at home as well as on many other facets of a child's behaviours, practices and unique circumstances that serve as both inputs and outcomes

of development. The objective is to collect data that represent and describe child health, development and well-being among the whole population of children within a well-defined area (such as a country) in order to inform policy and large-scale programmatic investments.

Population-level child development measures administered within the context of household surveys typically rely on responses from parents or primary caregivers of children, and such measures need to be simple, brief and easy to understand for all parents/caregivers, regardless of their background characteristics. For these reasons, individual-level screening and assessment or diagnostic tests that depend on highly trained professionals and substantial administration time are not suitable or intended to be used for measuring child development at population level within the context of household surveys.<sup>4</sup>

One key advantage to collecting data on child development through multi-topic household surveys is that data are also collected on critical factors associated with equity including household, family and parental characteristics. These can be used to identify group-level differences and early disparities in child development, providing useful insights for targeting and prioritizing interventions and resources among those most in need.

While there are general limitations when conducting household surveys – including the fact that administration is costly and time-intensive, which may limit the frequency of survey administration or the number of households surveyed and thus the feasibility of disaggregating data – these surveys are valuable for measuring impact-level indicators associated with risk, demand and prevalence.<sup>5</sup> They can help inform multi-year impact assessments on ECD programming and are thus useful for monitoring the impact of services on populations over longer durations.<sup>6</sup>

Other data sources, such as administrative systems maintained by ministries of health or education, are also available to measure and monitor some indicators of ECD. However, data quality can be compromised in some cases due to a variety of factors, including systems that produce unreliable or incomplete data, fragile socio-political environments, weak systems of governance or persistent leadership changes. While there are limitations with household surveys as well, the data they collect possess a number of advantages:

- They can often be disaggregated by wealth, family size or other characteristics, which is difficult to do with administrative data.
- They can capture individuals not served by government systems, which is important in 'leaving no child behind'.
- They can generate comparable and nationally representative data and hence can be used for global monitoring.

Ideally, household survey data can be compared to and calibrated against data from government administrative systems such as health management information systems and education management systems. Household surveys can provide information that is critical to understanding the demand side for government services. Together with data from administrative systems, which provide information on the supply side of government services, they help paint a more complete picture for policy formation.<sup>7</sup>



## Box 2.1. The Nurturing Care Framework

To support and guide governments and other stakeholders in their efforts to prioritize and invest in ECD, the World Health Organization (WHO), United Nations Children's Fund (UNICEF) and the World Bank partnered to create a roadmap and framework to outline five inter-related and indivisible components for nurturing care that supports and promotes child development: good health, adequate nutrition, safety and security, responsive caregiving and opportunities for learning. By working to incorporate these inputs from the Nurturing Care Framework into efforts to advance ECD, we can set the stage for children around the world to reach their developmental potential.<sup>8</sup>

### Good health and adequate nutrition

Maternal and child health and nutrition work in tandem. The nutritional status of the mother during pregnancy and the first years of her child's life sets the stage for the child's brain development.<sup>9</sup> Adequate nutrition, including exclusive breastfeeding from birth to 6 months old, provides babies with all the nutrients they need and protects them against common childhood illnesses such as diarrhoea and pneumonia. Breastfeeding is associated with positive long-term outcomes too, such as future intelligence and health. Conversely, lack of nutrition affects the structure and function of the developing brain in ways that are difficult to offset later in life.<sup>10</sup> For example, inadequate nutrition in early childhood can lead to stunting, which can cause irreversible physical and cognitive damage and is associated with negative short- and long-term effects on school performance and adult earnings.<sup>11</sup>

### Safety and security

Peace, stability, recognition of human rights and effective governance, based on the rule of law, provide children with a solid foundation and environment in which to grow and develop. Registering children at birth is society's way of acknowledging their existence, identity and rights in a country. Because birth registration is often a condition for the receipt of state services such as health care, education and social protection, it is a critical way to ensure a safety net is available to children.

Governments can also build strong child protection systems by challenging existing norms related to violence. Harsh punishment and violence represent serious risks to the safety and security of children. Violence and maltreatment are associated with short- and long-term effects on children's health, well-being

and social adjustment. Children who have been severely abused or neglected are often hampered in their development, experience learning difficulties and perform poorly at school.<sup>12</sup> Violence against children carries profound economic and social costs in both lost potential and reduced productivity.<sup>13</sup>

### Responsive caregiving

Children learn from the very beginning, especially as caregivers respond to them through singing, reading books, telling stories and playing simple games. Nurturing, stimulating interaction between children and their parents and caregivers can positively and permanently strengthen children's ability to learn and may benefit their brain function for life.<sup>14</sup> Caregivers who are sensitive and responsive to children's emerging abilities can help them feel valued and accepted and develop social, emotional and cognitive skills that can later contribute to academic and employment success.<sup>15</sup>

### Opportunities for early learning

Play is a natural form of exploration and learning for children. Playing with everyday things such as cups and pots helps children learn about their environment and supports their creativity and capacity to think for themselves. The ability to play has a key role in determining a child's chances for survival and development.<sup>16</sup>

Attendance in early childhood education programmes is also essential for children to learn the skills necessary for success inside and outside school. Children benefit from interacting and learning with other young children and building the cognitive, language and social-emotional skills they need to thrive in school and beyond. Investing in early childhood education can be a powerful way to reduce gaps that often put children with low social and economic status at a disadvantage. Studies show that the benefits of such investments are highest among poorer children, for whom these programmes may serve as a pathway out of poverty or exclusion.<sup>17</sup>

The Nurturing Care Framework is accompanied by a handbook that suggests a set of 24 core indicators to measure the five components outlined above.<sup>18</sup> Many of these are SDG indicators and can be collected through standardized household surveys such as the UNICEF-supported Multiple Indicator Cluster Surveys (MICS) (see Box 2.2).

## Box 2.2. UNICEF's role in monitoring ECD

UNICEF has been working with countries and key partners to close the measurement gap when it comes to inputs and outcomes for ECD through a number of activities.

### Collecting data

The MICS programme is a vehicle for the collection of nationally representative and comparable data on several domains of child development and well-being, including a number of SDG indicators relevant to ECD.

The MICS have developed into one of the world's largest population-based sources of ECD data available at an internationally comparative level. Since their initiation in 1995, there have been six rounds of surveys in more than 100 low- and middle-income countries with data collected in face-to-face interviews with household members. It was not until the third round (MICS3) in 2005 and 2006 that indicators designed to assess the quality of a child's home environment and access to early childhood care and education were included. In subsequent years, a 10-item index (the MICS Early Childhood Development Index, or MICS ECDI) was developed to measure children's overall developmental status within four domains (physical development, literacy-numeracy, social-emotional development and learning). This was introduced during the fourth round (MICS4) beginning in 2009 and has since produced estimates on children's developmental status for more than 80 countries.

In addition to collecting data on relevant topics for ECD such as anthropometry, child health, infant feeding practices, child discipline, child functioning and birth registration, the MICS includes a standard dedicated module on ECD as part of the Questionnaire for Children under Five addressed to mothers (or primary caregivers) of young children. The MICS ECD module collects data on the conditions of care within a child's home environment, including the availability of learning materials, early stimulation and responsive care by caregivers, and inadequate supervision. It also includes a question on attendance in organized early childhood care and education as well as the MICS ECDI (which, beginning with the seventh round, MICS7, has been replaced by the Early Childhood Development Index 2030, ECDI2030).

### Developing new tools and methods

UNICEF plays a key role in the development of new data collection, monitoring and reporting tools in the area of ECD, including on issues measured by SDG indicators. As the custodian agency of SDG indicator 4.2.1, UNICEF was tasked with leading methodological work to develop a new universal methodology and measure of ECD outcomes that could be used to track progress against SDG target 4.2. In 2015, UNICEF initiated a process of methodological steps that involved extensive consultations with experts, partner agencies and national statistical authorities. This culminated in the development of the ECDI2030, which builds on the MICS ECDI and also includes items drawn from other existing measurement tools. The ECDI2030 captures the achievement of key developmental milestones by children between the ages of 24 and 59 months. Mothers or primary caregivers are asked 20 questions about the way their children behave in certain everyday situations and about the skills and knowledge they have acquired. The ECDI2030 addresses the need for nationally representative and internationally comparable data on ECD collected in a standardized way. It can be integrated into existing national data collection efforts.

### Compiling data

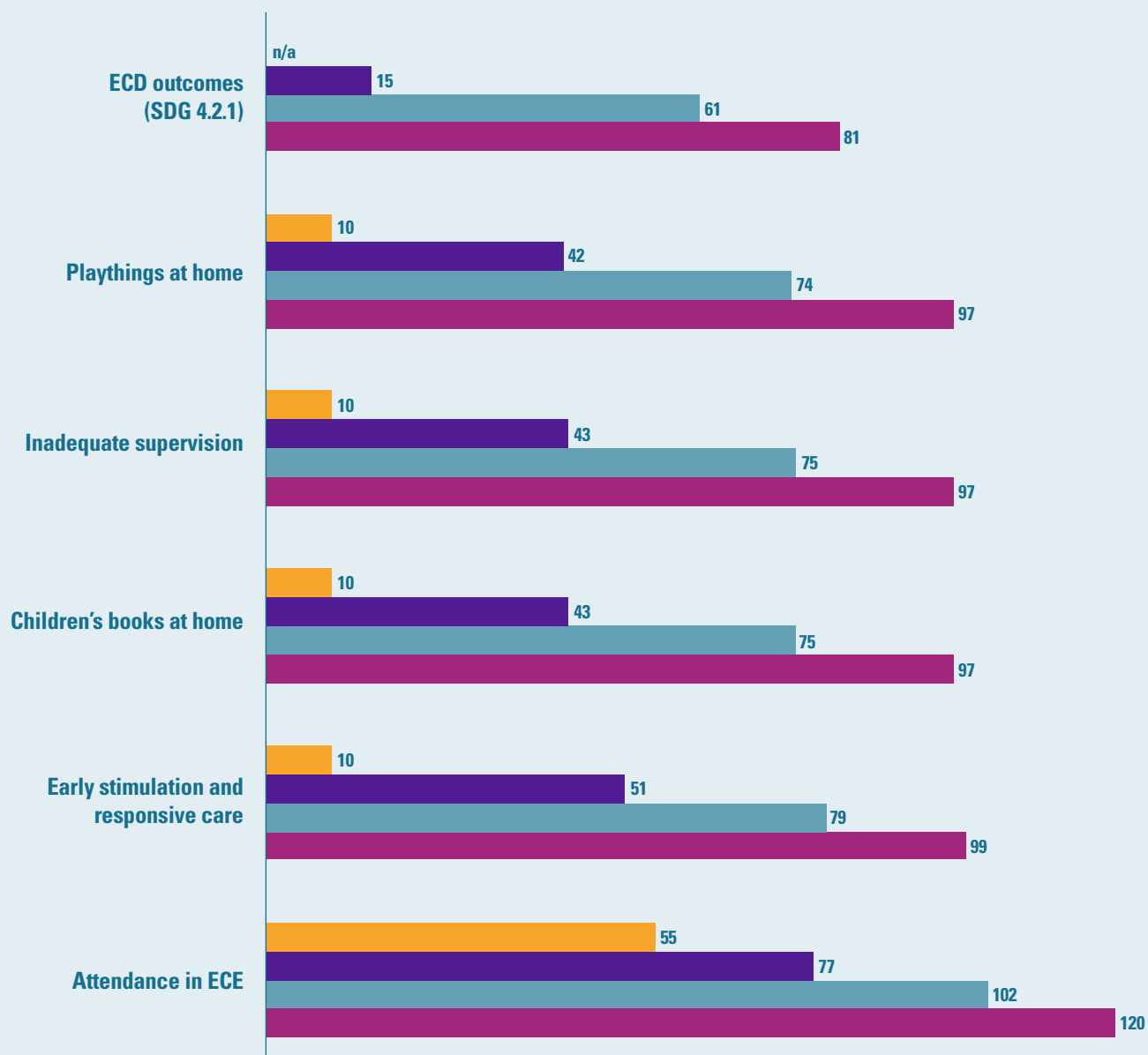
UNICEF maintains global databases on key ECD indicators. The main sources of data include nationally representative household surveys, such as the MICS and the Demographic and Health Surveys (DHS), and vital registration systems. These databases are publicly accessible and are updated annually through established systems of country consultations. When these databases cover indicators for which UNICEF is custodian agency, they are used for official SDG reporting (see Box 2.3).

### Disseminating data

Data collected, compiled or analysed by UNICEF on ECD are disseminated in a variety of ways, including through UNICEF's flagship publication, *The State of the World's Children*, and several thematic data-driven reports, brochures and country profiles. All the publications, global databases and other resources for ECD statistics can be found on UNICEF's dedicated data website: <<https://data.unicef.org/topic/early-childhood-development/overview>>.

## Number of countries with available data on select ECD indicators in UNICEF global databases

2005 2010 2015 2022



Note: The data on ECD outcomes are based on the MICS ECDI.  
n/a = not applicable (data based on the MICS ECDI were not collected prior to 2009)



## Box 2.3. ECD in the Sustainable Development Goals

The importance of ECD as a central component of global and national development has been recognized by the international community through the inclusion of a dedicated target within the SDGs. Target 4.2 specifically calls on countries to “By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education”. However, ECD is not limited to a single area of development as it is highly interlinked with the achievement of all the SDGs.

It is also encompassed in other SDG targets, including targets 2.2, 3.2, 4.4, 16.2 and 16.9.<sup>19</sup>

In recognition of the key role played by UNICEF in supporting the collection, analysis, dissemination and use of ECD data (Box 2.2), the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) has identified it as the custodian or co-custodian for seven key SDG indicators related to ECD.<sup>20</sup>

### SDG indicators related to ECD that can be monitored through household surveys

Goal	Target	Indicator	Custodian agency/agencies	Tier
<b>Goal 2:</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<b>2.2</b> By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	<b>2.2.1</b> Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age	UNICEF WHO	I
		<b>2.2.2a &amp; 2.2.2b</b> Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	UNICEF WHO	I
<b>Goal 3:</b> Ensure healthy lives and promote well-being for all at all ages	<b>3.b</b> Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	<b>3.b.1</b> Proportion of the target population covered by all vaccines included in their national programme	UNICEF WHO	I
<b>Goal 4:</b> Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<b>4.2</b> By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	<b>4.2.1</b> Proportion of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being, by sex	UNICEF	II
		<b>4.2.2</b> Participation rate in organized learning (one year before the official primary entry age), by sex <sup>21</sup>	UNESCO Institute for Statistics (UNESCO-UIS)	I
<b>Goal 16:</b> Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<b>16.2</b> End abuse, exploitation, trafficking and all forms of violence against and torture of children	<b>16.2.1</b> Proportion of children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month	UNICEF	II
		<b>16.9</b> By 2030, provide legal identity for all, including birth registration	UNSD UNICEF	I







## 3. Indicator metadata

### 3.1 Early childhood development outcomes

#### Children who are developmentally on track in health, learning and psychosocial well-being (SDG 4.2.1)

##### Broader SDG monitoring context

(This text is extracted from the following UNICEF site: <https://data.unicef.org/resources/early-childhood-development-index-2030-ecdi2030> and from the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-04-02-01.pdf>.)

Early childhood development (ECD) is multidimensional, encompassing several aspects of a child's well-being: physical, social, emotional and mental. In general, development takes place in a series of predictable and common stages: Children become progressively more independent and learn increasingly advanced skills and capacities as they grow older. However, children develop at different speeds and may reach developmental milestones at different times. What is considered normal child development also varies across cultures and environments, since expectations and parenting strategies may differ not only among

countries but also among cultural, ethnic or religious groups within the same country.

