Levels and trends in child malnutrition

UNICEF / WHO / World Bank Group
Joint Child Malnutrition Estimates

Key findings of the 2023 edition

STUNTING
148 million

Stunting affected an estimated 22.3 per cent or 148 million children under 5 globally in 2022

OVERWEIGHT
37 million

Overweight affected an estimated 5.6 per cent or 37 million children under 5 globally in 2022

WASTING
45 million

Wasting threatened the lives of an estimated 6.8 per cent or 45 million children under 5 globally in 2022

unicef

World Health Organization

WORLD BANK GROUP

The new Joint Child Malnutrition Estimates of 2023 supersede former analyses and results published by UNICEF, WHO and the World Bank Group

INTRODUCTION

TRACKING THE TRIPLE THREAT OF CHILD MALNUTRITION

Every child has the right to good nutrition. Well-nourished children grow and develop to their full potential. They are better equipped to lead healthy lives, to be free from poverty, to learn and participate, and to continue thriving across the life course, with benefits that continue over generations.

The past two decades have seen important gains in improving maternal and child nutrition, including a one-third decline in the proportion of children suffering from stunting. Yet the triple burden of malnutrition – stunting, wasting and overweight – continues to jeopardize children's ability to survive and thrive.

Stunting is the devastating result of poor nutrition in-utero and early childhood. Children suffering from stunting may never attain their full possible height and their brains may never develop to their full cognitive potential. These children begin their lives at a marked disadvantage with consequences continuing into adulthood: they face learning difficulties in school, earn less as adults, and face barriers to participation in their communities.

Stunting has been declining steadily over the last decade, with 148.1 million, or 22.3 per cent of children under age 5 worldwide affected in 2022. Nearly all children affected lived in Asia (52 per cent of the global share) and Africa (43 per cent of the global share).

Child **wasting** is the life-threatening result of poor nutrient intake and/or recurrent illnesses. Children suffering from wasting have weakened immunity, are susceptible to long-term developmental delays and face an increased risk of death, particularly when wasting is severe. Children suffering from severe wasting require early detection and timely treatment and care to survive.

In 2022, an estimated 45 million children under 5 (6.8 per cent) were affected by wasting, of which 13.7 million (2.1 per cent) were suffering from severe wasting. More than three quarters of all children with severe wasting live in Asia and another 22 per cent live in Africa.

Childhood **overweight** occurs when children's caloric intake from food and beverages exceeds their energy requirements. This form of malnutrition is driven by failing food systems characterized by poor affordability and access to nutritious foods, the marketing of nutrient-poor ultra-processed foods, and inadequate opportunities for physical activity. There are now 37 million children under 5 living with overweight globally, an increase of nearly 4 million since 2000.

The Joint Malnutrition Estimates (JME) released in 2023 reveal insufficient progress to reach the 2025 World Health Assembly (WHA) global nutrition targets and the 2030 Sustainable Development Goal (SDG) 2 targets. Only about one third of all countries are 'on track' to halve the number of children affected by stunting by 2030, with an assessment of progress to date not being possible for about one quarter of countries. Even fewer countries are expected to achieve the 2030 target of 3 per cent prevalence for overweight, with just 1 in 6 countries currently 'on track'. Further, an assessment of progress towards the wasting target is not possible for nearly half of countries.

More intensive efforts are required if the world is to achieve the global target of reducing the number of children with stunting to 89 million by 2030. With current progress, the 2030 target will be missed by 39.6 million children, with more than 80 per cent of these 'missed' children living in Africa.

All forms of malnutrition are preventable. To stop malnutrition before it starts, children and their families need access to nutritious diets, essential services and positive practices to set them on the path to survive and thrive. But today, these vital pathways to good nutrition are under growing threat, as many countries plunge deep into a global food and nutrition crisis fueled by poverty, conflict, climate change and the enduring secondary effects of the COVID-19 pandemic. As the world responds to the crisis, urgent action is critical to protect maternal and child nutrition – especially in the most affected regions – and secure a future where the right to nutrition is a reality for every child.

Defining the forms of malnutrition* highlighted in this key findings report

Stunting refers to a child who is too short for his or her age. Children affected by stunting can suffer severe irreversible physical and cognitive damage that accompanies stunted growth. The devastating consequences of stunting can last a lifetime and even affect the next generation.

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

Overweight refers to a child who is too heavy for his or her height. This form of malnutrition results when energy intakes from food and beverages exceed children's energy requirements. Overweight increases the risk of diet-related noncommunicable diseases later in life.

Stunting and overweight

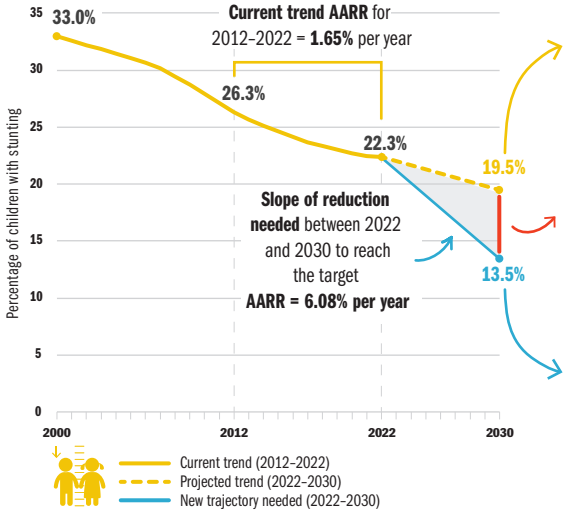
Stunting and wasting

* Some children suffer from more than one form of malnutrition – such as **stunting and overweight** or **stunting and wasting**. There are currently no joint global or regional estimates for these combined conditions.

A CALL TO ACCELERATE ACTION ON STUNTING REDUCTION

It is not too late to change the stunting trajectory – but we must act now

Figure 1a.
Percentage of children with stunting 2000–2022 and projections to 2030



19.5% → projected 2030 prevalence if current trends continue, which projects to 128.5 million children with stunting

Gap → 39.6 million more **'missed'** children with stunting if the target is not reached

13.5% → 2030 target stunting prevalence, which is 88.9 million children with stunting

Figure 1b.
Breakdown of share of **missed**[1] children in 2030

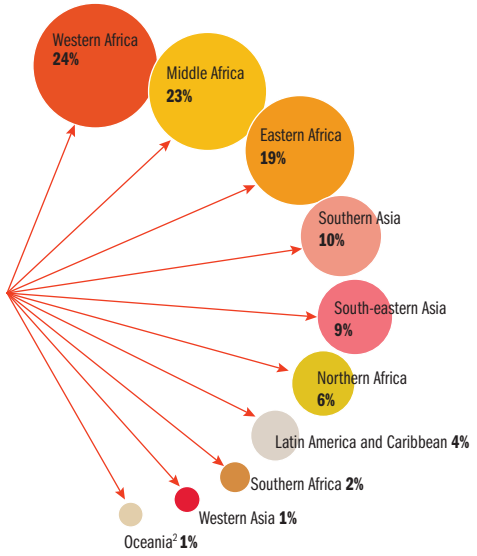


Figure 1. (a) Percentage of children with stunting 2000–2022 and projections to 2030, global (left); and (b) regional breakdown of share of 'missed' children in 2030 if current trends continue (right). Note: AARR = annual average rate of reduction.

At the midpoint of the SDG period, the world is worryingly off-track to meet the global stunting target. Globally, the annuall average rate of reduction (AARR) for stunting based on the current trend from 2012 to 2022 is only 1.65 per cent per year. But an AARR of 6.08 is required from now to 2030 to achieve the global target of reducing the number of children with stunting to 88.9 million. This rate of reduction is almost four-fold higher than what has been achieved in the last decade (Figure 1a).

If current trends continue, an estimated 128.5 million children (19.5 per cent) will be stunted in 2030 – 39.6 million more than the target.

About half of those missed will be children living in Western Africa and Middle Africa (Figure 1b). Two sub-regions, Eastern Asia and Central Asia, have experienced significant progress (or greater progress than expected) and are set to exceed the 2030 target if their current trends continue; without the greater-than-expected progress in these these two regions, the world would be even further off from the target.

In most regions, the required AARRs between 2022 and 2030 are substantially higher than the AARRs achieved in the last decade (Figure 2); the largest increases in rates of acceleration are needed in Middle Africa, Oceania (excluding Australia and New Zealand) and Western Africa. On average, countries in Middle Africa will need a rate of reduction of 13.02 per cent per year between 2022 and 2030 to achieve the target.

It is not too late to get countries and regions on-track; but as they move further away from the target with each passing year, the window for enabling acceleration grows smaller. Countries must act now to shift course – through bold leadership, investments, programme scale-up and the support of development partners – to drive faster progress towards an end to malnutrition for children everywhere.

Progress is lagging most in Africa and Oceania[2]

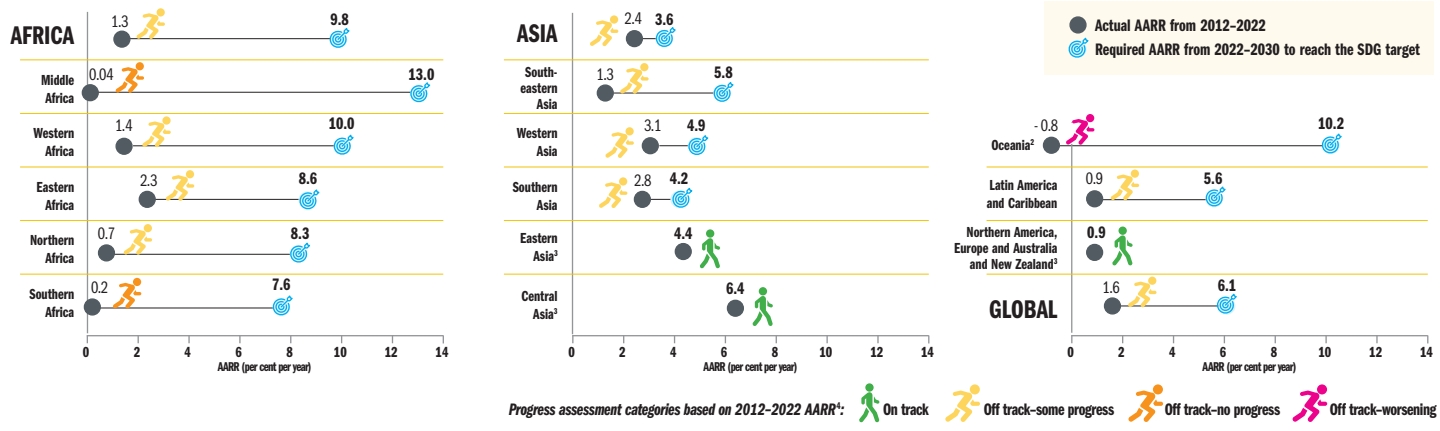
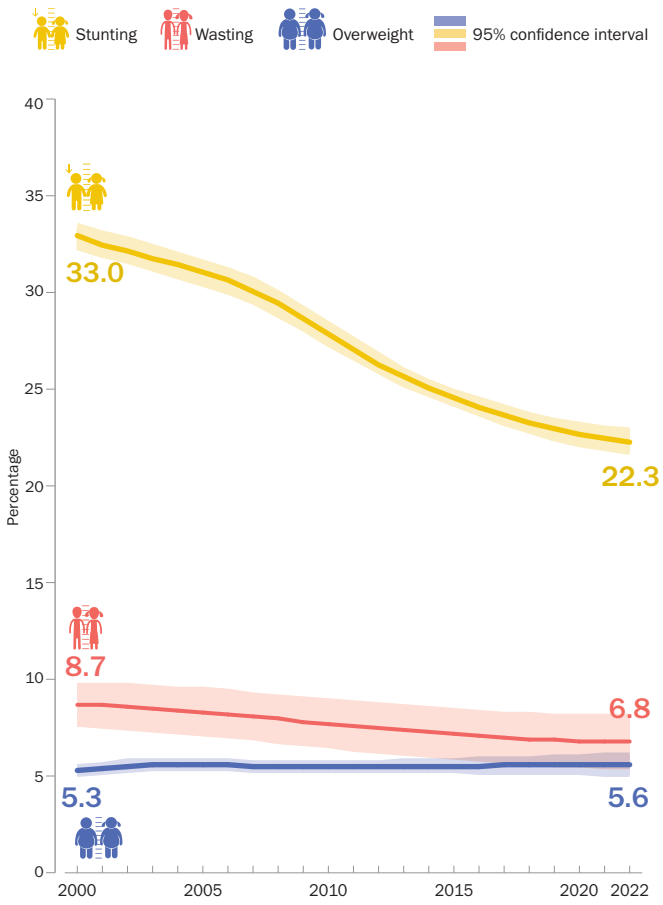


Figure 2: Gap between the AARR that occurred from 2012–2022 and the AARR required from 2022–2030 to reach the 2030 child stunting target, by United Nations region and sub-region.

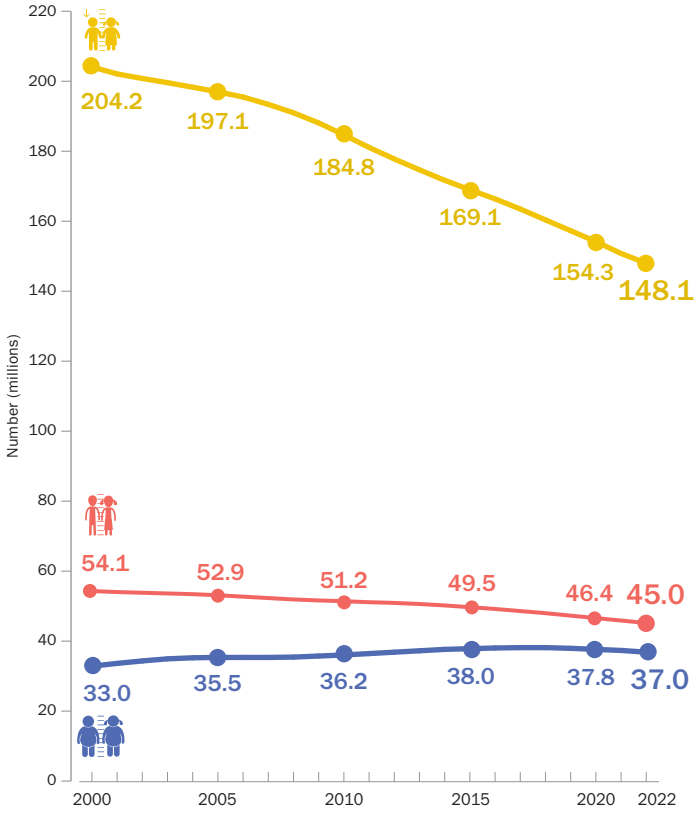
Notes: 1. Breakdown of the share of the missed children in 2030 on the right side of Figure 1 is based only on regions that are 'off track' to achieve the 2030 target; the three sub-regions of Eastern Asia, Central Asia and Northern America, Europe and Australia and New Zealand are 'on track' and thus not included. The total does not add up to 100 per cent due to rounding. 2. Oceania excluding Australia and New Zealand. 3. The required 2022–2030 AARR is not shown as these regions are on track based on their current (2012–2022) trajectory. 4. See page 25 for description of progress assessment categories.

GLOBAL OVERVIEW

Stunting has declined steadily since 2000 – but faster progress is needed to reach the 2030 target. Wasting persists at alarming rates and overweight will require a reversal in trajectory if the 2030 target is to be achieved.



Percentage of children under 5 affected by stunting, wasting and overweight, global, 2000–2022



Number (millions) of children under 5 affected by stunting, wasting and overweight, global, 2000–2022

Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition.

Most children with malnutrition live in Africa and Asia

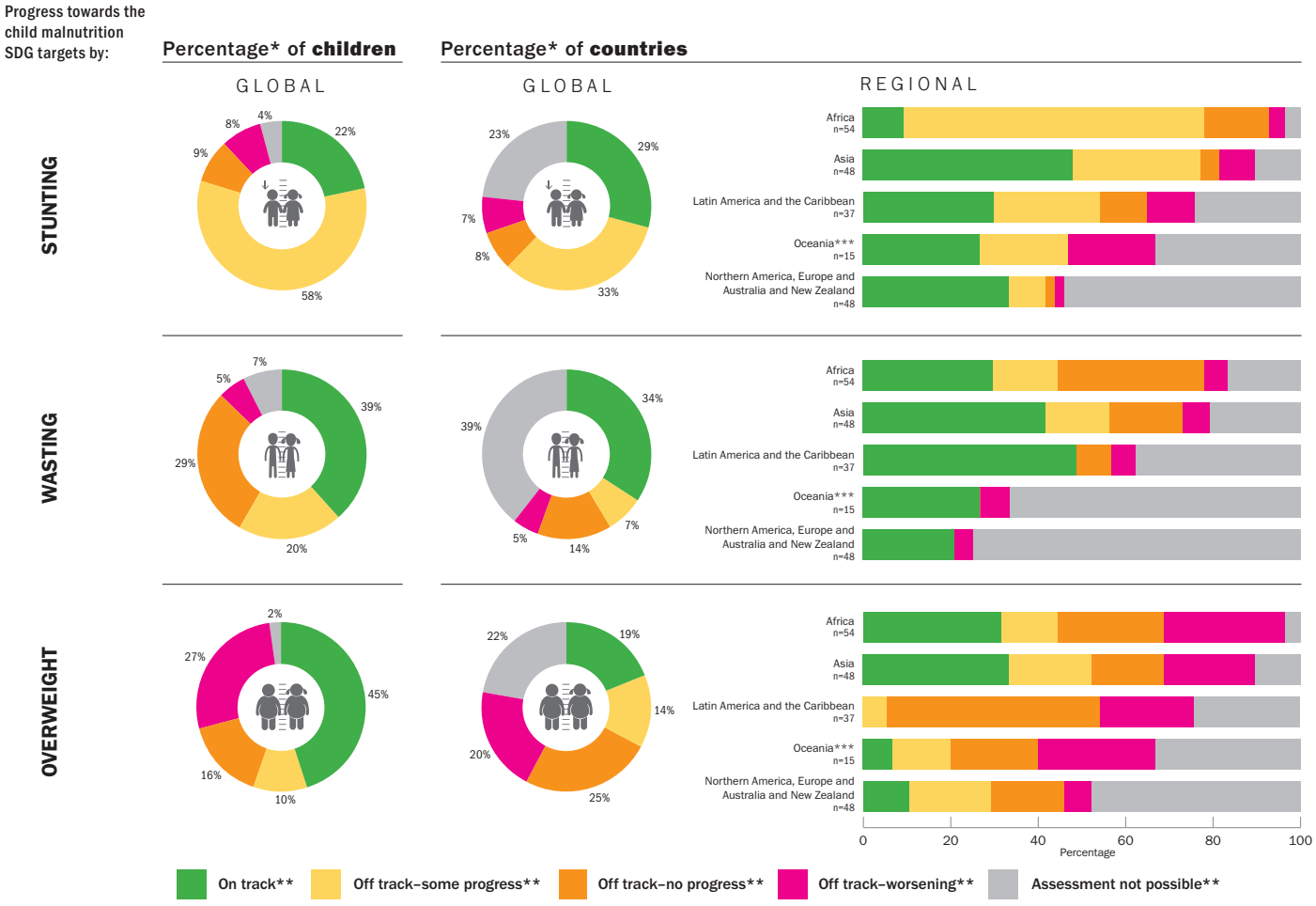
In 2022, more than half of all children under 5 affected by stunting lived in Asia and two out of five lived in Africa

In 2022, 70 per cent of all children under 5 affected by wasting lived in Asia and more than one quarter lived in Africa

In 2022, almost half of all children under 5 affected by overweight lived in Asia and more than one quarter lived in Africa

PROGRESS TOWARDS THE SDGs

Three quarters of the world's children live in countries that are off-track to achieve the 2030 SDG target on child stunting



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: *Percentages may not add up to 100 per cent due to rounding. **See notes on progress assessment categories on pages 24 and 25. ***Oceania excluding Australia and New Zealand

The graphics above show progress towards the SDG 2.2 targets on stunting, wasting and overweight. The graphics in the left-hand column show progress by **percentage of the global under-five population** and the graphics in the two right-hand columns show progress by **percentage of countries** (globally and regionally).

For the graphics by percentage of the under-five population *(left column)*, each country was weighted by the under-five population, meaning that more populous countries contributed more to the percentages in each progress category than less populous ones. In contrast, for the graphs in the two columns on the right side, each country contributes equally towards the percentages, regardless of its population size.

