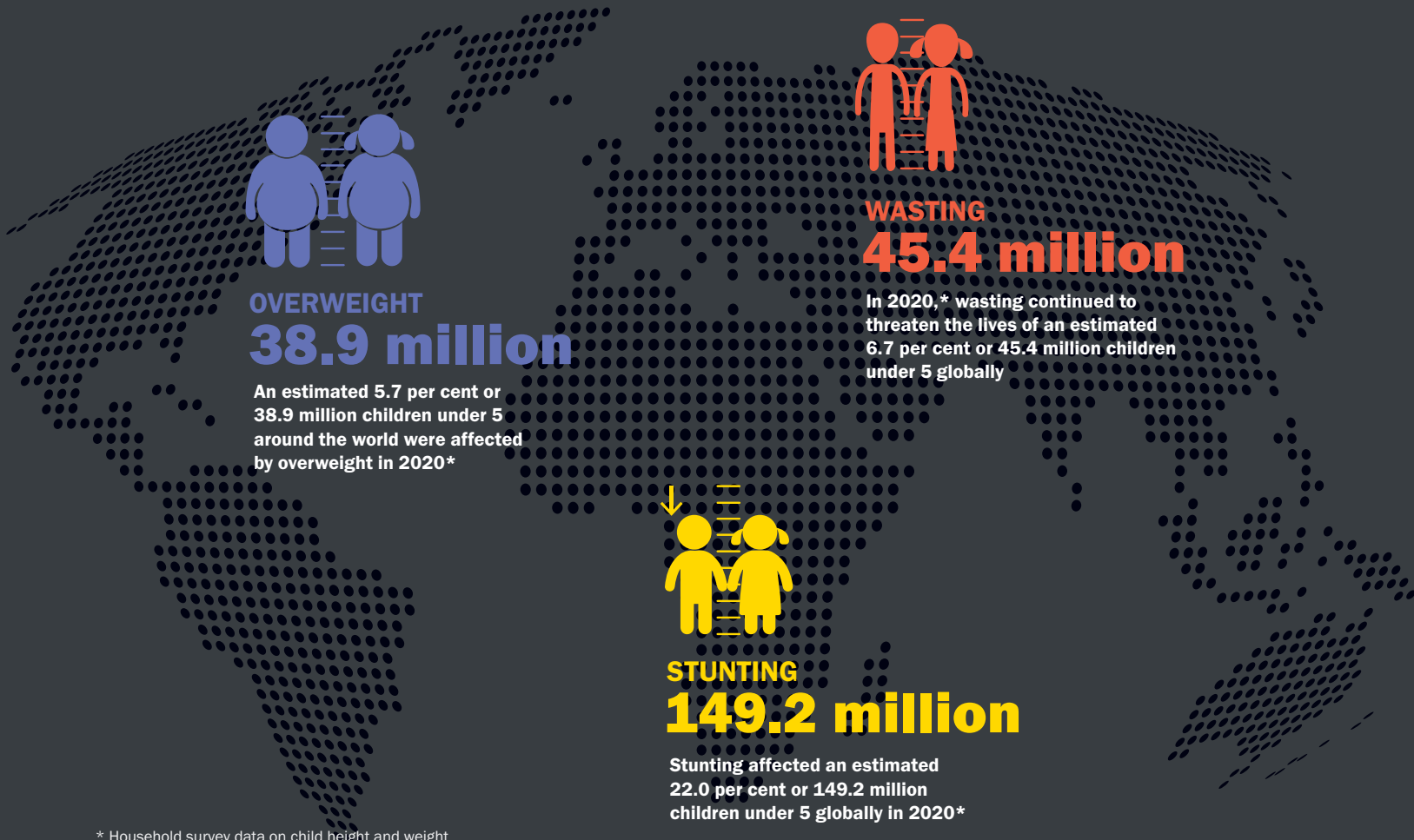
Levels and trends in child malnutrition

UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates

Key findings of the 2021 edition

These new estimates supersede former analyses and results published by UNICEF, WHO and the World Bank Group



OVERWEIGHT

38.9 million

An estimated 5.7 per cent or 38.9 million children under 5 around the world were affected by overweight in 2020*

WASTING

45.4 million

In 2020,* wasting continued to threaten the lives of an estimated 6.7 per cent or 45.4 million children under 5 globally

STUNTING

149.2 million

Stunting affected an estimated 22.0 per cent or 149.2 million children under 5 globally in 2020*

* Household survey data on child height and weight were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic.

