

Equity considerations for **achieving** the **Global Nutrition Targets 2025**







REDUCING STUNTING IN CHILDREN

TARGET: 40% REDUCTION IN THE NUMBER OF CHILDREN UNDER-5 WHO ARE STUNTED

Equity considerationsfor achieving the **Global Nutrition Targets 2025**



WHO Library Cataloguing-in-Publication Data

Reducing stunting in children: equity considerations for achieving the Global Nutrition Targets 2025

ISBN 978-92-4-151364-7

© World Health Organization 2018

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; https://creativecommons.org/licenses/by-nc-sa/3.0/igo).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. Reducing stunting in children: equity considerations for achieving the Global Nutrition Targets 2025. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Sales, rights and licensing. To purchase WHO publications, see http://apps.who.int/bookorders. To submit requests for commercial use and queries on rights and licensing, see http://www.who.int/about/licensing.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

CONTENTS

	ACKNOWLEDGEMENTS	VI
	FINANCIAL SUPPORT	VI
	PREFACE	1
1	WHAT DO WE NEED TO KNOW ABOUT CHILD STUNTING?	4
	What is child stunting?	4
	What are the global trends in the prevalence of child stunting in the last decades?	4
	Magnitude of the problem and the 2025 target for child stunting	5
7	HOW DO SOCIOECONOMIC DETERMINANTS AND INEQUALITIES INFLUENCE CHILD STUNTING?	6
	The influence of socioeconomic status on child stunting	6
	The influence of child stunting on socioeconomic status	8
	The influence of urban development on child stunting	8
	EXAMPLES OF INTERVENTIONS IMPLEMENTED TO ADDRESS CHILD STUNTING	10
5	Energy and protein supplements for women	10
	Community-based platforms for nutrition education and promotion	10
	Government commitment and focus on equity	11
1	WHAT KEY AREAS SHOULD INTERVENTIONS INCLUDE? A VIEW FROM A NUTRITION AND EQUITY FOCUS	12
T	The double burden of malnutrition	12
	Monitoring health inequalities	12
	Hygienic conditions, clean water and infections	13
	Social protection: cash transfer programmes and the nutritional status of children	13
	Agriculture, food systems and climate change	15
	Individual factors	15
5	WHICH STAKEHOLDERS ARE INVOLVED IN ADDRESSING SOCIAL AND HEALTH INEQUALITIES WHILE IMPLEMENTING INTERVENTIONS TO TACKLE CHILD STUNTING?	18
	Multisectoral interventions to tackle child stunting	18
	Nutrition-specific and nutrition-sensitive interventions	18
	The role of governments	19
	The role of the private sector	19
	TABLE 1. SUMMARY MESSAGES	20
	FURTHER READING AND USEFUL LINKS	22
	METHODOLOGICAL NOTE	24
	REFERENCES	25

ACKNOWLEDGEMENTS

This series on *Equity considerations for achieving the Global Nutrition Targets 2025* was coordinated by the World Health Organization (WHO) Evidence and Programme Guidance Unit, Department of Nutrition for Health and Development and the Gender, Equity and Human Rights Team. Dr Juan Pablo Pena-Rosas and Mr Gerardo Zamora oversaw its preparation. WHO acknowledges the technical contribution of Dr Ana-Lucia Mayen-Chacon in developing this document. We appreciate the technical feedback provided by (in alphabetical order): Ms Evelyn Boy, Dr Luz Maria De-Regil, Dr Martin Eklund, Dr Calvin Ho, Ms Lina Mahy, Dr Maria Pura Rayco-Solon, Ms Victoria Saint, Ms Gerda Verburg and Dr Marzella Wüstefeld. Ms Evelyn Boy provided extensive technical contributions and revisions.

FINANCIAL SUPPORT

WHO thanks Nutrition International and the Bill & Melinda Gates Foundation for providing funding for the preparation of this publication.

PREFACE

Equity is the absence of avoidable and unfair differences between groups of people. Social inequalities in health imply a difference in health status that is considered unjust and preventable through reasonable action. Health inequalities are related to social inequalities in nutrition through complex pathways, including policies addressing health and nutrition; the quality and quantity of food available and consumed; access to and affordability of nutritious foods of good quality; as well as the living conditions and circumstances of individuals and populations.

Reducing health inequalities and leaving no one behind is part of the Sustainable Development Goals (1) and the 2030 Agenda for Sustainable Development (2). Expansion of the evidence base on health inequalities in nutrition is needed to better plan, design and implement public health nutrition policies, plans and programmes. Identifying and acting on inequalities and their drivers contributes to achieving the six Global Targets 2025 to improve maternal, infant and young child nutrition (3), as endorsed by the Sixty-fifth World Health Assembly (4).

This series on Equity considerations for achieving the Global Nutrition Targets 2025 (3) have two objectives. First, it aims to underscore the relevance of social determinants, health equity, gender and human rights in malnutrition, and the need to further advocate for their inclusion in nutrition actions at global, regional and national scales. Second, it aims to provide policy-makers

and programme and project managers with practical and useful examples of evidence on nutrition interventions that face and address inequalities in nutrition. Throughout the document, boxes are used to present examples on the use of evidence for project design and implementation; multisectoral

Reducing health inequalities and leaving no one behind is part of the Sustainable Development Goals and the 2030 Agenda for Sustainable **Development**

collaboration; and incorporation of social determinants, health-equity, gender and human-rights approaches in nutrition actions. This series has been designed to disseminate concise information to public health nutrition officers who are not experts in social and health inequalities. The non-exhaustive examples are contextual and therefore are not to be considered for global guidance. Current and updated World Health Organization (WHO) guidelines are available online and they are referenced in this document for this target on reducing stunting in children and in the other documents of the series for the rest of the targets.

REDUCING STUNTING IN CHILDREN

This brief is dedicated to supporting the achievement of the Global Nutrition Targets 2025



TARGET 1: 40% REDUCTION IN THE NUMBER OF CHILDREN UNDER-5 WHO ARE STUNTED

Section 1 of this issue provides basic concepts about child stunting, as well as the prevalence, trends and magnitude of the problem.

Section 2 provides examples on how socioeconomic determinants and inequalities influence and interrelate with child stunting.

Section 3 briefly explores interventions that have been implemented to address child stunting.

Section 4 describes the key areas that should be included in interventions to tackle child stunting from an equity focus.