Availability of data to measure progress varies between the assessment by percentage of the population and the assessment by percentage of countries; it also varies by indicator and region. Almost all children live in countries where progress assessment is possible for all three indicators. Meanwhile, progress by country can only be assessed for about three quarters of countries for the stunting and overweight targets, and for about half of countries for the wasting target.

When considering progress by under-five population, 80 per cent of children live in countries showing at least some progress towards the stunting reduction target, with 17 per cent living in countries that show no progress or a worsening situation. The situation is more concerning for overweight: nearly half of children live in countries with no progress or a worsening situation. For wasting, one third of children live in countries with no progress or a worsening situation.

When considering progress by individual countries (at the global level), progress on stunting and overweight can be assessed for three quarters of all countries, while progress on wasting is only possible for about half of countries (see notes on JME methodology on pages 26-27). Overall, the greatest progress is being made towards the stunting target, with nearly two thirds of countries seeing at least some progress. In contrast, for overweight, about half of all countries have experienced no progress or are worsening.

At the regional level, Northern America, Europe and Australia and New Zealand have the highest proportion of countries for which progress *cannot* be assessed across the three indicators. Conversely, Africa has the highest proportion of countries for which progress *can* be assessed for all three indicators. Asia is contributing most to the global percentage of countries that are 'on track' to meet the stunting target, with 23 out of 48 countries (or 48 per cent) on track; followed by Northern America, Europe and Australia and New Zealand, with 16 out of 48 countries on track; and Latin America and the Caribbean, with 11 of 37 countries on track. While all regions have at least some countries on track to meet the stunting and wasting targets, in Latin America and the Caribbean, all countries for which progress for overweight could be assessed show no progress or a worsening situation, and in Northern America, Europe and Australia and New Zealand, almost all countries for which progress could be assessed (26 out of 27 countries) are not on track.

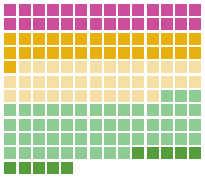
Gaps in the available data in some regions make it challenging to accurately assess progress towards global targets. Regular data collection (every three to five years) is therefore critical to monitor and analyse country, regional and global progress on child malnutrition going forward.

STUNTING

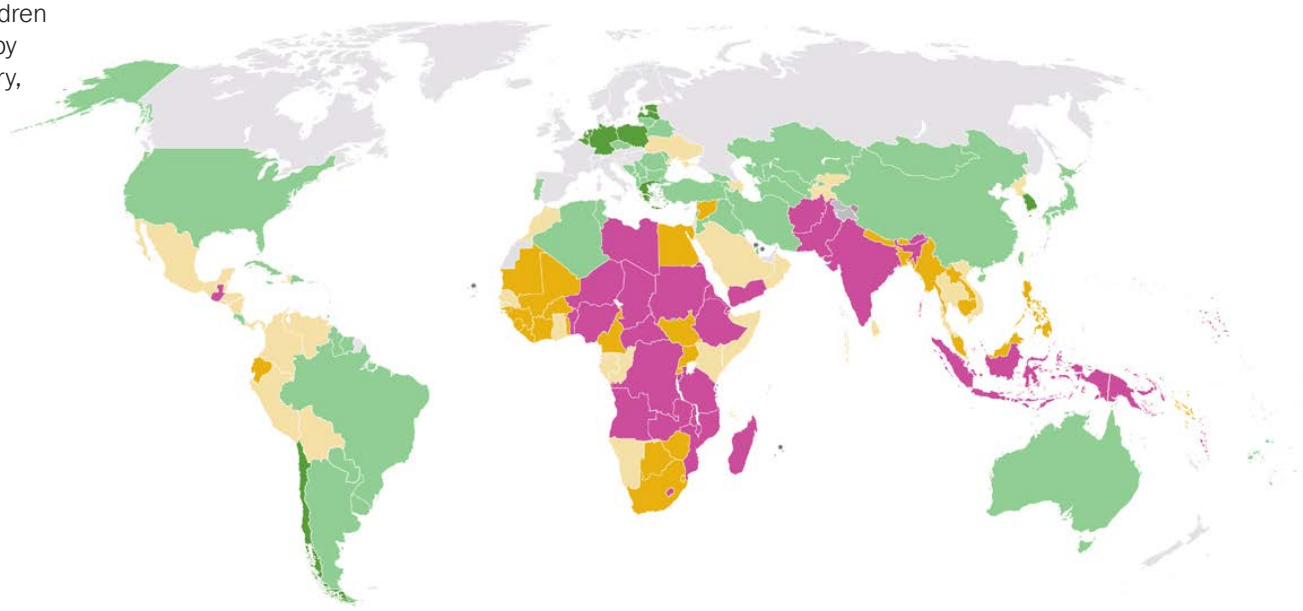
COUNTRY TRENDS

The number of countries with very high stunting prevalence has declined by 40 per cent since 2012 – from 46 to 28 countries

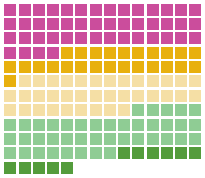
Percentage of children under 5 affected by stunting, by country, **2022**



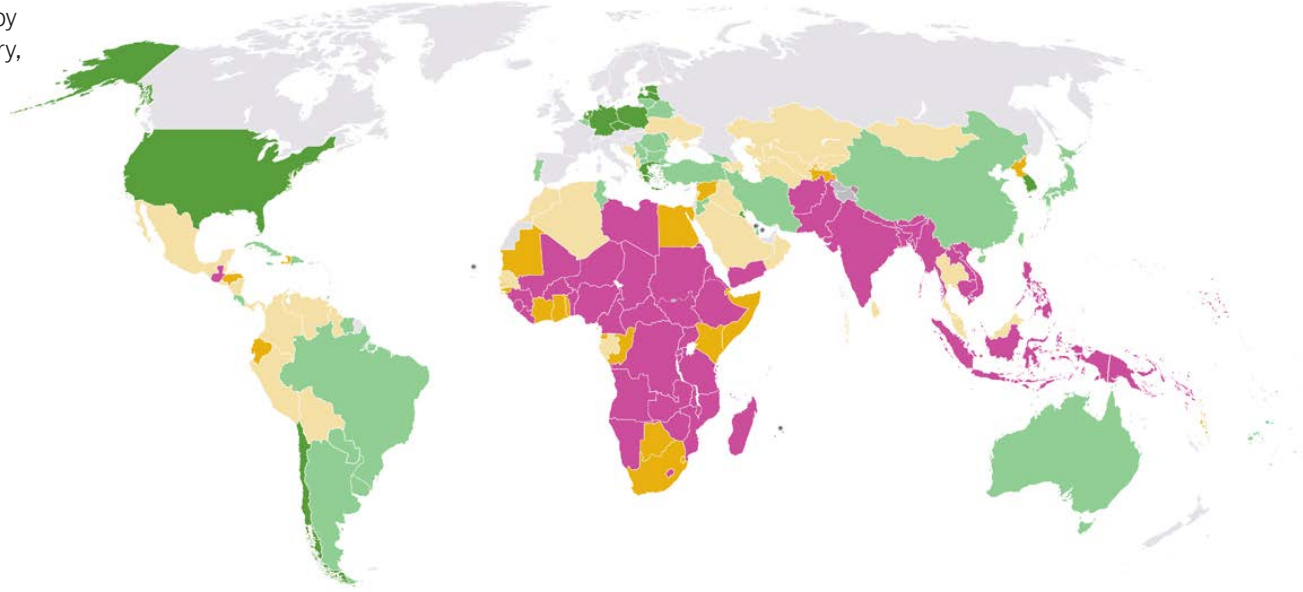
Distribution of stunting prevalence for each country with a modelled estimate presented for 2022



Percentage of children under 5 affected by stunting, by country, **2012**



Distribution of stunting prevalence for each country with a modelled estimate presented for 2012



<2.5% (very low)

2.5 – <10% (low)

10 – <20% (medium)

20 – <30% (high)

≥30% (very high)

modelled estimate not presented

Source: UNICEF, WHO, World Bank Group, Joint Child Malnutrition Estimates, 2023 edition. Note: * The most recent country data point (e.g., from household surveys) used to generate the modelled stunting and overweight estimates is from before the year 2000; interpret with caution. These maps are stylized and not to scale; they do not reflect a position by UNICEF, WHO or World Bank Group on the legal status of any country or territory or the delimitation of any frontiers.

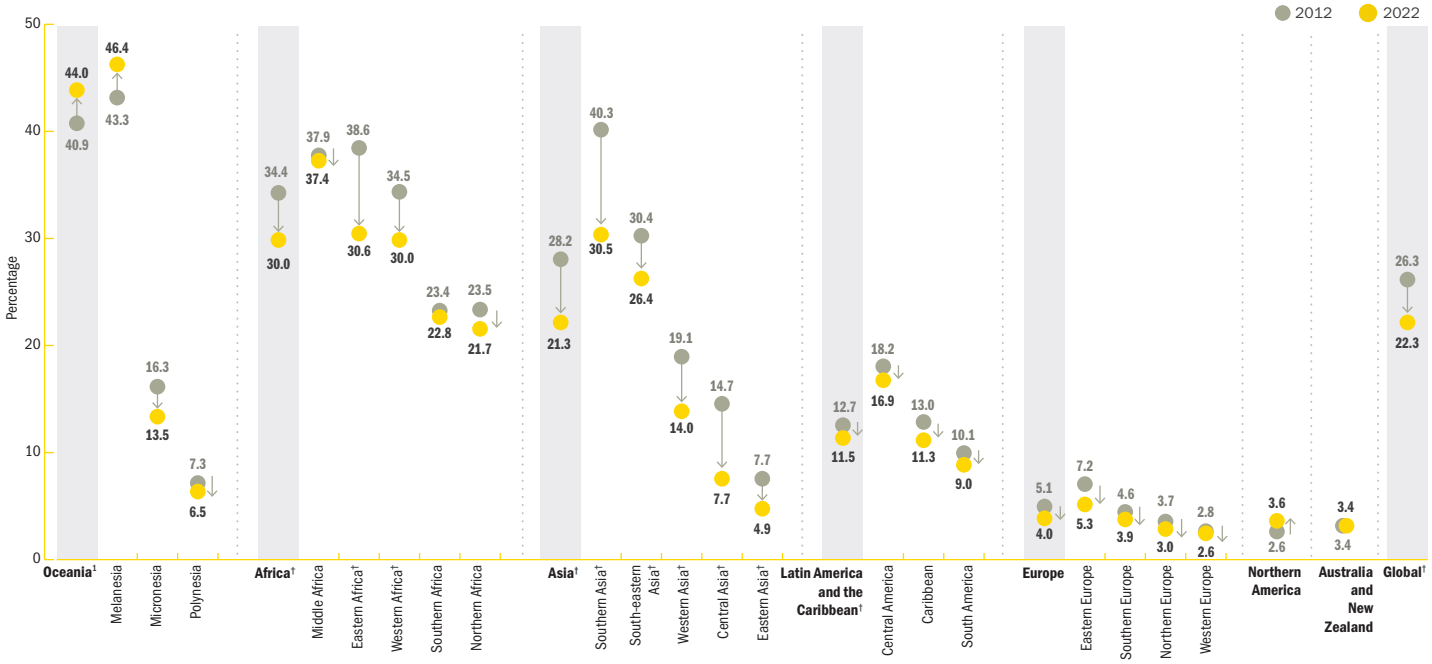
STUNTING

REGIONAL TRENDS

Global prevalence 2022: **22.3%**
Global prevalence 2012: **26.3%**
Global number affected 2022: **148.1 M**
Global number affected 2012: **177.9 M**

Progress to reduce stunting has not been equal across regions and sub-regions

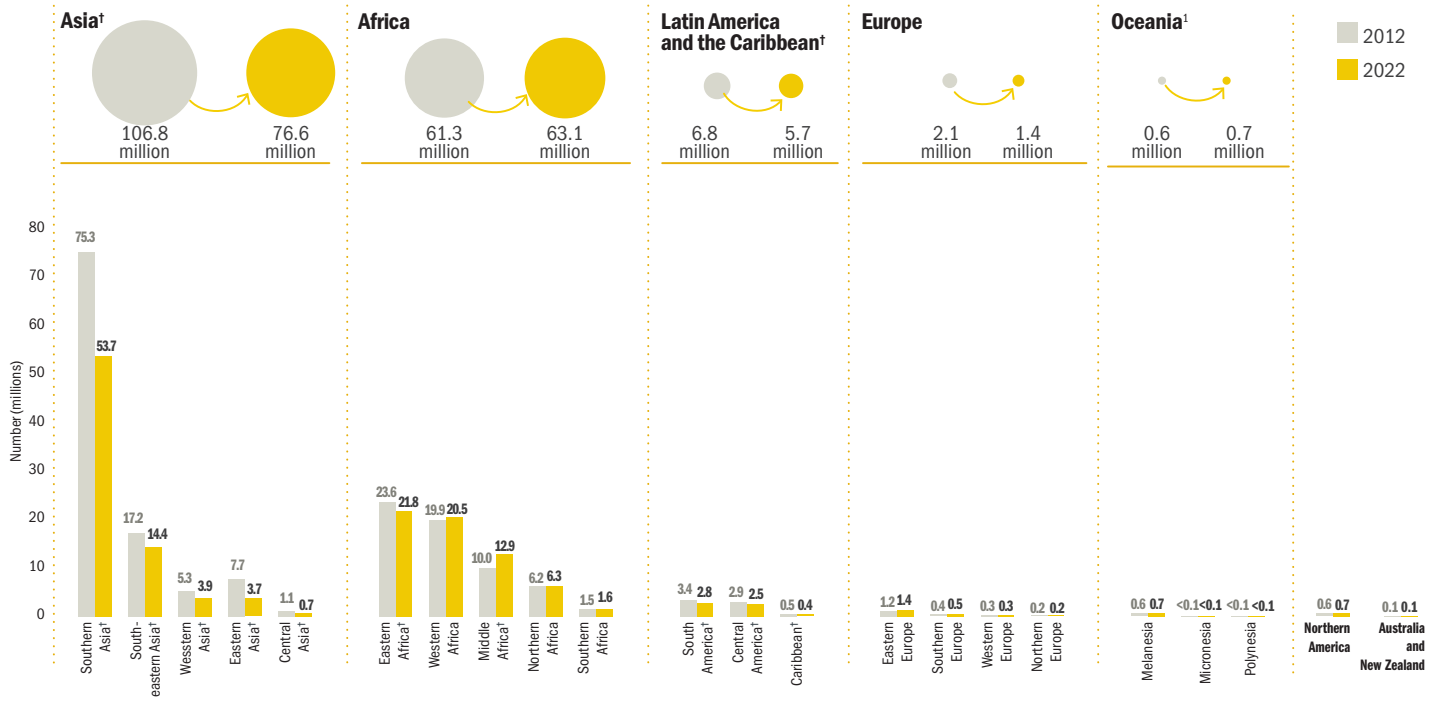
Trends in the percentage of children under 5 affected by stunting, by United Nations region/sub-region, 2012 and 2022



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Oceania excluding Australia and New Zealand. †Represents regions/sub-regions where the change has been statistically significant. See page 14 for the 95% confidence intervals for graphed estimates.

The number of children with stunting has increased significantly over the last decade in Middle Africa

Trends in the number (millions) of children under 5 affected by stunting, by United Nations region/sub-region, 2012 and 2022



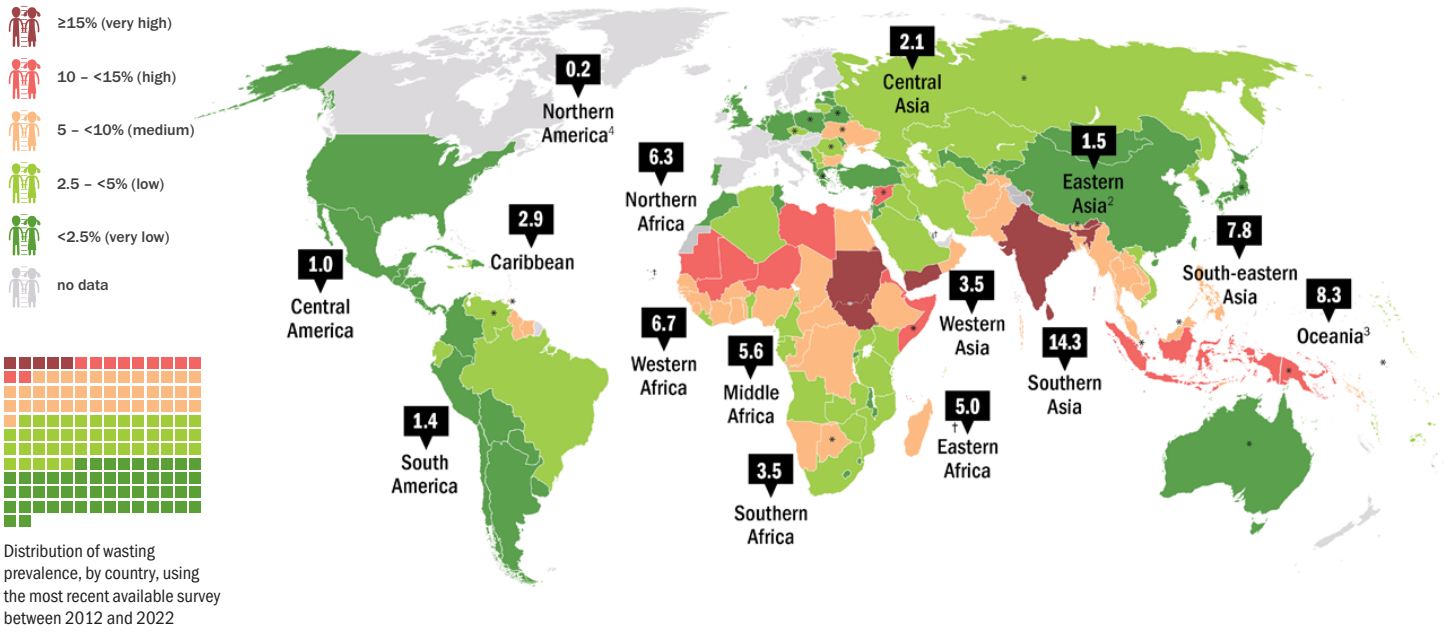
Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Oceania excluding Australia and New Zealand; †Represents regions/sub-regions where the change has been statistically significant. See page 15 for the 95% confidence intervals for graphed estimates.

WASTING

PREVALENCE

Southern Asia has the highest wasting prevalence of any sub-region in the world

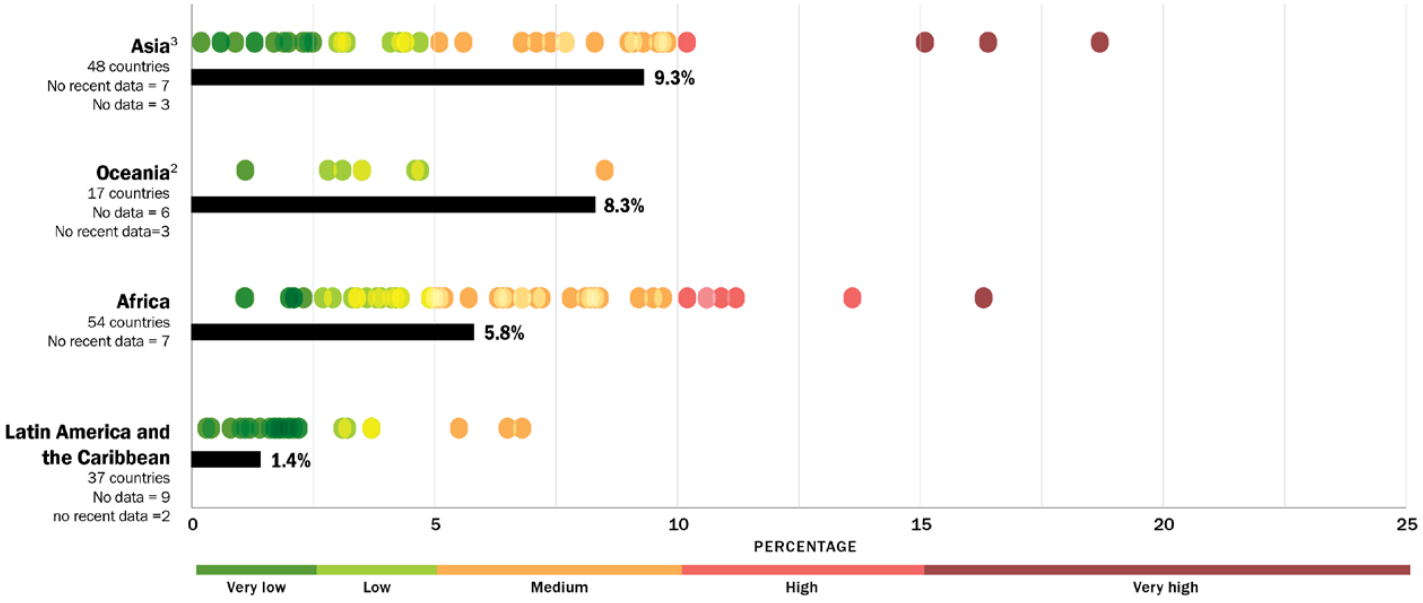
Percentage of children under 5 affected by wasting, by country and United Nations sub-region, 2022



Source: UNICEF, WHO, World Bank Group, Joint Child Malnutrition Estimates, 2023 edition. Note: 1. Country data are the most recent available survey estimates between 2012 and 2022; exceptions where older data are shown (2000–2011) are denoted with an asterisk (*) and where only data prior to 2000 are available the † footnote is used, denoting no recent data. 2. Eastern Asia excluding Japan. 3. Oceania excluding Australia and New Zealand. 4. The Northern America sub-regional estimate is based on data from only the United States. There is no estimate available for the sub-regions of Europe or Australia and New Zealand due to insufficient population coverage. See section about regional and global estimates on page 27 for an explanation of why regional trend data are not available for wasting. These maps are stylized and not to scale; they do not reflect a position by UNICEF, WHO or World Bank Group on the legal status of any country or territory or the delimitation of any frontiers.