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INTRODUCTION

TOWARDS A FUTURE WITHOUT MALNUTRITION FOR EVERY CHILD

Good nutrition sets children on the path to survive and thrive. Well-nourished children grow, develop, learn, play, participate and contribute – while malnutrition robs children of their full potential, with consequences for children, nations and the world.

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: they face learning difficulties in school, earn less as adults, and face barriers to participation in their communities. Globally, 149.2 million children under 5 suffered from stunting in 2020.* These numbers may increase substantially due to constraints in accessing nutritious diets and essential nutrition services during the COVID-19 pandemic, with the full impact on stunting possibly taking years to manifest.

Wasting in children is the life-threatening result of poor nutrient intake and/or disease. 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. These children require urgent treatment and care to survive. In 2020,* 45.4 million children under 5 were affected by wasting, of which 13.6 million were severely wasted.

The impact of COVID-19 has likely exacerbated these figures, and could mean that 15 per cent or 1.15 times more children were affected by wasting in 2020 than estimated[1] due to deteriorations in household wealth and disruptions to the availability and affordability of nutritious food and essential nutrition services. Childhood overweight occurs when children's caloric intake from food and beverages exceeds their energy requirements. It is shaped by industry marketing and greater access to processed foods, along with inadequate levels of physical activity, which can increase children's risk of obesity and diet-related noncommunicable diseases later in life. There are now 38.9 million* children under 5 with overweight globally, an increase of nearly 6 million since 2000. Childhood overweight may also be negatively impacted by COVID-19, especially where fresh, nutritious food has been replaced by processed, unhealthy food, and where movement restrictions have constrained opportunities for physical activity for extended periods of time.

The Joint Malnutrition Estimates (JME) published in April 2021 reveal insufficient progress to reach the World Health Assembly (WHA) targets set for 2025 and the Sustainable Development Goals (SDGs) set for 2030 (see page 25).[2] The latest analysis indicates that only one quarter 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 another 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 considered 'on track'. Further, an assessment of progress towards the wasting target is not possible for nearly half of countries.

More intensive efforts will be required if the world is to achieve global targets of reducing the number of children with stunting to 104 million by 2025 and to 87 million by 2030. Meanwhile, achieving the overweight goal would require a reversal of the current trajectory.

Although malnutrition can manifest in multiple ways, the path to prevention is virtually identical: adequate maternal nutrition before and during pregnancy and while breastfeeding; optimal breastfeeding in the first two years of life; nutritious, diverse and safe foods in early childhood; and a healthy environment, including access to basic health, water, hygiene and sanitation services and opportunities for safe physical activity. Many of these vital pathways to good nutrition are under threat – including due to the COVID-19 pandemic – and have the potential to undermine progress towards ending malnutrition in all its forms. As the world responds to and recovers from the pandemic, 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.

NEW – JME country estimates

This key findings report for the 2021 edition of the JME presents country level data for the first time. This is because a new country-level model has been developed to generate the country, regional and global estimates for stunting and overweight (see page 26). Additional work is ongoing to update methods for wasting and severe wasting; as such, the estimates presented for these two conditions are based on methods applied for previous editions of the JME.

* Household survey data on child height and weight were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. However, one of the covariates used in the country stunting and overweight models takes the impact of COVID-19 partially into account (see page 3).

COVID-19 and the Joint Child Malnutrition Estimates

The Joint Malnutrition Estimates for the year 2020 do not fully account for the impact of the COVID-19 pandemic. Household survey data on child height, weight and age – used to report on the JME indicators of stunting, wasting, severe wasting and overweight among children under 5 years of age – were not collected in 2020 due to physical distancing measures, with the exception of four surveys. This means that the estimates are based almost entirely on data collected before 2020. One of the covariates used in the country models for stunting and overweight takes the impact of COVID-19 partially into account, but is not expected to capture the full extent of the pandemic's influence on malnutrition in 2020.