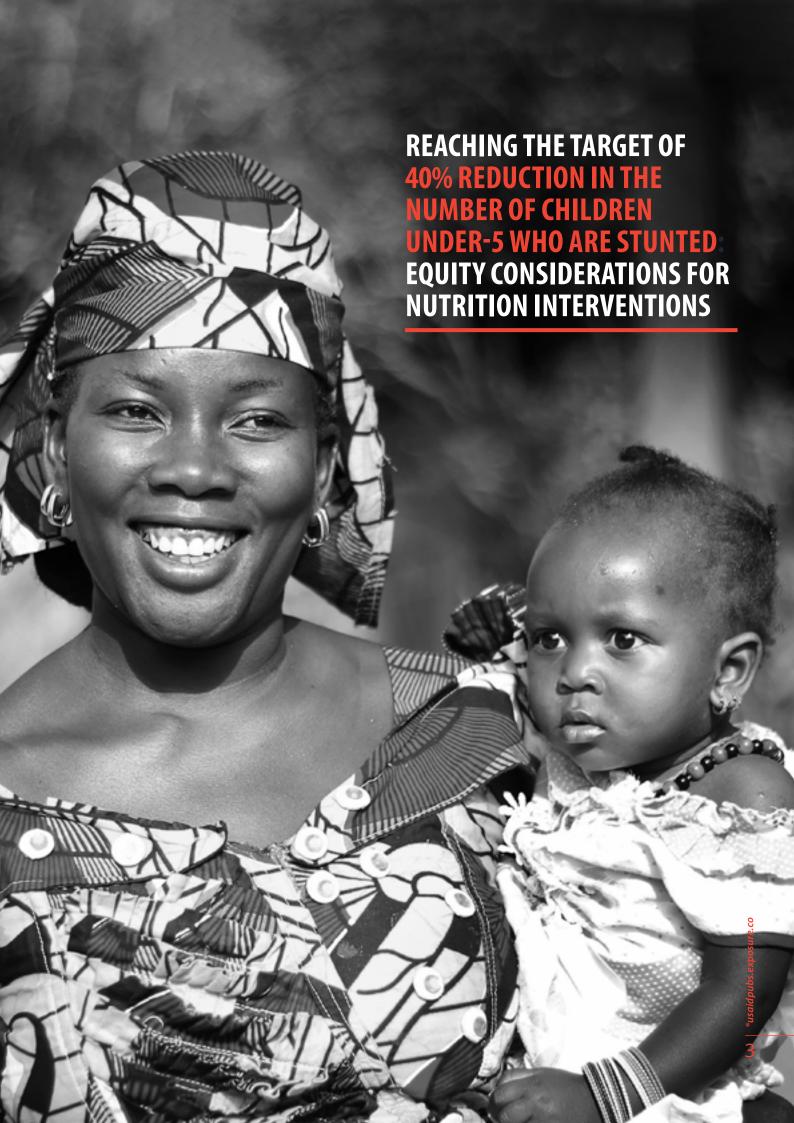
Section 5 underscores the involvement of stakeholders in addressing social and health inequalities while implementing public health nutrition interventions to tackle child stunting.

A table with a summary and entry points and key considerations for interventions is also presented. Next, a list of further reading and useful links is provided for readers who are interested in exploring these issues in more detail. Finally, a methodological note is included to explain how information was collected to produce this brief.

The information provided in this issue is aligned with and supportive of the outcomes and actions of the Comprehensive implementation plan on



maternal, infant and young child nutrition, as endorsed by the Sixty-fifth World Health Assembly in 2012 (4, 5), the Global strategy for women's, children's and adolescents' health 2016–2030 (6) and the United Nations Decade of Action on Nutrition (7).



1

WHAT DO WE NEED TO KNOW ABOUT CHILD STUNTING?

What is child stunting?

Globally in 2016, 22.9% or 154.8 million children under 5 years of age suffered from child stunting, defined by a low height-for-age (8). Stunting is measured by a height-for-age z-score of more than 2 standard deviations below the World Health Organization (WHO) Child Growth Standards median (9), showing a restriction of a child's potential growth (10). Child stunting can happen in the first 1000 days after conception and is related to many factors, including socioeconomic status, dietary intake, infections, maternal nutritional status, infectious diseases, micronutrient deficiencies and the environment (10, 11).

What are the global trends in the prevalence of child stunting in the last decades?

In 2016, 87 million stunted children lived in Asia, 59 million in Africa and 6 million in the Latin American and Caribbean regions (8). Five subregions have child stunting rates that exceed 30%: western Africa (31.4%), middle Africa (32.5%), eastern Africa (36.7%), southern Asia (34.1%) and Oceania (38.3%; excluding Australia and New Zealand; see Fig. 1). Both Asia and Oceania have experienced slow or no progress in reducing child stunting. In Latin America and the Caribbean, stunting has declined twice as quickly as in Africa from 2000 to 2016 (8). However, the reduction of child stunting has not been the same in all groups of the population. For example, from 1990 to 2013 in the Asia-Pacific, Latin American and Caribbean regions, child stunting declined more in urban areas than in rural areas (12). Also, most countries experiencing protracted crisis are "off course" to meet the World Health Assembly stunting-reduction targets in populations where moderate and severe child stunting are highly prevalent (13).



Socioeconomic status refers to an individual's access to social and economic resources. It is usually measured by educational level, income and occupation.

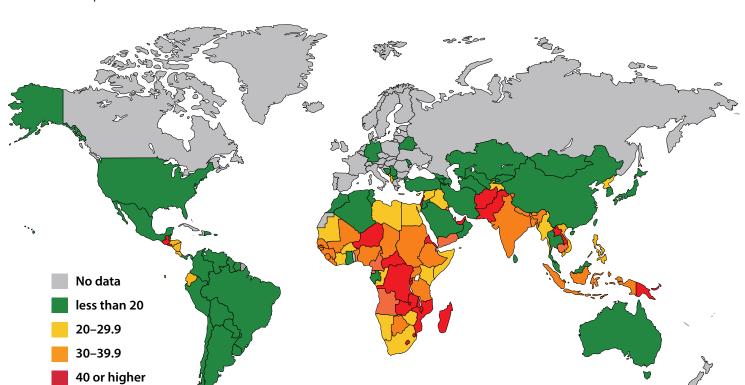


Fig. 1. Age-standardized prevalence (%) of stunting in children under 5 years of age, comparable estimates, latest prevalence available

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. All rights reserved. Copyright – WHO 2017.

Source: WHO. Global targets tracking tool. Indicator mapping: stunting (http://www.who.int/nutrition/trackingtool) (14).

Magnitude of the problem and the 2025 target for child stunting

Stunted children with deficiencies of iodine and iron may suffer irreversible brain damage, impeding them from reaching their complete developmental potential (10). They have a

shorter adult height and a higher susceptibility to chronic diseases in adulthood, lower attained schooling and reduced adult income (15). Stunted and wasted children also have a higher mortality risk, which is increased when the two conditions coexist in the same population (16). Owing to slow or no progress in the reduction of stunting rates in several countries (17), and its negative consequences, child stunting is part of the monitoring framework of Sustainable Development

Stunted children with deficiencies of iodine and iron may suffer irreversible brain damage, impeding them from reaching their complete developmental potential

Goal number 2. The Global Nutrition Targets 2025 (3), as endorsed by the Sixty-fifth World Health Assembly in 2012 (4), include a 40% reduction in the number of children aged under 5 years who are stunted.

2

HOW DO SOCIOECONOMIC DETERMINANTS AND INEQUALITIES INFLUENCE CHILD STUNTING?

The influence of socioeconomic status on child stunting

Socioeconomic status is usually measured by education, income and job position at an individual level. It can also be measured by place of residence (e.g. urban, rural, coastal, neighbourhood income) or country development at an aggregate level.

Socioeconomic status has an impact on child nutrition. For example, mothers with a lower level of education are more likely to have stunted children (18, 19) and to be less able to obtain specific information about child stunting (20). Also, mothers with low income and a low level of education may experience more difficulty affording adequate food that will provide a nutritious and diverse diet (21) (see Boxes 1–4).