The range of country prevalences in all regions is wide

Percentage of children under 5 affected by wasting, by country (dots) and United Nations region (bars), 2022



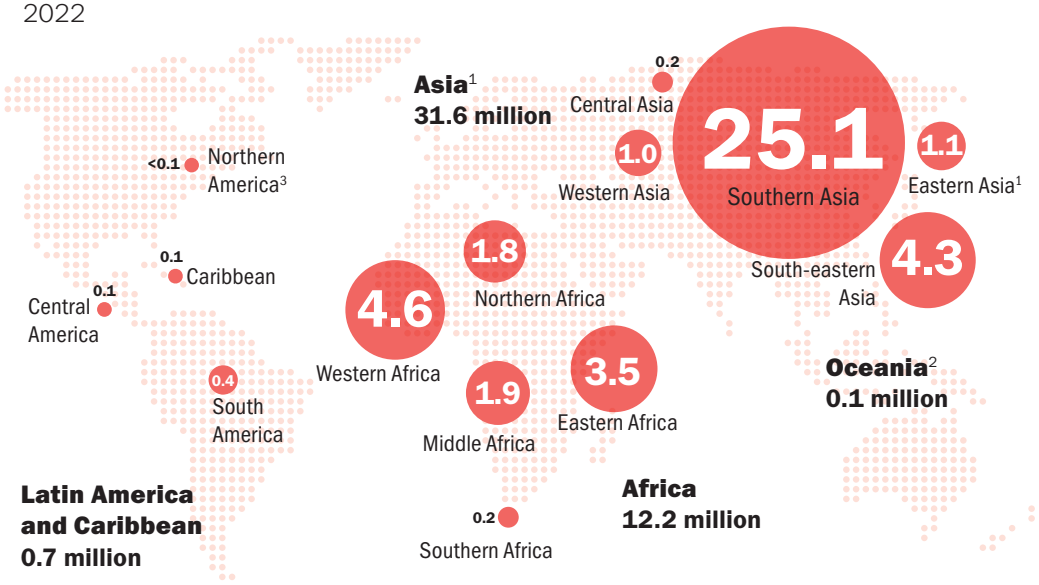
Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Notes: 1. Each marker refers to the most recent country estimate between 2012 and 2022; "no recent data" refers to the number of countries for which the most recent estimate is before 2012 and "no data" refers to the number of countries without an estimate. 2. Oceania excluding Australia and New Zealand. 3. Asia excluding Japan. There is no estimate available for Europe or Australia and New Zealand due to insufficient population coverage. Northern America is not shown as it only includes two countries, of which only one has data. See section about regional and global estimates on page 27 for an explanation of why regional trend data are not available for wasting.

NUMBERS AFFECTED

Global wasting prevalence 2022: **6.8%**
Global ***severe*** wasting prevalence 2022: **2.1%**
Global number affected by wasting 2022: **45.0 M**
Global number affected by ***severe*** wasting 2022: **13.7 M**

Only one quarter of children under 5 live in Southern Asia, but this sub-region is home to more than half of all children with wasting

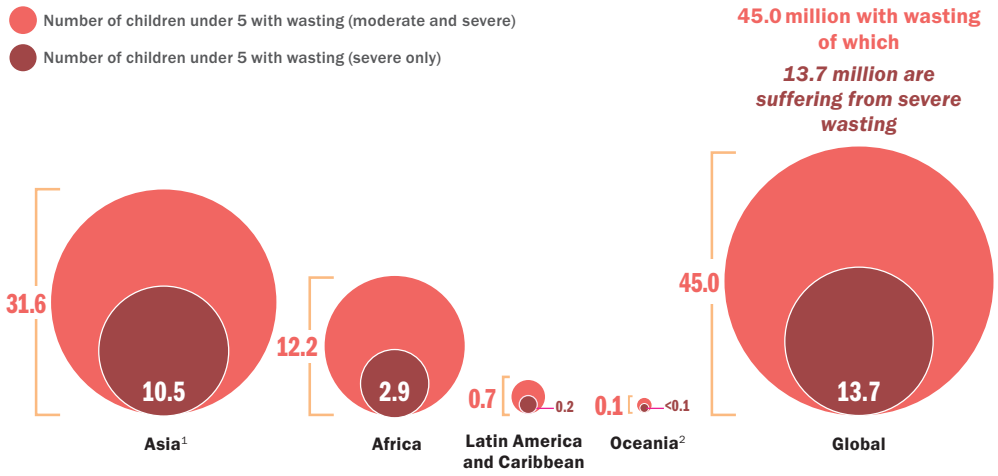
Number (millions) of children under 5 affected by wasting, by United Nations sub-region, 2022



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Asia and Eastern Asia excluding Japan. 2. Oceania excluding Australia and New Zealand. 3. The Northern America sub-regional estimate is based on data from only the United States. There is no estimate available for Europe or Australia and New Zealand due to insufficient population coverage. Aggregates may not add up due to rounding and/or lack of estimates for some regions. See section about regional and global estimates on page 27 for an explanation of why regional trend data are not available for wasting.

More than three quarters of the worlds severely wasted children live in Asia, yet this region only accounts for half of the worlds children

Number of children under 5 affected by wasting and severe wasting, by United Nations region, 2022



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Asia excluding Japan. 2. Oceania excluding Australia and New Zealand. There is no estimate available for Europe or Australia and New Zealand due to insufficient population coverage. Northern America is not shown because wasting affects <0.1 million children. Aggregates may not add up due to rounding and/or lack of estimates for some regions. See section about regional and global estimates on page 27 for an explanation of why regional trend data are not available for wasting or severe wasting.

The JME does not currently adjust for seasonal or other factors that can affect wasting prevalence estimates

The JME global and regional estimates on wasting and severe wasting are aligned with the SDG indicator definition and are based on national-level prevalence data which capture the cases of wasting at a given moment in time. As such, they do not reflect the cumulative cases of wasting a given that occur over the course of a year.*

Wasting is a relatively short-term condition, and cross-sectional surveys only capture children who are wasted at the time of the survey.

In the absence of estimates that account for all children who suffer from wasting over the entire year, governments and development partners should plan programmes for the early detection and treatment child wasting accordingly. Interagency efforts are underway to develop practical methodologies to standardize and improve the monitoring of wasting and severe wasting.

The JME global prevalence-based estimates of 45.0 million children under 5 affected by wasting and 13.7 million affected by severe wasting in 2022 should therefore be viewed as an underestimate of the number of children affected over the course of the year.

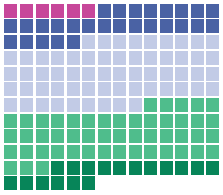
* Isanaka, Sheila, *et al.*, 'Improving estimates of the burden of severe wasting: analysis of secondary prevalence and incidence data from 352 sites', *BMJ Glob Health*, vol. 6, no. 3, March 2021, accessed May 2023.

OVERWEIGHT

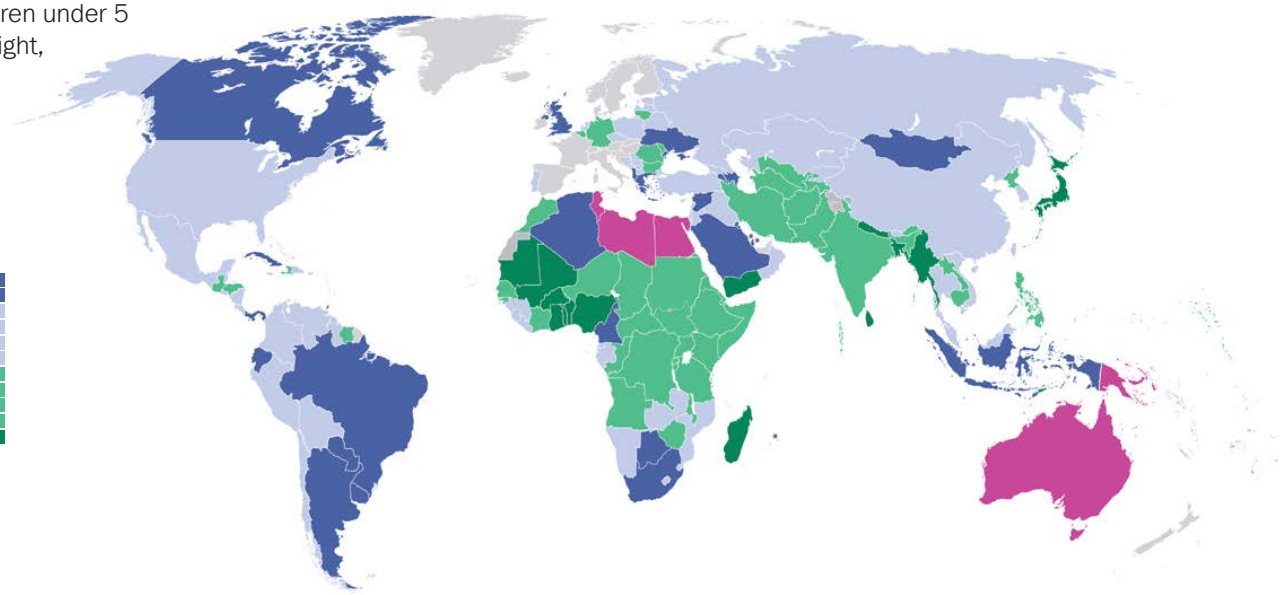
COUNTRY TRENDS

The number of countries with low and very low levels of overweight has remained similar since 2012

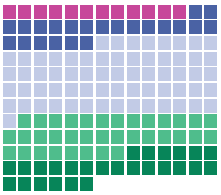
Percentage of children under 5 affected by overweight, by country, **2022**



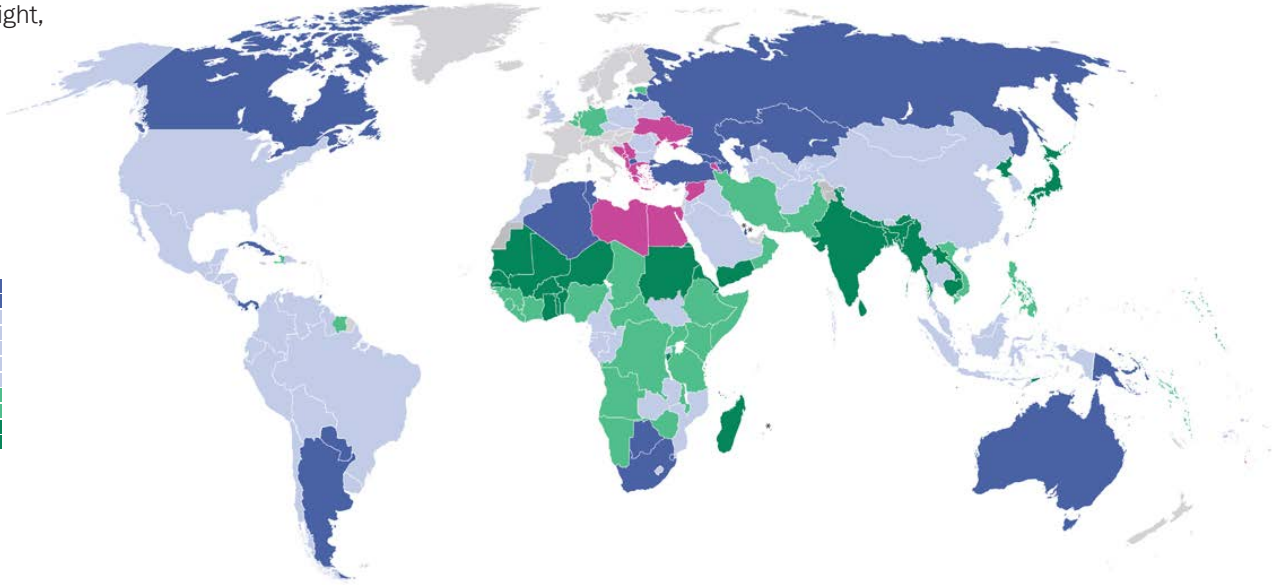
Distribution of overweight prevalence for each country with a modelled estimate presented for 2022.



Percentage of children under 5 affected by overweight, by country, **2012**



Distribution of overweight prevalence for each country with a modelled estimate presented for 2012.



<2.5% (very low)

2.5 – <5% (low)

5 – <10% (medium)

10 – <15% (high)

≥15% (very high)

modelled estimate not presented

Source: UNICEF, WHO, World Bank Group, Joint Child Malnutrition Estimates, 2023 edition. Note: * The most recent country data point (e.g., from household surveys) used to generate the modelled overweight estimates is from before the year 2000; interpret with caution. These maps are stylized and not to scale and do not reflect a position by UNICEF, WHO or World Bank Group on the legal status of any country or territory or the delimitation of any frontiers.

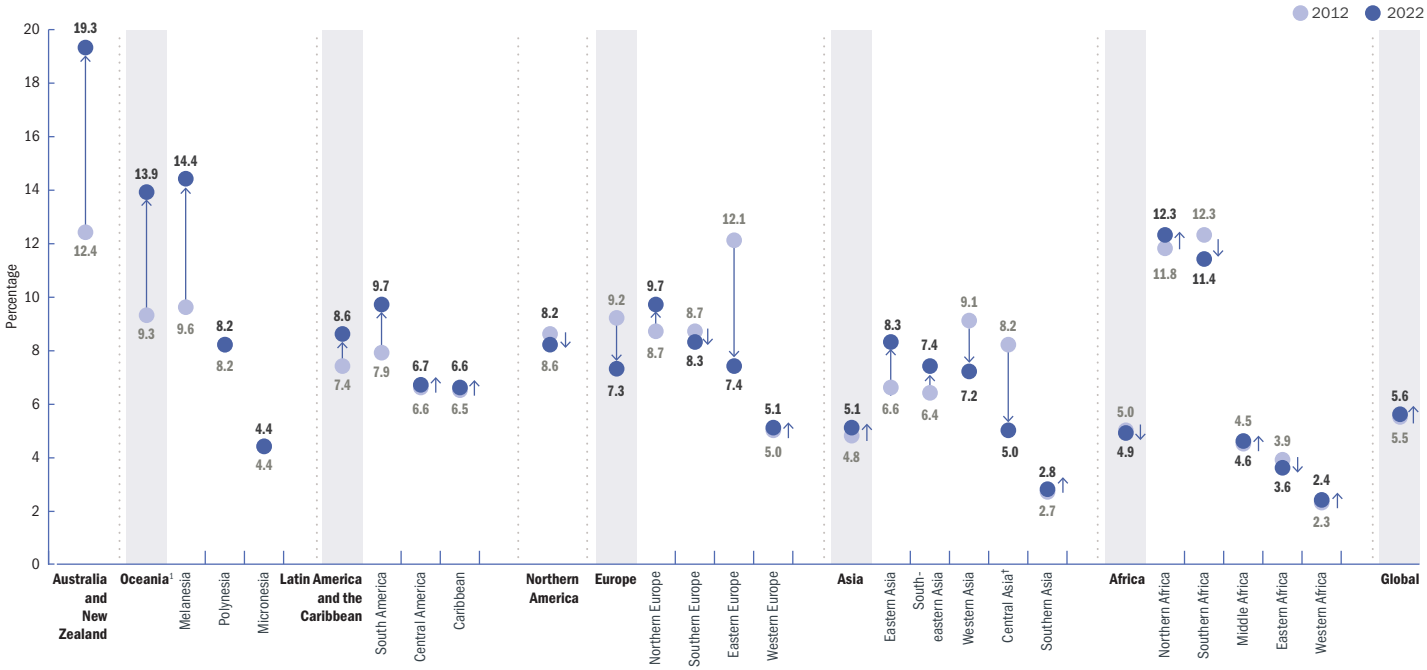
OVERWEIGHT

REGIONAL TRENDS

Global prevalence 2022: **5.6%**
Global prevalence 2012: **5.5%**
Global number affected 2022: **37.0 M**
Global number affected 2012: **37.0 M**

One out of every five children are affected by overweight in Australia and New Zealand

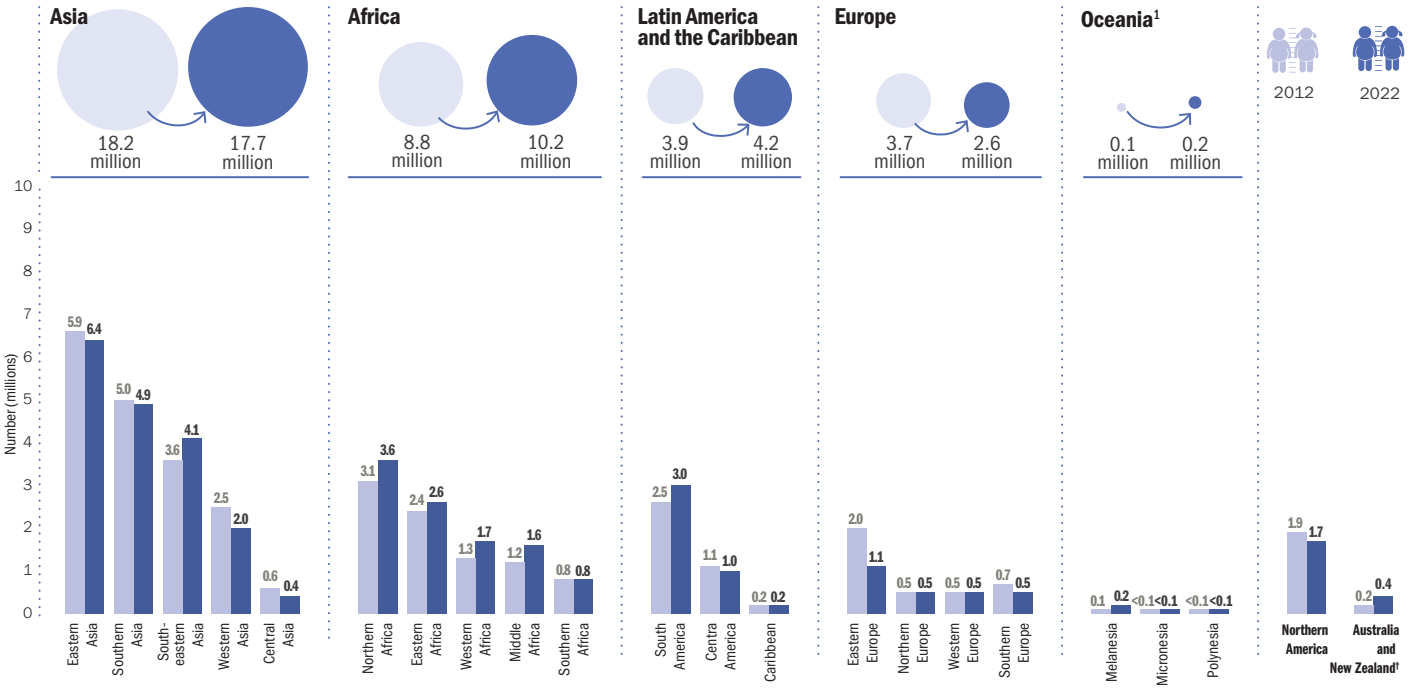
Trends in the percentage of children under 5 affected by overweight, by United Nations region/sub-region and global, 2012–2022



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Oceania excluding Australia and New Zealand. †Represents regions/sub-regions where the change has been statistically significant. See page 14 for the 95% confidence intervals for graphed estimates.