The pandemic is expected to exacerbate all forms of malnutrition due to deteriorations in household wealth; constraints in the availability and affordability of nutritious food; disruptions in essential nutrition services; and limited opportunities for physical activity.

The impact of the pandemic on **stunting** will likely unfold gradually, and may persist for years after COVID-19 is eradicated and economies recover. Given that stunting is the result of chronic or recurrent malnutrition, it will be influenced by how long these pandemic-related shocks to the economy, food systems and health systems persist. Maternal malnutrition experienced during the pandemic can also affect stunting by increasing the risk of low birthweight, a key predictor of impaired linear growth.[3] Therefore, increased stunting prevalence may be apparent among children born during the first year of the pandemic before it is noticed in the entire under-five population that is used to monitor this indicator.

Wasting and severe wasting, characterized by a loss of muscle and fat mass, can develop rapidly in the face of poor nutrient intake and/or disease. These conditions are expected to be most impacted by COVID-19 in the short-term and the prevalence-based estimates presented in this report for 2020 may in fact be **around 15 per cent or 1.15 times higher than what is reported**.[1] Without representative data on wasting from countries during the pandemic, only modelled predictions are possible. Because losses in muscle and fat mass can be reversed rapidly once the pandemic subsides and large-scale data collection on child weight and height resumes, there may be no evidence remaining of how wasting prevalence was affected over the course of the pandemic. Among children who survive episodes of wasting during the pandemic, linear growth is likely to be affected; this means that some of the pandemic's enduring impact on stunting may be attributable to prolonged and recurrent episodes of wasting.

The pandemic may also lead to increases in childhood **overweight**, especially in settings where food choices and physical activity have been negatively influenced by COVID-19 mitigation strategies. The impact on overweight may persist through the lifetime of those affected, with poor dietary and physical activity habits (shaped by restrictions during COVID-19) that continue through adolescence and adulthood. While data are limited, deteriorations in children's diet quality during the pandemic have been observed. In one country, decreases in physical activity during the pandemic were reported for 28 per cent of children aged 3 to 5 years, while increases in sweet snack food consumption were reported for 19 per cent of children.[4]

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.