##### Definition

Percentage of children aged 24 to 59 months who are developmentally on track in health, learning and psychosocial well-being

##### SDG indicator

Numerator: Number of children aged 24 to 59 months who are developmentally on track in health, learning and psychosocial well-being

Denominator: Number of children aged 24 to 59 months

##### Proxy indicator

Numerator: Number of children aged 36 to 59 months who are developmentally on track in at least three of the following four domains: literacy-numeracy, physical, social-emotional and learning

Denominator: Number of children aged 36 to 59 months

## Key terms

The domains included in SDG indicator 4.2.1 include the following concepts:

- Health: gross motor development, fine motor development and self-care
- Learning: expressive language, literacy, numeracy, pre-writing and executive functioning
- Psychosocial well-being: emotional skills, social skills, internalizing behaviour and externalizing behaviour

The recommended measure for SDG 4.2.1 is the ECDI2030, which is a 20-item instrument to measure developmental outcomes among children aged 24 to 59 months in population-based surveys (see Box 2.2). The indicator derived from the ECDI2030 is the percentage of children aged 24 to 59 months who are developmentally on track having achieved the minimum number of milestones expected for their age group, defined as follows:

- Children aged 24 to 29 months – at least 7 milestones
- Children aged 30 to 35 months – at least 9 milestones
- Children aged 36 to 41 months – at least 11 milestones
- Children aged 42 to 47 months – at least 13 milestones
- Children aged 48 to 59 months – at least 15 milestones

## National data sources

The ECDI2030 can be integrated into existing national data collection efforts, including international household survey programmes such as the MICS and DHS.

## Interpretation

ECD sets the stage for lifelong thriving. Investing in ECD is one of the most critical and cost-effective investments a country can make to improve adult health, education and productivity in order to build human capital and promote sustainable development. ECD provides a good indication of national development.

A feasible population measure of ECD outcomes is critical to monitoring the impact of ECD interventions, and hence determining which children are on track

or not, to ensure that all children benefit from such interventions.

Beginning with the seventh round of MICS (MICS7), the ECDI2030 replaced the MICS ECDI, which has been used since 2015 to generate data on the proxy indicator for SDG 4.2.1 (i.e., children aged 36 to 59 months who are developmentally on track in at least three of the following four domains: literacy-numeracy, physical, social-emotional and learning) for SDG monitoring and reporting. Because the ECDI2030 was finalized and officially launched in March 2020, it will take some time for country uptake to generate data from a sufficiently large enough number of countries. In the meantime, therefore, the proxy indicator will continue to be used to report on SDG 4.2.1 when relevant.

However, the MICS ECDI and the ECDI2030 target different age groups and measure slightly different developmental domains. The two measures were also developed through different methodological approaches, which has resulted in psychometrically different instruments and scoring methods. Therefore, the data generated by both instruments may not be fully comparable and caution is needed when interpreting them.

## Disaggregation

As a minimum, this indicator should be disaggregated by sex. Additionally, survey data often allow for disaggregation by other standard socio-demographic factors such as child's age, household wealth, rural or urban residence, geographic location and school attendance. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

## Special considerations for collecting data on the indicator through household surveys

The ECDI2030 is not intended to generate data for reporting on individual development domains or individual children. Rather, it is meant to produce one population-level indicator based on a single summary score that captures the interlinked developmental concepts embedded in the three domains mentioned in SDG indicator 4.2.1.

Additionally, because the ECDI2030 focuses on children aged 24 to 59 months, data collection using this may benefit from sampling designs that oversample children under 5, especially in countries with low fertility rates.

The ECDI2030 was intentionally designed to reflect the increasing difficulty of the skills children acquire as they grow older; therefore, some questions might seem too easy or too difficult for some children. Given the types of questions in the ECDI2030, it is also possible that respondents may want to find out from a child directly if he/she can do the things being asked. This is not appropriate and should always be avoided by explaining to the respondent that the questions are to be answered based solely on her perception and knowledge of the child. Deviating from this protocol not only affects the standardization of the interview procedure but could also introduce unnecessary biases and affect data quality.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled from reports published by national statistical offices or other relevant national entities.

### *Process*

UNICEF undertakes a wide consultative process to compile, assess and validate data from national sources. This solicits feedback directly from national statistical offices, as well as other government agencies responsible for official statistics, on the compilation of the indicators, including the data sources used and

the application of internationally agreed definitions, classification and methodologies to the data from that source. The results of this country consultation are reviewed by UNICEF as the custodian agency, and feedback is then made available to countries on whether specific data points are accepted in both UNICEF global databases and the SDG database and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <<http://data.unicef.org/ecd/development-status.html>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- SDG indicator metadata: <<https://unstats.un.org/sdgs/metadata/files/Metadata-04-02-01.pdf>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>
- ECDI2030: <<https://data.unicef.org/resources/early-childhood-development-index-2030-ecdi2030>>



© UNICEF/UN0533896/Mahari

## 3.2 Early childhood development inputs

### 3.2.1 Good health and adequate nutrition

#### Feeding practices

##### Early initiation of breastfeeding

###### Definition

Percentage of children born in the last 24 months who were put to the breast within one hour of birth

###### Indicator

Numerator: Number of children born in the last 24 months who were put to the breast within one hour of birth

Denominator: Number of children born in the last 24 months

###### Key terms

The term 'being put to the breast' means that the baby was given the opportunity to feed at the mother's breast. It is not necessary that the baby actually suckled at the breast or successfully obtained milk or colostrum from the breast. It is also not necessary that the newborn be placed on the nipple.

Births refers to all live births occurring in the last 24 months, whether the infants concerned are living or dead at the time of the interview.

###### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys and other national nutrition surveys.

###### Interpretation

Early initiation of breastfeeding does not require that the infant suckled at the breast or that milk was transferred from breast to infant. It represents the practice of putting the baby to the breast within the first hour of life, which is related to a number of positive outcomes including reduced mortality and exclusive breastfeeding.

###### Disaggregation

Survey data often allow for disaggregation by standard

socio-demographic factors such as sex, age, household wealth, rural or urban residence, and geographic location. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and the place and type of delivery.

##### Special considerations for collecting data on the indicator through household surveys

The recall period for retrospective questions such as early initiation of breastfeeding varies with the child's age, and caregivers may be asked to recollect events occurring up to two years in the past. In general, longer recall periods for dietary intake questions are associated with more recall bias, i.e., more systematic inaccuracy or incompleteness in recall.<sup>22</sup>

##### Monitoring and reporting

###### National

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies in collaboration with international organizations, researchers and other survey implementers.

###### Global

UNICEF aggregates data produced by national statistical offices or other relevant entities to produce global and regional-level estimates.

###### Process

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The Country Reporting and Validation Exercise (CRAVE) supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an

online system, nationally representative data for key indicators. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters for consistency and overall data quality. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why. When microdata are available, the data are reanalysed to conform with standard definitions.

Additionally, UNICEF continuously scopes out various websites, including of large-scale household surveys such as the DHS and MICS, to obtain newly available data sources.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level either come directly from nationally produced data or have been reanalysed to conform with the standard indicator definition.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- Indicators for assessing infant and young child feeding practices: <<https://data.unicef.org/resources/indicators-for-assessing-infant-and-young-child-feeding-practices>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## **Exclusive breastfeeding**

### **Definition**

Percentage of infants aged 0 to 5 months who were fed exclusively with breastmilk in the 24 hours prior to the survey

### **Indicator**

Numerator: Number of infants aged 0 to 5 months who

were fed exclusively with breastmilk in the 24 hours prior to the survey

Denominator: Number of infants aged 0 to 5 months

### **Key terms**

Exclusive breastfeeding is defined as providing only breastmilk, with no other food or fluids (including water). Prescribed medicines, oral rehydration solution, vitamins and minerals are not counted as fluids or foods. However, herbal fluids and similar traditional medicines are counted as fluids, and infants who consume these are not exclusively breastfed.

Breastfeeding by a wet nurse, feeding of expressed breast milk and feeding of donor human milk all count as being fed breast milk.

The question used to generate the indicator asks about the previous day (the day before the interview). In specific terms, this recall period starts from when the infant awoke the previous day and extends throughout the day and night until she/he woke on the morning of the interview, for a total time period of approximately 24 hours.

### **National data sources**

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys and other national nutrition surveys.

### **Interpretation**

Exclusive breastfeeding is a current status indicator (i.e., it represents the percentage of infants 0 to 5 months of age who were fed only with breastmilk during the previous day). It does not, therefore, reflect the percentage of infants who are exclusively breastfed since birth and should not be interpreted as such.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence and geographic location. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity.

### **Special considerations for collecting data on the indicator through household surveys**

*(The following information is adapted from the document 'Indicators for Assessing Infant and Young*

*Child Feeding Practices' found here: <https://data.unicef.org/resources/indicators-for-assessing-infant-and-young-child-feeding-practices>.)*

Household surveys usually interview mothers or caregivers of eligible children. Sometimes, multiple caregivers may have fed the child at different times during the previous day. If available, they can all be asked to participate in the interview. In case no respondents are present who know what the child was fed the previous day, it is recommended that the interviewer call back at another time. This is not always feasible, however, especially if the survey includes multiple modules.

To assess exclusive breastfeeding, respondents are asked about beverages and foods fed to an infant during the previous day. There are two methods for asking about foods given to a child: list-based recall and open recall. In the former method, the interviewer first explains that they will read out an extensive list of food groups and that the respondent should indicate which were consumed by the infant during the specified recall period (previous day and night). In the latter method, the interviewer asks a series of standard probing questions to help the respondent(s) recall all foods consumed by the infant during the previous day and night. The recall is 'open' because the interviewer does not read a list of

predefined foods to the respondent. Beverage intake, however, should be recorded following the list-based recall method as beverages may be easily forgotten and their intake is essential to determine exclusive breastfeeding.

Adapting the liquid and food groups listed in the questionnaire requires appropriate local expertise related to available foods and drinks and infant and young child feeding practices. For each liquid and food group, the aim is to identify and list a set of the most commonly consumed items. The examples for each food group cannot and should not be exhaustive; rather, they should be limited to seven or fewer whenever possible. If lists are too long, they become cognitively difficult for respondents to grasp as questions. At the same time, items not on the adapted questionnaire may be missed when the list-based method is used.

Because of the potential for compromised data quality, it is essential that interviewers undergo specialized training. Training for the liquid and food group recalls should include classroom instruction – including role-playing and other interactive activities – as well as discussion and field practice. Whenever possible, at least two rounds of field practice, review of filled questionnaires and debriefing are recommended. Depending on the background and training of the



survey training staff, it may be helpful to provide additional backup by inviting an experienced nutrition expert to present the recall rationale and/or methods.

## Monitoring and reporting

### National

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies in collaboration with international organizations, researchers and other survey implementers.

### Global

UNICEF aggregates data produced by national statistical offices or other relevant entities to produce global and regional-level estimates.

### Process

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters for consistency and overall data quality. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why. When microdata are available, the data are reanalysed to conform to standard definitions.

Additionally, UNICEF continuously scopes out various websites, including of large-scale household surveys

such as the DHS and MICS, to obtain newly available data sources.

## Discrepancies with national estimates

The estimates compiled and presented at global level either come directly from nationally produced data or have been reanalysed to conform to the standard indicator definition. Reanalysed exclusive breastfeeding estimates may differ from reported national estimates as only the infants of respondents answering "no" to each liquid and food are considered as being exclusively breastfed.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- Indicators for assessing infant and young child feeding practices: <<https://data.unicef.org/resources/indicators-for-assessing-infant-and-young-child-feeding-practices>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Minimum acceptable diet

*(The following information was extracted and adapted from the 'Indicators for Assessing Infant and Young Feeding Practices' report found here: <https://data.unicef.org/resources/indicators-for-assessing-infant-and-young-child-feeding-practices>.)*

### Definition

Percentage of children aged 6 to 23 months who consumed a minimum acceptable diet in the previous day. This means that children have been fed with the minimum variety and frequency to ensure that their nutrient and energy needs are met. This indicator is a composite of two indicators: minimum dietary diversity and minimum meal frequency.

### Indicator

Numerator: Number of children aged 6 to 23 months who have consumed a minimum acceptable diet in the

previous day:

- a. For breastfed children, this means receiving at least the minimum dietary diversity and minimum meal frequency for their age during the previous day.
- b. For non-breastfed children, this means receiving at least the minimum dietary diversity and minimum meal frequency for their age, as well as at least two milk feeds during the previous day.

Denominator: Number of children aged 6 to 23 months

### Key terms

**Minimum dietary diversity:** A child is said to receive minimum dietary diversity when he/she has been fed foods from at least five out of the following eight recommended food groups the day or night before the survey:

- a. Breast milk
- b. Grains, roots and tubers, and plantains
- c. Pulses, nuts and seeds
- d. Dairy products (milk, infant formula, yogurt, cheese)
- e. Flesh foods (meat, poultry, fish and liver/organ meats)
- f. Eggs
- g. Fruits and vegetables rich in vitamin A
- h. Other fruits and vegetables

**Minimum meal frequency:** A child is said to receive the minimum meal frequency when he/she is fed:

- a. Two or more solid or semi-solid or soft feeds (for breastfeeding children aged 6 to 8 months), or three or more solid or semi-solid or soft feeds (for breastfeeding children aged 9 to 23 months)
- b. Four or more solid or semi-solid or soft or milk feeds (for non-breastfeeding children aged 6 to 23 months). At least one of these feeds must be a solid, semi-solid or soft feed.

### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys and other national nutrition surveys.

### Interpretation

The minimum acceptable diet is a current status indicator based on recall of beverages and foods consumed by a child during the previous day. It ensures that children receive the minimum variety of foods at the minimum frequency needed to fully develop and thrive.

However, this indicator does not provide quantitative information about children's nutrient intake. It reflects what children ate but not how much, meaning that it has to be complemented by other measures.

### Disaggregation

The indicator can be disaggregated by the breastfeeding status of a child. It can also be disaggregated by the child's age, sex, household wealth, rural or urban residence, geographic location, mother's education and ethnicity or child's disability status.

### Special considerations for collecting data on the indicator through household surveys

Household surveys usually interview mothers or caregivers of eligible children. Sometimes, multiple caregivers may have fed the child at different times during the previous day. If available, they can all be asked to participate in the interview. In case no respondents are present who know what the child was fed the previous day, it is recommended that the interviewer call back at another time. This is not always feasible, however, especially if the survey includes multiple modules.

To assess minimum acceptable diet, respondents are asked about the beverages and foods fed to children during the previous day. Data are also collected about the number of times a child was fed solid, semi-solid or soft foods and various milk feeds.

There are two methods for asking respondents about foods given to the child: list-based recall and open recall. In the former, the interviewer first explains that they will read out a list of food groups and that the respondent should indicate which were consumed by the infant during the specified recall period (previous day and night). In the latter method, the interviewer asks a series of standard probing questions to help the respondent(s) recall all foods consumed by the infant the previous day and night. The recall is 'open' because the interviewer does not read a list of predefined foods to the respondent. Beverage intake, however, should be recorded following the list-based recall method as beverages may be easily forgotten.

Adapting the liquid and food groups listed in the questionnaire requires appropriate local expertise related to available foods and drinks and infant and young child feeding practices. For each liquid and food group, the aim is to identify and list a set of the most commonly consumed items. The examples for each



food group cannot and should not be exhaustive; rather, they should be limited to seven or fewer whenever possible. If lists are too long, they become cognitively difficult for respondents to grasp as questions. At the same time, items not on the adapted questionnaire may be missed when the list-based method is used.

Because of the potential for compromised data quality, it is essential that interviewers undergo specialized training. Training for the liquid and food group recalls should include classroom instruction – including role-playing and other interactive activities – as well as discussion and field practice. Whenever possible, at least two rounds of field practice, review of filled questionnaires and debriefing are recommended. Depending on the background and training of the survey training staff, it may be helpful to provide additional backup by inviting an experienced nutrition expert to present the recall rationale and/or methods.

## **Monitoring and reporting**

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies in collaboration with international organizations, researchers and other survey implementers.

### *Global*

UNICEF aggregates data produced by national statistical offices or other relevant entities to produce global and regional-level estimates.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices



are invited to submit, through an online system, nationally representative data for key indicators. The offices consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters for consistency and overall data quality. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why. When microdata are available, the data are reanalysed to conform to standard definitions.