There has been no change in the number of children affected by overweight – in any region – for the last decade

Number (millions) of children under 5 affected by overweight, by United Nations region/sub-region, 2012 and 2022

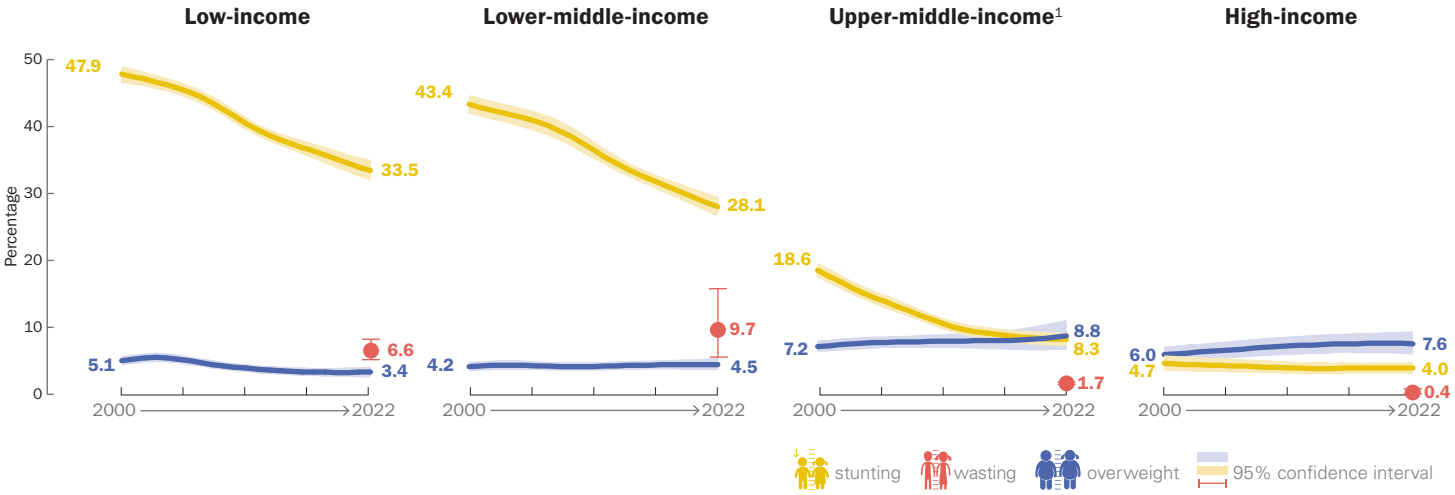


Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Oceania excluding Australia and New Zealand. †Represents regions/sub-regions where the change has been statistically significant. See page 15 for the 95% confidence intervals for graphed estimates.

TRENDS

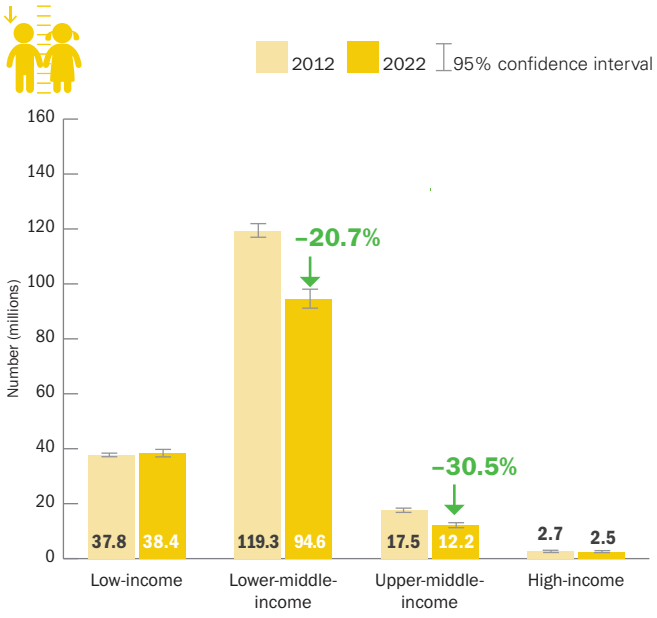
Stunting has declined by more than half since 2000 in upper-middle income countries – but overweight is rising steadily, moving further away from the global target

Percentage of children under 5 affected by stunting, wasting and overweight, by country income classification, 2000–2022



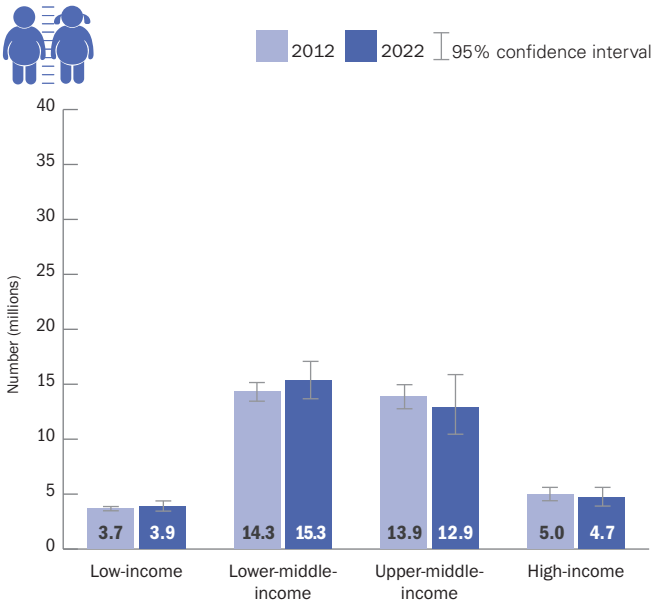
Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Upper-middle-income countries wasting estimate: consecutive low (<50 per cent) population coverage for country data (e.g., from household surveys); interpret with caution.

Upper-middle-income countries have decreased the number of children affected by stunting by nearly one third in the last decade



Number of children under 5 affected by stunting, by country income classification, 2012 and 2022

The number of children with overweight has remained unchanged over the last decade



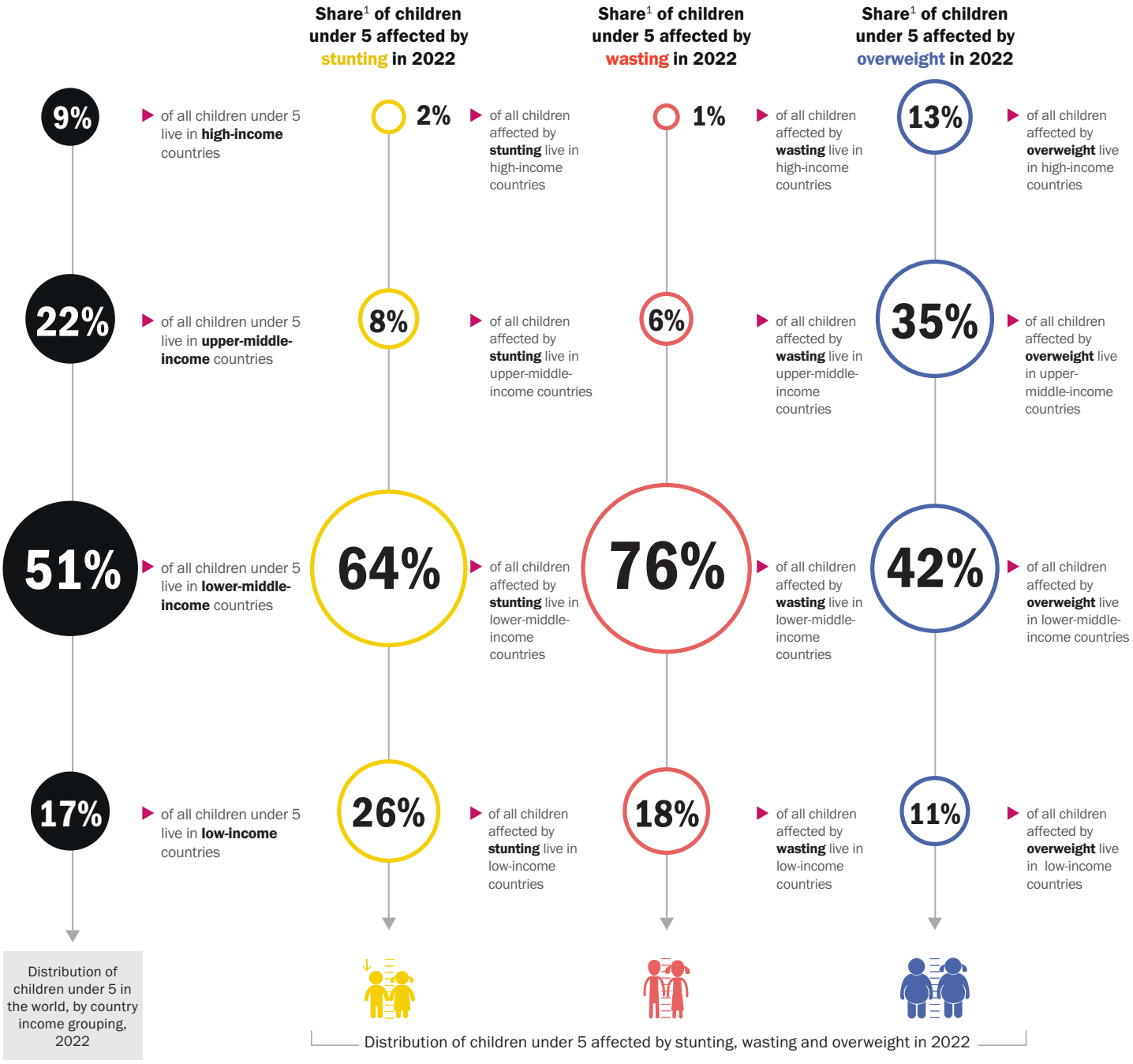
Number of children under 5 affected by overweight, by country income classification, 2012 and 2022

Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: The values for "percentage change since 2012" are based on calculations using unrounded estimates and therefore might not match values calculated using the rounded estimates presented in this report.

COUNTRY INCOME CLASSIFICATION

SHARE BY INCOME GROUP

While half of all children under 5 live in lower-middle income countries, nearly two thirds of all children with stunting and three quarters of all children with wasting live there



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2023 edition. Note: 1. Share is relative to the total number affected across the four country-income groups; this varies from the global totals reported elsewhere in this brochure because the populations are based on the FY2022 World Bank income classification. The differences are as follows: Stunting official global estimate of 148.1 million; sum of four country-income groups = 147.7 million. Wasting official global estimate of 45.0 million; sum of country-income groups = 42.8 million. Overweight official global estimate of 37.0 million; sum of 4 country-income groups = 36.8 million. The percentages for distribution of children under 5, wasting and overweight do not add up to 100 per cent due to rounding.

GLOBAL AND REGIONAL

PREVALENCE TABLE*

	Stunting (PERCENT)		Overweight (PERCENT)		Wasting and severe wasting (PERCENT)	
	(moderate and severe)	(moderate and severe)	(moderate and severe)	(moderate and severe)	(moderate and severe)	(severe)
	2012	2022	2012	2022	2022	2022
Global	**26.3 [26.0-26.8]**	**22.3 [21.8-22.9]**	**5.5 [5.3-5.7]**	**5.6 [5.1-6.1]**	**6.8 [5.5-8.1]**	**2.1 [1.5-2.6]**
United Nations regions						
Africa	34.4 [34.0-34.8]	30.0 [29.2-30.8]	5.0 [4.7-5.2]	4.9 [4.3-5.5]	5.8 [4.8-6.8]	1.4 [1.1-1.7]
Eastern Africa	38.6 [38.0-39.2]	30.6 [29.5-31.6]	3.9 [3.7-4.1]	3.6 [3.3-4.0]	5.0 [3.4-7.1]	1.0 [0.7-1.4]
Middle Africa	37.9 [36.9-38.8]	37.4 [34.7-40.2]	4.5 [4.1-4.9]	4.6 [3.6-5.7]	5.6 [4.4-7.2]	1.6 [1.3-2.0]
Northern Africa	23.5 [22.7-24.5]	21.7 [19.2-24.5]	11.8 [10.6-13.1]	12.3 [9.0-16.6]	6.3 [2.8-13.4]	2.4 [1.0-5.7]
Southern Africa	23.4 [22.2-24.7]	22.8 [20.3-25.5]	12.3 [10.7-14.0]	11.4 [8.2-15.5]	3.5 [2.1-5.7]	0.8 [0.6-1.1]
Western Africa	34.5 [33.6-35.4]	30.0 [28.9-31.0]	2.3 [2.1-2.5]	2.4 [2.2-2.7]	6.7 [5.7-7.9]	1.3 [1.1-1.6]
Asia[1]	28.2 [27.6-28.9]	22.3 [21.3-23.3]	4.8 [4.5-5.2]	5.1 [4.4-6.1]	9.3 [6.8-11.8]	3.1 [2.1-4.1]
Central Asia	14.7 [14.2-15.3]	7.7 [7.1-8.2]	8.2 [7.4-9.1]	5.0 [4.0-6.2]	2.1 [1.5-2.9]	0.6 [0.4-1.0]
Eastern Asia[1]	7.7 [7.2-8.2]	4.9 [4.0-5.9]	6.6 [5.7-7.7]	8.3 [5.5-12.5]	1.5 [1.4-1.7]	0.3 [0.2-0.4] [2]
Southern Asia	40.3 [39.0-41.6]	30.5 [28.7-32.3]	2.7 [2.4-3.0]	2.8 [2.2-3.4]	14.3 [10.1-19.7]	4.7 [3.2-6.9]
South-eastern Asia	30.4 [29.6-31.1]	26.4 [24.6-28.3]	6.4 [5.8-7.0]	7.4 [6.0-9.2]	7.8 [5.2-11.4]	3.0 [1.2-7.6]
Western Asia	19.1 [18.5-19.7]	14.0 [12.6-15.5]	9.1 [8.3-10.0]	7.2 [6.1-8.6]	3.5 [1.5-7.6]	0.9 [0.5-1.8]
Europe	5.1 [3.7-6.9]	4.0 [2.9-5.4]	9.2 [7.4-11.5]	7.3 [5.4-9.8]	-	-
Eastern Europe	7.2 [4.5-11.3]	5.3 [3.2-8.7]	12.1 [9.2-15.8]	7.4 [4.4-12.3]	-	-
Northern Europe	3.7 [1.8-7.3]	3.0 [1.5-5.8]	8.7 [7.0-10.8]	9.7 [6.8-13.6]	-	-
Southern Europe	4.6 [2.8-7.5]	3.9 [2.4-6.3]	8.7 [5.0-15.0]	8.3 [4.4-15.1]	-	-
Western Europe	2.8 [1.5-4.9]	2.6 [1.6-4.2]	5.0 [2.4-10.3]	5.1 [2.5-10.2]	-	-
Latin America and Caribbean	12.7 [12.4-13.0]	11.5 [11.0-12.1]	7.4 [6.9-8.0]	8.6 [7.5-9.9]	1.4 [0.9-1.9]	0.3 [0.2-0.5]
Caribbean	13.0 [12.4-13.6]	11.3 [10.2-12.5]	6.5 [5.5-7.7]	6.6 [5.4-7.9]	2.9 [2.3-3.7]	0.8 [0.7-0.9]
Central America	18.2 [17.6-18.7]	16.9 [16.1-17.8]	6.6 [6.0-7.3]	6.7 [5.7-7.8]	1.0 [0.8-1.1]	0.2 [0.2-0.3]
South America	10.1 [9.7-10.5]	9.0 [8.3-9.8]	7.9 [7.1-8.8]	9.7 [8.1-11.6]	1.4 [0.8-2.6]	0.3 [0.2-0.7]
Oceania excl. Australia & New Zealand	40.9 [37.9-44.0]	44.0 [34.2-54.4]	9.3 [7.3-11.8]	13.9 [7.4-24.5]	8.3 [5.2-12.9] [2]	3.1 [1.7-5.7] [2]
Australia and New Zealand	3.4 [2.5-4.6]	3.4 [1.9-6.0]	12.4 [9.8-15.6]	19.3 [13.0-27.6]	-	-
Northern America	2.6 [2.3-3.1]	3.6 [3.0-4.2]	8.6 [7.7-9.7]	8.2 [6.0-11.2]	0.2 [3]	<0.1 [3]
SDG regions						
Australia and New Zealand	3.4 [2.5-4.6]	3.4 [1.9-6.0]	12.4 [9.8-15.6]	19.3 [13.0-27.6]	-	-
Central Asia and Southern Asia	39.3 [38.1-40.6]	29.4 [27.7-31.1]	2.9 [2.6-3.2]	2.9 [2.4-3.5]	13.7 [9.2-18.2]	4.5 [2.8-6.2]
Eastern Asia and South-eastern Asia	16.0 [15.6-16.4]	13.9 [13.0-14.9]	6.5 [5.9-7.2]	8.0 [6.1-10.3]	4.2 [2.9-5.5]	1.5 [0.3-2.7] [2]
Latin America and the Caribbean	12.7 [12.4-13.0]	11.5 [11.0-12.1]	7.4 [6.9-8.0]	8.6 [7.5-9.9]	1.4 [0.9-1.9]	0.3 [0.2-0.5]
Northern America and Europe	4.2 [3.3-5.4]	3.8 [3.1-4.7]	9.0 [7.8-10.5]	7.6 [6.1-9.5]	-	-
Oceania excl. Australia & New Zealand	40.9 [37.9-44.0]	44.0 [34.2-54.4]	9.3 [7.3-11.8]	13.9 [7.4-24.5]	8.3 [5.2-12.9] [2]	3.1 [1.7-5.7] [2]
Sub-Saharan Africa	36.2 [35.8-36.7]	31.3 [30.6-32.1]	3.8 [3.6-3.9]	3.7 [3.4-4.0]	5.7 [4.8-6.6]	1.2 [1.0-1.4]
Western Asia and Northern Africa	21.2 [20.7-21.8]	17.9 [16.5-19.5]	10.4 [9.7-11.2]	9.8 [8.0-12.0]	4.9 [2.1-7.8]	1.7 [0.6-2.8]
UNICEF regions						
East Asia and Pacific	16.1 [15.7-16.5]	14.1 [13.2-15.1]	6.6 [6.0-7.3]	8.2 [6.4-10.5]	3.7 [2.1-5.4]	1.1 [0.0-2.2] [2]
Europe and Central Asia	7.1 [6.0-8.4]	4.9 [4.1-5.9]	9.3 [7.9-10.9]	7.1 [5.6-8.8]	-	-
Eastern Europe and Central Asia[1]	10.4 [8.6-12.6]	6.6 [5.2-8.2]	11.5 [9.8-13.5]	7.1 [5.2-9.6]	1.7 [1.2-2.4]	0.5 [0.4-0.8]
Western Europe	3.3 [2.3-4.7]	2.9 [2.2-4.0]	6.8 [4.9-9.4]	7.0 [5.0-9.7]	-	-
Latin America and Caribbean	12.7 [12.4-13.0]	11.5 [11.0-12.1]	7.4 [6.9-8.0]	8.6 [7.5-9.9]	1.4 [0.9-1.9]	0.3 [0.2-0.5]
Middle East and North Africa	19.1 [18.6-19.7]	15.3 [13.9-16.9]	10.6 [9.8-11.5]	10.3 [8.2-12.9]	5.5 [3.3-9.0]	1.8 [0.9-3.7]
North America	2.6 [2.3-3.1]	3.6 [3.0-4.2]	8.6 [7.7-9.7]	8.2 [6.0-11.2]	0.2 [3]	<0.1 [3]
South Asia	41.5 [40.2-42.9]	31.4 [29.6-33.4]	2.6 [2.3-2.9]	2.7 [2.2-3.4]	14.8 [11.1-19.6]	4.9 [3.5-6.9]
Sub-Saharan Africa	36.2 [35.8-36.7]	31.5 [30.7-32.3]	3.7 [3.6-3.9]	3.6 [3.3-3.9]	6.0 [5.1-6.9]	1.3 [1.1-1.5]
East and Southern Africa	36.7 [36.2-37.2]	31.3 [30.2-32.4]	4.4 [4.2-4.7]	4.1 [3.7-4.6]	5.0 [3.5-7.0]	1.1 [0.8-1.5]
West and Central Africa	35.8 [35.1-36.5]	31.8 [30.6-32.9]	3.0 [2.8-3.2]	3.1 [2.7-3.5]	6.9 [6.3-7.6]	1.6 [1.4-1.8]
WHO regions						
African Region	35.8 [35.3-36.2]	31.0 [30.2-31.8]	4.0 [3.9-4.2]	3.9 [3.6-4.2]	5.5 [4.7-6.6]	1.3 [1.1-1.5]
Region of the Americas	9.8 [9.5-10.0]	9.2 [8.7-9.6]	7.8 [7.3-8.3]	8.5 [7.4-9.7]	0.8 [0.3-1.9]	0.1 [0.0-0.5]
South-East Asia Region	39.2 [37.9-40.5]	30.1 [28.3-32.0]	3.2 [2.9-3.5]	3.8 [3.1-4.6]	14.7 [11.0-19.3]	4.9 [3.5-6.8]
Eastern Mediterranean Region	31.0 [30.2-31.8]	25.1 [23.4-26.8]	7.3 [6.8-7.8]	6.3 [5.2-7.7]	6.9 [5.4-8.7]	2.5 [1.7-3.7]
Europe Region	7.0 [6.0-8.3]	4.9 [4.1-5.8]	9.3 [7.9-10.9]	7.1 [5.6-8.8]	-	-
Western Pacific Region	11.8 [11.4-12.2]	10.0 [9.1-10.9]	6.3 [5.5-7.1]	8.1 [5.9-11.0]	1.9 [1.3-2.9]	0.4 [0.3-0.7] [2]
World Bank Income regions						
Low-income	39.6 [39.1-40.0]	33.5 [32.4-34.7]	3.8 [3.6-4.0]	3.4 [3.0-3.8]	6.6 [5.4-8.1]	1.5 [1.2-1.9]
Middle-income	26.9 [26.4-27.4]	22.1 [21.4-22.8]	5.5 [5.3-5.8]	5.8 [5.2-6.5]	7.2 [3.8-10.7]	2.2 [0.9-3.4]
Lower-middle-income	35.5 [34.8-36.3]	28.1 [27.1-29.2]	4.3 [4.0-4.5]	4.5 [4.1-5.1]	9.7 [5.7-15.8]	2.9 [1.6-5.4]
Upper middle-income	10.1 [9.7-10.6]	8.3 [7.7-8.9]	8.0 [7.4-8.7]	8.8 [7.1-10.8]	1.7 [1.4-2.0]	0.4 [0.3-0.6] [2]
High-income	4.0 [3.5-4.5]	4.0 [3.5-4.5]	7.4 [6.4-8.4]	7.6 [6.4-9.1]	0.4 [0.2-0.9]	0.0 [0.0-0.1]

Notes: 1. For wasting and severe wasting: Asia excluding Japan, Eastern Asia excluding Japan, and Eastern Europe and Central Asia excluding Russian Federation. **2.** Consecutive low (<50 per cent) population coverage; interpret with caution. Population coverage is based on an assessment of available data within distinct five-year periods and was calculated as the sum of country five-year average populations for which surveys are available in the dataset, divided by the the total of country five-year average population for all countries in the region. Estimates are flagged as having consecutive low population coverage when two five-year periods in a row are below 50 per cent. The population coverage for the most recent five-year period for the United Nations regions is available on page 28. **3.** For wasting and severe wasting, the Northern America estimates were derived applying mixed-effect models with sub-regions as fixed effects[1] data were available only for the United States, preventing the estimation of confidence intervals. Model selection is based on best fit.