BOX 1

Socioeconomic status and child stunting in Brazil

Brazil experienced a sharp reduction of socioeconomic inequalities from 1996 to 2007. Child stunting dropped from 37% in 1974 to 7% in 2006–2007. Two thirds of the decline could be attributed to improvements in maternal schooling, family purchasing power, maternal and child health care, and coverage of water supply and sanitation services (19). In the 1990s, more girls were enrolled in and completed primary school, increasing overall maternal schooling in adulthood. These women also had fewer children. The purchasing power of, and the minimum wage received by, unskilled workers increased, unemployment decreased, and cash transfer programmes for low-income families were expanded. Sanitation services also increased and severe food insecurity was reduced by 27% between 2004 and 2006–2007. Moreover, breastfeeding increased between 1996 and 2006–2007. Thus, income redistribution and universal access to education, health, water supply and sanitation services impacted child nutrition.



Urban areas, income and child stunting in Pakistan

BOX 3

In 2009-2010, a survey was conducted in Lahore to assess the nutritional status of schoolchildren. In an urban area, children with low socioeconomic status had a higher risk of being stunted compared to those with high socioeconomic status. Also, children living in lowincome neighbourhoods had a higher risk of being stunted than those living in high-income neighbourhoods (22).

Socioeconomic status and child stunting in Oman

BOX 4

A study conducted in Oman reported that as mothers' education increased, so did the height of children. In 1995, having a monthly income higher than 800 Omani Rials and a mother with more than 4 years of education were the best indicator of unconstrained growth in children (23).

Increasing women's literacy rates is not enough protection against child stunting on its own, as there are other related factors that are important for reducing child stunting, such as, income distribution, government expenditure on social services, the proportion of the economy devoted to agriculture, immunization rates and access to safe water (24). For example, in Bangladesh it was found that in families where the mothers or fathers had completed 10 years of education or more, the prevalence of child stunting was still high. Although a higher educational level in women and men would be expected to reduce child stunting, there are other social, economic and political factors that also have an effect on rates of child stunting in Bangladesh (25).

A low family income and poor living conditions increase the risk of child stunting, as a result of high food insecurity, low access to health care, unhealthy environments and a high risk of infections (19, 26). For example, in a study in five countries (Lebanon, Morocco, Syrian Arab Republic, Tunisia and Yemen), the percentage of child stunting between 1991 and 2001 was always higher

The percentage of child stunting between 1991 and 2001 was always higher in the lower-income households compared to higherincome households

in the lower-income households compared to higher-income households (27). Evidence from India confirms the multifactorial nature of child stunting, including the identification of protective factors like household wealth, maternal education and the body mass index of children (28).

Socioeconomic status is linked to, and intersects with, other social determinants of health (i.e. gender and ethnicity) in complex ways that impact child stunting. Across 96 countries, the Gender Inequality Index – a national marker of women's disadvantages in reproductive health, empowerment and participation in the labour market – explained 10% of the variance in child wasting and stunting and 41% of the variance in child mortality, independent of national gross domestic product (29). In addition, this study showed that reducing gender inequality may also benefit child outcomes, including stunting, in the poorest countries. Another study using data from 1970 to 2012 for 116 countries found that reductions in child stunting were associated with indicators of women's empowerment (including the ratio of female-to-male life expectancy at birth and secondary school enrolment), as well as with indicators of reduction of gender inequality (30).

The influence of child stunting on socioeconomic status

Child stunting affects the function and structure of the brain, impeding mental development and possibly affecting human capital and social progress in the long term (10). For example, stunting is related to poor school performance and subsequently having low income, high fertility and providing poor care for children, contributing to the intergenerational transmission of poverty (31). Stunted children usually belong to the most socioeconomically disadvantaged population groups and are likely to do poorly in school, have low incomes in adulthood and contribute to the intergenerational transmission of poverty and income inequality (31, 32).

The influence of urban development on child stunting

In low- and middle-income countries,¹ children living in urban areas are generally less likely to be stunted and underweight than children living in rural areas (34). This advantage is mainly due to better-equipped urban health-care systems and higher access to health-care facilities, which facilitate public health interventions. Compared to rural areas, individuals living in cities have a greater availability of food and better housing, electricity, piped water, sanitation and transportation. Urban populations usually have a higher educational level, economic status and employment opportunities. In addition, children in urban areas are usually taller and heavier than those living in rural areas (35). However, in several countries, the rate of stunting in children living in slums is higher than in the rest of urban areas or rural areas (36) (see Boxes 5–8).

Massive rural-to-urban migration is increasing urban poverty, with urban populations living in informal settlements and having unmet needs for housing, education, health, employment and sanitation (37). Such conditions facilitate the transmission of infectious diseases such as diarrhoea in children. Massive migration to cities can also lead to nutrition inequalities. For example, in sub-Saharan Africa, differences in the nutritional status of children from high- and low-income households in urban areas are greater than the differences between urban and rural areas (38).

The creation of sustainable and resilient food systems for healthy diets is also one of the crosscutting integrative areas defined in the Second International Conference on Nutrition

As a measure to tackle one of the negative effects of massive migration, local authorities can improve food security by adopting food systems in cities that support healthy diets. The creation of sustainable and resilient food systems for healthy diets is also one of the cross-cutting integrative areas defined in the Second International Conference on Nutrition (ICN2), conducted under the United Nations Decade of Action on Nutrition (7). The adoption of such food systems includes creating a diverse

food supply that is affordable and geographically close to populations; improving local management of food systems; and promoting links with rural producers (37). Urban and periurban agriculture can increase dietary diversity, expanding the offer of fresh foods, lowering food costs (reduced

As of 2017. The World Bank classification of countries by their income (i.e. based on estimates of gross national income per capita for the previous year) includes 31 low-income countries, 108 middle-income countries and 79 high-income countries. For further details, see reference (33).

distribution costs), and contributing to environmental sustainability. For example, in Beijing, China, urban agriculture has been integrated into strategic development plans. Farmers are encouraged to establish cooperatives and the government delivers subsidies to incentivize the use of organic fertilizers and less-polluting pesticides at lower prices (39).

Urban agriculture and child stunting in Ecuador

BOX 5

The Participatory Urban Agriculture Project in Quito, Ecuador, supports more than 12 000 individuals through the establishment of more than 1000 active gardens, including 140 community gardens that produce approximately 400 tonnes of food per year. An estimated 47% of the produce is sold and the remainder is kept for home consumption. Participants earn at least US\$ 55 per month from the sale of produce and save at least US\$ 72 per month on food purchases, by consuming what they grow. This programme has diversified the diet of urban farmers and their families, and has led to the establishment of markets in the city (40).

Inequalities in stunting among children aged under 5 years in urban areas

BOX 6

A study that assessed inequalities in stunting among children living in three countries in Africa (Cameroon, Morocco and Mozambique), two countries in the Americas (Bolivia and Colombia) and two countries in Asia (India and Turkey) determined that household wealth had the highest influence on child stunting in the seven countries, followed by mothers' and their partners' education (37).

Inequalities in stunting in both urban and rural areas

BOX 7

In a study conducted in Colombia in 2005, household characteristics, care practices and mothers' education were significant predictors of stunting in both urban and rural areas. This study also showed a strong association between poverty and stunting, even after controlling for place of residence (i.e. urban or rural). Thus, living in an urban area was not necessarily a protective factor against stunting for individuals with low socioeconomic status (41).