Additionally, UNICEF continuously scopes out various websites, including of large-scale household surveys such as the DHS and MICS, to obtain newly available data sources.

## **Discrepancies with national estimates**

The estimates compiled and presented at global level either come directly from nationally produced data or have been reanalysed to conform to standard indicator definitions. Following technical consultations on infant and young child feeding indicators in 2017 and 2018,

the definitions of minimum dietary diversity and minimum meal frequency were revised. Consequently, the indicator definition of minimum acceptable diet was also revised to reflect these changes. Reanalysed estimates may thus differ from reported national estimates in cases where the primary data source is using the old indicator definition.

### Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding>>

Tools and measurement guidance:

- Indicators for Assessing Infant and Young Child Feeding Practices: <<https://data.unicef.org/resources/indicators-for-assessing-infant-and-young-child-feeding-practices>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Nutritional status

### Stunting (SDG 2.2.1)

#### Broader SDG monitoring context

*(This text is extracted from the following UNICEF site: <https://data.unicef.org/topic/nutrition/malnutrition> and the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-01.pdf>.)*

Measures of child malnutrition are used to track development progress. Estimates of child malnutrition will help determine whether the world is on track to achieve the SDGs – particularly target 2.2 to “end all forms of malnutrition by 2030”, which falls under Goal 2 to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.” The success of these global targets requires adequate investments in nutrition programmes and surveillance.

Some of the key indicators of the nutritional status of a given population are based on anthropometric data. Accurate anthropometric data are critical to provide reliable information to policymakers, programme managers, researchers and advocates, especially in the nutrition field. The quality of these data is also important in assessing how health and nutrition interventions are

implemented and in guiding subsequent planning. In population-representative surveys, anthropometric data are collected to provide a clear understanding of the magnitude and distribution of malnutrition problems in a country and to design and monitor interventions to improve the nutritional status of those concerned. Comparable and accurate anthropometric data are essential if national governments and other stakeholders are to be able to monitor how nutrition-specific and -sensitive programmes have been carried out and make decisions based on their progress.

### Definition

Percentage of children under 5 with height for age below minus two standard deviations from the median of the WHO Child Growth Standards

### Indicator

Numerator: Number of children under 5 with height for age below minus two standard deviations from the median of the WHO Child Growth Standards

Denominator: Number of children under 5

### Key terms

Child growth is an internationally accepted outcome reflecting child nutritional status. Child stunting refers to a child who is too short for his or her age and is the result of chronic or recurrent malnutrition.

The WHO Multicentre Growth Reference Study (MGRS) was undertaken to generate a standard for assessing the growth and development of infants and young children around the world. The MGRS collected primary growth data and related information from children from widely different ethnic backgrounds and cultural settings (Brazil, Ghana, India, Norway, Oman and the United States of America). The resulting growth standard can be applied to all children everywhere, regardless of ethnicity, socio-economic status and type of feeding. Prevalence of children under 5 affected by stunting is estimated by comparing actual measurements to an international standard reference population. The WHO Child Growth Standards have replaced the previously used National Center for Health Statistics (NCHS)/WHO reference population, which was based on a limited sample of children from the United States.

For the purpose of this indicator, comparing children against an international standard reference population allows for the identification of children who are below

minus two standard deviations from the median, which indicates that they are stunted.

### **National data sources**

For the majority of countries, nationally representative household surveys – e.g., the MICS, DHS, Standardized Monitoring and Assessment of Relief and Transition (SMART) surveys and Living Standards Measurement Surveys (LSMS) – constitute the primary data sources used to generate the UNICEF-WHO-World Bank Joint Malnutrition Estimates (JME). For a limited number of countries, if sufficient population coverage is documented (about 80 per cent), data from administrative systems are also used as a primary data source. In both cases, the child's height/length and date of birth as well as date of measurement (to generate age in days) have to be collected following recommended standard measuring techniques.<sup>23</sup>

### **Interpretation**

Children who are stunted can suffer severe, irreversible physical and cognitive damage. The devastating effects of stunting can last a lifetime and even affect the next generation. Some children can suffer from more than one form of malnutrition – such as stunting and overweight or stunting and wasting. There are currently no JME modelled estimates for these combined conditions, but UNICEF has a dataset with country-level estimates where re-analysis is possible.

### **Disaggregation**

Disaggregations are currently not available for the JME modelled estimates. However, a disaggregated dataset of national primary sources with sub-national and stratified estimates (e.g., by sex, age group, wealth, maternal education and residence) is available. This indicator can also be disaggregated in some surveys by other background characteristics such as ethnicity and child's disability status.

### **Special considerations for collecting data on the indicator through household surveys**

*(Text for this section was extracted and adapted from the document 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old' found here: <https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>.)*

It is important to ensure adequate interviewer and anthropometrist training on the necessity of obtaining reliable data and precise measurements during field

work. Training should include guidance on techniques for standardizing anthropometric measurements, including how to perform calibration procedures and maintain equipment and procedures for quality assurance. Hands-on training for measuring length and height in young infants is important, particularly for children below 2 years of age.

Proper determination of the child's age is essential to generate accurate and precise age-related anthropometry indicators (length/height for age, weight for age). In many countries, vital registration is not universal, documentary evidence of the date of birth may not be available in the household and the actual date of birth may be unknown. In such cases, it is necessary to obtain at least the month and year of birth using a local event calendar.

The recommended protocol for measurement of length (in children under 2 years old) and height (in children 2 years old and above) is found in detail here: <https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5> (page 47).

It is recommended to measure individuals with disabilities. However, it can be a challenge to acquire accurate and safe measurements in individuals with impairments that affect their ability to stand, straighten their arms, legs or back or hold themselves steady. In these circumstances, it may be necessary to adapt the measurement protocols or provide additional assistance to the child being measured. Depending on the disability, z-scores based on the WHO Child Growth Standards may not be appropriate for assessing nutritional status.

### **Monitoring and reporting**

#### *National*

Data providers are most commonly national statistical offices or other relevant national entities, such as ministries of health or national institutes of nutrition, as well as non-government entities including research institutions and non-governmental organizations.

#### *Global*

UNICEF, WHO and the World Bank are responsible for global monitoring and reporting on the indicator.

#### *Process*

National estimates from primary sources (e.g., household surveys) are used to generate the JME

estimates based on a standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>24</sup> and the WHO Anthro Survey Analyser.<sup>25</sup> UNICEF, WHO and the World Bank undertake a joint review of each potential primary data source used to generate the JME estimates. The group conducts a review when (at minimum) a final report with full methodological details and results is available as well as (ideally) a data quality assessment flagging potential limitations. When micro datasets are available, they are analysed using the Anthro Survey Analyser software to produce a standard set of results and data quality outputs against which the review is conducted.<sup>26</sup> Comments are documented in a standard review template extracting methodological details (e.g., sampling procedures, description of anthropometrical equipment), data quality outputs (e.g., height for age distributions, percentage of cases that were flagged as implausible according to the WHO Child Growth Standards) and the malnutrition prevalence estimates from the data source under review generated based on the standard recommended methodology. These estimates are compared against the reported values, as well as against those from other data sources already included in the JME dataset, to assess the plausibility of the trend before including the new point. Reports that are preliminary, or that lack key details on

methodology or results, cannot be reviewed and are left pending until full information is available.

The JME country-modelled estimates are generated using smoothing techniques and covariates<sup>27</sup> applied to quality-assured national data to derive trends and up-to-date estimates. Worldwide and regional estimates are derived as the respective country averages weighted by the countries' under 5 population estimates (latest available edition of the World Population Prospects produced by the United Nations Population Division) using the modelled annual JME estimates for 204 countries.<sup>28</sup> The methods used to generate the country-level JME modelled estimates for stunting were cross-validated to ensure estimates produced by the method are closely aligned to national data points. They were also reviewed in 2019 through a technical consultation with experts and country representatives of national statistical offices as well as members of the IAEG-SDGs.<sup>29</sup> In addition, country consultations with SDG 2.2 focal points are held every two years before finalizing and disseminating the global estimates for each edition of the JME. The purpose of these consultations is to explain the methodology for stunting estimates to national governments, to ensure the estimates include all recent and relevant primary data sources and to engage with and receive feedback from national governments on the estimates.



## Discrepancies with national estimates

For the survey estimates included in the JME joint dataset of primary sources, re-analysis based on standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>30</sup> and the WHO Anthro Survey Analyser<sup>31</sup> is applied whenever microdata are available to enhance comparability across the time series.

Discrepancies between reported results and results from applying the standardized methodology may occur for various reasons – e.g., the use of different standards for z-score calculations, imputation of the day of birth when missing, the use of rounded age in months and the use of different flagging systems for data exclusion. For surveys based on the previous NCHS/WHO references and for which raw data are not available, a method for converting the z-scores based on the WHO Child Growth Standards is applied.<sup>32</sup> In addition, when surveys do not cover the age interval of 0 to 59 months, an adjustment is performed during the modelling. For surveys that are only representative of rural areas in a country, an adjustment based on other surveys for the same country is performed. Any adjustment or conversion is transparently stated in the annotated joint dataset. The JME estimates may differ from estimates from primary data sources such as household surveys, but in most cases the 95 per cent confidence bounds of the modelled estimates for a given country in a given year fall within the 95 per cent confidence bounds of the estimate from the primary source for the corresponding country and year(s).

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF-WHO-The World Bank: Joint Child Malnutrition Estimates: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- SDG indicator metadata: <<https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-01.pdf>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- Anthropometric indicators in children under 5

years old: <<https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>>

- WHO Anthro Survey Analyser: <<https://worldhealthorg.shinyapps.io/anthro>>
- UNICEF: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Overweight (SDG 2.2.2a)

*(The following information was extracted and adapted from the from the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-02a.pdf>.)*

### Broader SDG monitoring context

The second SDG is to end hunger, achieve food security, improve nutrition and promote sustainable agriculture. Target 2.2 is to end all forms of malnutrition by 2030, which includes achieving by 2025 the internationally agreed targets on stunting, overweight and wasting. Malnutrition covers undernutrition – e.g., stunting, underweight and wasting – as well as overweight and micronutrient deficiencies.

Overweight occurs when a child is too heavy for his or her height. In most cases, this occurs when energy intake from food and beverages exceeds a child's energy requirements. Overweight can increase risk of diet-related noncommunicable diseases later in life.

### Definition

Percentage of children under 5 whose weight for height is more than two standard deviations from the median of the WHO Child Growth Standards

### Indicator

Numerator: Number of children under 5 whose weight for height is more than two standard deviations from the median of the WHO Child Growth Standards

Denominator: Number of children under 5

## Key terms

The official SDG indicator is overweight as assessed using weight for height. Overweight can, however, also be assessed with other indicators such as comparing body mass index (BMI) with age (BMI-for-age). In general, BMI-for-age is not used in the joint dataset of primary sources (e.g., household surveys) but has been considered in the absence of any other available estimates.

The WHO MGRS was undertaken to generate a growth standard for assessing the growth and development of infants and young children around the world. It collected primary growth data and related information from children from widely different ethnic backgrounds and cultural settings (Brazil, Ghana, India, Norway, Oman and the United States). The resulting growth standard can be applied to all children everywhere, regardless of ethnicity, socio-economic status and type of feeding. Prevalence of children under 5 affected by overweight is estimated by comparing actual measurements to an international standard reference population. The WHO Child Growth Standards have replaced the previously used NCHS/WHO reference population, which was based on a limited sample of children from the United States.

For the purpose of this indicator, comparing children against an international standard reference population allows for the identification of children who are above two standard deviations from the median, which indicates children who are overweight.

## National data sources

For the majority of countries, nationally representative household surveys – e.g., the MICS, DHS, SMART surveys and LSMS – constitute the primary data source used to generate the UNICEF-WHO-World Bank JME. For a limited number of countries, if sufficient population coverage is documented (about 80 per cent), data from administrative systems are also used as a primary data source. In both cases, the child's height/length and weight have to be collected following recommended standard measuring techniques.<sup>33</sup>

## Interpretation

The indicator for overweight is used to evaluate a child's nutritional status. Nutrition is a fundamental right for children and ensures their development and quality of life. The recommended target is to reduce and maintain child overweight prevalence among children under 5 to less than 3 per cent by 2030.

## Disaggregation

Disaggregations are currently not available for the JME modelled estimates. However, a disaggregated dataset of national primary sources with sub-national and stratified estimates (e.g., by sex, age groups, wealth, maternal education and residence) is available. This indicator can also be disaggregated in some surveys by other background characteristics such as ethnicity and child's disability status.

## Special considerations for collecting data on the indicator through household surveys

While the official indicator for overweight is determined using weight for height, overweight can also be assessed by BMI-for-age.

It is important to ensure adequate interviewer and anthropometric training on the necessity for obtaining reliable data and precise measurements during field work. Training should include guidance on techniques for standardizing anthropometric measurements, including how to perform calibration procedures and maintain equipment and procedures for quality assurance. Hands-on training for measuring length and height in young infants is important, particularly for measuring length in children below 2 years of age. The recommended protocol for measurement of weight as well as length (in children under 2 years old) and height (in children 2 years old and above) is found in detail here: <<https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>>.

It is recommended to measure individuals with disabilities. However, it can be a challenge to acquire accurate and safe measurements in individuals with impairments that affect their ability to stand, straighten their arms, legs or back or hold themselves steady. In these circumstances, it may be necessary to adapt the measurement protocols or provide additional assistance to the child being measured. However, depending on the disability, z-scores based on the WHO growth standard may not be appropriate for assessing nutrition status.

## Monitoring and reporting

### National

Data providers are most commonly national statistical offices or other relevant national entities, such as ministries of health or national institutes of nutrition, as well as non-government entities including research institutions and non-governmental organizations.

## Global

UNICEF, WHO and the World Bank are responsible for global monitoring and reporting on the indicator.

## Process

National estimates from primary sources (e.g., household surveys) are used to generate the JME estimates based on a standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>34</sup> and the WHO Anthro Survey Analyser.<sup>35</sup> UNICEF, WHO and the World Bank undertake a joint review of each potential primary data source used to generate the JME estimates. The group conducts a review when (at minimum) a final report with full methodological details and results is available as well as (ideally) a data quality assessment flagging potential limitations. When micro datasets are available, they are analysed using the Anthro Survey Analyser software to produce a standard set of results and data quality outputs against which the review is conducted.<sup>36</sup> Comments are documented in a standard review template extracting methodological details (e.g., sampling procedures, description of anthropometrical equipment), data quality outputs (e.g., height for age distributions, percentage of cases that were flagged as implausible according to the WHO Child Growth Standards) and the malnutrition prevalence estimates from the data source under review generated based on the standard recommended methodology. These estimates are compared against the reported values, as well as against those from other data sources already included in the JME dataset, to assess the plausibility of the trend before including the new point. Reports that are preliminary, or that lack key details on methodology or results, cannot be reviewed and are left pending until full information is available.

The JME country-modelled estimates are generated using smoothing techniques and covariates<sup>37</sup> applied to quality-assured national data to derive trends and up-to-date estimates. Worldwide and regional estimates are derived as the respective country averages weighted by the countries' under 5 population estimates (latest available edition of the World Population Prospects produced by the United Nations Population Division) using modelled annual JME estimates for 204 countries.<sup>38</sup> The methods used to generate the JME country-modelled estimates for overweight were cross-validated to ensure estimates produced by the method are closely aligned to national data points.

They were also reviewed in 2019 through a technical consultation with experts and country representatives of national statistical offices as well as members of the IAEG-SDGs.<sup>39</sup> Country consultations with SDG 2.2 focal points are also held every two years before finalizing and disseminating the estimates for each edition of the JME.

## Discrepancies with national estimates

For the survey estimates included in the JME joint dataset of primary sources, re-analysis based on standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>40</sup> and the WHO Anthro Survey Analyser<sup>41</sup> is applied whenever microdata are available to enhance comparability across the time series.