GLOBAL AND REGIONAL

NUMBERS (MILLIONS) AFFECTED TABLE*

	Stunting (NUMBERS)		**Overweight** (NUMBERS)		**Wasting and severe wasting** (NUMBERS)	
	(moderate and severe)	(moderate and severe)	(moderate and severe)	(moderate and severe)	(moderate and severe)	(severe)
	2012	**2022**	**2012**	**2022**	**2022**	**2022**
Global	**177.9 [175.2-180.6]**	**148.1 [144.4-152.0]**	**37.0 [35.5-38.6]**	**37.0 [33.9-40.5]**	**45.0 [36.2-53.8]**	**13.7 [10.1-17.2]**
United Nations regions						
Africa	61.3 [60.5-62.0]	63.1 [61.5-64.8]	8.8 [8.5-9.2]	10.2 [9.1-11.5]	12.2 [10.0-14.3]	2.9 [2.2-3.6]
Eastern Africa	23.6 [23.3-24.0]	21.8 [21.1-22.6]	2.4 [2.3-2.5]	2.6 [2.3-2.9]	3.5 [2.4-5.1]	0.7 [0.5-1.0]
Middle Africa	10.0 [9.7-10.2]	12.9 [11.9-13.8]	1.2 [1.1-1.3]	1.6 [1.3-2.0]	1.9 [1.5-2.5]	0.6 [0.4-0.7]
Northern Africa	6.2 [6.0-6.4]	6.3 [5.6-7.1]	3.1 [2.8-3.5]	3.6 [2.6-4.9]	1.8 [0.8-3.9]	0.7 [0.3-1.7]
Southern Africa	1.5 [1.5-1.6]	1.6 [1.4-1.7]	0.8 [0.7-0.9]	0.8 [0.6-1.1]	0.2 [0.1-0.4]	0.1 [0.0-0.1]
Western Africa	19.9 [19.4-20.4]	20.5 [19.8-21.2]	1.3 [1.2-1.4]	1.7 [1.5-1.9]	4.6 [3.9-5.4]	0.9 [0.8-1.1]
Asia[1]	106.8 [104.3-109.3]	76.6 [73.3-80.1]	18.2 [17.1-19.5]	17.7 [15.0-20.8]	31.6 [23.1-40.2]	10.5 [7.0-14.0]
Central Asia	1.1 [1.0-1.1]	0.7 [0.6-0.7]	0.6 [0.5-0.7]	0.4 [0.3-0.5]	0.2 [0.1-0.3]	0.1 [0.0-0.1]
Eastern Asia[1]	7.7 [7.2-8.1]	3.7 [3.0-4.5]	6.6 [5.6-7.6]	6.4 [4.2-9.5]	1.1 [1.0-1.2]	0.2 [0.2-0.3] [2]
Southern Asia	75.3 [72.9-77.7]	53.7 [50.6-56.9]	5.0 [4.4-5.6]	4.9 [4.0-6.0]	25.1 [17.8-34.7]	8.3 [5.7-12.1]
South-eastern Asia	17.2 [16.8-17.7]	14.4 [13.4-15.5]	3.6 [3.3-3.9]	4.1 [3.3-5.0]	4.3 [2.9-6.2]	1.6 [0.6-4.2]
Western Asia	5.3 [5.1-5.4]	3.9 [3.5-4.3]	2.5 [2.3-2.8]	2.0 [1.7-2.4]	1.0 [0.4-2.1]	0.3 [0.1-0.5]
Europe	2.1 [1.5-2.8]	1.4 [1.0-1.9]	3.7 [3.0-4.6]	2.6 [1.9-3.5]	-	-
Eastern Europe	1.2 [0.8-1.9]	0.8 [0.5-1.2]	2.0 [1.5-2.6]	1.1 [0.6-1.8]	-	-
Northern Europe	0.2 [0.1-0.5]	0.2 [0.1-0.3]	0.5 [0.4-0.7]	0.5 [0.4-0.8]	-	-
Southern Europe	0.4 [0.2-0.6]	0.2 [0.1-0.4]	0.7 [0.4-1.1]	0.5 [0.3-0.9]	-	-
Western Europe	0.3 [0.1-0.5]	0.2 [0.2-0.4]	0.5 [0.2-1.0]	0.5 [0.2-1.0]	-	-
Latin America and Caribbean	6.8 [6.6-6.9]	5.7 [5.4-5.9]	3.9 [3.7-4.3]	4.2 [3.7-4.8]	0.7 [0.4-1.0]	0.2 [0.1-0.2]
Caribbean	0.5 [0.4-0.5]	0.4 [0.3-0.4]	0.2 [0.2-0.3]	0.2 [0.2-0.3]	0.1 [0.1-0.1]	0.0 [0.0-0.0]
Central America	2.9 [2.8-3.0]	2.5 [2.3-2.6]	1.1 [1.0-1.2]	1.0 [0.8-1.1]	0.1 [0.1-0.2]	0.0 [0.0-0.0]
South America	3.4 [3.2-3.5]	2.8 [2.6-3.1]	2.6 [2.4-2.9]	3.0 [2.5-3.6]	0.4 [0.2-0.8]	0.1 [0.1-0.2]
Oceania excl. Australia & New Zealand	0.6 [0.6-0.6]	0.7 [0.5-0.9]	0.1 [0.1-0.2]	0.2 [0.1-0.4]	0.1 [0.1-0.2] [2]	0.0 [0.0-0.1] [2]
Australia and New Zealand	0.1 [0.0-0.1]	0.1 [0.0-0.1]	0.2 [0.2-0.3]	0.4 [0.2-0.5]	-	-
Northern America	0.6 [0.5-0.7]	0.7 [0.6-0.9]	1.9 [1.7-2.2]	1.7 [1.2-2.3]	<0.1 [3]	<0.1 [3]
SDG regions						
Australia and New Zealand	0.1 [0.0-0.1]	0.1 [0.0-0.1]	0.2 [0.2-0.3]	0.4 [0.2-0.5]	-	-
Central Asia and Southern Asia	76.4 [74.0-78.8]	54.3 [51.2-57.6]	5.6 [5.0-6.2]	5.3 [4.4-6.4]	25.3 [16.9-33.7]	8.4 [5.2-11.5]
Eastern Asia and South-eastern Asia	25.0 [24.3-25.6]	18.3 [17.1-19.5]	10.2 [9.2-11.3]	10.4 [8.0-13.5]	5.4 [3.7-7.0]	1.9 [0.3-3.4] [2]
Latin America and the Caribbean	6.8 [6.6-6.9]	5.7 [5.4-5.9]	3.9 [3.7-4.3]	4.2 [3.7-4.8]	0.7 [0.4-1.0]	0.2 [0.1-0.2]
Northern America and Europe	2.6 [2.1-3.4]	2.1 [1.7-2.7]	5.6 [4.8-6.5]	4.3 [3.4-5.4]	-	-
Oceania excl. Australia & New Zealand	0.6 [0.6-0.6]	0.7 [0.5-0.9]	0.1 [0.1-0.2]	0.2 [0.1-0.4]	0.1 [0.1-0.2] [2]	0.0 [0.0-0.1] [2]
Sub-Saharan Africa	55.1 [54.4-55.7]	56.8 [55.4-58.2]	5.7 [5.5-6.0]	6.6 [6.1-7.2]	10.3 [8.7-11.9]	2.2 [1.9-2.6]
Western Asia and Northern Africa	11.5 [11.2-11.8]	10.2 [9.4-11.1]	5.6 [5.2-6.0]	5.6 [4.6-6.9]	2.8 [1.2-4.4]	1.0 [0.3-1.6]
UNICEF regions						
East Asia and Pacific	25.4 [24.8-26.1]	18.8 [17.6-20.1]	10.4 [9.4-11.5]	10.9 [8.5-13.9]	4.9 [2.8-7.1]	1.5 [0.0-3.0] [2]
Europe and Central Asia	3.9 [3.3-4.6]	2.5 [2.1-3.0]	5.1 [4.4-6.0]	3.7 [2.9-4.6]	-	-
Eastern Europe and Central Asia[1]	3.1 [2.5-3.7]	1.8 [1.5-2.3]	3.4 [2.9-4.0]	2.0 [1.5-2.7]	0.4 [0.2-0.5]	0.1 [0.1-0.2]
Western Europe	0.9 [0.6-1.2]	0.7 [0.5-0.9]	1.8 [1.3-2.4]	1.6 [1.2-2.3]	-	-
Latin America and Caribbean	6.8 [6.6-6.9]	5.7 [5.4-5.9]	3.9 [3.7-4.3]	4.2 [3.7-4.8]	0.7 [0.4-1.0]	0.2 [0.1-0.2]
Middle East and North Africa	9.0 [8.7-9.2]	7.5 [6.8-8.2]	5.0 [4.6-5.4]	5.0 [4.0-6.3]	2.7 [1.6-4.4]	0.9 [0.4-1.8]
North America[3]	0.6 [0.5-0.7]	0.7 [0.6-0.9]	1.9 [1.7-2.2]	1.7 [1.2-2.3]	<0.1 [3]	<0.1 [3]
South Asia	74.9 [72.5-77.3]	53.4 [50.3-56.6]	4.7 [4.1-5.2]	4.6 [3.7-5.7]	25.2 [18.8-33.3]	8.4 [6.0-11.7]
Sub-Saharan Africa	57.1 [56.4-57.8]	59.4 [57.9-60.9]	5.9 [5.6-6.1]	6.8 [6.3-7.4]	11.3 [9.6-13.0]	2.5 [2.2-2.9]
East and Southern Africa	28.7 [28.3-29.1]	28.6 [27.6-29.7]	3.5 [3.3-3.7]	3.8 [3.4-4.2]	4.6 [3.2-6.4]	1.0 [0.7-1.4]
West and Central Africa	28.4 [27.8-28.9]	30.7 [29.6-31.9]	2.4 [2.2-2.5]	3.0 [2.6-3.4]	6.7 [6.1-7.4]	1.5 [1.4-1.7]
WHO regions						
African Region	54.3 [53.6-54.9]	56.2 [54.8-57.6]	6.1 [5.9-6.3]	7.0 [6.5-7.6]	10.0 [8.5-11.9]	2.3 [1.9-2.8]
Region of the Americas	7.3 [7.2-7.5]	6.4 [6.1-6.7]	5.8 [5.5-6.2]	5.9 [5.2-6.7]	0.5 [0.2-1.3]	0.1 [0.0-0.4]
South-East Asia Region	70.9 [68.5-73.3]	49.8 [46.8-52.9]	5.8 [5.2-6.4]	6.3 [5.2-7.6]	24.2 [18.1-31.9]	8.1 [5.8-11.2]
Eastern Mediterranean Region	26.6 [25.9-27.2]	22.9 [21.4-24.5]	6.2 [5.8-6.7]	5.8 [4.7-7.0]	6.3 [4.9-8.0]	2.3 [1.5-3.4]
Europe Region	3.9 [3.3-4.7]	2.6 [2.1-3.1]	5.2 [4.4-6.1]	3.7 [3.0-4.6]	-	-
Western Pacific Region	14.6 [14.2-15.2]	10.1 [9.2-11.1]	7.7 [6.8-8.8]	8.2 [5.9-11.2]	2.0 [1.3-2.9]	0.4 [0.3-0.7] [2]
World Bank Income regions						
Low-income	37.8 [37.3-38.2]	38.4 [37.1-39.8]	3.7 [3.5-3.9]	3.9 [3.5-4.4]	7.6 [6.2-9.3]	1.7 [1.3-2.2]
Middle-income	136.9 [134.3-139.6]	106.8 [103.3-110.4]	28.2 [26.9-29.6]	28.2 [25.2-31.6]	35.0 [18.4-51.6]	10.5 [4.5-16.6]
Lower-middle-income	119.3 [116.8-121.9]	94.6 [91.2-98.1]	14.3 [13.5-15.2]	15.3 [13.7-17.1]	32.5 [19.3-53.3]	9.9 [5.4-18.1]
Upper middle-income	17.5 [16.8-18.3]	12.2 [11.3-13.1]	13.9 [12.8-15.0]	12.9 [10.5-15.9]	2.5 [2.1-3.0]	0.6 [0.5-0.9] [2]
High-income	2.7 [2.4-3.1]	2.5 [2.2-2.8]	5.0 [4.4-5.7]	4.7 [4.0-5.6]	0.2 [0.1-0.6]	<0.1

*Complete data series for stunting and overweight (2000, 2005, 2010 and annual figures from 2011 to 2022) and the latest year for wasting (2022) estimates of prevalence and numbers affected can be found at the websites below for global as well as for the following groupings: (i) United Nations regions and sub-regions; (ii) UNICEF regions; (iii) WHO regions; (iv) World Bank country income classifications; (v) World Bank regions; (vi) SDG regions; and (vii) the Food and Agriculture Organization's (FAO) low-income food deficient countries classification. These websites also contain a file with the country compositions for each grouping: UNICEF <https://data.unicef.org/topic/nutrition/malnutrition/>
WHO <https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates> World Bank Group <data.worldbank.org/child-malnutrition>

COUNTRY

PREVALENCE TABLE

	MODELLED ESTIMATES										
	Stunting (PERCENT)				Overweight (PERCENT)				Wasting[1] (PERCENT)		
Country	2012 Value	2022 Value	Threshold[2]	Footnote	2012 Value	2022 Value	Threshold[2]	Footnote	Year	Value	Threshold[2]
Afghanistan	44.3	33.1	Very high		5.0	3.7	Low		2018	5.1	Medium
Albania	16.4	8.3	Low		22.4	13.4	High		2017	1.6	Very low
Algeria	12.1	8.6	Low		13.5	11.9	High		2019	2.7	Low
Andorra	-	-	No data		-	-	No data		-	-	No data
Angola	31.8	43.6	Very high		3.0	3.9	Low		2015	4.9	Low
Anguilla	-	-	No data		-	-	No data		-	-	No data
Antigua and Barbuda	-	-	No data		-	-	No data		-	-	No data
Argentina	7.1	9.5	Low		11.0	12.6	High		2018	1.7	Very low
Armenia	13.9	7.2	Low		15.0	11.5	High		2016	4.4	Low
Australia	3.2	3.4	Low		13.7	21.8	Very high		2007	0.2	Very low
Austria	-	-	No data		-	-	No data		-	-	No data
Azerbaijan	17.4	13.3	Medium		12.2	10.1	High		2013	3.2	Low
Bahamas	-	-	No data		-	-	No data		-	-	No data
Bahrain	6.8	5.0	Low	3	-	-	No data		1995	-	No Recent Data
Bangladesh	39.2	26.4	High		1.8	2.1	Very low		2019	9.8	Medium
Barbados	7.5	6.0	Low		11.8	12.5	High		2012	6.8	Medium
Belarus	3.9	3.6	Low		8.0	5.3	Medium		2005	2.2	Very low
Belgium	2.8	2.4	Very low		3.6	4.0	Low		2014	0.4	Very low
Belize	17.5	12.0	Medium		8.7	5.9	Medium		2015	1.8	Very low
Benin	33.9	30.4	Very high		1.6	2.2	Very low		2018	5.0	Low
Bhutan	30.2	22.7	High		6.9	6.5	Medium		2010	5.9	Medium
Bolivia (Plurinational State of)	19.9	11.1	Medium		8.9	9.0	Medium		2016	2.0	Very low
Bosnia and Herzegovina	9.2	8.0	Low		18.7	9.4	Medium		2012	2.3	Very low
Botswana	24.6	21.6	High		10.4	10.1	High		2007	7.3	Medium
Brazil	6.3	7.2	Low		7.9	10.3	High		2019	3.1	Low
British Virgin Islands	-	-	No data		-	-	No data		-	-	No data
Brunei Darussalam	17.0	10.9	Medium		8.6	9.1	Medium		2009	2.9	Low
Bulgaria	7.1	5.6	Low		7.0	3.8	Low		2014	5.9	Medium
Burkina Faso	33.3	21.8	High		1.8	2.0	Very low		2021	10.6	Medium

Notes

1. The most recent estimate between 2000 and 2022 in the JME country dataset is reported for wasting. See page 29 for link to full country time series.
2. See page 17 for prevalence thresholds. For stunting and overweight, 'no data' is used for countries without any input data (e.g., household survey data) for use in the country-level models. For wasting, 'no recent data' is used when the most recent data point is from before 2000 and 'no data' is used for countries without any data.
3. The most recent country data point (e.g., from household surveys) used to generate the modelled stunting and overweight estimates is from before the year 2000; interpret with caution.