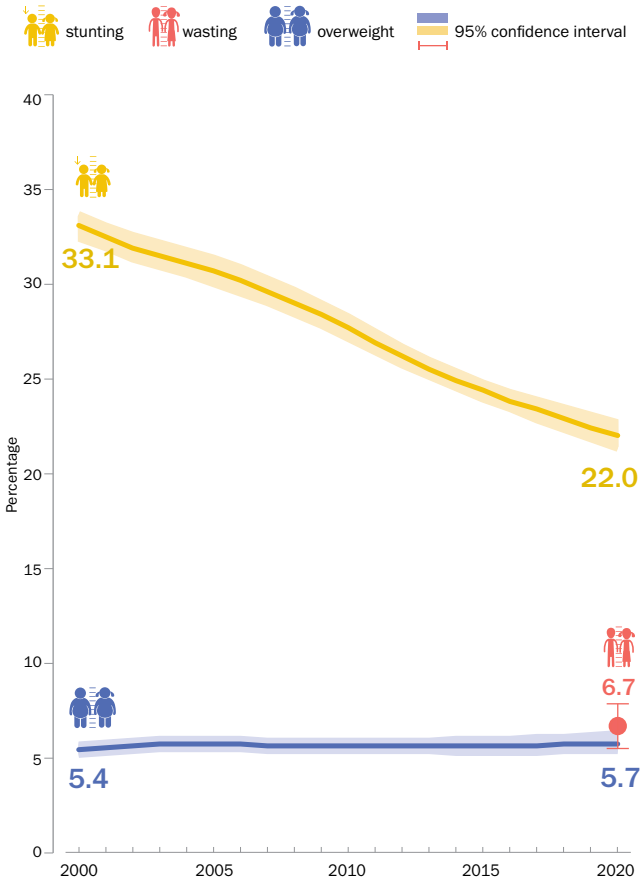
Stunting and overweight

Stunting and wasting

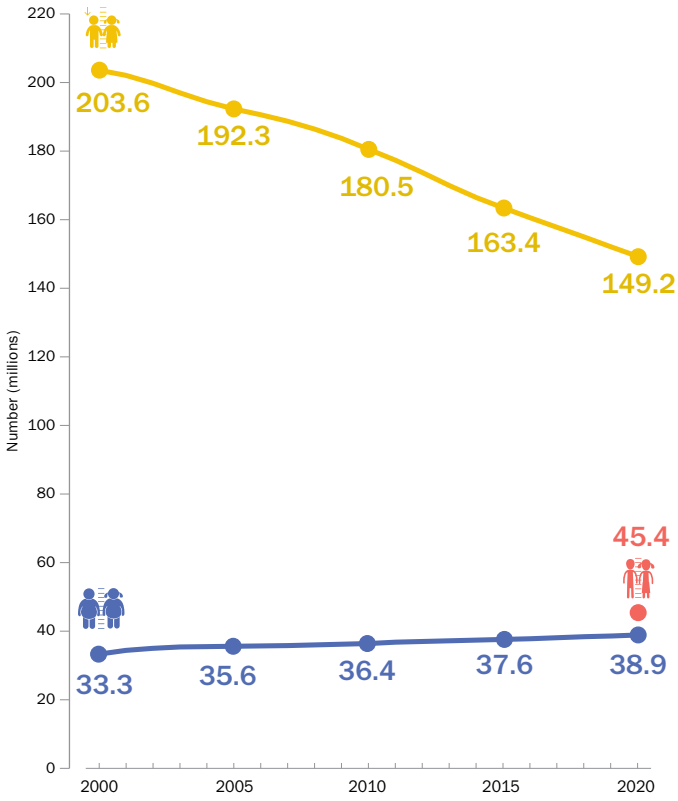
** Some children suffer from more than one form of malnutrition – such as **stunting and overweight** or **stunting and wasting**. There are currently no joint global or regional estimates for these combined conditions.

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, 2000–2020*



Number (millions) of children under 5 affected by stunting, wasting and overweight, global, 2000–2020*

Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2021 edition. See section about regional and global estimates on page 27 for an explanation of why only one time point is presented for wasting on the graphs above.

Most children with malnutrition live in Africa and Asia

In 2020,* more than half of all children under 5 affected by stunting lived in Asia and two out of five lived in Africa

In 2020,* more than two thirds of all children under 5 affected by wasting lived in Asia and more than one quarter lived in Africa

In 2020,* almost half of all children under 5 affected by overweight lived in Asia and more than one quarter lived in Africa

*Household survey data on child height and weight were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. However, one of the covariates used in the country stunting and overweight models takes the impact of COVID-19 partially into account (see page 3).

PROGRESS TOWARDS THE SDGs

Only about one quarter of countries are on track to reach the 2030 SDG targets on stunting, wasting and overweight

Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2021 edition. Note: *Percentages may not add up to 100 per cent due to rounding. **See notes on progress assessment categories on pages 16–17.
***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, nearly 85 per cent of children live in countries showing at least some progress towards the stunting reduction target, with only 10 per cent living in countries that show no progress or a worsening situation. The situation is more concerning for overweight: half of children live in countries with no progress or a worsening situation. For wasting, nearly 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 c*an* 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 21 out of 48 countries (or 44 per cent) on track; followed by Northern America, Europe and Australia and New Zealand with 14 out of 48 countries on track; and Latin America and the Caribbean, with 9 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 (20 out of 21 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.