Box 8. Urban settings and child stunting in India

BOX 8

Several surveys were conducted in India during 1992-1993, 1998-1999 and 2005-2006. The surveys showed that the rate of child undernutrition decreased in urban India between 1992 and 2006 (34). However, this reduction was not the same in rural areas, where inhabitants have less access to piped and filtered water and toilet facilities than rural inhabitants. The Government of India launched the National Rural Health Mission (2005–2012), aimed at making architectural corrections in the public health-care system and providing quality health services in rural areas, especially for the urban poor and rural areas (42).

Further evidence from India in the National Nutrition Monitoring Bureau report of 1991 showed that daily caloric intake among urban low-income women ranged from 1200 to 1600 calories per day (43). This amount did not increase during pregnancy and mothers remained moderately active. Also, the dietary intakes of rural women were similar to those of urban women, although rural women were more physically active, as they helped their husbands in agricultural activities. Further, women belonging to middle- and higher-income groups tended to seek out antenatal care, read informational materials, be exposed to health education through mass media and consume more calories per day to meet their own and their children's nutritional needs. These women had a net weight gain of 5-10 kg at the end of one pregnancy (44). Thus, nutrition inequalities in children and mothers can and must be monitored according to their place of residence and/or geographic location.

3

EXAMPLES OF INTERVENTIONS IMPLEMENTED TO ADDRESS CHILD STUNTING

Being a complex problem, there is no single nutrition intervention to address stunting in children, but rather multiple, complex and coordinated nutrition-sensitive and nutrition-specific interventions in partnership with other health and non-health actors in development. The following examples portray some of the types of interventions to address child stunting, which highlight the need for social determinants of health and equity-oriented approaches. Each area of action is presented with a brief introduction and is followed, when available, by one or several examples in boxes.

Energy and protein supplements for women

Balanced energy and protein supplementation, which provides roughly 25% of the total energy supplement as protein, is an important intervention for the prevention of adverse perinatal outcomes in undernourished women. It increases birth weight by 41g and reduces the risk of stillbirths by 40% and small-for-gestational-age births by 21% (45). WHO recommends nutrition education and increasing daily energy and protein intake for pregnant women in undernourished

WHO recommends nutrition education and increasing daily energy and protein intake for pregnant women in undernourished populations, to reduce the risk of low-birth-weight neonates

populations, to reduce the risk of low-birth-weight neonates. In highly food-insecure areas or in populations with little access to a variety of foods, additional complementary interventions are recommended to reduce the risk of stillbirths and small-for-gestational age neonates, such as balanced energy and protein dietary supplementation for pregnant women (46). Monitoring of programmes for energy and protein supplementation, to assess their effects, feasibility, acceptability and equity implications, is encouraged.

Community-based platforms for nutrition education and promotion

Interventions to improve maternal, newborn and child health can be delivered through community-based service-delivery platforms and prevent child stunting. They can help reduce inequity in deaths due to infectious diseases, such as diarrhoea. Some examples include programmes for folic acid supplementation, multiple micronutrient supplementation, vitamin K administration, or exclusive breastfeeding, as well as antenatal, perinatal and postnatal care. These programmes can include behaviour-change communication and strategies for community mobilization. Interventions implemented through community-based service-delivery platforms can be delivered by health-care personnel or trained community workers, and implemented locally in homes, villages or community groups. Community health workers are able to implement many of these projects and have potential to improve child health and nutrition outcomes among populations that are difficult to reach (47) (see Box 9).

In 1999, a multisectoral approach for reducing child stunting in rural areas was implemented in the Andean highlands and Amazon forest. It was called the Good Start in Life Initiative and was supported by the United Nations Children's Fund and the United States Agency for International Development. Stunting among children under 3 years of age in these communities fell from 54% to 37% between 2000 and 2004. In the following years, child stunting fell from 30% in 2004–2006 to 20% in 2011. The prevalence of stunting among the poorest children also declined from 56% to 44% over the same time period (48). This successful multisectoral intervention was created inside the scope of the Global strategy for women's, children's and adolescents' health (6) and the Sustainable Development Goals (1, 49). It promoted intake of iodized salt; prenatal controls; adequate feeding of pregnant and lactating women and their children; exclusive breastfeeding during the first 6 months of life; control of iron and vitamin A deficiency; and personal and family hygiene (50).

Government commitment and focus on equity

A government's explicit and robust commitment to, as well as work on, equity is also an important factor that leads to the implementation of interventions that prevent and treat child stunting. For example, countries participating in the Scaling Up Nutrition (SUN) Movement are committed to tackling the inequity drivers of malnutrition that are common to all countries, and ensuring equality and non-discrimination for everyone and that no one is left behind. The members of the SUN Movement support the adoption of policies that reduce nutritional inequalities, especially among women and girls, and eliminate discriminatory laws and practices. Also, they strive to involve representatives from vulnerable communities in decision-making processes. Upcoming SUN priorities include developing or reviewing mechanisms that address equity in nutrition plans, policies and strategies (51) (see Box 10).

Empowering women and reduction of child stunting in Bangladesh

BOX 10

An intervention to reduce child stunting in Bangladesh included nutritional support (i.e. food rations), sanitation (i.e. safe water, sanitary latrines), and alleviation of poverty and food insecurity (i.e. agriculture training and inputs, gardening, livestock rearing, income generation). It also empowered women with education on rights and nutrition, solidarity, planning actions and advocacy. The intervention was associated with a sharp reduction of stunting among children up to the age of 24 months in the intervention areas. Analyses suggested that participation in the nutrition and empowerment components of the intervention had a greater effect on the decrease of child stunting rates than either strategy alone (52).



4

WHAT KEY AREAS SHOULD INTERVENTIONS INCLUDE? A VIEW FROM A NUTRITION AND EQUITY FOCUS

The double burden of malnutrition

When countries progress in their socioeconomic and social development, it is likely that child stunting will decrease and that more development opportunities will become available, including a rise in disposable income in most population groups (53), thus potentially expanding access to nutritious foods. At the same time, however, countries may also face an increase in overweight and obesity in their populations across different income groups, although underweight continues to be more frequent among the poorer groups. This is called the double burden of malnutrition, characterized by the coexistence of undernutrition along with overweight, obesity or diet-related noncommunicable diseases (54–58) (see Box 11).

BOX 11

Double burden of nutrition in Argentinean households

In 2005, almost 12% of mothers in Andean households that participated in a study conducted in Argentina were overweight or obese, and at least one of each of their children was stunted (59). The double burden of malnutrition was more frequent in households with a larger number of people living in one house and where the head of the household had a low level of education.

The double burden of malnutrition can be linked to social and health inequalities. For example, in Latin America and the Caribbean, overweight and obesity started to become more frequent in the wealthiest children (60), possibly due to the adoption of energy-dense foods that are high in fat and sugar, coupled with a decrease in physical activity that goes hand in hand with economic development (61). Meanwhile, stunting has remained high in the poorest children.

In contrast, recent surveys conducted in Colombia, Dominican Republic and Honduras show an increase in rates of overweight and obesity among the poorest children (62). Thus, interventions are necessary to reduce child stunting, prevent overweight and obesity in children (61) and increase women's education. Investments in public health and education programmes are needed to promote a healthy diet and keep children healthy.