COUNTRY

NUMBERS AFFECTED (THOUSANDS) TABLE

	MODELLED ESTIMATES											
	Stunting (NUMBERS)					Overweight (NUMBERS)					Wasting[1] (NUMBERS)	
Country	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	Year	Value
Afghanistan	2349.9	1.3	2189.0	1.5		265.1	0.7	244.6	0.7		2018	315.4
Albania	27.4	<0.1	11.5	<0.1		37.6	0.1	18.7	<0.1		2017	2.6
Algeria	507.3	0.3	411.9	0.3		564.5	1.6	569.3	1.6		2019	133.0
Andorra	-	-	-	-		-	-	-	-		-	-
Angola	1496.7	0.8	2664.9	1.8		141.1	0.4	239.7	0.7		2015	253.8
Anguilla	-	-	-	-		-	-	-	-		-	-
Antigua and Barbuda	-	-	-	-		-	-	-	-		-	-
Argentina	253.9	0.1	306.2	0.2		394.8	1.1	406.9	1.1		2018	62.4
Armenia	27.7	<0.1	12.6	<0.1		29.9	<0.1	20.2	<0.1		2016	9.4
Australia	48.1	<0.1	51.7	<0.1		203.9	0.6	333.0	0.9		2007	2.5
Austria	-	-	-	-		-	-	-	-		-	-
Azerbaijan	152.8	<0.1	89.2	<0.1		107.3	0.3	68.0	0.2		2013	28.4
Bahamas	-	-	-	-		-	-	-	-		-	-
Bahrain	6.2	<0.1	4.7	<0.1	[3]	-	-	-	-		1995	-
Bangladesh	6046.2	3.4	3878.6	2.6		271.3	0.8	312.3	0.9		2019	1438.1
Barbados	1.3	<0.1	0.9	<0.1		2.0	<0.1	1.9	<0.1		2012	1.2
Belarus	21.4	<0.1	16.3	<0.1		44.4	0.1	23.9	<0.1		2005	10.3
Belgium	18.2	<0.1	14.2	<0.1		23.5	<0.1	23.7	<0.1		2014	2.6
Belize	6.5	<0.1	4.4	<0.1		3.2	<0.1	2.2	<0.1		2015	0.7
Benin	573.0	0.3	661.6	0.5		27.2	<0.1	47.8	0.1		2018	99.4
Bhutan	19.6	<0.1	11.1	<0.1		4.5	<0.1	3.2	<0.1		2010	3.9
Bolivia (Plurinational State of)	250.7	0.1	141.1	<0.1		111.8	0.3	114.8	0.3		2016	24.8
Bosnia and Herzegovina	16.5	<0.1	11.9	<0.1		33.6	<0.1	14.0	<0.1		2012	4.2
Botswana	67.9	<0.1	63.8	<0.1		28.8	<0.1	29.9	<0.1		2007	18.4
Brazil	951.9	0.5	1014.4	0.7		1188.0	3.3	1446.6	4.0		2019	454.3
British Virgin Islands	-	-	-	-		-	-	-	-		-	-
Brunei Darussalam	5.7	<0.1	3.4	<0.1		2.9	<0.1	2.9	<0.1		2009	1.0
Bulgaria	27.6	<0.1	16.6	<0.1		27.0	<0.1	11.3	<0.1		2014	21.6
Burkina Faso	1041.7	0.6	787.0	0.5		54.8	0.2	73.2	0.2		2021	378.2

Prevalence thresholds for wasting, overweight and stunting in children under 5 years

The thresholds presented in Table 1 were established through the WHO-UNICEF Technical Advisory Group on Nutrition Monitoring (TEAM)[2] and released in 2018. These thresholds have been used for development of prevalence-based assessments in maps and tables in this brochure. The thresholds were developed in relation to standard deviations (SD) of the normative WHO Child Growth Standards. The international definition of 'normal' (two SD from the WHO standards median) defines the first threshold, which includes 2.3 per cent of the area under the normalized distribution. Multipliers of this 'very low' level (rounded to 2.5 per cent) set the basis for establishing subsequent thresholds.

Table 1. Prevalence thresholds and corresponding labels for stunting, wasting and overweight

	Prevalence thresholds (%)	
Labels	Stunting	Wasting and overweight
Very low	< 2.5	< 2.5
Low	2.5 – < 10	2.5 – < 5
Medium	10 – < 20	5 – < 10
High	20 – <30	10 – < 15
Very high	≥ 30	≥ 15

Country prevalence table (cont.)

	MODELLED ESTIMATES										
	Stunting (PERCENT)				Overweight (PERCENT)				Wasting[1] (PERCENT)		
Country	2012 Value	2022 Value	Threshold[2]	Footnote	2012 Value	2022 Value	Threshold[2]	Footnote	Year	Value	Threshold[2]
Burundi	56.5	56.5	Very high		2.2	3.6	Low		2022	4.9	Low
Cabo Verde	12.6	9.4	Low	3	-	-	No data		1994	-	No Recent Data
Cambodia	33.8	22.3	High		2.2	3.8	Low		2021	9.6	Medium
Cameroon	32.1	26.9	High		7.1	10.5	High		2018	4.3	Low
Canada	-	-	No data		11.4	11.1	High		-	-	No data
Central African Republic	40.6	39.8	Very high		3.5	2.6	Low		2019	5.4	Medium
Chad	38.9	32.3	Very high		2.5	3.2	Low		2022	8.3	Medium
Chile	1.9	1.6	Very low		9.8	8.8	Medium		2014	0.3	Very low
China	7.6	4.6	Low		7.0	8.9	Medium		2017	1.9	Very low
Colombia	12.7	11.2	Medium		5.0	6.2	Medium		2016	1.6	Very low
Comoros	31.9	18.8	Medium		11.5	7.7	Medium		2012	11.2	High
Congo	23.1	16.5	Medium		5.1	4.5	Low		2014	8.2	Medium
Cook Islands	-	-	No data		-	-	No data		-	-	No data
Costa Rica	6.4	9.5	Low		7.6	7.6	Medium		2018	1.8	Very low
Côte d'Ivoire	29.6	20.2	High		2.6	2.6	Low		2021	8.4	Medium
Croatia	-	-	No data		-	-	No data		-	-	No data
Cuba	7.0	7.0	Low		9.7	10.2	High		2019	2.0	Very low
Cyprus	-	-	No data		-	-	No data		-	-	No data
Czechia	2.5	2.5	Low		5.3	6.1	Medium		2001	4.6	Low
Democratic People's Republic of Korea	25.7	16.8	Medium		1.6	2.8	Low		2017	2.5	Low
Democratic Republic of the Congo	42.7	40.3	Very high		4.6	3.7	Low		2017	6.4	Medium
Denmark	-	-	No data		-	-	No data		-	-	No data
Djibouti	29.6	18.7	Medium		1.3	3.2	Low		2019	10.6	High
Dominica	-	-	No data		-	-	No data		-	-	No data
Dominican Republic	7.9	5.6	Low		7.5	7.6	Medium		2019	2.2	Very low
Ecuador	24.4	22.7	High		7.5	11.9	High		2019	3.7	Low
Egypt	24.6	20.4	High		15.7	18.8	Very high		2014	9.5	Medium
El Salvador	15.5	10.0	Medium		6.2	6.8	Medium		2014	2.1	Very low
Equatorial Guinea	25.0	16.1	Medium		8.5	8.2	Medium		2011	3.1	Low
Eritrea	51.6	50.2	Very high		1.9	3.0	Low		2010	14.6	High
Estonia	1.3	1.2	Very low		4.8	5.1	Medium		2014	1.5	Very low
Eswatini	28.0	21.2	High		10.1	7.9	Medium		2014	2.0	Very low
Ethiopia	42.1	34.4	Very high		2.5	2.7	Low		2019	6.8	Medium
Fiji	8.5	7.1	Low		6.3	7.4	Medium		2021	4.6	Low
Finland	-	-	No data		-	-	No data		-	-	No data
France	-	-	No data		-	-	No data		-	-	No data
Gabon	17.2	13.4	Medium		6.2	5.4	Medium		2020	3.4	Low
Gambia	22.3	13.6	Medium		1.9	1.8	Very low		2020	5.1	Medium
Georgia	8.8	4.8	Low		13.9	5.0	Medium		2018	0.6	Very low
Germany	1.5	2.1	Very low		3.4	3.1	Low		2016	0.4	Very low
Ghana	22.0	12.7	Medium		2.3	1.9	Very low		2017	6.8	Medium
Greece	2.0	2.2	Very low		15.8	14.6	High		2003	0.7	Very low
Grenada	-	-	No data		-	-	No data		-	-	No data
Guatemala	47.1	43.5	Very high		5.1	4.8	Low		2021	0.8	Very low
Guinea	33.7	27.9	High		4.4	5.6	Medium		2018	9.2	Medium
Guinea-Bissau	29.3	27.7	High		2.8	3.3	Low		2019	5.1	Medium
Guyana	14.5	7.6	Low		6.2	5.7	Medium		2019	6.5	Medium
Haiti	23.8	19.5	Medium		3.4	3.7	Low		2017	3.7	Low

Country numbers affected (thousands) table (cont.)

	MODELLED ESTIMATES											
	Stunting (NUMBERS)					Overweight (NUMBERS)					Wasting[1] (NUMBERS)	
Country	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	Year	Value
Burundi	1079.6	0.6	1168.5	0.8		41.4	0.1	73.9	0.2		2022	101.4
Cabo Verde	6.9	<0.1	4.7	<0.1	3	-	-	-	-		1994	-
Cambodia	552.0	0.3	355.6	0.2		35.2	<0.1	60.0	0.2		2021	154.9
Cameroon	1151.4	0.7	1183.7	0.8		255.9	0.7	463.5	1.3		2018	176.4
Canada	-	-	-	-		218.5	0.6	210.2	0.6		-	-
Central African Republic	353.6	0.2	403.6	0.3		30.7	<0.1	26.9	<0.1		2019	50.1
Chad	991.8	0.6	1067.0	0.7		64.7	0.2	106.8	0.3		2022	273.9
Chile	22.8	<0.1	18.2	<0.1		118.0	0.3	101.3	0.3		2014	3.6
China	6712.8	3.8	3108.0	2.1		6167.6	17.2	6008.0	16.7		2017	1721.3
Colombia	473.9	0.3	410.7	0.3		187.3	0.5	224.8	0.6		2016	59.8
Comoros	32.7	<0.1	21.5	<0.1		11.8	<0.1	8.8	<0.1		2012	11.5
Congo	182.5	0.1	140.7	<0.1		40.0	0.1	38.6	0.1		2014	67.5
Cook Islands	-	-	-	-		-	-	-	-		-	-
Costa Rica	23.8	<0.1	30.3	<0.1		28.0	<0.1	24.2	<0.1		2018	6.2
Côte d'Ivoire	1090.9	0.6	861.8	0.6		95.6	0.3	110.8	0.3		2021	353.0
Croatia	-	-	-	-		-	-	-	-		-	-
Cuba	44.2	<0.1	37.3	<0.1		61.2	0.2	54.6	0.2		2019	12.0
Cyprus	-	-	-	-		-	-	-	-		-	-
Czechia	14.5	<0.1	13.6	<0.1		31.2	<0.1	32.8	<0.1		2001	20.7
Democratic People's Republic of Korea	411.3	0.2	285.0	0.2		25.1	<0.1	47.5	0.1		2017	41.4
Democratic Republic of the Congo	5691.9	3.2	7340.9	5.0		619.5	1.7	664.6	1.8		2017	1012.6
Denmark	-	-	-	-		-	-	-	-		-	-
Djibouti	33.7	<0.1	21.9	<0.1		1.4	<0.1	3.8	<0.1		2019	12.2
Dominica	-	-	-	-		-	-	-	-		-	-
Dominican Republic	81.5	<0.1	56.9	<0.1		76.8	0.2	76.2	0.2		2019	22.3
Ecuador	392.2	0.2	337.7	0.2		120.5	0.3	176.6	0.5		2019	56.0
Egypt	2777.1	1.6	2504.4	1.7		1780.2	5.0	2301.6	6.4		2014	1158.5
El Salvador	89.5	<0.1	50.2	<0.1		35.6	<0.1	33.9	<0.1		2014	12.3
Equatorial Guinea	50.5	<0.1	37.3	<0.1		17.2	<0.1	18.9	<0.1		2011	6.1
Eritrea	258.3	0.1	246.1	0.2		9.7	<0.1	14.6	<0.1		2010	72.3
Estonia	1.0	<0.1	0.9	<0.1		3.7	<0.1	3.6	<0.1		2014	1.1
Eswatini	42.7	<0.1	29.4	<0.1		15.4	<0.1	11.0	<0.1		2014	3.0
Ethiopia	6431.3	3.6	6250.8	4.3		387.9	1.1	485.8	1.4		2019	1151.3
Fiji	8.6	<0.1	6.3	<0.1		6.3	<0.1	6.6	<0.1		2021	4.1
Finland	-	-	-	-		-	-	-	-		-	-
France	-	-	-	-		-	-	-	-		-	-
Gabon	45.6	<0.1	41.3	<0.1		16.4	<0.1	16.6	<0.1		2020	10.4
Gambia	82.8	<0.1	56.6	<0.1		7.2	<0.1	7.5	<0.1		2020	20.7
Georgia	23.7	<0.1	12.1	<0.1		37.4	0.1	12.6	<0.1		2018	1.8
Germany	51.8	<0.1	83.8	<0.1		116.5	0.3	121.8	0.3		2016	15.0
Ghana	869.7	0.5	550.5	0.4		89.5	0.2	82.0	0.2		2017	292.6
Greece	11.0	<0.1	9.1	<0.1		85.8	0.2	61.6	0.2		2003	3.7
Grenada	-	-	-	-		-	-	-	-		-	-
Guatemala	910.9	0.5	821.1	0.6		98.3	0.3	91.3	0.3		2021	15.4
Guinea	611.9	0.3	591.5	0.4		79.8	0.2	117.9	0.3		2018	185.8
Guinea-Bissau	80.4	<0.1	82.2	<0.1		7.7	<0.1	9.9	<0.1		2019	15.0
Guyana	11.2	<0.1	6.0	<0.1		4.8	<0.1	4.5	<0.1		2019	5.1
Haiti	294.7	0.2	248.9	0.2		42.4	0.1	47.2	0.1		2017	47.0

Country prevalence table (cont.)

	MODELLED ESTIMATES									
	Stunting (PERCENT)				Overweight (PERCENT)				Wasting[1] (PERCENT)		
Country	2012 Value	2022 Value	Threshold[2]	Footnote	2012 Value	2022 Value	Threshold[2]	Footnote	Year	Value	Threshold[2]
Holy See	-	-	No data		-	-	No data		-	-	No data
Honduras	22.0	17.5	Medium		5.0	4.7	Low		2019	1.9	Very low
Hungary	-	-	No data		-	-	No data		-	-	No data
Iceland	-	-	No data		-	-	No data		-	-	No data
India	41.6	31.7	Very high		2.2	2.8	Low		2020	18.7	Very high
Indonesia	34.6	31.0	Very high		9.2	10.6	High		2018	10.2	High
Iran (Islamic Republic of)	5.9	4.7	Low		4.8	3.8	Low		2017	4.3	Low
Iraq	19.6	9.9	Low		9.5	6.4	Medium		2018	3.0	Low
Ireland	-	-	No data		-	-	No data		-	-	No data
Israel	-	-	No data		-	-	No data		-	-	No data
Italy	-	-	No data		-	-	No data		-	-	No data
Jamaica	6.1	6.5	Low		6.9	5.7	Medium		2018	3.2	Low
Japan	6.5	5.0	Low		1.7	2.1	Very low		2010	2.3	Very low
Jordan	7.7	6.6	Low		5.9	9.5	Medium		2019	0.6	Very low
Kazakhstan	11.0	4.9	Low		12.1	7.7	Medium		2015	3.1	Low
Kenya	28.6	18.4	Medium		4.6	3.8	Low		2022	4.9	Low
Kiribati	16.2	14.2	Medium		2.1	2.0	Very low		2018	3.5	Low
Kuwait	4.8	6.9	Low		9.0	11.7	High		2020	2.3	Very low
Kyrgyzstan	16.0	10.3	Medium		7.9	6.4	Medium		2018	2.0	Very low
Lao People's Democratic Republic	40.4	27.7	High		2.2	4.0	Low		2017	9.0	Medium
Latvia	2.4	1.8	Very low		10.3	6.4	Medium		2021	1.4	Very low
Lebanon	11.7	7.4	Low		8.5	8.3	Medium		2021	1.4	Very low
Lesotho	37.5	31.8	Very high		7.0	6.9	Medium		2018	2.1	Very low
Liberia	35.0	26.6	High		3.3	5.3	Medium		2019	3.4	Low
Libya	30.0	52.2	Very high		26.4	28.7	Very high		2014	10.2	High
Liechtenstein	-	-	No data		-	-	No data		-	-	No data
Lithuania	5.4	4.5	Low		8.0	4.7	Low		2021	4.8	Low
Luxembourg	-	-	No data		-	-	No data		-	-	No data
Madagascar	47.3	38.6	Very high		1.8	1.5	Very low		2021	7.2	Medium
Malawi	43.6	34.0	Very high		4.9	3.9	Low		2020	2.6	Very low
Malaysia	17.6	21.9	High		6.2	5.7	Medium		2019	9.7	Medium
Maldives	16.4	13.9	Medium		6.0	3.3	Low		2017	9.1	Medium
Mali	30.7	23.8	High		1.6	2.0	Very low		2022	10.6	High
Malta	-	-	No data		-	-	No data		-	-	No data
Marshall Islands	37.0	30.5	Very high		4.1	4.4	Low		2017	3.5	Low
Mauritania	26.0	22.1	High		1.9	2.0	Very low		2022	13.6	High
Mauritius	9.0	8.6	Low	3	7.8	6.8	Medium	3	1995	-	No Recent Data
Mexico	13.3	12.6	Medium		6.8	6.9	Medium		2021	1.7	Very low
Micronesia (Federated States of)	-	-	No data		-	-	No data		-	-	No data
Monaco	-	-	No data		-	-	No data		-	-	No data
Mongolia	12.2	6.1	Low		9.8	10.7	High		2018	0.9	Very low
Montenegro	8.4	8.2	Low		15.8	8.0	Medium		2018	2.2	Very low
Montserrat	-	-	No data		-	-	No data		-	-	No data
Morocco	15.8	12.8	Medium		9.5	4.9	Low		2019	2.3	Very low
Mozambique	42.6	36.4	Very high		5.5	5.5	Medium		2020	3.9	Low
Myanmar	31.1	24.1	High		1.8	0.8	Very low		2018	7.4	Medium
Namibia	24.0	16.8	Medium		4.2	5.3	Medium		2013	7.1	Medium
Nauru	21.0	14.8	Medium		4.0	4.5	Low		2007	1.0	Very low

Country numbers affected (thousands) table (cont.)

	MODELLED ESTIMATES											
	Stunting (NUMBERS)					Overweight (NUMBERS)					Wasting[1] (NUMBERS)	
Country	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	Year	Value
Holy See	-	-	-	-		-	-	-	-		-	-
Honduras	231.2	0.1	185.5	0.1		52.3	0.1	50.2	0.1		2019	19.7
Hungary	-	-	-	-		-	-	-	-		-	-
Iceland	-	-	-	-		-	-	-	-		-	-
India	52525.5	29.8	36138.1	24.6		2752.6	7.7	3181.9	8.8		2020	21880.5
Indonesia	8309.5	4.7	6896.6	4.7		2217.7	6.2	2357.6	6.6		2018	2362.7
Iran (Islamic Republic of)	382.9	0.2	303.0	0.2		314.2	0.9	247.5	0.7		2017	331.2
Iraq	1022.6	0.6	568.6	0.4		496.8	1.4	368.9	1.0		2018	173.9
Ireland	-	-	-	-		-	-	-	-		-	-
Israel	-	-	-	-		-	-	-	-		-	-
Italy	-	-	-	-		-	-	-	-		-	-
Jamaica	12.9	<0.1	10.7	<0.1		14.5	<0.1	9.4	<0.1		2018	5.9
Japan	346.2	0.2	208.4	0.1		91.7	0.3	88.0	0.2		2010	124.4
Jordan	73.3	<0.1	79.0	<0.1		56.5	0.2	113.1	0.3		2019	7.3
Kazakhstan	197.6	0.1	99.7	<0.1		216.5	0.6	156.0	0.4		2015	59.0
Kenya	1981.5	1.1	1282.4	0.9		316.1	0.9	263.1	0.7		2022	341.0
Kiribati	2.5	<0.1	2.4	<0.1		0.3	<0.1	0.3	<0.1		2018	0.6
Kuwait	14.2	<0.1	16.8	<0.1		26.7	<0.1	28.4	<0.1		2020	6.3
Kyrgyzstan	113.8	<0.1	82.3	<0.1		56.0	0.2	51.0	0.1		2018	16.5
Lao People's Democratic Republic	312.6	0.2	218.4	0.1		17.1	<0.1	31.6	<0.1		2017	70.3
Latvia	2.5	<0.1	1.6	<0.1		10.5	<0.1	5.7	<0.1		2021	1.5
Lebanon	50.6	<0.1	31.0	<0.1		37.0	0.1	34.7	<0.1		2021	5.9
Lesotho	98.8	<0.1	87.4	<0.1		18.4	<0.1	18.9	<0.1		2018	5.7
Liberia	247.3	0.1	199.7	0.1		23.3	<0.1	39.6	0.1		2019	25.0
Libya	204.4	0.1	316.0	0.2		179.5	0.5	173.6	0.5		2014	68.4
Liechtenstein	-	-	-	-		-	-	-	-		-	-
Lithuania	8.5	<0.1	6.2	<0.1		12.4	<0.1	6.3	<0.1		2021	6.7
Luxembourg	-	-	-	-		-	-	-	-		-	-
Madagascar	1730.5	1.0	1626.6	1.1		67.5	0.2	65.1	0.2		2021	300.6
Malawi	1216.4	0.7	1048.4	0.7		136.6	0.4	121.2	0.3		2020	76.4
Malaysia	439.6	0.2	560.9	0.4		153.7	0.4	145.1	0.4		2019	253.2
Maldives	5.8	<0.1	5.2	<0.1		2.1	<0.1	1.2	<0.1		2017	3.5
Mali	986.5	0.6	974.4	0.7		51.7	0.1	80.2	0.2		2022	435.5
Malta	-	-	-	-		-	-	-	-		-	-
Marshall Islands	2.8	<0.1	1.3	<0.1		0.3	<0.1	0.2	<0.1		2017	0.2
Mauritania	164.4	<0.1	156.7	0.1		12.1	<0.1	14.1	<0.1		2022	96.0
Mauritius	7.1	<0.1	5.7	<0.1	3	6.1	<0.1	4.5	<0.1	3	1995	-
Mexico	1484.1	0.8	1213.9	0.8		761.0	2.1	665.4	1.8		2021	165.5
Micronesia (Federated States of)	-	-	-	-		-	-	-	-		-	-
Monaco	-	-	-	-		-	-	-	-		-	-
Mongolia	39.1	<0.1	22.5	<0.1		31.2	<0.1	39.6	0.1		2018	3.6
Montenegro	3.3	<0.1	2.9	<0.1		6.3	<0.1	2.9	<0.1		2018	0.8
Montserrat	-	-	-	-		-	-	-	-		-	-
Morocco	527.8	0.3	414.9	0.3		318.4	0.9	157.7	0.4		2019	77.6
Mozambique	1850.5	1.0	1952.8	1.3		238.6	0.7	295.5	0.8		2020	200.8
Myanmar	1411.9	0.8	1075.4	0.7		82.5	0.2	33.7	<0.1		2018	332.3
Namibia	71.4	<0.1	56.0	<0.1		12.6	<0.1	17.8	<0.1		2013	21.8
Nauru	0.3	<0.1	0.3	<0.1		0.1	<0.1	0.1	<0.1		2007	0.0

Country prevalence table (cont.)