Discrepancies between results from standardized methodology and those reported may occur for various reasons – e.g., the use of different standards for z-score calculations or of different flagging systems for data exclusion. For surveys based on the previous NCHS/WHO references, and for which raw data are not available, a method for converting the z-scores based on the WHO Child Growth Standards is applied.<sup>42</sup> In addition, when surveys do not cover the age interval of 0 to 59 months an adjustment is performed during the modelling. For surveys that are only representative of rural areas in a country, an adjustment based on other surveys for the same country is performed. Any adjustment or conversion is transparently stated in the annotated joint data set. The JME estimates for overweight may differ from estimates from primary data sources such as household surveys, but in most cases the 95 per cent confidence bounds of the global estimates for a given country in a given year fall within the 95 per cent confidence bounds of the estimate from the primary source for the corresponding country and year(s).

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF-WHO-The World Bank Joint Child Malnutrition Estimates: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>

- SDG indicator metadata: <<https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-01.pdf>>

Tools and measurement guidance:

- Anthropometric indicators in children under 5 years old: <<https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>>
- WHO Anthro Survey Analyser: <<https://worldhealthorg.shinyapps.io/anthro>>
- UNICEF: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>



© UNICEF/UN0459351/Wilander

## Wasting (SDG 2.2b)

*(The following information was extracted and adapted from the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-02b.pdf>.)*

### Broader SDG monitoring context

The second SDG is to end hunger, achieve food security, improve nutrition and promote sustainable agriculture. Target 2.2 is to end all forms of malnutrition by 2030, which includes achieving by 2025 the internationally agreed target on stunting, overweight and wasting. Malnutrition covers undernutrition – e.g., stunting, underweight and wasting – as well as overweight and micronutrient deficiencies.

Wasting occurs when a child under the age of 5 is too thin for his or her height. This is often the result of rapid weight loss or the failure to gain weight. It is the most immediate and life-threatening form of malnutrition. If not addressed, it can lead to a child's death.

### Definition

Percentage of children under 5 whose weight for height is less than two standard deviations from the median of the WHO Child Growth Standards

### Indicator

Numerator: Number of children under 5 whose weight for height is less than two standard deviations from the median of the WHO Child Growth Standards

Denominator: Number of children under 5

### Key terms

The official SDG indicator is wasting as assessed using weight for height. Wasting can, however, also be assessed with other indicators such as BMI-for-age or mid upper arm circumference (MUAC). In general, BMI-for-age is not used in the joint dataset of primary sources (e.g., household surveys) but has been considered in the absence of any other available estimates. MUAC is not used in the UNICEF, WHO and World Bank Group joint dataset but is used for clinical assessment in country programmes.

The WHO MGRS was undertaken to generate a growth standard for assessing the growth and development of infants and young children around the world. The MGRS collected primary growth data and related information from children from widely different ethnic backgrounds and cultural settings (Brazil, Ghana, India, Norway, Oman



and the United States). The resulting growth standard can be applied to all children everywhere, regardless of ethnicity, socio-economic status and type of feeding. Prevalence of children under 5 affected by wasting is estimated by comparing actual measurements to an international standard reference population. The WHO Child Growth Standards have replaced the previously used NCHS/WHO reference population, which was based on a limited sample of children from the United States.

For the purpose of this indicator, comparing children against an international standard reference population allows for the identification of children who are below minus two standard deviations from the median, which indicates children who are wasted.

### **National data sources**

For the majority of countries, nationally representative household surveys – e.g., the MICS, DHS, SMART surveys and LSMS – constitute the source of national estimates. For a limited number of countries, if sufficient population coverage is documented (about 80 per cent), data from administrative systems are used. For both types of primary data sources, the child's height/length and weight have to be collected following recommended standard measuring techniques.<sup>43</sup>

### **Interpretation**

The indicator for wasting is used to evaluate a child's acute nutritional status. Nutrition is a fundamental right for children and ensures their development and quality of life. The recommended target is to reduce and maintain child wasting prevalence among children under 5 to less than 3 per cent by 2030.

### **Disaggregation**

A disaggregated dataset of national primary sources with sub-national and stratified estimates (e.g., by sex, age groups, wealth, maternal education and residence) is available. This indicator can also be disaggregated in some surveys by other background characteristics such as ethnicity and child's disability status.

### **Special considerations for collecting data on the indicator through household surveys**

While the official indicator for wasting is determined using weight for height, wasting can also be assessed by looking at the MUAC. Either approach, however, would in most cases overlook malnourished children who present bilateral pitting oedema, which is characterized by swollen face, feet and limbs. It is not recommended

to collect data on bilateral pitting oedema as a standard protocol for all surveys as malnutrition with oedema is uncommon in many countries and, more importantly, can be easily misdiagnosed.

Surveys are carried out in a specific period of the year, usually over a few months and generally not in the same specific period across different surveys. However, this indicator can be affected by seasonality (e.g., rainy season), factors related to food availability (e.g., pre-harvest periods), disease (e.g., diarrhoea, malaria, etc.), natural disasters and conflicts. Hence, survey estimates may not necessarily be comparable over time.

It is important to ensure adequate interviewer and anthropometric training on the necessity for obtaining reliable data and precise measurements during field work. Training should include guidance on techniques for standardizing anthropometric measurements, including how to perform calibration procedures and maintain equipment and procedures for quality assurance. Hands-on training for measuring length and height in young infants is important, particularly for measuring length in children below 2 years of age. The recommended protocol for measurement of weight as well as length (in children under 2 years old) and height (in children 2 years old and above) is found in detail here: <<https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>>.

It is recommended to measure individuals with disabilities. However, it can be a challenge to acquire accurate and safe measurements in individuals with impairments that affect their ability to stand, straighten their arms, legs or back or hold themselves steady. In these circumstances, it may be necessary to adapt the measurement protocols or provide additional assistance to the child being measured. However, depending on the disability, z-scores based on the WHO Child Growth Standards may not be appropriate for assessing nutrition status.

### **Monitoring and reporting**

#### *National*

Data providers are most commonly national statistical offices or other relevant national entities, such as ministries of health or national institutes of nutrition, as well as non-government entities including research institutions and non-governmental organizations.

### Global

UNICEF, WHO and the World Bank are responsible for global monitoring and reporting on the indicator.

### Process

National estimates from primary sources (e.g., from household surveys) are based on standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>44</sup> and the WHO Anthro Survey Analyser.<sup>45</sup> UNICEF, WHO and the World Bank undertake a joint review for each potential primary data source. The group conducts a review when (at minimum) a final report with full methodological details and results is available as well as (ideally) a data quality assessment flagging potential limitations. When micro datasets are available, they are analysed using the Anthro Survey Analyser software to produce a standard set of results and data quality outputs against which the review is conducted.<sup>46</sup> Comments are documented in a standard review template extracting methodological details (e.g., sampling procedures, description of anthropometrical equipment), data quality outputs (e.g., weight and height distributions, percentage of cases that were flagged as implausible according to the WHO Child Growth Standards) and the malnutrition prevalence estimates from the data source under review generated based on the standard recommended methodology. These estimates are compared against the reported values, as well as against those from other data sources already included in the JME dataset, to assess the plausibility of the trend before including the new point. Reports that are preliminary, or that lack key details on methodology or results, cannot be reviewed and are left pending until full information is available. The JME does not produce modelled estimates of wasting.

### Discrepancies with national estimates

For the survey estimates included in the JME joint dataset, re-analysis based on standardized methodology using the WHO Child Growth Standards, as described in 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old',<sup>47</sup> and the WHO Anthro Survey Analyser is applied whenever microdata are available for enhancing comparability across the time series.

Discrepancies between results from the standard methodology and those reported may occur for various

reasons – e.g., the use of different standards for z-score calculations or of different flagging systems for data exclusion. For surveys based on the previous NCHS/WHO references, and for which raw data are not available, a method for converting the z-scores based on the WHO Child Growth Standards is applied.<sup>48</sup> In addition, when surveys do not cover the age interval 0 to 59 months or are only representative of rural areas in a country, an adjustment based on other surveys for the same country is performed. Any adjustment or conversion is transparently stated in the annotated joint data set.

### Key resources

Indicator information and cross-country comparable estimates:

- UNICEF-WHO-The World Bank Joint Child Malnutrition Estimates: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- SDG indicator metadata: <<https://unstats.un.org/sdgs/metadata/files/Metadata-02-02-01.pdf>>

Tools and measurement guidance:

- Anthropometric indicators in children under 5 years old: <<https://data.unicef.org/resources/data-collection-analysis-reporting-on-anthropometric-indicators-in-children-under-5>>
- WHO Anthro Survey Analyser: <<https://worldhealthorg.shinyapps.io/anthro>>
- UNICEF: <<https://data.unicef.org/topic/nutrition/malnutrition>>
- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Maternal and child health

### Antenatal care

#### Definition

Percentage of women (aged 15 to 49 years) attended at least four times during pregnancy by any provider

## Indicator

Numerator: Number of women aged 15 to 49 years with a live birth in the last two or five years<sup>49</sup> who were attended at least four times by any provider during their last pregnancy that led to a live birth

Denominator: Total number of women aged 15 to 49 years with a live birth in the last two or five years

## Key terms

Antenatal care: A form of preventive and curative health care, antenatal care is the care provided to women over the course of a pregnancy through which they can learn about healthy behaviours during pregnancy, better understand warning signs during pregnancy and childbirth and undergo clinical examination, testing and treatment as needed.

WHO guidelines are specific on the content of antenatal care visits, which should include:

- Blood pressure measurement
- Urine testing for bacteriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- Weight/height measurement (optional)
- Counselling services
- Nutrition supplementation (e.g., iron-folate)
- Immunization against tetanus
- HIV testing and prevention of mother to child transmission
- Malaria preventive treatment in endemic areas

## National data sources

Population-based household surveys such as the DHS, MICS and other nationally representative household surveys.

## Interpretation

Antenatal care is essential for protecting the health of women and their unborn children. Through this form of preventive, promotive and curative health care, women can learn from skilled health personnel about healthy behaviours during pregnancy, better understand warning signs during pregnancy and childbirth and receive social, emotional and psychological support at this critical time in their lives. Through antenatal care, pregnant women can also access micronutrient supplementation, treatment for hypertension to prevent eclampsia, immunization against tetanus and

other services as needed. Antenatal care services also include HIV testing and medications for HIV-positive women to prevent mother-to-child transmission of HIV. In areas where malaria is endemic, health personnel can provide pregnant women with medications and insecticide-treated mosquito nets to help prevent malaria infection, which is associated with poor obstetrical outcomes including stillbirths.

Regular contact with a doctor, nurse or midwife during pregnancy allows women to receive services vital to their health and that of their future children. It is important to remember, however, that this indicator does not take into consideration the skill level of the health-care provider or the quality of care, both of which can influence whether such care succeeds in bringing about improved maternal and newborn health. In addition, this indicator does not consider the experience or feedback of mothers on the antenatal care services received.

WHO has updated its recommendations from a minimum of four antenatal care contacts to a minimum of eight contacts to reduce perinatal and maternal mortality and to improve women's experience of care. Global databases will include the antenatal care eight visit indicator in the future.

## Disaggregation

Survey data often allow for disaggregation by the woman's age at delivery (15–19 and 15–49 years), as well as other standard socio-demographic factors such as household wealth, rural or urban residence and sub-national region. This indicator can be disaggregated in some surveys by the woman's level of education and functional difficulties.

## Special considerations for collecting data on the indicator through household surveys

Survey data on this indicator usually do not specify the type of provider; therefore, in general, receipt of care by any provider is measured for four antenatal care visits. This means that the skill level of the health worker is not measured by this indicator though the receipt of antenatal care from a skilled health provider for at least one time is measured by a different indicator. The indicator also does not capture data on quality of care (experience of care or content of care received). However, other indicators on content of care and timing of antenatal care received are often collected in household surveys.

## Monitoring and reporting

### National

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### Global

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled and recorded in its global databases, which are made publicly available.

### Process

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including antenatal care. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/maternal-health/antenatal-care>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Postnatal care for newborns

### Definition

Percentage of newborns who receive a postnatal contact with a health provider within two days of delivery

### Indicator

Numerator: Number of the most recent live births in the last two years<sup>50</sup> who received a health check while in a facility or at home following delivery or a postnatal care visit within two days after delivery

Denominator: Number of live births in the last two years

### Key terms

Health checks: In the MICS, a health check refers to a health assessment while in a facility or at home following delivery or a postnatal visit.

Postnatal period: The postnatal period is the time after delivery until 6 weeks old. Health checks during this time – especially the first two days after delivery – are essential. WHO recommends postnatal care within 24 hours of birth, regardless of where the baby is born. Newborns should receive at least three additional postnatal care visits by a skilled provider, ideally on day 3 (48–72 hours after birth), between day 7 and day 14 and again 6 weeks after birth. New WHO postnatal care guidelines are under development.

### National data sources

Population-based household surveys such as the DHS, MICS and other nationally representative household surveys.

## Interpretation

Children have a fundamental right to life and health, which is only achieved through adequate postnatal care. Monitoring this care allows countries to ensure the development and well-being of all children. The SDGs aim to achieve a newborn mortality rate of less than 12 deaths per 1,000 live births by 2030 (target 3.2). Postnatal care for newborns is essential to reach this objective. This care must be high-quality, high-impact, cost-effective and reach every newborn in order to reduce inequalities of household wealth, urban or rural residence, geographical region, child's sex and more. The challenge is to strengthen weak national health systems and to overcome barriers that limit newborns' access to care.

Postnatal care for newborns is an important opportunity to check for danger signs, such as insufficient feeding, fast breathing, severe chest in-drawing, lethargy, fever, low body temperature or jaundice. Through this care, mothers can receive advice on how to identify and respond to these symptoms, as well as on the benefits of exclusive breastfeeding and immunization.

## Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as the child's sex, household wealth, rural or urban residence and sub-national region.

## Special considerations for collecting data on the indicator through household surveys

In general, household surveys do not specify the type of provider giving postnatal care for child births at health facilities. For home deliveries, surveys assess postnatal care from a doctor, midwife, nurse, community health worker or traditional birth attendant, whereas visits by other persons such as family members and friends are not counted as postnatal checks done by health providers. The indicator refers to women who had a live birth in a recent time period, generally two years for both MICS and DHS.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled and recorded in its global databases, which are made publicly available.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children.



It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including postnatal care for newborns. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/maternal-health/newborn-care>>
- Measuring Coverage in MNCH: Indicators for global tracking of newborn care: <<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001415>>
- Countdown to 2030: <<https://data.unicef.org/countdown-2030>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## **Postnatal care for mothers**

### **Definition**

Percentage of mothers who have a contact with a health provider within two days of delivery

### **Indicator**

Numerator: Number of women aged 15 to 49 years who received a health check while in a facility or at home following delivery or a postnatal care visit within two days after delivery of their most recent live birth in the two years preceding the survey

Denominator: Total number of women aged 15 to 49 years with a live birth in the two years preceding the survey

### **Key terms**

Health checks: In the MICS, a health check refers to a health assessment while in a facility or at home following delivery or a postnatal visit.

Postnatal period: The postnatal period is the time after delivery until six weeks postpartum. Health checks during this time – especially the first two days after delivery – are essential. WHO recommends postnatal care within 24 hours of birth, regardless of the place of delivery. Women should receive at least three additional postnatal care visits by a skilled provider, ideally on day 3 (48–72 hours after delivery), between day 7 and day 14 and again 6 weeks after delivery. New WHO postnatal care guidelines are under development.

### **National data sources**

Population-based household surveys such as the DHS, MICS and other nationally representative household surveys.

### **Interpretation**

SDG 3 aims to improve global health. This involves improving the health of mothers following childbirth. Most maternal deaths happen during the first month following childbirth, especially on the first day and within the first week. Therefore, ensuring that mothers have postnatal contact with a health provider within 48 hours of giving birth is crucial.

Postnatal care for the mother is a key opportunity to identify danger signs such as sepsis, other infections, excessive bleeding and depression. Mothers can also receive important counselling on birth spacing, infant feeding and their own nutritional needs.

## Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as the woman's age, education, household wealth, rural or urban residence and sub-national region.