Monitoring health inequalities

Health systems that provide universal coverage of essential nutrition actions are part of the crosscutting integrative areas of impact defined in the ICN2 and conducted under the United Nations Decade of Action on Nutrition (7). It is also necessary to monitor inequalities in access to health services and to provide disaggregated and robust information for policies, programmes and interventions that aim to reduce health inequalities, including those related to nutritional status. For example, in some countries such as Pakistan, girls have a higher risk of being stunted than boys. Thus, information that is disaggregated by sex can promote gender-sensitive approaches in nutritional intervention programmes (63). Also, monitoring can be used to evaluate the progress of health interventions with specific equity targets, or it can assess how other health interventions affect inequalities (64). WHO has developed tools to assist Member States and their partners in monitoring health inequality, through the Health Equity Assessment Toolkit (HEAT) (65) and HEAT Plus.¹

The Health Equity Assessment Toolkit (HEAT) is a software application that facilitates the assessment of within-country health inequalities and allows users to work with the built-in WHO Health Equity Monitor database (65). HEAT Plus allows users to upload and work with their own database.

REDUCING STUNTING IN CHILDREN

Hygienic conditions, clean water and infections

Infectious diseases caused by a lack of hygienic conditions and clean water are important determinants of child stunting. It is usually the groups with lower socioeconomic status that most frequently live in such polluted environments (66). Among factors that impede child growth, diarrhoea is particularly important, owing to malabsorption of nutrients and lack of appetite (10). For example, one study using data from Bangladesh, Brazil, Guinea Bissau, Ghana and Peru showed that each episode of diarrhoea in the first 24 months of life, increased the risk of stunting at 24 months of age (67). Thus, clean and sufficient drinking water, proper sanitation, drains for wastewater and proper management of solid waste are key health-equity interventions in deprived areas (68), including urban areas (see Box 12).

Water, sanitation and hygiene in Ethiopia

BOX 12

A study conducted in Ethiopia assessed four interventions conducted in food-insecure areas: (i) water, sanitation and hygiene (WASH); (ii) health; (iii) nutrition education; and (iv) a combination of all interventions together. In this study, WASH was the only intervention that had a significant impact on the reduction of child stunting (69).

Social protection: cash transfer programmes and the nutritional status of children

Social protection is considered one of the six cross-cutting integrative areas of impact derived from the recommendations of the ICN2 and conducted under the United Nations Decade of Action on Nutrition (7). It reduces chronic poverty by enabling poor households to meet their basic consumption needs and achieve better health, nutrition and education (47, 70).

Food accessibility is achieved when households have adequate resources to obtain appropriate foods for a nutritious diet (71). Social protection schemes can improve access to food products that are rich in protein, vitamins and minerals that would otherwise not be accessible (70). Legislation is needed to support social protection schemes linked to food purchase; local food production; community gardens; and infrastructure for safe food storage, processing, transport and distribution (12).

Social safety nets can empower women by enabling them to have control over assets and participate in household decision-making and social activities (20). They can also increase food security¹ and reduce women's risk of becoming undernourished due to periods of pregnancy and lactation (20, 70). Social safety net programmes include the distribution of cash transfers to low-income households. Their goal is to increase income,

Social safety nets can empower women by enabling them to have control over assets and participate in household decision-making and social activities

although they are more effective when coupled with additional interventions or conditions, such as attending health and nutrition services and good sanitation practices (see Box 13).

¹ Food security is defined as individuals "having at all times physical and economic access to sufficient, safe and nutritious foods that meet their dietary needs and food preferences" (72).

REDUCING STUNTING IN CHILDREN

Ethiopia's Productive Safety Net Programme is an example of a social safety net that aims to enable the rural poor that are facing chronic food insecurity to create assets and access sufficient food provisions. The programme provides multi-annual transfers such as food, cash or both, to help chronically food-insecure people survive periods of food deficit and avoid depleting their reserves, while meeting basic food requirements. The programme has four major goals: (i) to support the rural transformation process; (ii) to prevent long-term consequences of short-term food inaccessibility; (iii) to encourage households to engage in production and investment; and (iv) to promote market development by increasing household purchasing power. Vulnerable households receive 6 months of assistance annually to protect them from acute food insecurity (73).

When conditions are applied to cash transfers, they are referred to as conditional cash transfers. This type of intervention may include nutrition-specific interventions for nutrition behaviour change and the distribution of fortified foods and supplements (74). Conditional cash transfers can also increase purchasing power and promote access to nutritional foods (47) and positively impact health outcomes. Conditional cash transfers may also improve children's nutritional status and development, as well as increasing access to and coverage of hygiene, clean water and several other child health interventions. However, before the implementation of conditional cash transfers, several conditions should be evaluated, such as fiscal space; political stability; political will and leadership; public acceptability; and institutional capacity and coordination (74). Also, gender differences must always be taken into account when implementing social protection interventions (70).

Conditional cash transfers, by use of health services, can be important resources to increase women's food intake during pregnancy, especially in many low- and middle-income countries where numerous women aged 15–19 years have already given birth at least once, as is the case in Nigeria (30%), India (19%) and Ethiopia (16%). As the mothers' own growth has not been completed at these ages, the risk of having low-birth-weight babies and of subsequent child stunting is increased (75).

Evidence on the effectiveness of conditional cash transfers is mixed and positive results have been found mostly in the Latin American subregion (76) (see Box 14). Conditional cash transfers have been shown to reduce poverty, increase the consumption of basic foods and increase dietary diversity. However, to have nutritional benefits they also need to be linked to nutrition goals, actions and service quality. They require decision-making on eligibility procedures, levels of benefit, and conditionality.



Cash transfer programmes in Latin America have been shown to have a positive impact on the nutritional status of children (i.e. a reduction of stunting). Cash transfers may also help to improve access to and use of preventive services and provide a positive impact on health outcomes (77).

Agriculture, food systems and climate change

Global climate change is likely to particularly affect the health of poor people in both rural and urban areas, and actions to reduce its severity are therefore actions for health equity (68). Climate change and the expected frequency of droughts and flooding threaten to reduce dietary diversity and food availability (i.e. production and supply, trade and food aid), affecting child growth. Also, climate change has been linked with child stunting through reduced food availability and dietary diversity, highlighting the need for measures to increase resilience and prevention among vulnerable populations. For example, one study conducted in 2015 showed that climate (i.e. rainfall, extreme weather events like floods and droughts, seasonality, temperature) influences child stunting, as many of its determinants are climate sensitive (e.g. infectious diseases, food insecurity, deficient crop yields and poor access to health care, among others) (78). These environmental and health consequences threaten economic, social and cultural rights, including the rights to life and access to safe food and water, health, security, shelter and culture. Also, environmental and health consequences of climate change disproportionately affect low-income countries and lowincome population groups in higher-income countries, affecting human rights and social justice. On a national or local level, many groups are vulnerable to adverse environmental and health consequences of climate change. These include women (as they may be highly dependent on local natural resources for their livelihood) (79); people living in poverty; minority groups; children; older people; people with chronic diseases and disabilities; and those residing in areas with a high prevalence of climate-related diseases (80).

Individual factors

Maternal undernutrition and child stunting

Food sharing within the family of a supplement recipient may dilute the intended results when women do not consume the supplements in sufficient quantities. Additionally, supplementation programmes may not have national coverage and many pregnant and lactating women may not be able to benefit from the programme. In these situations, programme monitoring and evaluation is suggested. Programmes aiming to improve maternal nutrition status should include coverage to vulnerable women who are at higher risk of inadequate weight gain during pregnancy. Community workers may identify specific situations, such as a drought or a pregnancy in lactating women, that may be affecting a supplementation programme (44).