	MODELLED ESTIMATES										
	Stunting (PERCENT)				Overweight (PERCENT)				Wasting[1] (PERCENT)		
Country	2012 Value	2022 Value	Threshold[2]	Footnote	2012 Value	2022 Value	Threshold[2]	Footnote	Year	Value	Threshold[2]
Nepal	40.3	26.7	High		1.2	1.7	Very low		2022	7.7	Medium
Netherlands (Kingdom of the)	1.5	1.6	Very low		4.1	5.1	Medium		2009	1.0	Very low
New Zealand	-	-	No data		-	-	No data		-	-	No data
Nicaragua	17.3	14.9	Medium		7.3	8.7	Medium		2012	2.2	Very low
Niger	46.6	47.4	Very high		1.1	2.7	Low		2022	10.9	High
Nigeria	37.7	34.2	Very high		2.5	2.2	Very low		2020	6.5	Medium
Niue	-	-	No data		-	-	No data		-	-	No data
North Macedonia	5.8	3.7	Low		13.6	9.9	Medium		2019	3.4	Low
Norway	-	-	No data		-	-	No data		-	-	No data
Oman	11.1	12.7	Medium		2.9	6.5	Medium		2017	9.3	Medium
Pakistan	43.8	34.0	Very high		4.6	2.7	Low		2018	7.1	Medium
Palau	-	-	No data		-	-	No data		-	-	No data
Panama	19.9	13.8	Medium		10.5	11.4	High		2019	1.1	Very low
Papua New Guinea	48.0	51.2	Very high		10.5	16.0	Very high		2010	14.1	High
Paraguay	9.4	3.4	Low		10.4	14.6	High		2016	1.0	Very low
Peru	18.6	10.1	Medium		8.1	9.4	Medium		2021	0.4	Very low
Philippines	31.9	28.8	High		3.5	4.6	Low		2015	6.8	Medium
Poland	2.1	2.3	Very low		5.6	6.0	Medium		2011	0.9	Very low
Portugal	3.8	3.1	Low		8.2	8.9	Medium		2016	1.1	Very low
Qatar	6.2	4.4	Low	3	12.2	11.7	High	3	1995	-	No Recent Data
Republic of Korea	1.9	1.7	Very low		6.8	5.4	Medium		2020	0.2	Very low
Republic of Moldova	6.8	3.9	Low		5.4	2.9	Low		2012	1.9	Very low
Romania	9.3	7.7	Low		7.9	4.5	Low		2002	3.5	Low
Russian Federation	-	-	No data		12.2	7.4	Medium		2005	3.3	Low
Rwanda	41.2	29.8	High		6.3	4.7	Low		2020	1.1	Very low
Saint Kitts and Nevis	-	-	No data		-	-	No data		-	-	No data
Saint Lucia	2.3	2.5	Low		6.0	6.0	Medium		2012	3.7	Low
Saint Vincent and the Grenadines	-	-	No data		-	-	No data		-	-	No data
Samoa	5.0	7.4	Low		6.0	7.9	Medium		2019	3.1	Low
San Marino	-	-	No data		-	-	No data		-	-	No data
Sao Tome and Principe	18.8	10.0	Medium		2.5	4.7	Low		2019	4.1	Low
Saudi Arabia	11.8	12.4	Medium		9.3	10.1	High		2020	4.4	Low
Senegal	18.5	17.0	Medium		1.5	3.4	Low		2019	8.1	Medium
Serbia	5.9	4.6	Low		15.6	9.9	Medium		2019	2.6	Low
Seychelles	7.9	7.2	Low		9.9	9.1	Medium		2012	4.3	Low
Sierra Leone	34.9	26.0	High		3.3	5.2	Medium		2021	6.3	Medium
Singapore	3.4	3.0	Low		3.0	3.8	Low		2000	3.6	Low
Slovakia	-	-	No data		-	-	No data		-	-	No data
Slovenia	-	-	No data		-	-	No data		-	-	No data
Solomon Islands	31.8	29.8	High		3.5	5.5	Medium		2015	8.5	Medium
Somalia	27.6	18.0	Medium		3.0	2.7	Low		2009	14.3	High
South Africa	22.5	22.8	High		13.1	12.1	High		2017	3.8	Low
South Sudan	30.8	27.9	High		6.3	4.7	Low		2010	22.7	Very high
Spain	-	-	No data		-	-	No data		-	-	No data
Sri Lanka	16.7	15.9	Medium		1.2	1.3	Very low		2016	15.1	Very high
State of Palestine	10.3	7.5	Low		7.6	8.3	Medium		2020	1.3	Very low
Sudan	36.0	36.0	Very high		2.4	2.7	Low		2014	16.3	Very high
Suriname	8.3	7.6	Low		3.7	3.8	Low		2018	5.5	Medium

Country numbers affected (thousands) table (cont.)

	MODELLED ESTIMATES											
	Stunting (NUMBERS)					Overweight (NUMBERS)					Wasting[1] (NUMBERS)	
Country	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	Year	Value
Nepal	1198.1	0.7	792.4	0.5		36.2	0.1	49.7	0.1		2022	228.4
Netherlands (Kingdom of the)	13.4	<0.1	14.1	<0.1		37.5	0.1	44.9	0.1		2009	9.7
New Zealand	-	-	-	-		-	-	-	-		-	-
Nicaragua	118.2	<0.1	103.9	<0.1		49.8	0.1	60.7	0.2		2012	14.7
Niger	1688.5	1.0	2437.3	1.7		39.9	0.1	137.6	0.4		2022	559.5
Nigeria	11350.0	6.4	12103.4	8.2		758.0	2.1	774.5	2.2		2020	2212.4
Niue	-	-	-	-		-	-	-	-		-	-
North Macedonia	6.8	<0.1	3.8	<0.1		16.0	<0.1	10.2	<0.1		2019	3.8
Norway	-	-	-	-		-	-	-	-		-	-
Oman	36.7	<0.1	55.1	<0.1		9.5	<0.1	28.2	<0.1		2017	38.9
Pakistan	12453.2	7.1	10121.4	6.9		1309.4	3.6	796.6	2.2		2018	2077.8
Palau	-	-	-	-		-	-	-	-		-	-
Panama	75.0	<0.1	52.8	<0.1		39.6	0.1	43.6	0.1		2019	4.1
Papua New Guinea	524.1	0.3	621.4	0.4		115.0	0.3	194.5	0.5		2010	148.1
Paraguay	59.9	<0.1	23.3	<0.1		65.8	0.2	99.3	0.3		2016	6.3
Peru	563.3	0.3	296.6	0.2		244.0	0.7	274.3	0.8		2021	11.8
Philippines	3700.1	2.1	3456.1	2.4		402.6	1.1	555.5	1.5		2015	790.5
Poland	43.2	<0.1	44.8	<0.1		116.9	0.3	117.3	0.3		2011	18.8
Portugal	18.3	<0.1	13.2	<0.1		39.9	0.1	37.9	0.1		2016	4.7
Qatar	6.6	<0.1	6.2	<0.1	[3]	13.1	<0.1	16.4	<0.1	[3]	1995	-
Republic of Korea	43.2	<0.1	26.8	<0.1		156.2	0.4	83.9	0.2		2020	3.6
Republic of Moldova	15.5	<0.1	8.1	<0.1		12.3	<0.1	6.1	<0.1		2012	4.4
Romania	97.6	<0.1	79.2	<0.1		83.5	0.2	46.0	0.1		2002	38.5
Russian Federation	-	-	-	-		1038.7	2.9	559.1	1.6		2005	232.4
Rwanda	685.7	0.4	569.6	0.4		105.0	0.3	90.7	0.3		2020	20.8
Saint Kitts and Nevis	-	-	-	-		-	-	-	-		-	-
Saint Lucia	0.3	<0.1	0.3	<0.1		0.7	<0.1	0.6	<0.1		2012	0.4
Saint Vincent and the Grenadines	-	-	-	-		-	-	-	-		-	-
Samoa	1.4	<0.1	2.2	<0.1		1.7	<0.1	2.3	<0.1		2019	0.9
San Marino	-	-	-	-		-	-	-	-		-	-
Sao Tome and Principe	5.6	<0.1	3.1	<0.1		0.8	<0.1	1.4	<0.1		2019	1.3
Saudi Arabia	369.2	0.2	394.7	0.3		290.4	0.8	319.5	0.9		2020	140.7
Senegal	410.2	0.2	444.2	0.3		33.5	<0.1	88.0	0.2		2019	202.9
Serbia	20.3	<0.1	15.6	<0.1		54.2	0.2	33.8	<0.1		2019	9.2
Seychelles	0.7	<0.1	0.6	<0.1		0.8	<0.1	0.8	<0.1		2012	0.4
Sierra Leone	382.3	0.2	311.3	0.2		36.3	0.1	62.1	0.2		2021	74.9
Singapore	7.6	<0.1	7.1	<0.1		6.9	<0.1	9.1	<0.1		2000	8.9
Slovakia	-	-	-	-		-	-	-	-		-	-
Slovenia	-	-	-	-		-	-	-	-		-	-
Solomon Islands	27.8	<0.1	30.5	<0.1		3.1	<0.1	5.6	<0.1		2015	8.0
Somalia	664.7	0.4	590.5	0.4		71.3	0.2	87.8	0.2		2009	328.7
South Africa	1267.5	0.7	1327.8	0.9		735.9	2.1	702.4	2.0		2017	219.2
South Sudan	548.3	0.3	403.1	0.3		112.2	0.3	68.2	0.2		2010	370.9
Spain	-	-	-	-		-	-	-	-		-	-
Sri Lanka	301.8	0.2	244.6	0.2		21.8	<0.1	20.3	<0.1		2016	260.1
State of Palestine	66.2	<0.1	53.2	<0.1		49.1	0.1	59.3	0.2		2020	9.5
Sudan	2087.3	1.2	2591.9	1.8		139.7	0.4	193.9	0.5		2014	982.9
Suriname	4.5	<0.1	4.1	<0.1		2.0	<0.1	2.1	<0.1		2018	3.0

Country prevalence table (cont.)

	MODELLED ESTIMATES									
	Stunting (PERCENT)				Overweight (PERCENT)				Wasting[1] (PERCENT)		
Country	2012 Value	2022 Value	Threshold[2]	Footnote	2012 Value	2022 Value	Threshold[2]	Footnote	Year	Value	Threshold[2]
Sweden	-	-	No data		-	-	No data		-	-	No data
Switzerland	-	-	No data		-	-	No data		-	-	No data
Syrian Arab Republic	26.4	25.4	High		16.6	11.7	High		2010	11.5	High
Tajikistan	25.7	13.1	Medium		5.4	3.0	Low		2017	5.6	Medium
Thailand	14.0	11.8	Medium		9.1	8.6	Medium		2019	7.7	Medium
Timor-Leste	52.5	45.1	Very high		2.4	1.3	Very low		2020	8.3	Medium
Togo	27.3	22.3	High		1.6	2.2	Very low		2017	5.7	Medium
Tokelau	-	-	No data		-	-	No data		-	-	No data
Tonga	7.2	1.8	Very low		15.0	10.9	High		2019	1.1	Very low
Trinidad and Tobago	8.6	8.8	Low		10.5	13.9	High		2011	6.4	Medium
Tunisia	8.8	8.6	Low		12.7	19.0	Very high		2018	2.1	Very low
Türkiye	9.1	5.5	Low		10.2	8.1	Medium		2018	1.7	Very low
Turkmenistan	12.5	6.7	Low		5.4	3.6	Low		2019	4.1	Low
Turks and Caicos Islands	4.1	2.9	Low		15.1	17.6	Very high		2020	1.2	Very low
Tuvalu	7.8	5.2	Low		5.2	4.2	Low		2019	2.8	Low
Uganda	33.3	23.4	High		3.9	3.5	Low		2020	3.6	Low
Ukraine	18.2	12.3	Medium		23.6	13.6	High		2000	8.2	Medium
United Arab Emirates	-	-	No data		-	-	No data		-	-	No data
United Kingdom	-	-	No data		9.7	11.3	High		2017	0.3	Very low
United Republic of Tanzania	38.1	30.6	Very high		4.5	4.6	Low		2022	3.3	Low
United States	2.5	3.6	Low		8.4	7.9	Medium		2018	0.1	Very low
Uruguay	9.1	6.1	Low		9.3	11.5	High		2018	1.4	Very low
Uzbekistan	13.2	6.9	Low		7.7	4.2	Low		2021	2.4	Very low
Vanuatu	27.0	31.4	Very high		4.8	5.1	Medium		2013	4.7	Low
Venezuela (Bolivarian Republic of)	12.1	10.5	Medium		6.2	6.9	Medium		2009	4.1	Low
Viet Nam	25.4	19.3	Medium		4.3	8.1	Medium		2020	4.7	Low
Yemen	46.9	35.1	Very high		2.4	1.7	Very low		2013	16.4	Very high
Zambia	40.8	31.4	Very high		6.0	5.4	Medium		2018	4.2	Low
Zimbabwe	31.1	21.6	High		4.6	2.7	Low		2019	2.9	Low

2025 and 2030 global targets on stunting, wasting and overweight among children under 5 years of age

Progress towards the 2030 SDG targets *(presented on pages 3 and 5)* was assessed using the 2030 targets proposed as an extension of the 2025 global nutrition targets (Table 2).[3]

Table 2. The global nutrition targets endorsed by the World Health Assembly and their extension to 2030 for child malnutrition indicators*

Indicator	2025 target	2030 target
Stunting	Reduce the number of children under 5 who are stunted by 40%	Reduce the number of children under 5 who are stunted by 50%
Wasting	Reduce and maintain childhood wasting to less than 5%	Reduce and maintain childhood wasting to less than 3%
Overweight	No increase in childhood overweight prevalence	Reduce and maintain childhood overweight to less than 3%

NOTE: *Targets were set considering the baseline year 2012.

Country numbers affected (thousands) table (cont.)

	MODELLED ESTIMATES										
	Stunting (NUMBERS)					Overweight (NUMBERS)					Wasting[1] (NUMBERS)	
Country	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	2012 Value	Share of 2012 global	2022 Value	Share of 2022 global	footnote	Year	Value
Sweden	-	-	-	-		-	-	-	-		-	-
Switzerland	-	-	-	-		-	-	-	-		-	-
Syrian Arab Republic	818.8	0.5	505.7	0.3		515.3	1.4	232.2	0.6		2010	357.8
Tajikistan	284.3	0.2	166.8	0.1		60.3	0.2	37.4	0.1		2017	69.9
Thailand	568.2	0.3	388.4	0.3		370.2	1.0	283.2	0.8		2019	273.5
Timor-Leste	82.4	<0.1	71.1	<0.1		3.8	<0.1	2.0	<0.1		2020	13.0
Togo	305.7	0.2	286.8	0.2		18.2	<0.1	28.2	<0.1		2017	68.7
Tokelau	-	-	-	-		-	-	-	-		-	-
Tonga	1.0	<0.1	0.2	<0.1		2.1	<0.1	1.3	<0.1		2019	0.1
Trinidad and Tobago	8.8	<0.1	8.0	<0.1		10.8	<0.1	12.6	<0.1		2011	6.5
Tunisia	85.3	<0.1	87.3	<0.1		123.2	0.3	192.2	0.5		2018	22.5
Türkiye	584.8	0.3	353.5	0.2		653.7	1.8	521.8	1.5		2018	117.0
Turkmenistan	77.9	<0.1	45.0	<0.1		33.7	<0.1	24.0	<0.1		2019	29.0
Turks and Caicos Islands	0.1	<0.1	0.1	<0.1		0.3	<0.1	0.5	<0.1		2020	0.0
Tuvalu	0.1	<0.1	0.1	<0.1		0.1	<0.1	0.1	<0.1		2019	0.0
Uganda	2147.6	1.2	1840.9	1.3		249.9	0.7	275.3	0.8		2020	268.7
Ukraine	454.2	0.3	188.0	0.1		589.0	1.6	208.8	0.6		2000	174.4
United Arab Emirates	-	-	-	-		-	-	-	-		-	-
United Kingdom	-	-	-	-		388.3	1.1	400.3	1.1		2017	11.9
United Republic of Tanzania	3181.9	1.8	3296.5	2.2		375.7	1.0	494.8	1.4		2022	355.0
United States	514.3	0.3	680.2	0.5		1698.6	4.7	1498.2	4.2		2018	20.0
Uruguay	21.5	<0.1	11.3	<0.1		21.9	<0.1	21.4	<0.1		2018	3.2
Uzbekistan	410.3	0.2	271.1	0.2		239.6	0.7	165.6	0.5		2021	93.2
Vanuatu	10.6	<0.1	14.3	<0.1		1.9	<0.1	2.3	<0.1		2013	1.9
Venezuela (Bolivarian Republic of)	354.4	0.2	243.1	0.2		182.3	0.5	158.6	0.4		2009	120.3
Viet Nam	1841.1	1.0	1406.8	1.0		314.7	0.9	590.1	1.6		2020	349.2
Yemen	1956.0	1.1	1662.4	1.1		100.2	0.3	78.3	0.2		2013	696.9
Zambia	1088.4	0.6	979.8	0.7		161.3	0.4	167.9	0.5		2018	124.2
Zimbabwe	667.4	0.4	500.5	0.3		98.0	0.3	62.1	0.2		2019	65.6

Table 3: Rules for progress assessment against child malnutrition indicators for SDG target 2.2 used on pages 3 and 5

Progress assessment label	Stunting (2030 target: reduce the number of children under 5 with stunting by 50 per cent)	Overweight (2030 target: reduce the percentage of children under 5 with overweight to less than 3 per cent)	Wasting (2030 target: reduce the percentage of children under 5 with wasting to less than 3 per cent)
On track	AARR > required[i] or prevalence <3%[ii]	AARR > required[iii] or prevalence < 3%[iv]	AARR > required[iii] or prevalence < 3%[iv]
Off track (some progress)	AARR < required, but > 0.5	AARR < required, but > 1.5	AARR < required, but > 2.0
Off track (no progress)	-0.5 ≤ AARR < 0.5	-1.5 ≤ AARR < 1.5	-2.0 ≤ AARR < 2.0
Off track (worsening)	AARR < -0.5	AARR < -1.5	AARR < -2.0
Assessment not possible	Assessment not possible[v]	Assessment not possible[v]	Assessment not possible[vi]

i. Required AARR is based on the change in stunting prevalence corresponding to a 50 per cent reduction in the number of children affected by stunting between 2012 and 2030, considering the population growth estimated by the United Nations World Population Prospects.

ii. Countries where the point estimate or lower 95 per cent confidence interval for the year 2022 is <3 per cent are considered on track.

iii. Required AARR is based on the required change in overweight or wasting prevalence to reduce from the baseline (2012) prevalence to 3 per cent by 2030.

iv. Countries where the point estimate for the year 2022 is <3 per cent are considered on track.

v. Assessment is not possible for stunting and overweight where countries did not have any input data (e.g., household survey data) for the model that were more recent than 2000.

vi. Assessment is not possible for wasting where countries do not have at least two data points between 2005 and 2022, with at least one point being more recent than 2012.