## Special considerations for collecting data on the indicator through household surveys

It is recommended that household surveys assess postnatal care based on births in the two years preceding the survey, as opposed to the five years used for antenatal care and delivery assistance. Surveys assess postnatal care from a doctor, midwife, nurse, community health worker or traditional birth attendant. Other persons, such as family members or friends, are not included as postnatal checks. If women received their first postnatal check-up 42 hours or more after the delivery, it is recommended that surveys label them under the category "Did not receive postnatal check-up".

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled and recorded in its global databases, which are made publicly available.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices

are invited to submit, through an online system, nationally representative data for key indicators, including postnatal care for mothers. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

## Key resources:

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/maternal-health/newborn-care>>
- Measuring Coverage in MNCH: Indicators for global tracking of newborn care: <<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001415>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Care-seeking for acute respiratory infection

### Definition

Percentage of children under 5 with acute respiratory infection (ARI) symptoms for whom advice or treatment was sought from a health facility or provider

### Indicator

Numerator: Number of children under 5 with ARI symptoms in the last two weeks for whom advice or treatment was sought from a health facility or provider

Denominator: Number of children under 5 with ARI symptoms in the last two weeks

## Key terms

ARI (including pneumonia): Pneumonia is a severe form of ARI that specifically affects the lungs and accounts for a significant proportion of the acute lower respiratory infectious disease burden among children. The lungs are composed of thousands of tubes (bronchi), which subdivide into more narrow airways (bronchioles) that end in small sacs (alveoli). The alveoli contain capillaries where oxygen is added to the blood and carbon dioxide is removed. With pneumonia, pus and fluid fill the alveoli in one or both lungs, which interferes with oxygen absorption and makes breathing difficult.

Symptoms of ARI: In MICS, a child is considered to have had symptoms of ARI if the mother or caregiver reported that the child had, over the specified period, an illness with a cough with rapid or difficult breathing, and whose symptoms were perceived to be due to a problem in the chest or both a problem in the chest and a blocked or runny nose. While this approach is reasonable in the context of a multi-topic household survey, these very simple case definitions must be kept in mind when interpreting the results, as well as the potential for reporting and recall biases.

Signs of ARI including pneumonia are a combination of respiratory symptoms, including a cough and fast or difficult breathing due to a chest-related problem. Children exhibiting such symptoms should be taken to a health provider for a clinical assessment for pneumonia. Not all children with symptoms of ARI should receive antibiotic treatment; only children with a confirmed case of pneumonia (classified as such by the Integrated Management of Child Illness guidelines and based on a rapid respiratory rate counted by a health worker) should receive them. Current pneumonia-related interventions at the population level are measured through household surveys. However, evidence indicates that it is not possible to measure pneumonia prevalence among children under 5 during a household survey interview or to ascertain underlying pneumonia for children with these respiratory symptoms.

## National data sources

Population-based household surveys such as the DHS, MICS and other nationally representative household surveys.

## Interpretation

ARI is responsible for 15 per cent of all deaths of children aged less than 5 years worldwide. Appropriate

care of the sick child is defined as providers who can correctly diagnose and treat pneumonia. The proportion of children under 5 with ARI that are taken to an appropriate health-care provider is therefore a key indicator for coverage of intervention and care-seeking and provides critical inputs to the monitoring of progress towards child survival-related international goals and strategies.

## Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as the child's sex, household wealth, rural or urban residence and sub-national region.

## Special considerations for collecting data on the indicator through household surveys

ARIs are not only seasonal but are also characterised by the often rapid spread of localised outbreaks from one area to another at different points in time. The timing of the survey and the location of the teams might thus considerably affect the results, which must consequently be interpreted with caution. For these reasons, although the period-prevalence over a two-week time window is reported, these data should not be used to assess the epidemiological characteristics of these diseases but rather to obtain denominators for the indicators related to use of health services and treatment. The respondent for this indicator must be the mother or caregiver of the child and the reference period to recall the event is typically two weeks.

This indicator includes advice or treatment from the public sector, private medical sector, shops, markets and itinerant drug sellers but excludes advice or treatment from a traditional practitioner.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled and recorded in its global databases, which are made publicly available.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data



concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including care-seeking for ARI. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources:**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-health/pneumonia>>
- Care Seeking Behaviour for Children with Suspected Pneumonia in Countries in Sub-Saharan Africa with High Pneumonia Mortality: <<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0117919>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## **Diarrhoea treatment with oral rehydration salts and zinc**

### **Definition**

Percentage of children under 5 with diarrhoea receiving oral rehydration salts (ORS) and zinc

### **Indicator**

Numerator: Number of children under 5 with diarrhoea in the two weeks preceding the survey who received ORS and zinc

Denominator: Number of children under 5 with diarrhoea in the two weeks preceding the survey

### **Key terms**

Diarrhoea: The passage of three or more loose or liquid stools per day

ORS: A sodium and glucose solution that is used to prevent and treat dehydration due to diarrhoea. It is available either as a packet, which can be mixed with water for use, or as a pre-packaged fluid that is ready for immediate consumption.

Zinc: A mineral that can be supplemented alongside ORS during a diarrhoea episode. Zinc supplementation for the recommended 10 to 14 days has been found to reduce the duration and severity of an acute diarrhoea episode as well as to lower diarrhoea incidence in the 2 to 3 months following the episode.

### **National data sources**

Population-based household surveys such as the DHS, MICS and other nationally representative household surveys.

### **Interpretation**

The recommended target for diarrhoea treatment with ORS and zinc is universal coverage (100 per cent), as anything below this indicates that some children with diarrhoea are not receiving both ORS and zinc as part of their treatment. Available data should be considered reflective of diarrhoea treatment at the time of the survey rather than the current situation.



It is critical to remember that national prevalence levels of diarrhoea treatment with ORS and zinc can mask disparities within certain sub-populations (i.e., geographic location, household wealth, ethnic, religious, etc.). It is important to disaggregate the data by key socio-demographic factors so that any disparities in coverage can be addressed and the lives of children saved. From both a programmatic and policy perspective, identifying whether the proportion of children who have received this treatment is lower in certain sub-populations is crucial to ensuring that the most vulnerable are not left behind.

When examining trends in diarrhoea treatment with ORS and zinc, several important factors should be considered, including the number of data points available for each country, variations in the number of years between data points and the magnitude of change. It is also important to consider the data collection method (i.e., the questionnaire design and implementation), which can affect findings across consecutive data collection rounds and thus comparability of the estimates.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as the child's sex, household wealth, rural or urban residence and sub-national region. This indicator can also be disaggregated to show coverage levels of ORS and zinc separately.

### **Special considerations for collecting data on the indicator through household surveys**

When designing national household surveys such

as the DHS and MICS, study teams should gather information on any local names used to reference the ORS packet solution, pre-packaged ORS fluid and government-recommended homemade fluid and add these names to the relevant questions on diarrhoea treatment in the study questionnaire.

The definition of a case of diarrhoea is the mother's (or caregiver's) report that the child had such symptoms over the specified period; no other evidence is sought besides the opinion of the mother. Diarrhoea is not only seasonal but is also characterised by the often rapid spread of localised outbreaks from one area to another at different points in time. The timing of the survey and the location of the teams might thus considerably affect the results, which must consequently be interpreted with caution. For these reasons, although the period-prevalence over a two-week time window is reported, these data should not be used to assess the epidemiological characteristics of diarrhoea but rather to obtain denominators for the indicators related to use of health services and treatment.

### **Monitoring and reporting**

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled and recorded in its global databases, which are made publicly available.

## Process

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including diarrhoea treatment with ORS and zinc. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

## Key resources:

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-health/diarrhoeal-disease>>
- Countdown to 2030: <<https://data.unicef.org/countdown-2030>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Immunization (SDG 3.b.1)

*(The following information was extracted and adapted from the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-03-0b-01.pdf>.)*

## Broader SDG monitoring context

SDG 3 aims to ensure healthy lives and promote well-being for people at all ages. Within this goal, target 3.b. is to support the research and development of vaccines. Vaccines are a proven way of acquiring immunity from infectious diseases and protect both individual and public health. They are especially important for children, who are developing and at special risk of certain diseases. The vaccines developed for international distribution always undergo extensive review and qualification to ensure their quality, safety, efficacy and immunogenicity.

## Definitions

Coverage of diphtheria-tetanus-pertussis (DTP) vaccine (3rd dose): Proportion of surviving infants who received three doses of the diphtheria and tetanus toxoid with pertussis-containing vaccine in a given year

Coverage of measles-containing vaccine (2nd dose): Proportion of children who received two doses of the measles-containing vaccine according to the national schedule in a given year

Coverage of pneumococcal conjugate vaccine (last dose in the schedule): Percentage of surviving infants who received the nationally recommended doses of pneumococcal conjugate vaccine in a given year

## Indicators

*Coverage of DTP vaccine (3rd dose)*

Numerator: Number of children aged 12 to 23 months and aged 24 to 35 months who received three doses of the DTP vaccine in the past year

Denominator: Number of children aged 12 to 23 months and aged 24 to 35 months

*Coverage of measles vaccine (2nd dose)*

Numerator: Number of children aged 12 to 23 months and aged 24 to 35 months who received two doses of the measles-containing vaccine in the past year

Denominator: Number of children aged 12 to 23 months and aged 24 to 35 months

*Coverage of pneumococcal conjugate vaccine (last dose in the schedule)*

Numerator: Number of children aged 12 to 23 months and aged 24 to 35 months who received three doses of the pneumococcal conjugate vaccine in the past year

Denominator: Number of children aged 12 to 23 months and aged 24 to 35 months

### **Key terms**

**Surviving infants:** The number of children reaching their first birthday during a given year.

**Target population:** The target population for a given vaccine is defined based on the recommended age for administration. The primary vaccination series of most vaccines is administered in the first two years of life.

### **National data sources**

National health information systems or national immunization systems, national immunization registries and high-quality household surveys with an immunization module (e.g., the DHS, MICS or certain nationally representative surveys) constitute the primary data sources used as input data to generate country-level modelled estimates, referred to as WHO/UNICEF Estimates of National Immunization Coverage (WUENIC), for reporting on SDG 3.b.1.

### **Interpretation**

The infant and child immunization indicator aims to measure infants' and children's access to vaccines at the national level. Countries are increasingly adding new and underused vaccines to their national immunization schedules. Monitoring vaccine coverage is imperative in order to monitor disease control more broadly. The immunization indicator is a proxy measurement of the efficacy of existing national programmes and of the problem areas that need to be addressed.

This indicator focuses on vaccine recommendations for diseases that have a potential international public health impact. Only DTP- and measles-containing vaccines are used in all countries, as national immunization schedules vary. National programmes develop immunization schedules based on international recommendations as well as local disease epidemiology and health priorities.

The Immunization Agenda 2030 aims to achieve 90 per cent coverage for essential childhood vaccines in both low- and high-income countries alike. Anything below this would keep children at risk of disease, especially

those marginalized by geographic, ethnic, religious, wealth or sex disparities.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as the child's sex, age (12 to 23 months and 24 to 35 months), household wealth, rural or urban residence and sub-national region. For WUENIC, disaggregation is only available by geographical location, i.e., regional, national and potentially sub-national estimates.

### **Special considerations for collecting data on the indicator through household surveys**

As outlined in Brown et al. (2015),<sup>51</sup> immunization history is typically determined in household surveys either by looking at documented evidence within home-based records, asking the child's caregiver (recall) or both. Some surveys may also include a facility trace-back component wherein facility-based records are reviewed for documented evidence of immunization history. As with any survey-based measure, respondent recall biases may be significant and their direction may be unknown. Some studies have highlighted concerns that caregiver recall may impact survey-based immunization coverage estimates, particularly for multi-dose vaccines, while others have concluded that there was no systematic weakness in caregiver recall. An increasing number of injections (either as part of additional doses for a given vaccine or as a result of different vaccines being added to national schedules) is likely to further compromise caregiver recall.

Additional considerations on general issues and sources of potential bias for measuring immunization coverage through household surveys are outlined in detail elsewhere.<sup>52</sup>

### **Monitoring and reporting**

#### ***National***

Ministries of health and immunization programmes

#### ***Global***

UNICEF and WHO are responsible for global monitoring and reporting on the indicators.

#### ***Process***

Since 1998, in an effort to strengthen collaboration and minimize the reporting burden, WHO and UNICEF jointly collect information through a standard questionnaire (the Joint Reporting Form or JRF) sent to all Member States.<sup>53</sup> The JRF is the process by which

national immunization programme staff review and submit official immunization data for their respective country. Submission of the JRF, which includes data validation, is often done in collaboration with WHO and UNICEF country office staff.

WHO and UNICEF jointly developed a methodology in 2000 to estimate national immunization coverage from selected vaccines. The methodology has been refined and reviewed by expert committees over time. It has been published and is available for reference.<sup>54</sup> Estimated time series for WHO-recommended vaccines have been produced and published annually since 2001. The methodology uses data reported by national authorities from national administrative systems as well as data from immunization or multi-indicator household surveys to produce country-level modelled estimates.

### **Discrepancies with national estimates**

Estimates produced by WHO and UNICEF with the WUENIC methodology are used for global monitoring and reporting of SDG indicator 3.b.1 and may differ from country-produced estimates of immunization as a result of differences between coverage estimates from administrative systems and survey results.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-health/immunization>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- Immunization Regional Snapshots: <<https://data.unicef.org/resources/regional-immunization-snapshots>>

Tools:

- WHO Recommended Routine Immunization Schedule for Children: <<https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/who-recommendations-for-routine-immunization—summary-tables>>

## **3.2.2 Safety and security**

### **Birth registration (SDG 16.9.1)**

*(The following information was extracted and adapted from 'Generation to Protect' found here: <https://data.unicef.org/resources/a-generation-to-protect> and from the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-16-09-01.pdf>.)*

#### **Broader SDG monitoring context**

Birth registration is a first step towards safeguarding individual rights and providing every person with access to justice and social services. Thus, it is not only a fundamental human right but also key to ensuring the fulfilment of other rights.

Birth registration is an essential part of a functioning civil registration system that produces vital statistics, which are essential for sound government planning and effective use of resources.

Most countries have mechanisms in place for registering births. However, coverage, the type of information obtained and the use of resulting data differ based on a country's infrastructure, legal frameworks, administrative capacity, barriers to accessing services, availability of funds, accessibility to the population and technology for data management. Levels of registration vary substantially across countries due to these and other factors, and the availability of data on birth registration is also highly uneven.

Interoperability with other services is a key strategy for improving birth registration. Making use of existing health services, education and social protection/welfare infrastructure enables greater access to hard-to-reach populations and the most vulnerable children, who are also least likely to have their births registered. Linking these types of services with civil registration can ensure that people accessing them are also able to access birth registration.

#### **Definition**

Percentage of children under 5 whose births have been registered with civil authorities

#### **Indicator**

Numerator: Number of children under 5 whose births are reported as being registered with the relevant national civil authorities

Denominator: Number of children under 5

### Key terms

**Birth registration:** The continuous, permanent and universal recording, within the civil registry, of the occurrence and characteristics of births in accordance with the legal requirements of a country.

**Birth certificate:** A vital record that documents the birth of a child. The term 'birth certificate' can refer either to the original document certifying the circumstances of the birth or to a certified copy or representation of the registration of that birth, depending on the practices of the country issuing the certificate.

In some countries, a child may not have been issued a birth certificate but the birth may still have been registered with the 'civil authority', sometimes referred to as the 'civil registrar'. This is the official authorized to register the occurrence of a vital event (such as a live birth) and to record the required details.

**Civil authority:** Official authorized to register the occurrence of a vital event and to record the required details.



### National data sources

**Civil registration systems:** Civil registration systems that are functioning effectively compile vital statistics that are used to compare the estimated total number of births in a country with the absolute number of registered births during a given period. These data normally refer to live births registered within a year or the legal time frame for registration applicable in the country.