Early marriages and pregnancies

Globally, 10 million girls younger than 18 years of age are married each year (81), affecting their educational attainment and possibly affecting the health of their future families (47). As discussed earlier, young mothers are at risk of having low-birth-weight babies and those babies are at risk of subsequent child stunting.

Complementary feeding

Complementary feeding is the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants (82). It is aimed at increasing dietary diversity and children's height and weight (83). Nutrition education of mothers is necessary to improve the quality of the diet during the process of gradually introducing foods to the infant and can be incorporated into primary health-care programmes. Taking into account differences in socioeconomic status,

such as educational level and income group, health workers and nutritionists can educate mothers about the importance of breastfeeding, quality complementary food items and good hygiene when preparing the young child's food (84).

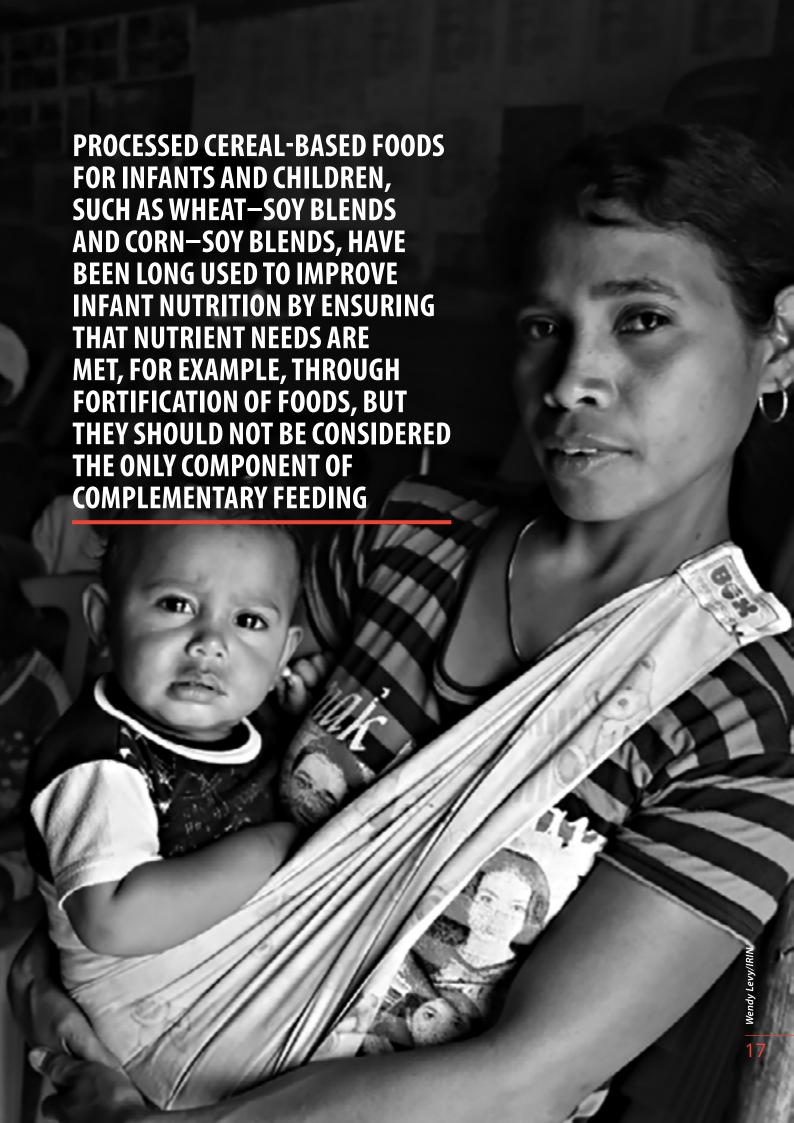
One study conducted in Mexico, Kenya and Egypt showed that these populations had a very low intake of vitamin B_{12} , zinc and iron. Adding animal-source food items improved dietary quality and significantly promoted growth, cognitive development and physical activity (85). Dietary quality may also be improved by identifying the most nutritious combinations of local foods and other methods. For example, the content of bioavailable iron and zinc in home-prepared diets can be enhanced by reducing phytate concentrations through germination or fermentation and/or soaking. Fermentation is especially important because it also increases the level of several B vitamins. In addition, diet quality may be improved by reducing the intake of polyphenols (present in tea and coffee), which inhibit iron absorption; by increasing enhancers of iron and zinc absorption (ascorbic acid or other organic acids such as citric, malic, tartaric and lactic acids); and by including animal products in the meal. In some cases, complementary foods may not be optimal to meet the child's nutrient needs, and without fortification the densities of iron, zinc, and vitamin B_6 in complementary foods may be inadequate (86) (see Box 15).

BOX 15

Box 15. Complementary fortified foods in rural areas and slums in Indonesia

A study conducted in Indonesia assessed the effect of milk and noodles fortified with several vitamins and minerals (e.g. folate, iron, vitamin B_{12}) on child stunting. Children aged 6–59 months who consumed fortified milk or fortified noodles had a lower risk of stunting, and those who consumed both of the fortified food items had the lowest risk of stunting (87).

Processed cereal-based foods for infants and children, such as wheat–soy blends and corn–soy blends, have been long used to improve infant nutrition by ensuring that nutrient needs are met, for example, through fortification of foods. They provide an appropriate balance of nutrients and save time for caregivers. However, as infants' bodies self-regulate their energy intake to meet their needs, they will reduce their intake of breast milk when given a large amount of energy from other foods. Processed cereal-based and other commercially available complementary foods should not be considered the only component of complementary feeding, and appropriate marketing of such foods can support caregivers to follow appropriate food preparation and feeding practices, including sustained breastfeeding (86).



5

WHICH STAKEHOLDERS ARE INVOLVED IN ADDRESSING SOCIAL AND HEALTH INEQUALITIES WHILE IMPLEMENTING INTERVENTIONS TO TACKLE CHILD STUNTING?

Multisectoral interventions to tackle child stunting

Adequate nutrition requires a multisectoral effort that, in turn, requires individual, institutional and system-level collaborators to implement effective interventions through engagement across different sectors and stakeholders. Effective implementation requires coherence within sectors and stakeholder institutions, as well as horizontal coherence across sectors and stakeholders (88), addressing inequity and progressing towards universal coverage so that no one is left behind, especially the poor and mot vulnerable populations (89).

Tackling child stunting requires the involvement of different sectors (e.g. health, social protection, agriculture, education) and different levels of involvement (e.g. planning, implementation monitoring, evaluation). It also requires strengthening of nutrition governance and accountability, which is one of the cross-cutting integrative areas defined in the ICN2, conducted under the United Nations Decade of Action on Nutrition (7). Health staff, governments, donors and the private sector need strong national monitoring and assessment platforms for accountability purposes, and for the quality and effectiveness of their investments in nutrition (90).

Nutrition-specific and nutrition-sensitive interventions

Evidence suggests that 10 multisectoral, nutrition-specific evidence-based interventions could reduce child stunting by 20%, if scaled to 90% coverage. These interventions include: folic acid supplementation; iron and iron-folic acid supplementation; multiple micronutrient supplementation; calcium supplementation; iodine fortification through the iodization of salt; maternal supplementation with balanced energy and protein; delayed cord clamping; neonatal vitamin K administration; vitamin A supplementation; and kangaroo mother care for the promotion of breastfeeding and care of preterm infants and those who are small for gestational age (47).