JOINT CHILD MALNUTRITION ESTIMATES METHODOLOGY

The UNICEF-WHO-World Bank JME Working Group was established in 2011 to address the call for harmonized child malnutrition estimates that would be instrumental in benchmarking progress on child malnutrition. The first edition of the JME was released in 2012 and provided estimates for stunting, wasting, severe wasting, underweight and overweight, as well as a detailed description of the methodology.[4,5] Since their inception, the JME outputs have comprised a harmonized country-level dataset of primary data *(e.g., national estimates based on household surveys),* as well as regional and global model-based estimates.

Since the 2021 edition, the JME also include country-level modelled estimates for stunting and overweight based on methodology[6] developed by the JME Working Group in partnership with the University of South Carolina. The regional and global figures for stunting and overweight are also based on these country model outputs, while they remain based on the previously applied sub-regional model for wasting and severe wasting.[4,5] Additional work is ongoing to update methods for modelling wasting and severe wasting, given that the available data are not as stable as the data for stunting and overweight *(see section about regional and global estimates on page 27).*

The JME process for the 2023 edition involved the following steps: (i) updating of the country dataset of primary sources *(e.g., national household surveys);* (ii) application of a country level model for stunting and overweight to generate annual estimates; (iii) generation of regional and global aggregates for stunting, wasting, severe wasting and overweight; and (iv) consultation with countries before finalizing and disseminating the 2023 estimates. Key parts of the JME are described in more detail below.

Country-level estimates

The JME country dataset

The JME dataset of country estimates requires the collection of national data sources that contain information on child malnutrition – specifically, data on the height, weight and age of children under 5, which can be used to generate national-level prevalence estimates for stunting, wasting, severe wasting and overweight. These national-level data sources are mainly comprised of household surveys – e.g., Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS), Standardized Monitoring and Assessment of Relief and Transition (SMART) surveys, and Living Standards Measurement Study (LSMS). Some administrative data sources *(e.g., from surveillance systems)* are also included where population coverage is high. As of the latest review closure on 10 March 2023, the primary source dataset contained 1100 data sources from 160 countries and territories, with nearly two thirds of children living in countries with at least one data point on stunting, wasting and overweight that is less than five years old *(see figure on page 28).* This suggests that the global estimates are highly representative of the majority of children across the globe for the most recent period, although recentness of data varies greatly by region.

The dataset contains the point estimate, and where available, the standard error, the 95 per cent confidence bounds and the unweighted sample size. Where microdata are available, the JME uses estimates that have been recalculated to adhere to the global standard definition.[7] Where microdata are not available, reported estimates are used, except in cases where adjustments are required to standardize for: (i) use of an alternate growth reference from the 2006 WHO Growth Standards; (ii) age ranges that do not include the full 0–59-month age group; and (iii) data sources that were only nationally representative for populations residing in rural areas. Further details related to data source compilation, re-analysis of microdata, and data source review are provided elsewhere.[8]

The JME country dataset serves different purposes for different indicators. For wasting and severe wasting, the JME country dataset serves as the country estimates themselves *(i.e., the wasting prevalence in the JME country dataset from a household survey for a country in a given year is the wasting prevalence reported for that country in that year).* For stunting and overweight, the JME country dataset is used to generate country-modelled estimates, which serve as the official JME estimates *(i.e., the stunting prevalence from a household survey a given country, in a given year, is not reported as the prevalence for that country in that year; rather, it feeds into the modelled estimates described in the next section below).*

Country-level model for stunting and overweight estimates

Rationale

National surveys are administered sporadically, resulting in sparse data for many countries. This hampers efforts to monitor the progress of these countries towards targets, such as the SDGs. The use of statistical models at country level is important to enable comparisons across countries during the same year, filling in the gaps. In addition, statistical models are an efficient way to adjust for unwarranted variability.

Model description

The technical details of the statistical models are provided elsewhere.[6,8] Briefly, for both stunting and overweight, prevalence was modelled at logit (log-odds) scale using a penalized longitudinal mixed-model with a heterogeneous error term. The quality of the models was quantified with model-fit criteria that balance the complexity of the model with the closeness of the fit to the observed data. The proposed method has important characteristics, including non-linear time trends, regional trends, country-specific trends, covariate data and a heterogeneous error term. All countries with data contribute to estimates of the overall time trend and the impact of covariate data on prevalence. For overweight, the covariate data consisted of linear and quadratic socio-demographic index (SDI),* and data source type. The same covariates were used for stunting, plus an additional covariate of the average health system access over the previous five years.

Model outcomes
Annual country-level modelled estimates from 2000 to 2022 on stunting and overweight were disseminated in the 2023 JME dataset for 159 countries with at least one data point *(e.g., from a household survey)* for stunting and 160 countries with at least one data point for overweight. Modelled country estimates were also produced for an additional 43 countries for stunting and 42 for overweight, used solely for generation of regional and global aggregates. Modelled estimates for these countries are not shown because they did not have any household surveys in the JME country dataset. The results for the 205 countries can be used to calculate estimates and uncertainty intervals for any groups of countries aggregated.

The uncertainty intervals are important in monitoring trends, especially for countries with sparse data and where primary data sources present large primary data source sampling errors. When only sparse data are available in the most recent period, the inclusion of a survey can affect a substantial change in the predicted trajectory. For this reason, uncertainty intervals are needed to enhance trend interpretability in terms of the caution level employed. The uncertainty intervals for the JME method have been tested and validated with various data types.

Regional and global estimates

Regional and global wasting and severe wasting estimates are only presented for the most recent year, 2022, unlike stunting and overweight estimates, for which an annual time series is available from 2000 to 2022. This is because the JME are based on national-level country prevalence data, which come from cross-sectional surveys *(i.e., a snapshot at one point in time)* that are collected infrequently *(every three to five years)* in most countries. Since stunting and overweight are relatively stable over the course of a calendar year, it is reasonable to track changes in these two conditions over time with these data, whereas wasting is an acute condition that can change frequently and rapidly. An individual child can be affected by wasting more than once in a calendar year *(i.e., can recover but then become wasted again in the same year),* and the risk of wasting in many contexts can be driven by seasonal variations, which can result in seasonal spikes in prevalence. For example, wasting prevalence, in some contexts, may double between the post-harvest season *(often associated with higher food availability and weather patterns that are less likely to cause disease)* and the pre-harvest season *(often associated with food shortages, heavy rains and related diseases that can affect nutrition status).*

Given that country surveys can be collected during any season, the prevalence estimate from any survey may be at a high or low; or it may fall somewhere in between if data collection spanned across several seasons. Thus, the prevalence of wasting captures the situation of wasting at a specific point in time and not over an entire year. Variations in seasons across surveys make it difficult to draw inferences on trends. The lack of methods to account for seasonality and incident cases of wasting and severe wasting hampers the interpretability of annual trends for these forms of malnutrition, nevertheless for global monitoring purposes, JME presents trend estimates at global level.

Generation of regional and global estimates

Different methods were applied to generate regional and global estimates for stunting and overweight compared to wasting and severe wasting, as described below. In short, results from the country-level model were used to generate the regional and global estimates for stunting and overweight, while the JME sub-regional multi-level model [4,5] was used to generate the global and regional estimates for wasting and severe wasting.

Stunting and overweight
Global and regional estimates for all years from 2000 to 2022 were derived as the respective country averages weighted by the under-five population of these countries from The United Nations World Population Prospects, 2022 Revision, using model-based estimates for 205 countries. This includes 159 countries with national data sources for stunting and 160 countries with national data sources for overweight *(e.g. household surveys)* included in the JME country dataset described above. It also includes countries with modelled estimates generated for development of regional and global aggregates but for which country modelled estimates are not shown because they did not have any household surveys in the JME country dataset *(43 countries for stunting and 42 countries for overweight)*. Confidence intervals were generated based on bootstrapping methodology.

Wasting and severe wasting
The wasting and severe wasting prevalence data from national data sources described in the above section about the JME country dataset were used to generate the regional and global estimates for all years 2000–2022 using the JME sub-regional multi-level model,[4,5] applying population weights for children under 5 years of age from the United Nations World Population Prospects, 2022 Revision.

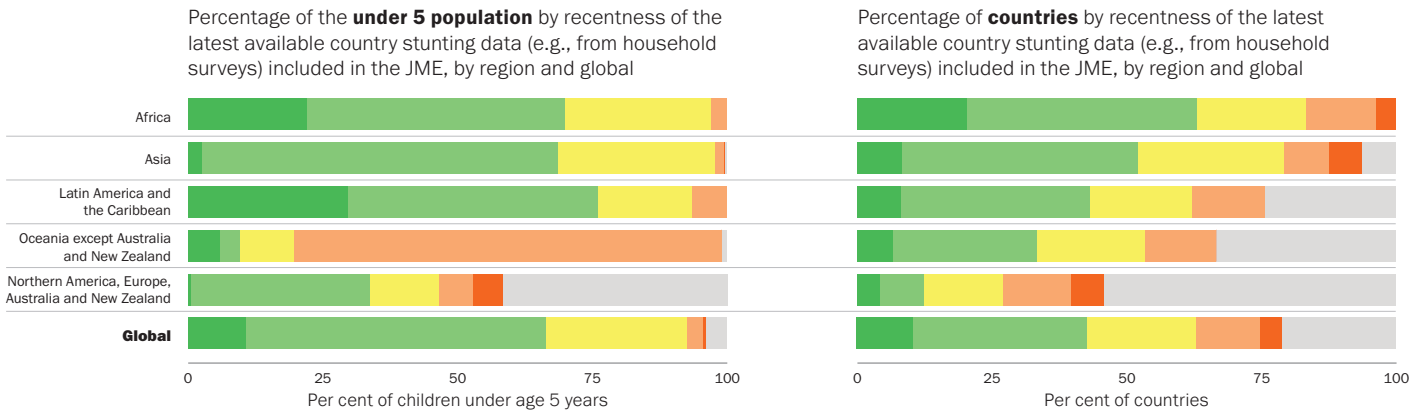
Country consultations

Joint UNICEF-WHO-World Bank Group country consultations were conducted from January to February 2023. The purpose of these consultations was to explain the methodology for stunting and overweight estimates to national governments; to ensure the estimates included all recent and relevant country data for stunting, wasting and overweight; and to engage with and receive feedback from national governments on the estimates. Following review of input received from national governments during the country consultations, additional sources were included in the JME country dataset before the estimates were finalized and disseminated through the 2023 edition of the JME.

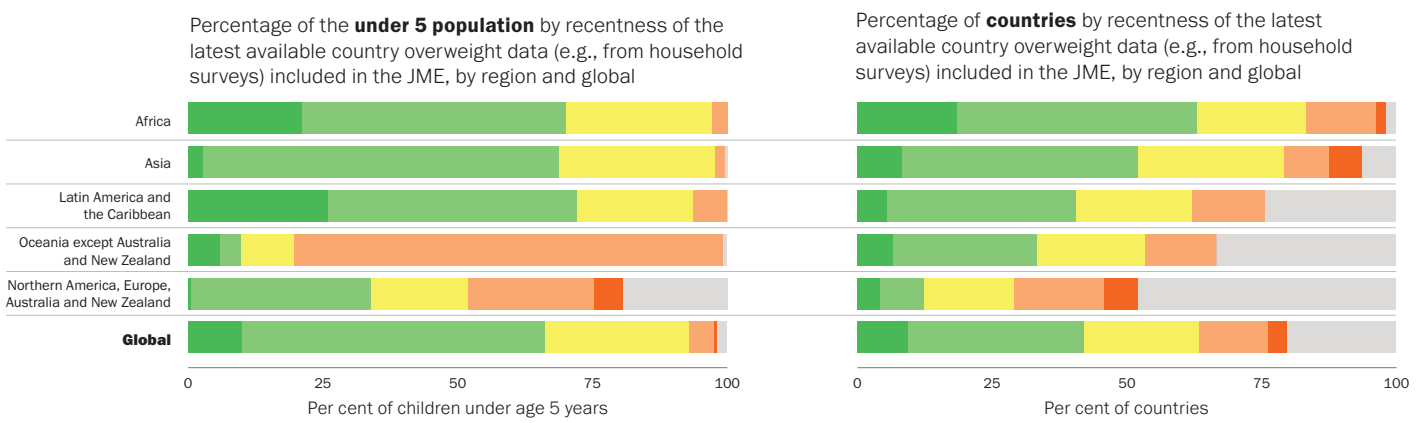
* SDI is a summary measure that identifies where countries or other geographic areas sit on the spectrum of development. Expressed on a scale of 0 to 1, SDI is a composite average of the rankings of the incomes per capita, average educational attainment, and fertility rates of all areas in the Global Burden of Disease Study.[9]

Globally, two-thirds of children live in countries where at least one data point on stunting, wasting and overweight is less than 5 years old

STUNTING



OVERWEIGHT



These graphics show the recentness of the latest available country data points on malnutrition *(e.g., from a household survey)* among children under 5 years in the JME. The graphics in the left-hand column are by **percentage of the under-five population** and the graphics in the right-hand column are by the **percentage of countries**. Only stunting and overweight are shown because the data for wasting mirror those for stunting.

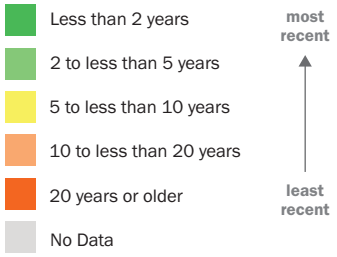
For the graphics by **percentage of the under-five population** *(left column),* the availability of data for each country was weighted by the under-five population, meaning that more populous countries contributed more to the percentages in each category than less populous ones. The more green there is for a region, the higher the percentage of children under 5 living in countries with very recent data *(i.e., at least one data point in the last five years);* the more orange there is, the higher the percentage of children living in countries with very old data *(i.e., the latest data point is 10–20+ years old).* Globally, about two-thirds of children live in countries where the malnutrition prevalence data are less than five years old, while less than 5 per cent of children live in countries with no data at all. This suggests that the modelled regional and global estimates are highly representative of the situation of the majority of children across the globe for the most recent period.

The situation by percentage of countries *(right-hand column)* looks vastly different, with less than half of all countries having at least one data point in the last five years and nearly one quarter of countries with no data at all. This indicates that the governments of many countries will not be able to adequately assess and plan programmes to combat malnutrition.

The recentness of data varies greatly by region. For example, about three quarters of children under 5 in Latin America and Caribbean live in countries with recent data on stunting, wasting and overweight, while only 10 per cent of children in Oceania (excluding Australia and New Zealand) live in countries with recent data. While nearly three quarters of all children under 5 in Latin America and the Caribbean live in countries with recent data, only two in five countries have recent data. Furthermore, 14 countries (nearly two out of five countries in that region) with very small populations have very old (>10 years old) data or no data on child malnutrition at all.

Gaps in the available data make it challenging to accurately estimate the prevalence of malnutrition. Regular data collection *(every three to five years)* is critical to properly plan and monitor programmes to combat child malnutrition at country, regional and global levels going forward.

Recentness of the latest available country data point (e.g., from household surveys) on malnutrition among children aged under 5 years included in the JME



Note: Figures for wasting are the same as for stunting and are therefore not presented. The population coverage for the most recent five-year period is the value of the two green colours added together (i.e., the population coverage for stunting for the most recent five-year period in Africa is 70 per cent).

ONLINE MATERIALS

Summary of available materials

This key findings report of the 2023 edition of the JME summarizes the new country, regional and global numbers and main messages for official United Nations' data on child malnutrition. Additional information is available and the following materials can be downloaded from the links on the bottom right:

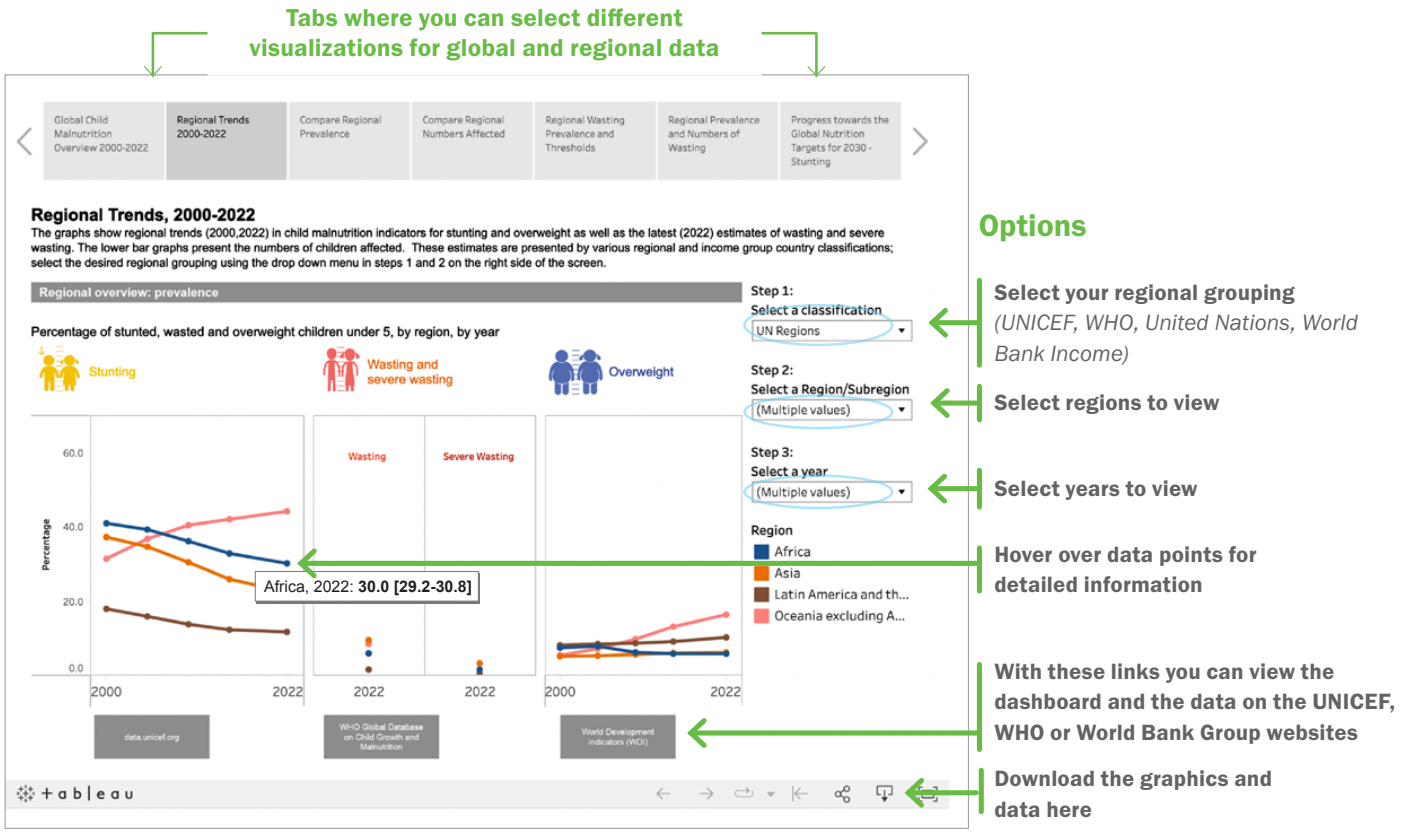
- The latest country-level joint malnutrition dataset, a time series of country estimates from sources such as household surveys that were used to generate the joint child malnutrition country, regional and global modelled estimates for stunting and overweight and the regional and global modelled estimates for wasting and severe wasting
- The country modelled estimates for stunting and overweight
- The joint malnutrition global and regional estimates database by various regional groupings *(e.g., United Nations, UNICEF, WHO, etc.)* and for more years than presented in this report
- A reference document outlining the composition of the various regional groupings for which the joint estimates have been produced
- Interactive dashboards, which allow users to visualize and export the global and regional estimates for a number of regional groupings

UNICEF: <https://data.unicef.org/resources/jme>

WHO: <www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates>

World Bank Group: <data.worldbank.org/child-malnutrition>

Interactive dashboard overview



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