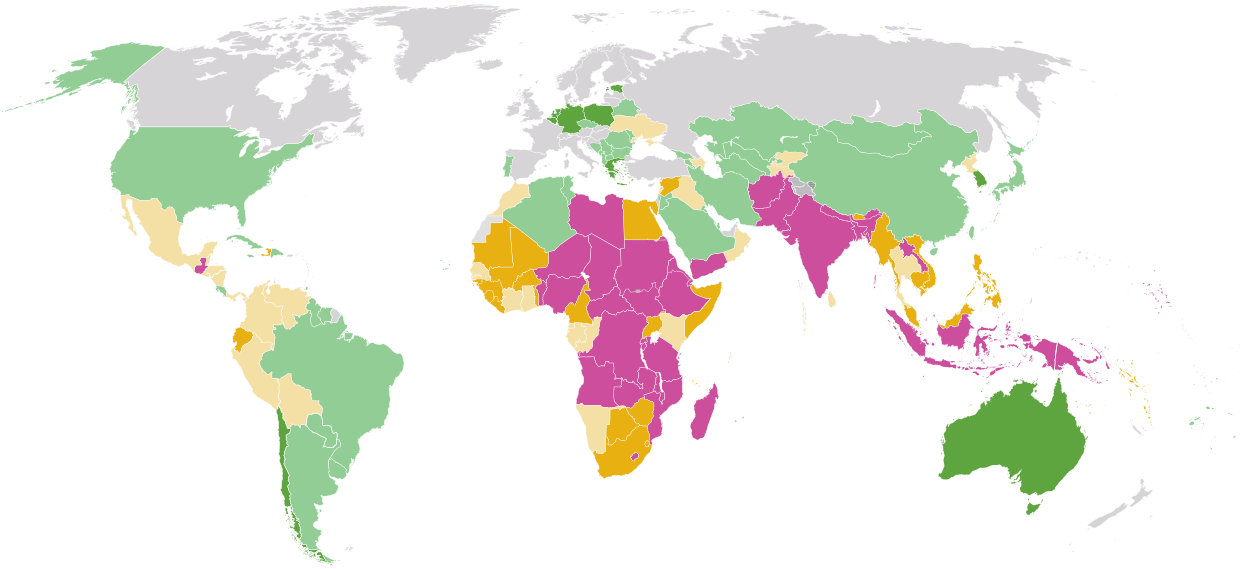
STUNTING

COUNTRY TRENDS

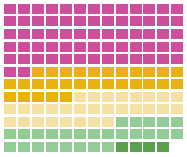
The number of countries with very high stunting prevalence has declined by half since 2000 – from 67 to 33 countries

Percentage of children under 5 affected by stunting, by country, **2020**[1]

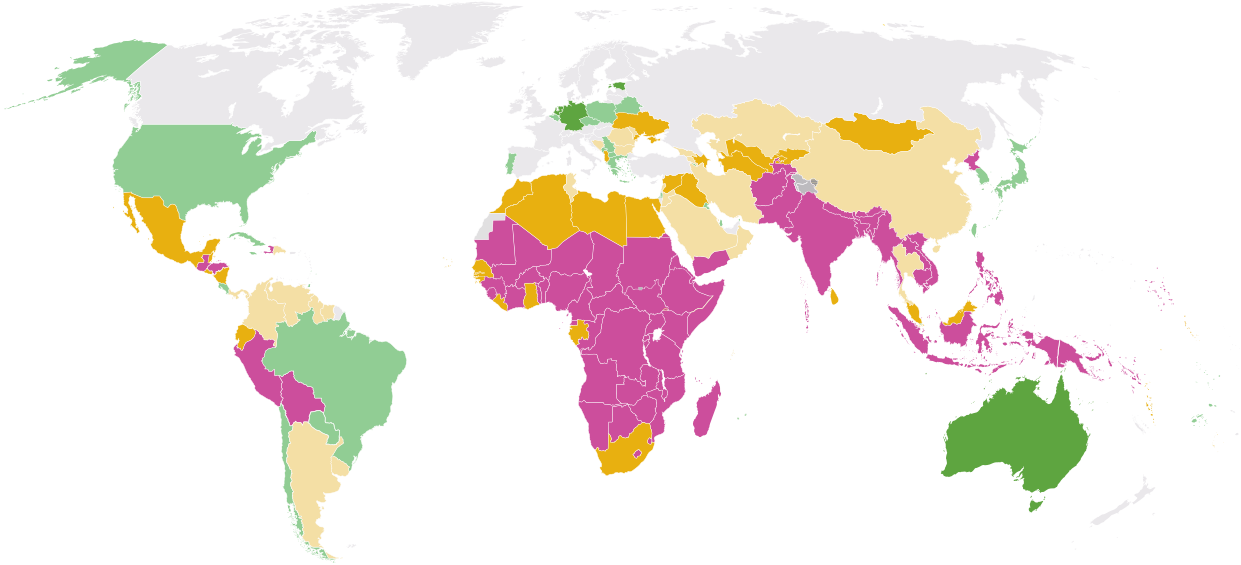
Distribution of stunting prevalence for each country with a modelled estimate presented for 2020.[1]



Percentage of children under 5 affected by stunting, by country, **2000**



Distribution of stunting prevalence for each country with a modelled estimate presented for 2000.