A better coverage of nutrition-specific interventions for women and children, with intensification of nutrition-sensitive measures for women, is vital. Some examples of nutrition-sensitive measures include discouraging early marriage; promoting completion of secondary education; improving socioeconomic status and control over resources; reducing physical workload; and improving access to water, sanitation and cooking-fuel facilities (91).

A clear identification of who is doing what and where they are doing it helps implementing agencies to identify potential partners, and helps the government and donors to balance investments and track results. The existence of a common framework guides national efforts in nutrition and creates opportunities for partnerships where multilateral agencies raise funds and work with nongovernmental organizations while engaging the community as partners in the implemented programmes (92).

The role of governments

Local governments should be engaged through a process of political commitment, institutional change, capacity-building, partnership-based planning and innovative projects with other stakeholders, including civil society organization and the private sector, when appropriate (68). Many lessons can be learnt from the successful examples of countries involved in the SUN Movement (51). These include high-level political involvement and the appointment by many sectors of focal points to be part of a national technical committee, highlighting the country-owned and country-led principles. These focal points usually identify nutrition-specific and/or nutrition-sensitive actions within each sector and facilitate adaptation and implementation of centrally developed policies by subnational and grass-roots actors (92).

At national and subnational levels, both political commitment and operational efforts are needed to monitor and address health inequalities in nutrition programmes, which require monitoring of results and allowing the examination of potential inequalities in health (e.g. by socioeconomic status, ethnic group, sex, geographical location or other determinants) (89).

The role of the private sector

The private sector is an increasingly large player in areas related to child nutrition and may be a potential contributor to improve it. Its role in reducing child stunting should be defined by national authorities, based on local needs, and programmed according to evidence-based policies, such as the *International Code of Marketing of Breast-milk Substitutes (93)* and the Codex Alimentarius International Food Standards (92, 94). Governments can mitigate the potential harm from the private sector by establishing quality standards, enforcing adequate regulation and legislation measures, and ensuring competition (95).

In recognition that the private sector may sometimes inappropriately promote foods for infants and young children, and under WHO guidance, the 69th World Health Assembly in 2016 agreed on a resolution to end inappropriate promotion of foods for infants and young children (96). Inappropriate promotion of foods for infants and young children may decrease rates of exclusive breastfeeding, reduce the duration of breastfeeding, increase the use of formula milks for children aged 6–23 months, displace home-prepared foods, and promote an early introduction of complementary foods and breast-milk substitutes before 6 months of age (97).

TABLE 1. SUMMARY MESSAGES

Area of action

Entry points and key considerations

The double burden of malnutrition

- When countries progress in their socioeconomic and social development, it is likely that child stunting will decrease and that more development opportunities will become available, including a rise in disposable income in most population groups, thus potentially expanding access to nutritious foods. At the same time, however, countries may also face an increase in overweight and obesity in their populations across different income groups, although underweight continues to be more frequent among the poorer groups. This is called the double burden of malnutrition, characterized by the coexistence of undernutrition along with overweight, obesity or diet-related noncommunicable diseases.
- The double burden of malnutrition can be linked to social and health inequalities.
- Interventions are necessary to reduce child stunting, prevent obesity in children, and increase women's education.

Monitoring health inequalities

- Health systems that provide universal coverage of essential nutrition actions are part of the crosscutting integrative areas of impact defined in the Second International Conference on Nutrition (ICN2) and conducted under the United Nations Decade of Action on Nutrition.
- Monitoring health inequalities can be used to evaluate the progress of health interventions with specific equity targets, or it can assess how other health interventions affect inequalities. Such information can be useful for policies, programmes and interventions that aim to reduce inequalities.

Hygienic conditions, clean water and infections

- Infectious diseases caused by a lack of hygienic conditions and clean water are important determinants of child stunting and it is usually the groups with lower socioeconomic status that most frequently live in such polluted environments.
- Clean and sufficient drinking water, proper sanitation, drains for wastewater and proper management of solid waste are key health-equity interventions in deprived areas.

Social protection: cash transfer programmes and the nutritional status of children

- Social protection is considered one of the six cross-cutting integrative areas of impact derived from the recommendations of the ICN2 and conducted under the United Nations Decade of Action on Nutrition.
- Food accessibility is achieved when households have adequate resources to obtain appropriate foods for a nutritious diet. Social protection schemes can improve access to food products that are rich in protein, vitamins and minerals that would otherwise not be accessible.
- Social safety nets also increase food security and reduce women's risk of becoming undernourished due to periods of pregnancy and lactation.
- Social safety net programmes include the distribution of cash transfers to low-income households.
 Their goal is to increase income, although they are more effective when coupled with additional interventions or conditions, such as attending health and nutrition services and good sanitation practices.
- Conditional cash transfers may also improve children's nutritional status and development, as
 well as increasing access to and coverage of hygiene, clean water and several other child health
 interventions. However, before the implementation of conditional cash transfers, several conditions
 should be evaluated, such as fiscal space; political stability; political will and leadership; public
 acceptability; and institutional capacity and coordination.
- Conditional cash transfers, by use of health services, can be important resources to increase women's
 food intake during pregnancy, especially in many low- and middle-income countries.
- Gender differences must always be taken into account when implementing social protection interventions.

Area of action

Entry points and key considerations

Agriculture, food systems and climate change

- Global climate change is likely to particularly affect the health of poor people and actions to reduce
 its severity are actions for health equity.
- Climate change has been linked with child stunting through reduced food availability and dietary diversity, highlighting the need for measures to increase resilience and prevention among vulnerable populations.
- Environmental and health consequences, such as heavy rainfall, floods and droughts, threaten
 economic social and cultural rights, including the rights to life and access to safe food and water,
 health, security, shelter and culture. They also disproportionally affect low-income countries and
 low-income population groups in higher-income countries, affecting human rights and social
 justice.
- The groups that are most vulnerable to adverse environmental and health consequences of climate change are women (as they may be highly dependent on local natural resources for their livelihood); people living in poverty; minority groups; children; older people; people with chronic diseases and disabilities; and those residing in areas with a high prevalence of climate-related diseases.

Individual factors

- Programmes aiming to improve maternal nutrition status include coverage to vulnerable women who are at higher risk of inadequate weight gain during pregnancy.
- The nutritional status of adolescents is of great importance and an entry point to improve the health of women and children, especially because of the 10 million girls younger than 18 years that are married each year, which is in itself a matter of gender inequality.
- Taking into account differences in socioeconomic status, such as educational level and income
 group, health workers and nutritionists can educate mothers, families and all parents about the
 importance of breastfeeding, quality complementary food items and good hygiene when preparing
 the young child's food.

Nutrition-specific and nutritionsensitive interventions

- A better coverage of nutrition-specific interventions for women and children, with intensification of nutrition-sensitive measures for women, is vital.
- Some examples of nutrition-sensitive measures include preventing early marriage; promoting completion of secondary education; improving socioeconomic status and control over resources; reducing physical workload; and improving access to water, sanitation and cooking-fuel facilities.