**Population-based surveys:** In the absence of reliable administrative data, household surveys have become a key source of data to monitor levels and trends in birth registration. In most low- and middle-income countries, such surveys represent the sole source of this information. The standard indicator used in the DHS and MICS to report on birth registration refers to the percentage of children under 5 (aged 0 to 59 months) with a birth certificate, regardless of whether or not it was seen by the interviewer, or whose birth was reported as registered with civil authorities at the time of survey. Depending on the country, surveys collecting these data may be conducted every three to five years, or possibly at more frequent intervals.

Censuses can also provide data on children who have acquired proof of their legal identity in the form of a birth certificate. However, censuses are conducted only every 10 years and are therefore an inappropriate tool for routine monitoring.

### Interpretation

Society first acknowledges a child's existence and identity through birth registration. The right to be recognized as a person before the law is a critical step in ensuring lifelong protection and is a prerequisite for exercising all other rights. Birth certificates are proof of that legal identity and often the first, and only, such proof, particularly for children. Thus, the recommended target for birth registration is complete coverage (100 per cent), given that anything below that indicates some children are not registered. For example, in countries with high levels of birth registration, national prevalence levels can mask disparities within certain sub-populations (geographic, ethnic, religious, etc.).

Birth registration coverage can increase quickly if new initiatives or campaigns are implemented; for this reason, it is crucial to remember that data indicate birth registration status at the time of data collection and do not necessarily reflect the current situation.

When examining trends in birth registration, several important factors should be considered, including the number of data points available for each country, variations in the number of years between data points and the magnitude of change. It is also important to consider the data collection method (i.e., the questionnaire design and implementation), which can affect findings across consecutive data collection rounds and thus comparability of the estimates.

From both a programmatic and policy perspective, identifying whether the percentage of children whose births are registered is lower in certain sub-populations is crucial to ensuring the most vulnerable children are not left behind.

Birth registration is also an essential component of civil registration and vital statistics (CRVS) systems; levels of coverage are therefore indicative of the functioning of the system. Substantial differences can exist between CRVS coverage and birth registration levels as captured by household surveys. The differences are primarily because data from CRVS typically refer to the proportion of all births that have been registered (often within a specific time frame), whereas household surveys often report on the proportion of children under 5 whose births are registered. The latter (the level of registration among children under 5) is specified in the SDG indicator.

### **Disaggregation**

As a minimum, this indicator should be disaggregated by age. Additionally, survey data often allow for disaggregation by other standard socio-demographic factors such as child's sex, household wealth, rural or urban residence, geographic location and school attendance. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status. There is typically more potential to disaggregate survey data as opposed to statistics derived from CRVS.

### **Special considerations for collecting data on the indicator through household surveys**

Data from household surveys such as the MICS or DHS sometimes refer only to children with a birth certificate. UNICEF methodically notes this difference when publishing country-level estimates for global monitoring.

One of the most common pitfalls with questionnaire design involves respondents' misunderstanding of the

actual registration process. For example, respondents might be unaware of the specific authorities legally tasked with birth registration and might therefore misinterpret the act of notifying a church or village chief of a birth as formal registration. To address this ambiguity, household survey questionnaires are often customized to include reference to the specific national authority responsible for registration. Similarly, respondents might confuse a birth certificate with a health card or other document and thus inaccurately report children as registered. Despite attempts to resolve such issues, confusion about the process of birth registration might still exist and result in erroneous reporting.

### **Monitoring and reporting**

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF and the United Nations Statistics Division (UNSD) are responsible for global monitoring and reporting on the indicator. Data are compiled from reports published by national statistical offices or other relevant national entities.

#### *Process*

UNICEF undertakes a wide consultative process to compile, assess and validate data from national sources. This solicits feedback directly from national statistical offices, as well as other government agencies responsible for official statistics, on the compilation of the indicators, including the data sources used and the application of internationally agreed definitions, classification and methodologies to the data from that source. The results of this country consultation are reviewed by UNICEF as the custodian agency, and feedback is then made available to countries on whether specific data points are accepted into both the UNICEF global databases and the SDG database and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-protection/birth-registration>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- SDG indicator metadata: <<https://unstats.un.org/sdgs/metadata/files/Metadata-16-09-01.pdf>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- DHS: <<https://dhsprogram.com/Methodology/Survey-Types/DHS-Questionnaires.cfm>>
- MICS tools: <<https://mics.unicef.org/tools>>

## Disciplinary practices

### Violent discipline (SDG 16.2.1)

*(The following information was extracted and adapted from 'Generation to Protect', found here: <https://data.unicef.org/resources/a-generation-to-protect> and the SDG indicator metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-16-02-01.pdf>.)*

#### Broader SDG monitoring context

All children have the right to protection from all forms of violence inflicted on them by anyone in their lives. The right of children to protection from all forms of violence is enshrined in the CRC and its Optional Protocols. The measurement of violence against children is particularly challenging due to its multifaceted nature: It takes many forms, including physical, sexual and emotional abuse; it can occur in many settings, such as the home, school, community and over the Internet; and it can be perpetrated by both adults – family members, teachers, neighbours and strangers – and other children.

The availability of comparable data on caregivers' use of violent discipline has significantly increased in the past two decades, mainly through the inclusion of a module on disciplinary methods in the MICS.

UNICEF is custodian agency for SDG indicator 16.2.1 and is undertaking a number of activities to improve the availability, quality, timeliness and use of data on violence against children. This includes developing tools for the collection of reliable, comprehensive and comparable data on various forms of violence against children within existing data collection efforts; building/

enhancing country capacity to collect, analyse and use these data; and increasing data availability by promoting knowledge and providing technical assistance for collecting, analysing and using these data.

#### Definition

Percentage of children aged 1 to 4 years who experienced any violent discipline (psychological aggression and/or physical punishment) in the past month

#### Indicator<sup>55</sup>

Numerator: Number of children aged 1 to 4 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month

Denominator: Number of children aged 1 to 4 years

#### Key terms

In the MICS, psychological aggression refers to the action of shouting, yelling or screaming at a child as well as calling a child offensive names such as 'dumb' or 'lazy'.

Physical (or corporal) punishment is an action intended to cause physical pain or discomfort but not injuries. It is defined as shaking the child, hitting or slapping him/her on the hand/arm/leg, hitting him/her on the bottom or elsewhere on the body with a hard object, spanking or hitting him/her on the bottom with a bare hand, hitting or slapping him/her on the face, head or ears or beating him/her over and over as hard as possible.

The term violent discipline encompasses any physical punishment and/or psychological aggression.

#### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS child discipline module.

The MICS, which is the source of the majority of comparable data, includes a module on disciplinary methods adapted from the parent-child version of the Conflict Tactics Scale (CTS). The CTS is a standardized and validated epidemiological measurement tool that is widely accepted and has been implemented in a large number of countries, including high-income countries.<sup>56</sup> The MICS module includes a standard set of questions



covering non-violent forms of discipline, psychological aggression and physical means of punishing children. Data are collected for children ranging in age from 1 to 14 years. Some DHS have included the standard, or an adapted version, of this module.

### **Interpretation**

Violence and maltreatment are associated with short- and long-term effects on children's health, well-being and social adjustment.

All too often, children are raised using methods that rely on physical force or verbal intimidation to punish unwanted behaviours and encourage desired ones. The use of violent discipline with children represents a violation of their rights. Physical discipline and psychological aggression tend to overlap and frequently occur together, exacerbating the short- and long-term harm they inflict. The consequences of violent discipline range from immediate effects to long-term damage that children carry well into adulthood. Violent discipline is the most widespread, and socially accepted, type of violence against children.

This indicator captures current levels of violent discipline used at the household level with children. The questions included in the MICS module are specially designed to measure some of the more common ways in which parents discipline their children. They are not intended to cover all disciplinary practices used by parents. Specifically, the module measures the use of a range of violent methods, both physical and psychological, by caregivers or any other adults in the household.

Standard measurement of this indicator does not capture who is administering the discipline or the frequency of use during the preceding month. Neither does it capture violence that may be perpetrated by a non-adult sibling. Furthermore, it does not address the issue of physical punishment or psychological aggression by adults outside the home, such as teachers.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence and geographic location. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

### **Special considerations for collecting data on the indicator through household surveys**

One might expect respondents to under-report the use of violent discipline with children in the household due to a social desirability bias; while this may occur, reported levels of the use of violent discipline are consistently high across countries because such methods are widely used and often condoned.

It is important that interviewers ask each question in a neutral way – their tone of voice should not reflect approval or disapproval of the various discipline methods mentioned. It is also important to note that the respondent is reporting about the disciplinary methods used by all adult members of the household and not necessarily about the methods he/she used with the subject child.

Two specific changes in data collection approaches are important to note:

- Respondent to the child discipline module: When it was first implemented in the MICS, the module was administered only to mothers/primary caregivers, who were asked whether any of the disciplinary methods covered had been used by any adult member of the household during the month preceding the interview. In subsequent rounds of the MICS, the methodology was changed: Any adult household member, not just the mother or primary caregiver, could respond to the questions on child discipline. Beginning with MICS6, the module forms part of the separate questionnaires for children under 5 and children aged 5 to 17 years that are administered to mothers/primary caregivers. This means that data on child discipline collected across rounds of surveys are not directly comparable, given changes to the respondent.
- Age range of children: In MICS3 and MICS4, the standard indicator referred to the percentage of children aged 2 to 14 years who experienced any form of discipline within the past month. Beginning with MICS5, the age group covered was expanded to capture children's experiences with disciplinary practices between the ages of 1 and 14 years. Therefore, countries with MICS3 or MICS4 as the latest source will refer to children aged 2 to 4 years whereas those with MICS5 or later as the latest source will also include data on children aged 1 year.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF is responsible for global monitoring and reporting on the indicator. Data are compiled from reports published by national statistical offices or other relevant national entities.

### *Process*

As the custodian agency, UNICEF undertakes a wide consultative process to compile, assess and validate data from national sources. This solicits feedback directly from national statistical offices, as well as other government agencies responsible for official statistics, on the compilation of the indicators, including the data sources used and the application of internationally agreed definitions, classification and methodologies to the data from that source. The results of this country consultation are reviewed by UNICEF, and then feedback is made available to countries on whether specific data points are accepted in both the UNICEF global databases and the SDG database and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

Estimates used in UNICEF publications and in MICS country reports prior to 2010 were calculated using household weights that did not take into account the last-stage selection of children for the administration of the child discipline module in the MICS (i.e., a random selection of one child within the reference age group is undertaken for the administration of the module). In January 2010, it was decided that more accurate estimates are produced by using a household weight that takes the last-stage selection into account. MICS3 data were recalculated using this approach.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-protection/violence>>
- SDG global database: <<https://unstats.un.org/sdgs/indicators/database>>
- SDG indicator metadata: <[unstats.un.org/sdgs/metadata/files/Metadata-16-02-01.pdf](https://unstats.un.org/sdgs/metadata/files/Metadata-16-02-01.pdf)>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>



## Non-violent discipline

### Definition

Percentage of children aged 1 to 4 years who experienced only non-violent discipline in the past month

### Indicator

Numerator: Number of children aged 1 to 4 years who experienced only non-violent discipline in the past month

Denominator: Number of children aged 1 to 4 years

### Key terms

Non-violent disciplinary practices include:

- Explaining why a behaviour is wrong. When a child does something wrong, some parents/caretakers try to teach the child not to repeat the behaviour by explaining why they consider it to be inappropriate. For example, a young child playing with matches may be told not to do so because he/she could accidentally start a fire.
- Taking away privileges or not allowing him/her to leave the house. 'Privileges' means a right or a benefit that is not available to everyone or not granted on a regular basis. Taking away privileges can include forbidding something the child likes, such as eating sweets, playing with friends or watching TV.
- Giving him/her something else to do or redirecting the child's attention away from the incorrect behaviour towards something else. A parent/caretaker may try to distract the child from doing the unsuitable behaviour by giving the child something else to do in its place.

### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS child discipline module.

The MICS, which is the source of the majority of comparable data, includes a module on disciplinary methods adapted from the parent-child version of the CTS. The CTS is a standardized and validated epidemiological measurement tool that is widely accepted and has been implemented in a large number of countries, including high-income countries. The

MICS module includes a standard set of questions covering non-violent forms of discipline, psychological aggression and physical means of punishing children. Data are collected for children ranging from age 1 to age 14. Some DHS have included the standard, or an adapted version of, this module.

### Interpretation

Positive discipline by parents and caregivers helps to socialize young children to understand how to avoid danger and what they may and may not do in their social context.

The questions included in the MICS module are specially designed to measure some of the more common ways in which parents discipline their children. They are not intended to cover all disciplinary practices used by parents.

Standard measurement of this indicator does not capture who is administering the discipline or the frequency of use during the preceding month.

### Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence, geographic location and school attendance. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

### Special considerations for collecting data on the indicator through household surveys

It is important that interviewers ask each question in a neutral way – their tone of voice should not reflect approval or disapproval of the various discipline methods mentioned. It is also important to note that the respondent is reporting about the disciplinary methods used by all adult members of the household and not necessarily about the methods he/she used with the subject child.

Two specific changes in data collection approaches are important to note:

- Respondent to the child discipline module: When it was first implemented in the MICS, the child discipline module was administered only to mothers/primary caregivers, who were asked whether any of the disciplinary methods covered in the module had been used by any adult member of the household during the month preceding the interview. In subsequent rounds of the MICS, the

methodology was changed: Any adult household member, not just the mother or primary caregiver, could respond to the questions on child discipline. Beginning with MICS6, the module forms part of the separate questionnaires for children under 5 and children aged 5 to 17 years that are administered to mothers/primary caregivers. This means that data on child discipline collected across rounds of surveys are not directly comparable, given changes to the respondent.

- Age range of children: In MICS3 and MICS4, the standard indicator referred to the percentage of children aged 2 to 14 years who experienced any form of discipline within the past month. Beginning with MICS5, the age group covered was expanded to capture children's experiences with disciplinary practices between the ages of 1 and 14 years. Therefore, countries with MICS3 or MICS4 as the latest source will refer to children aged 2 to 4 years whereas those with MICS5 or later as the latest source will also include data on children aged 1 year.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and

internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including non-violent discipline. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

Estimates used in UNICEF publications and in MICS country reports prior to 2010 were calculated using household weights that did not take into account the last-stage selection of children for the administration of the child discipline module in the MICS (i.e., random selection of one child within the reference age group is undertaken for the administration of the module). In January 2010, it was decided that more accurate estimates are produced by using a household weight that takes the last-stage selection into account. MICS3 data were recalculated using this approach.

## Key resources

Indicator information and cross-country comparable estimates:

- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## Attitudes towards physical punishment

### Definition

Percentage of mothers/primary caregivers who think that physical punishment is necessary to properly raise or educate children

### Indicator

Numerator: Number of mothers/primary caregivers who think that physical punishment is necessary to properly raise or educate children

Denominator: Number of mothers/primary caregivers

### **Key terms**

Physical (or corporal) punishment is an action intended to cause physical pain or discomfort but not injuries. It is defined as shaking the child, hitting or slapping him/her on the hand/arm/leg, hitting him/her on the bottom or elsewhere on the body with a hard object, spanking or hitting him/her on the bottom with a bare hand, hitting or slapping him/her on the face, head or ears or beating him/her over and over as hard as possible.

Raising or educating a child refers to bringing up a child.

### **National data sources**

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys.

The MICS module on child discipline includes a question that asks the respondent (i.e., the mother or primary caregiver of the selected child) for her/his own opinion of whether it is necessary to use physical punishment when raising or educating a child. Respondents are mothers/primary caregivers who are at least 15 years or older.

### **Interpretation**

Understanding caregivers' beliefs about the best way to bring up a child is essential to interpreting the prevalence of violent discipline. It is also important for developing appropriate policy responses to the issue of violence in the home.

This indicator is designed to capture attitudes towards physical punishment. It may occur that a respondent who has indicated that the child has experienced physical punishment says that she/he does not believe in such punishment. The respondent may not be the one who used that form of punishment with the child as she/he is reporting about methods used by any adult household member.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as respondent sex and age, household wealth, rural or urban residence and geographic location. This indicator can usefully be disaggregated in some surveys by the respondent's level of education, ethnicity, disability status and relationship to the child.