<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, 2021 edition. Note: 1. Household survey data on child height were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. However, one of the covariates used in the country stunting model takes the impact of COVID-19 partially into account (see page 3). 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.

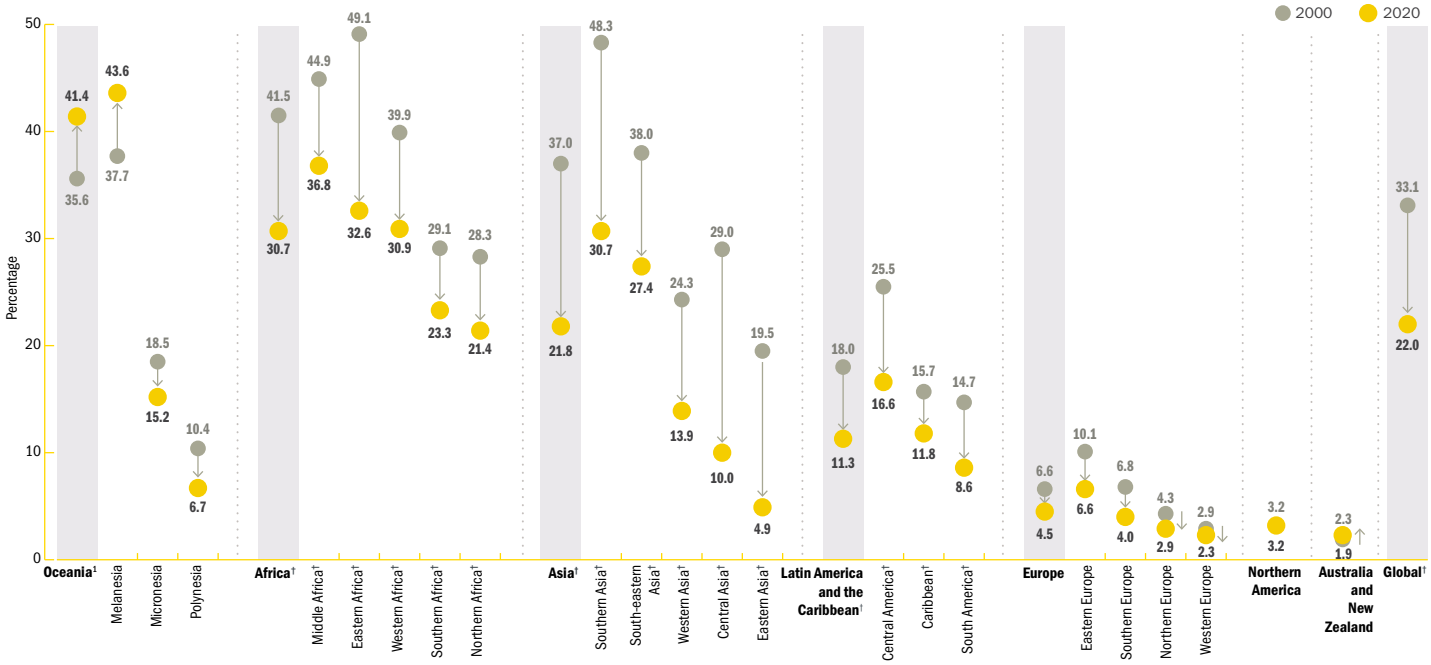
STUNTING

REGIONAL TRENDS

Global prevalence 2020: **22.0%**
Global prevalence 2000: **33.1%**
Global number affected 2020: **149.2 M**
Global number affected 2000: **203.6 M**