### **Special considerations for collecting data on the indicator through household surveys**

The respondent is asked about his/her own personal opinion on the necessity of using physical punishment with children, not whether he/she actually uses this type of discipline with his/her own children.

### **Monitoring and reporting**

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

#### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including attitudes towards physical punishment. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <[https://data.unicef.org/dv\\_index/?q=>](https://data.unicef.org/dv_index/?q=)

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## 3.2.3 Opportunities for early learning

### Children's books at home

#### Definition

Percentage of children under 5 who have three or more children's books at home

#### Indicator

Numerator: Number of children under 5 who have three or more children's books at home

Denominator: Number of children under 5

#### Key terms

Books include children's books or picture books. This includes e-books for children but excludes schoolbooks as well as other books for adults that are present in the household.

#### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS ECD module.

#### Interpretation

Exposure to written material and pictures, accompanied by caregiver narratives about words and pictures, are the foundations of early language and literacy development.

This indicator is used in conjunction with other ECD indicators to obtain information about the extent to which households provide a supportive and stimulating learning environment for children.

## Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence, geographic location and attendance in early childhood education. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

### Special considerations for collecting data on the indicator through household surveys

There is no need to obtain an actual or accurate count of children's books in a household. Instead, interviewers should rely on the respondent's answer on the approximate number of books in the home.

## Monitoring and reporting

### National

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### Global

UNICEF compiles data produced by national statistical offices or other relevant national entities.

### Process

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including children's books in the home. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are then reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to

conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/early-childhood-development/home-environment>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## **Playthings at home**

### **Definition**

Percentage of children under 5 who play with two or more of the following playthings at home: household objects or objects found outside (sticks, rocks, animals, shells, leaves, etc.), homemade toys or toys that came from a store

### **Indicator**

Numerator: Number of children under 5 who play with two or more of the following playthings at home: household objects or objects found outside (sticks, rocks, animals, shells, leaves, etc.), homemade toys or toys that came from a store

Denominator: Number of children under 5

### **Key terms**

Playthings at home refers to the following categories:

- Household objects, such as bowls or pots
- Objects found outside such as sticks, rocks, animal shells, leaves, etc.
- Homemade toys, such as dolls, cars or other toys made at home
- Toys that came from a store or shop or manufactured toys

### **National data sources**

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS ECD module.

### **Interpretation**

Play is natural to children, and the practice of play and the pleasure they enjoy when playing are important to their cognitive exploration and expansion. Young children will learn from play with any safe, clean objects, especially when an adult engages and encourages the child and uses play opportunities to label objects and experiences for her or him.

This indicator is used to learn about different types of playthings used by the child, including whether she/he has objects to play with, and what these are, even if they do not include store-bought toys but rather other objects that are used as playthings, such as ordinary household objects and natural materials.

This indicator is used in conjunction with other ECD indicators to obtain information about the extent to which households provide a supportive and stimulating learning environment for children.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence, geographic location and attendance in early childhood education. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

### **Special considerations for collecting data on the indicator through household surveys**

In the context of household surveys, experience has shown that respondents find it very easy to give the same answer to a list of different playthings. Often they will answer "Yes" to all the items, whether or not it is true, perhaps because they think this is the 'correct' response or one that will please the interviewer. It is important for interviewers to probe to learn specifically what the child plays with by asking "What does (he/she) specifically play with?" Or "Can you please give an example?"

The examples of 'homemade toys' and 'household objects' are generally applicable across the world, but slight changes may be necessary in a few instances.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including playthings at home. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

## Discrepancies with national estimates

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated. However, changes in the definition of this indicator were made between

MICS3 and MICS4. In order to allow for comparability with MICS4 and subsequent rounds of the MICS, data from MICS3 were recalculated according to the MICS4 indicator definition. Therefore, the recalculated data will differ from estimates reported in MICS3 national reports.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/early-childhood-development/home-environment>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## Attendance in early childhood education

### Definition

Percentage of children aged 36 to 59 months who are attending an early childhood education programme

### Indicator

Numerator: Number of children aged 36 to 59 months who are attending an early childhood education programme

Denominator: Number of children aged 36 to 59

### Key terms

Early childhood education refers to any such programme implemented by government or by private or non-government organizations. These programmes should have an organized learning component that consists of a coherent set or sequence of educational activities designed with the intention of achieving pre-determined learning outcomes or the accomplishment of a specific set of educational tasks. The definition of an organized early learning programme does not refer to programmes offering only babysitting or child-minding.

Attendance includes presence at an early childhood education programme even if only for a very short period of time (just once or for one school day).

### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys.



## Interpretation

Early childhood education is typically designed with a holistic approach to support children's early cognitive, physical, social and emotional development and to introduce young children to organized instruction outside the family context. Access to good-quality care and education programmes outside the home is vital in providing children with the basic cognitive and language skills they need to thrive in school. Such programmes can also help foster children's social competency and emotional development.

From about the age of 3 years, young children benefit from interacting and learning with other young children and preparing for the environment of formal learning in school.

Participation in learning programmes in the early years is not full time for many children, meaning that exposure to learning environments outside the home will vary in intensity. The indicator captures children's exposure to organized learning but not the frequency of the exposure or the quality of the programme.

Additionally, this indicator differs from SDG indicator 4.2.2, which measures children's exposure to organized learning activities in the year prior to the start of primary school (i.e., one year before the official primary entry age as defined in national legislation or policies). The SDG indicator is meant to capture the extent of children's participation in organized learning (including early childhood and pre-primary education) immediately before they officially enter primary education.

## Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as sex and age and outcome indicators such as household wealth, rural or urban residence and geographic location. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's disability status.

## Special considerations for collecting data on the indicator through household surveys

In the MICS, DHS or other national household surveys, mothers or primary caregivers are asked whether each child aged 36 to 59 months living in the household is currently attending any organized early learning or early childhood education programme, whether public or private. In some cases, the question is customized to

make specific reference to relevant country examples of such programmes.

Interviewers can indicate a positive response from the respondent even if the child's early childhood education programme is on a temporary break, but the child regularly attended a programme when it was open, or if the child attended a programme only for a very short period of time in the past (just once or for one school day).

Mothers and primary caretakers may need to be reminded that the indicator is meant to capture attendance in programmes with an organized learning component and not those offering only babysitting or child-minding.

## Monitoring and reporting

### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including attendance in early childhood education. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters

to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/early-childhood-development/early-childhood-education>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## **3.2.4 Responsive caregiving**

### **Early stimulation and responsive care**

#### **Definition**

Percentage of children aged 24 to 59 months with whom an adult has engaged in four or more of the following activities to promote learning and school readiness in the past three days: (a) reading books to the child, (b) telling stories to the child, (c) singing songs to the child, (d) taking the child outside the home, (e) playing with the child and (f) spending time with the child naming, counting or drawing things.

#### **Indicator**

Numerator: Number of children aged 24 to 59 months with whom an adult has engaged in four or more of the following activities to promote learning and school readiness in the past three days: (a) reading books to the child, (b) telling stories to the child, (c) singing songs to the child, (d) taking the child outside the home, (e) playing with the child and (f) spending time with the child naming, counting or drawing things

Denominator: Number of children aged 24 to 59 months

### **Key terms**

An adult is any household member aged 15 or over.

Activities that promote learning and school readiness include the following:

- Reading books to the child or looking at pictures
- Telling stories to the child
- Singing songs to or with the child, including lullabies
- Taking the child outside the home
- Playing with the child
- Naming, counting or drawing things for or with the child

### **National data sources**

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS ECD module.

### **Interpretation**

While young children learn through their own exploration, they learn more in interaction with others, especially adults who mediate their experience with written material, stories, excursions and other opportunities to teach them words, numbers, colours and shapes and to help them understand ideas not immediately present.

This indicator is used in conjunction with other ECD indicators to obtain information about the extent to which households provide a supportive and stimulating learning environment for children.

This indicator does not include observations of the family environment. In some cases, the socio-economic situation of the household needs to be taken into account.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence, geographic location and attendance in early childhood education. This indicator can usefully be disaggregated in some surveys by mother's level of education and ethnicity and child's

disability status. These data can also be disaggregated by fathers' as well as mothers' engagement.

### **Special considerations for collecting data on the indicator through household surveys**

This indicator is self-reported by the caregiver, which may lead to recall bias if respondents do not accurately recall information on the types and frequency of activities over the past three days. The self-report nature of the indicator can also lead to social-desirability biases, or the tendency for respondents to present a favourable image of themselves to the interviewers.

### **Monitoring and reporting**

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

#### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including early stimulation and responsive care at home. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database.



Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated. However, data on this indicator from the DHS are recalculated according to the MICS methodology and will thus differ from estimates in DHS national reports. Additionally, the applicable age group for this indicator has changed over MICS rounds. In MICS3, the age group was children under 5; in MICS4 and MICS5, the age group was children aged 36 to 59 months; and, beginning with MICS6, the age group now refers to children aged 24 to 59 months.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/early-childhood-development/home-environment>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>

## Inadequate supervision

### Definition

Percentage of children under 5 left alone or in the care of another child under 10 years for more than an hour at least once in the past week

### Indicator

Numerator: Number of children under 5 left alone or in the care of another child under 10 years for more than an hour at least once in the past week

Denominator: Number of children under 5

### Key terms

A child 'left alone or in the care of another child under age 10' refers to situations when adults taking care of children have to leave the house to go shopping, wash clothes or for other reasons and have to leave young children.

### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys, typically with the standard, or a modified, version of the MICS ECD module.

### Interpretation

Young children need adult supervision to ensure adequate feeding and provide them with support for learning. Proper supervision also helps protect children from physical and emotional harm. Leaving a child alone or in the care of another child can expose him or her to increased risk of not only injury but also abuse and neglect.<sup>57</sup>

This indicator was previously referred to as 'children left in inadequate care' but has been renamed to more accurately reflect the nature of the underlying construct.

### Disaggregation

Survey data often allow for disaggregation by standard socio-demographic factors such as sex, age, household wealth, rural or urban residence, geographic location and attendance in early childhood education. This indicator can usefully be disaggregated in some

surveys by mother's level of education and ethnicity and child's disability status.

### Special considerations for collecting data on the indicator through household surveys

It is important to note that the indicator definition makes reference to specific situations in which the mother/primary caretaker is gone for more than just a moment and the child is left alone for more than one hour. The indicator refers to situations in which the respondent actually leaves the premises, not simply going out of sight of the child such as to another part or another room of the house.

### Monitoring and reporting

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

#### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF's normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including inadequate supervision. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based

on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/early-childhood-development/home-environment>>
- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>



© UNICEF/UN04/2416/Kabuye

## 3.3 Addressing inequities

### Children with functional difficulties

#### Broader SDG monitoring context

The CRC, adopted in 1989, included the first explicit provision relating to the rights of children with disabilities. It contained a prohibition against discrimination on the grounds of disability (article 2) and obligations to provide services for children with disabilities to enable them to achieve the fullest possible social integration (article 23).

The more recent Convention on the Rights of Persons with Disabilities, adopted in 2006, further strengthened the rights of children with disabilities with a dedicated article on children (article 7). Important to data collection efforts, article 31 encourages States to collect appropriate information, including statistical and research data, to enable them to formulate and implement policies.

In recognizing the need for a set of questions that would produce internationally comparable data on children, the Washington Group formed a subgroup in 2009 that is chaired by the National Statistical Office of Italy. UNICEF joined the subgroup in 2011.

The Washington Group/UNICEF Child Functioning Module (CFM), finalized in 2016, covers children between 2 and 17 years of age and assesses functional difficulties in different domains including hearing, vision, communication/comprehension, learning, mobility and emotions. The set of questions is intended for use in national household surveys and censuses.

While there is no dedicated indicator on disability, the SDGs include a call that no individual be left behind. Five of the goals specifically identify people with disabilities as key agents, which requires disaggregation of key indicators according to disability status. In March 2017, a joint statement issued by multiple United Nations agencies, Member States, organizations of persons with disabilities and other stakeholders recommended the CFM as the appropriate tool for SDG data disaggregation for children.

#### Definition

Percentage of children aged 2 to 4 years with a functional difficulty in at least one domain

#### Indicator

Numerator: Number of children aged 2 to 4 years with a functional difficulty in at least one domain

Denominator: Number of children aged 2 to 4 years

#### Key terms

The CFM set of questions for children aged 2 to 4 years is used to identify children with difficulties in at least one of eight functional domains. The questions consider functioning or manifest behaviours in comparison with that of the child's peers and the existence of normal variations in child development versus what can be considered a developmental delay.

Functional domains for children aged 2 to 4 years include seeing, hearing, mobility, fine motor, communication/comprehension, learning, playing and controlling behaviour.

- The purpose of the vision domain is to identify children with varying degrees of vision difficulties despite the use of glasses. Seeing difficulties include problems seeing things in the day or night, close up or far away, reduced ability to see out of one or both eyes and limited peripheral vision.
- The purpose of the hearing domain is to identify children who have hearing loss or auditory problems of any kind despite the use of hearing aids. This includes reduced hearing in one or both ears and the inability to hear in a noisy environment or to distinguish sounds from different sources. The question is not intended to capture children who can hear the sounds but either do not understand or choose to ignore what is being said to them. Those concepts are captured in the communication domain.
- The purpose of the mobility domain is to identify children with varying degrees of gross motor difficulties despite the use of assistive devices. Walking is a good measure of gross motor skills because it requires a mix of strength, balance and the ability to control body movements against gravity, and because it is the primary mode used to move around and cover distances without the use of assistive devices.
- The purpose of the fine motor domain is to identify children with difficulty in the coordination of small muscle movements (i.e., fine motor difficulties).

- The purpose of the communication/comprehension domain is to identify children who have difficulty exchanging information or ideas with others at home, school or in the community through spoken language. There are two important aspects of communication that are measured in the module: understanding others (receptive communication) and being understood by others (expressive communication).
- The purpose of the learning domain is to identify children with cognitive difficulties that make it hard to learn. It is designed to capture the progress of the child through the early stages of learning.
- The purpose of the playing domain is to capture a difficulty in playing that is related to any functional difficulty. Playing is a complex domain as it involves several functional capacities, from seeing to cognition. It is also heavily influenced by the child's environment.
- The purpose of the controlling behaviour domain is to identify children with behavioural difficulties that limit their ability to interact with other people in an appropriate manner. For young children, this can include kicking, biting and hitting.

Functional difficulties occur on a continuum from very mild to very severe. To better reflect the degree of functional difficulty, each domain in the CFM is assessed against a response scale across a spectrum of severity. For most questions, the response scale includes “no difficulties”, “some difficulties”, “a lot of difficulties” and “cannot do at all”. Responses of either “a lot of difficulties” or “cannot do at all” are used to identify children who are at greater risk than other children of the same age of experiencing limited participation in an unaccommodating environment.

The domain of controlling behaviour for children aged 2 to 4 years is assessed against a response scale that measures the degree with which children kick, bite or hit other children or adults, compared to other children. The response scale includes “not at all”, “less”, “the same or less”, “more” and “a lot more”. Children kicking, biting or hitting other children or adults “a lot more” than children of the same age are identified as having a functional difficulty in this domain.

### National data sources

Two household surveys – the DHS and MICS – are the main data sources. Additional data sources include other nationally representative household surveys.



### Interpretation

Disability emerges from the interaction of the person and their environment. For persons with a functional difficulty, disability becomes manifest when they meet barriers in their environment that prevent them from participating in society to the same extent as people without any functional difficulties. Functional difficulties may place children at risk of experiencing limited participation in an unaccommodating environment.

Discrimination against children with developmental delays and disabilities often leads to reduced access to basic social services, especially education and health, and a general lack of screening, identification and access to early childhood intervention services. Addressing discrimination and promoting inclusion is important in all sectors and can be accomplished through information and advocacy, strengthening policy and facilitating access to services.

This indicator is intended to provide an estimate of the number/proportion of children with functional difficulties. Two types of response formats are used in the questionnaire. Dichotomous Yes/No responses are used in questions that are introductory in nature (i.e., “Does [name] wear glasses?”). In some cases, these questions activate skip patterns. Scaled responses are used in questions to obtain information about

degrees of difficulties, frequency or related qualities (i.e., “Compared with children of the same age, does [name] have difficulty walking? No difficulty, some difficulty, a lot of difficulty, cannot do at all”). Questions should not be considered a diagnostic tool.

Measures developed from the medical model of disability, which focuses on conditions, diseases and the presence of specific impairments, have emphasized a sub-population with more severe conditions and impairments in ‘visible’ domains of functioning, resulting in severe underestimations. The use of stigmatizing labels and offensive terms to gather data on and from persons with disabilities also has a significant impact on the quality and coverage of resulting statistics. The CFM aims to correct those past mistakes by making use of age-specific data collection tools that focus on functioning and allowing reporting on a continuum of difficulties and across all relevant domains to capture a fuller spectrum of persons with disabilities and produce more inclusive estimates. Furthermore, efforts have been made to avoid labels and stigmatizing terminology.

### **Disaggregation**

Survey data often allow for disaggregation by standard socio-demographic factors such as sex and age and outcome indicators such as household wealth, rural or urban residence, geographic location and school attendance. This indicator can usefully be disaggregated in some surveys by mother’s level of education and ethnicity.

### **Special considerations for collecting data on the indicator through household surveys**

The CFM should always be used in its standard versions, including all questions and respective response scales. No domains or questions should be removed, altered or changed. The extensive cognitive testing done on the module revealed that minor variations in question wording can lead to responses that do not meet the intent of the question.

To better reflect the degree of functional difficulty, each area is assessed according to a rating scale; however, the use of the severity scale requires adequate interviewing techniques. Every interviewer must conduct the interview in the same way with each respondent. This is done to minimize differences in responses that might occur if formatting, structure or interviewing techniques changed with every respondent.

In some cases, persons with disabilities may be under-reported in the listing of household residents due to shame or because the household head acting as respondent assumes that such persons should not be listed. For this reason, the CFM should be used to collect information on all children in the household. The interviewer must not first ask if any of the children has a disability and then administer the questionnaire only to those children. Nor should the interviewer assume that children have or do not have a disability simply by observing them. Specific probing can be used to encourage the disclosure of information about all household residents, including persons with disabilities.

Finally, questions on child functioning are asked of the mother or primary caregiver (if the mother lives outside the household or is not alive), although it is understood that the respondent may not always accurately represent the experience of the child.<sup>58</sup>

### **Monitoring and reporting**

#### *National*

Data providers vary but are most commonly national statistical offices or line ministries/other government agencies.

#### *Global*

UNICEF compiles data produced by national statistical offices or other relevant national entities.

#### *Process*

For decades, UNICEF has played a leading role in the collection, analysis, dissemination and use of data concerning the situation of women and children. It maintains global databases covering some 280 indicators on topics relevant to women and children, and those data are used by policymakers, academics, advocates, and programme planners and evaluators around the world as an authoritative source on women and children.

The CRAVE supports UNICEF’s normative role and commitments in monitoring and assuring quality data on the situation of women and children. It also represents an opportunity to identify new and relevant national-level data sources. This exercise is done in close collaboration with UNICEF country offices to ensure that the global databases contain updated and internationally comparable data. The country offices are invited to submit, through an online system, nationally representative data for key indicators, including



children with functional difficulties. They consult with local counterparts to ensure the most relevant and recent data are shared, and the updates they send are reviewed by sector specialists at UNICEF Headquarters to check for consistency and overall data quality and to conduct re-analysis when needed. The review is based on a set of objective criteria to ensure that only the most reliable information is included in the database. Feedback is subsequently made available on whether specific data points have been accepted and, if not, the reasons why.

### **Discrepancies with national estimates**

The estimates compiled and presented at global level come directly from nationally produced data and are not adjusted or recalculated.

### **Key resources**

Indicator information and cross-country comparable estimates:

- UNICEF data: <<https://data.unicef.org/topic/child-disability/overview>>

- ECD Countdown to 2030: <<https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles>>

Tools and measurement guidance:

- MICS tools: <<https://mics.unicef.org/tools>>
- Producing Disability-Inclusive Data: <<https://data.unicef.org/resources/producing-disability-inclusive-data-why-it-matters-and-what-it-takes>>
- Washington Group/UNICEF CFM: <<https://data.unicef.org/resources/module-child-functioning>>
- CFM Manual for interviewers: <<https://data.unicef.org/resources/module-on-child-functioning-manual-for-interviewers>>
- CFM Tabulation plans, narrative and syntaxes: <<https://data.unicef.org/resources/module-child-functioning-tabulation-plan-narrative>>



# Endnotes

1. United Nations Children's Fund, 'Building Better Brains: New frontiers in early childhood development', UNICEF, New York, 2014, <[www.unicef.org/thailand/reports/building-better-brains](http://www.unicef.org/thailand/reports/building-better-brains)>, accessed 15 November 2023.
2. United Nations Children's Fund, 'Early Childhood Development: For every child, early moments matter', undated, <[www.unicef.org/early-childhood-development](http://www.unicef.org/early-childhood-development)>, accessed 15 November 2023.
3. Raikes, Abbie, et al., *Population-based Measurement: Basic definitions*, unpublished draft. [undated]
4. Fernald, Lia C.H., et al., *A Toolkit for Measuring Early Childhood Development in Low and Middle-Income Countries*, World Bank, Washington, DC, 2017, <<https://openknowledge.worldbank.org/handle/10986/29000>>, accessed 15 November 2023.
5. The following guidelines can help inform monitoring of ECD in the context of household surveys: In some cases, especially where there are low fertility rates, countries may benefit from sampling designs that oversample children under 5; questionnaires that collect data on ECD should be administered exclusively to the child's mother, with an alternative primary caregiver only eligible as a respondent if the mother is deceased or lives outside the household; and it is important to pay attention to the need for changes in the measurement tools used as sometimes survey questions on ECD may need to be not only translated but also customized and adapted to the context in which they will be used.
6. United Nations Children's Fund, 'Strengthening National ECD Monitoring and Data Coordination in Low- and Middle-Income Countries: Technical paper 3 – Strengthening national monitoring practices in the area of early childhood development', UNICEF, New York, 2019.
7. Ibid.
8. World Health Organization, United Nations Children's Fund and World Bank Group, *Nurturing Care for Early Childhood Development: A framework for helping children survive and thrive to transform health and human potential*, WHO, Geneva, 2018.
9. Nurturing Care for Early Childhood Development, 'A Closer Look at the Nurturing Care Components', 2020, <<https://nurturing-care.org/nurturing-care-components>>, accessed 15 November 2023.
10. 'Building Better Brains'.
11. Abebe, Frehiwot, et al., 'Predictors of Academic Performance with Due Focus on Undernutrition Among Students Attending Primary Schools of Hawa Gelan District, Southwest Ethiopia: A school based cross sectional study', *BMC Nutrition*, vol. 3, no. 30, 2017; McGovern, Mark E., et al., 'A Review of the Evidence Linking Child Stunting to Economic Outcomes', *International Journal of Epidemiology*, vol. 46, no. 4, 2017, pp. 1171–1191.
12. United Nations Children's Fund, *Hidden in Plain Sight: A statistical analysis of violence against children*, UNICEF, New York, 2014.
13. Fang, Xiangming, et al., 'The Economic Burden of Child Maltreatment in the United States and Implications for Prevention', *Child Abuse & Neglect*, vol. 36, no. 2, 2012, pp. 156–165; Fang, Xiangming, et al., 'The Burden of Child Maltreatment in the East Asia and Pacific Region', *Child Abuse & Neglect*, vol. 42, 2015, pp. 146–162.
14. 'Building Better Brains'.
15. Engle, Patrice L., et al., 'Strategies to Avoid the Loss of Developmental Potential in More than 200 Million Children in the Developing World', *The Lancet*, vol. 369, no. 9557, 2007, pp. 229–242.
16. Belsky, Jay, et al., 'Socioeconomic Risk, Parenting During the Preschool Years and Child Health Age 6 Years', *European Journal of Public Health*, vol. 17, no. 5, 2007, pp. 508–513.
17. Heckman, James J., 'Skill Formation and the Economics of Investing in Disadvantaged Children', *Science*, vol. 312, no. 5782, 2006, pp. 1900–1902.
18. Nurturing Care for Early Childhood Development, 'Strategic Action 4: Monitor progress', in *Nurturing Care Handbook*, <[https://nurturing-care.org/wp-content/uploads/2021/01/Nurturing\\_Care\\_Handbook\\_05.pdf](https://nurturing-care.org/wp-content/uploads/2021/01/Nurturing_Care_Handbook_05.pdf)>, accessed 15 November 2023.
19. For an extended list of indicators related to ECD, please see 'Strengthening National ECD Monitoring and Data Coordination in Low and Middle-Income Countries'.
20. The Statistical Commission established the IAEG-SDGs to develop and implement the global indicator framework for the goals and targets of the 2030 Agenda. It comprises a rotating membership of 28 Member States representing all regions of the world, with regional and international agencies as observers. The UNSD acts as the secretariat and coordinates inputs from the UN system. The IAEG-SDGs meets in person twice a year to review progress and challenges associated with implementing the global indicator framework. It has identified custodian agencies for each of the 232 global SDG indicators. These agencies are expected to: (1) Develop internationally agreed standards and methodologies and support their adoption; (2) Strengthen national statistical capacities and reporting mechanisms; (3) Establish mechanisms for compilation and verification of national data; (4) Compute regional and global aggregates; and (5) Maintain global databases and submit internationally comparable estimates to UNSD for inclusion in the SDG global database. See: United Nations Economic and Social Council, 'Report of the Inter-agency and Expert Group on Sustainable Development Goal Indicators: Note by the Secretary-General', Statistical Commission, E/CN.3/2017/2, 15 December 2016.
21. For official SDG reporting, UNESCO-UIS draws on a combination of data sources including administrative data from schools and other centres of organized learning and household surveys on enrolment.
22. See, for example, National Cancer Institute, 'Dietary Assessment Primer: Principles underlying recommendations', US Department of Health & Social Services, undated, <<https://dietassessmentprimer.cancer.gov/approach/principles.html>>, accessed 15 November 2023.
23. World Health Organization and United Nations Children's Fund, 'Recommendations for Data Collection, Analysis and Reporting on Anthropometric Indicators in Children Under 5 Years Old', WHO and UNICEF, Geneva, 2019, <<https://apps.who.int/iris/handle/10665/324791>>, accessed 15 November 2023.
24. Ibid.
25. World Health Organization, 'Child Growth Standards: WHO Anthro Survey Analyser and other tools', 2019, <[www.who.int/tools/child-growth-standards/software](http://www.who.int/tools/child-growth-standards/software)>, accessed 14 November 2023.

26. United Nations Children's Fund, World Health Organization and World Bank, 'Technical Notes from the Background Document for Country Consultation on the 2021 Edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates: SDG indicators 2.2.1 on stunting, 2.2.2a on wasting and 2.2.2b on overweight', 2021, <<https://data.unicef.org/resources/jme-2021-country-consultations>>, accessed 15 November 2023.
27. McLain, Alexander C., et al., 'Prediction Intervals for Penalized Longitudinal Models with Multi-source Summary Measures: An application to childhood malnutrition', *Statistics in Medicine*, vol. 38, no. 6, 2018, pp. 1002–1012.
28. 'Technical Notes from the Background Document for Country Consultation on the 2021 Edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates'.
29. United Nations Children's Fund, World Health Organization, International Bank for Reconstruction and Development/The World Bank, 'Meeting Report on Technical Consultation on a Country-level Model for SDG2.2', December 2019.
30. 'Recommendations for Data Collection, Analysis and Reporting'.
31. 'Child Growth Standards'.
32. Yang, Hong, and Mercedes de Onis, 'Algorithms for Converting Estimates of Child Malnutrition Based on the NCHS Reference into Estimates Based on the WHO Child Growth Standards', *BMC Pediatrics*, vol. 8, no. 1, 2008.
33. 'Recommendations for Data Collection, Analysis and Reporting'.
34. Ibid.
35. 'Child Growth Standards'.
36. 'Technical Notes from the Background Document for Country Consultation on the 2021 Edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates'.
37. 'Prediction Intervals for Penalized Longitudinal Models with Multi-source Summary Measures: An application to childhood malnutrition'.
38. 'Technical Notes from the Background Document for Country Consultation on the 2021 Edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates'.
39. 'Meeting report on Technical Consultation on a Country-level model for SDG2.2'.
40. 'Recommendations for Data Collection, Analysis and Reporting'.
41. 'Child Growth Standards'.
42. Yang and de Onis, 'Algorithms for Converting Estimates of Child Malnutrition'.
43. 'Recommendations for Data Collection, Analysis and Reporting'.
44. Ibid.
45. 'Child Growth Standards'.
46. 'Technical Notes from the Background Document for Country Consultation on the 2021 Edition of the UNICEF-WHO-World Bank Joint Malnutrition Estimates'.
47. 'Recommendations for Data Collection, Analysis and Reporting'.
48. Yang and de Onis, 'Algorithms for Converting Estimates of Child Malnutrition'.
49. The MICS uses a reference period of two years to collect information for this indicator from respondents (women aged 15 to 49 years) while the DHS uses a five-year reference period.
50. Both MICS and DHS set a two-year reference period for postnatal care indicators.
51. Brown, David W., Anthony H. Burton and Marta Gacic-Dobo, 'An Examination of a Recall Bias Adjustment Applied to Survey-based Coverage Estimates for Multi-Dose Vaccines', May 2015, <[www.researchgate.net/publication/277009551\\_An\\_examination\\_of\\_a\\_recall\\_bias\\_adjustment\\_applied\\_to\\_survey-based\\_coverage\\_estimates\\_for\\_multi-dose\\_vaccines](http://www.researchgate.net/publication/277009551_An_examination_of_a_recall_bias_adjustment_applied_to_survey-based_coverage_estimates_for_multi-dose_vaccines)>, accessed 15 November 2023.
52. Cutts, Felicity T., Hector S. Izurieta and Dale A. Rhoda, 'Measuring Coverage in MNCH: Design, implementation, and interpretation challenges associated with tracking vaccination coverage using household surveys', *PLOS Medicine*, vol. 10, no. 5, 2013.
53. World Health Organization, 'Immunization, Vaccines and Biologicals: WHO/UNICEF joint reporting process', undated, <[www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/who-unicef-joint-reporting-process](http://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/who-unicef-joint-reporting-process)>, accessed 15 November 2023.
54. Burton, Anthony, et al., 'A Formal Representation of the WHO and UNICEF Estimates of National Immunization Coverage: A computational logic approach', *PLoS One*, vol. 7, no. 10, 2012.
55. SDG indicator 16.2.1 refers to a wider age range (1 to 17 years). Within this, the relevant age group to monitor for ECD is ages 1 to 4 years.
56. Straus, Murray A., et al., 'Identification of Child Maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents', *Child Abuse & Neglect*, vol. 22, no. 4, 1998, pp. 249–270.
57. Sigurdson, Parama, Samantha Berger and Jody Heymann, 'The Effects of Economic Crises on Families Caring for Children: Understanding and reducing long-term consequences', *Development Policy Review*, vol. 29, no. 5, 2011, pp. 547–564.
58. Chamie, Mary, 'Can Childhood Disability Be Ascertained Simply in Surveys?' *Epidemiology*, vol. 5, no. 3, 1994, pp. 273–275; Dickinson, Heather O. et al., 'Self-Reported Quality of Life of 8–12 Years Old Children with Cerebral Palsy: A cross-sectional European study', *The Lancet*, vol. 369, no. 9580, 2007, pp. 2171–2178.

Data and Analytics Section  
Division of Data, Analytics,  
Planning and Monitoring  
3 United Nations Plaza  
New York, NY 10017 USA  
**Email:** [data@unicef.org](mailto:data@unicef.org)  
**Website:** [data.unicef.org](http://data.unicef.org)

unicef   

---

for every child