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

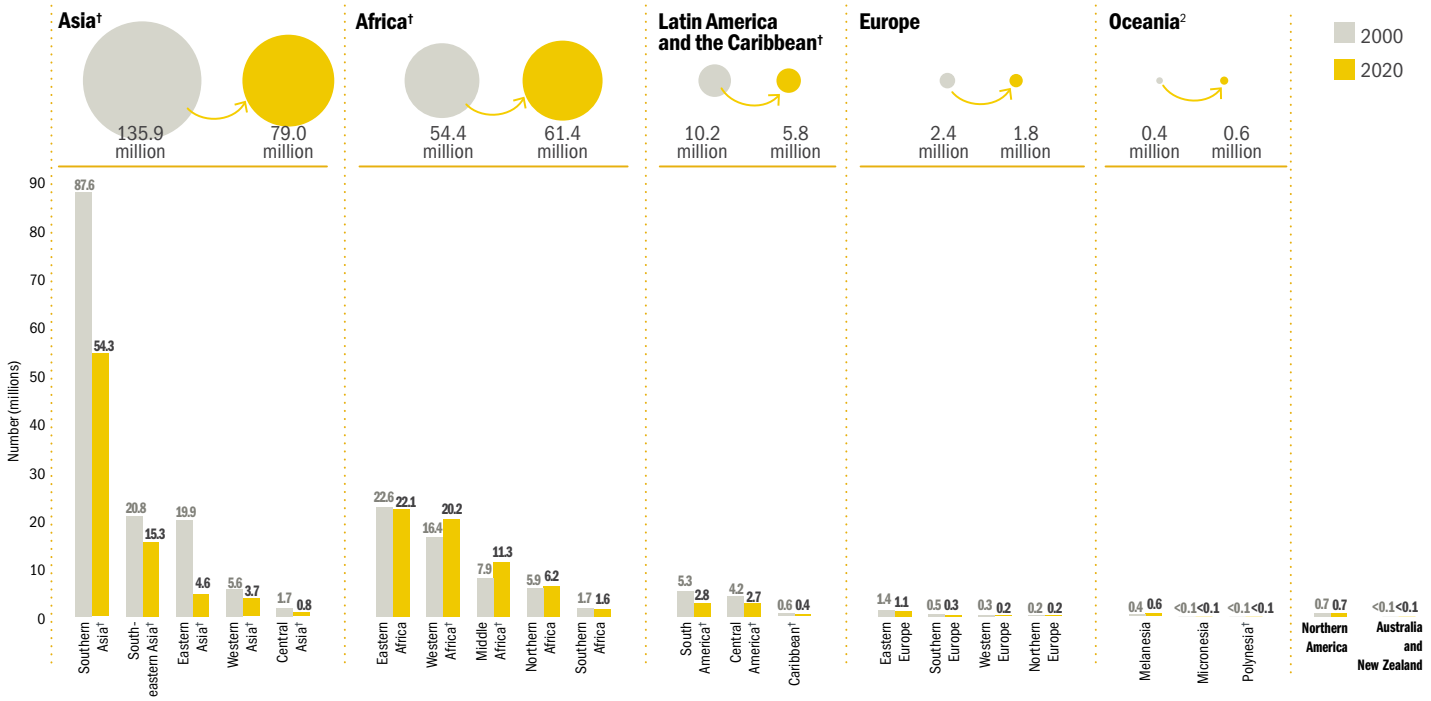
Trends in the percentage of children under 5 affected by stunting, by United Nations region/sub-region, 2000 and 2020[1]



Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2021 edition. Note: 1.Household survey data on child height were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. However, one of the covariates used in the country stunting model takes the impact of COVID-19 partially into account (see page 3). 2. 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 is declining in all regions except Africa

Trends in the number (millions) of children under 5 affected by stunting, by United Nations region/sub-region, 2000 and 2020[1]



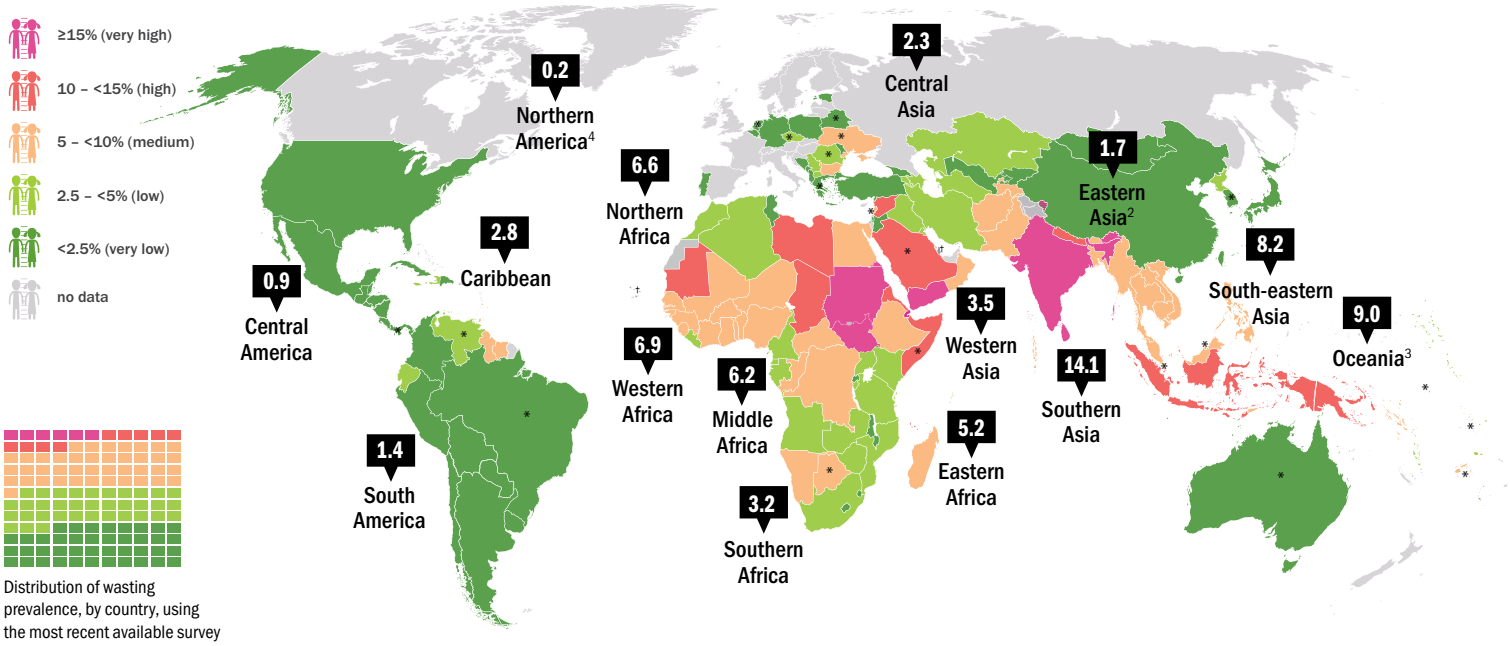
Source: UNICEF, WHO, World Bank Group Joint Malnutrition Estimates, 2021 edition. Note: 1. Household survey data on child height were not collected in 2020 due to physical distancing policies, with the exception of four surveys. These estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. However, one of the covariates used in the country stunting model takes the impact of COVID-19 partially into account (see page 3). 2. 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 stunting prevalence of any sub-region in the world

Percentage of children under 5 affected by wasting, by country and United Nations sub-region, 2020[1]



Distribution of wasting prevalence, by country, using the most recent available survey between 2010 and 2020.

Source: UNICEF, WHO, World Bank Group, Joint Child Malnutrition Estimates, 2021 edition. Note: 1. Country data are the most recent available survey estimates between 2010 and 2020; exceptions where older data are shown (2000–2009) are denoted with an asterisk (*) and where only data prior to 2000 are available the † footnote is used, denoting no recent data. The sub-regional estimates do not account for the impact of COVID-19, as household survey data on child height and weight were not collected in 2020 due to physical distancing policies, with the exception of four surveys (see page 3). 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 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.

Regional averages can mask wide variations in country prevalence

Percentage of children under 5 affected by wasting, by country (dots) and United Nations region (bars), 2020[1]