FURTHER READING AND USEFUL LINKS

- Global Nutrition Targets 2025. Stunting. Policy brief (WHO/NMH/NHD/14.3; http://apps.who.int/iris/bitstream/10665/149019/1/WHO NMH NHD 14.3 eng. pdf?ua=1).
- World Health Organization. Stunting in a nutshell (http://www.who.int/nutrition/healthygrowthproj stunted videos/en/).
- World Health Organization. The Healthy Growth Project. Promoting healthy growth and preventing childhood stunting (also the contextual framework) (http://www.who.int/nutrition/healthygrowthproj/en/index1.html).
- Stunted growth and development. Context, causes and consequences. Geneva: World Health Organization; 2017 (WHO/NMH/NHD/17.7; http://www.who.int/nutrition/childhood stunting framework leaflet en.pdf?ua=1).
- World Health Organization. Innov8 approach for reviewing national health programmes (http://www.who.int/life-course/partners/innov8/en/).
- World Health Organization. Global Health Observatory (GHO) data. Health Equity
 Assessment Toolkit (HEAT) and HEAT Plus (for uploading one's data) (http://www.who.int/gho/health-equity/assessment-toolkit/en/index1.html).
- Handbook on health inequality monitoring with a special focus on low- and middle-income countries. Geneva: World Health Organization; 2013 (http://apps.who.int/iris/bitstream/10665/85345/1/9789241548632 eng.pdf).
- World Health Organization. Infant and young child feeding list of publications (http://www.who.int/nutrition/publications/infantfeeding/en/).
- World Health Organization. e-Library of Evidence for Nutrition Actions (eLENA) (http://www.who.int/elena/about/en/).
- World Health Organization. Global Database on the Implementation of Nutrition Action (GINA) (http://www.who.int/nutrition/gina/en/).
- Scaling Up Nutrition (http://scalingupnutrition.org/).
- World Health Organization. Work programme of the United Nations Decade of Action on Nutrition (2016–2025) (http://www.who.int/nutrition/decade-of-action/workprogramme-2016to2025/en/).
- Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M et al. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. 2008;371(9608):243–60. doi:10.1016/S0140-6736(07)61690-0.
- Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Lancet. 2013;382(9890):452–77. doi:10.1016/S0140-6736(13)60996-4.
- Dewey KG, Brown KH. Update on technical issues concerning complementary feeding of young children in developing countries and implications for intervention programs. Food Nutr Bull. 2003;24(1):5–28. doi:10.1177/156482650302400102.
- Jerlig J, Pelletier D, Fanzo J, Covic N. Supporting multisectoral action: capacity and nutrition leadership challenges facing Africa. In: Covic N, Hendriks SL, editors. Achieving a nutrition revolution for Africa: the road to healthier diets and optimal nutrition. Washington (DC): International Food Policy Research Institute; 2016:147–69 (http://ebrary.ifpri.org/utils/getfile/collection/ p15738coll2/id/130767/filename/130978.pdf).



METHODOLOGICAL NOTE

The information summarized for this brief was collected through searches conducted in PubMed and Google. As a starting point, a search in PubMed was conducted including the topic of interest (i.e. child stunting) and indicators of socioeconomic status. Systematic reviews or meta-analyses were searched using the "review" filter in PubMed. In cases where systematic reviews or meta-analyses were not found, relevant articles were selected according to their content. Papers that were more recently published were preferred. In addition, reports and documents published by United Nations agencies were browsed and cited to provide information about implementation strategies in countries. The successful examples presented were browsed in PubMed and Google, aiming not to provide global guidance but to show their beneficial results in local settings.



REFERENCES

- 1. United Nations Sustainable Development Knowledge Platform. Sustainable Development Goals (https://sustainabledevelopment.un.org/sdgs, accessed 22 January 2018).
- 2. United Nations Sustainable Development Knowledge Platform. Transforming our world: the 2030 Agenda for Sustainable Development (https://sustainabledevelopment.un.org/ post2015/transformingourworld, accessed 22 January 2018).
- 3. World Health Organization. Nutrition. Global Targets 2025. To improve maternal, infant and young child nutrition (http://www.who.int/nutrition/global-target-2025/en/, accessed 22 January 2018).
- 4. Resolution WHA65.6. Comprehensive implementation plan on maternal, infant and young child nutrition. In: Sixty-fifth World Health Assembly, Geneva, 21-26 May 2012. Resolutions and decisions, annexes. Geneva: World Health Organization; 2012:12-13 (WHA65/2012/REC/1; http://www.who.int/nutrition/topics/WHA65.6 resolution en.pdf, accessed 22 January 2018).
- 5. Comprehensive implementation plan on maternal, infant and young child nutrition. Geneva: World Health Organization; 2014 (WHO/NMH/NHD/14.1; http://apps.who.int/iris/ bitstream/10665/113048/1/WHO NMH NHD 14.1 eng.pdf, accessed 22 January 2018).
- 6. The global strategy for women's children's and adolescents' health (2016–2030). Survive, thrive, transform. Geneva: Every Woman Every Child; 2015 (http://www.who.int/pmnch/ media/events/2015/gs 2016 30.pdf, accessed 22 January 2018).
- 7. Food and Agriculture Organization of the United Nations, World Health Organization. United Nations Decade of Action on Nutrition 2016–2025. Frequently asked questions. Rome: Food and Agriculture Organization of the United Nations; 2016 (http://www.fao.org/3/a-i6137e.pdf, accessed 22 January 2018).
- 8. UNICEF, WHO, World Bank Group. Levels and trends in child malnutrition. UNICEF/WHO/World Bank Group joint child malnutrition estimates. Key findings of the 2017 edition. Geneva: United Nations Children's Fund, World Health Organization, World Bank Group; 2017 (http:// www.who.int/nutgrowthdb/jme brochoure2017.pdf?ua=1, accessed 22 January 2018).
- 9. World Health Organization. The WHO Child Growth Standards (http://www.who.int/ childgrowth/en/, accessed 22 January 2018).
- 10. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M et al. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. 2008;371(9608):243-60. doi:10.1016/S0140-6736(07)61690-0.
- 11. Ikeda N, Irie Y, Shibuya K. Determinants of reduced child stunting in Cambodia: analysis of pooled data from three demographic and health surveys. Bull World Health Organ. 2013;91(5):341-9. doi:10.2471/BLT.12.113381.
- 12. World Health Organization UN Habitat for a better urban future. Global report on urban health: equitable, healthier cities for sustainable development. Geneva: World Health Organization; 2016 (http://www.who.int/kobe_centre/measuring/urban-global-report/ugr_full_report.pdf, accessed 22 January 2018).
- 13. Mates E, Shoham J, Khara T, Dolan C. Discussion paper. Stunting in humanitarian and protracted crises. Oxford: Emergency Nutrition Network; 2017 (http://s3.ennonline.net/ attachments/2716/Stunting-Brief-2017 WEB 2.pdf, accessed, 21 January 2018).

- 14. World Health Organization. Global targets tracking tool (http://www.who.int/nutrition/trackingtool, accessed 22 January 2018).
- 15. Victora CG, Adair L, Fall C, Hallal PC, Martorell R, Richter L et al. Maternal and child undernutrition: consequences for adult health and human capital. Lancet. 2008;371 (9609):340–57. doi:10.1016/S0140-6736 (07)61692-4.
- 16. Khara T, Dolan C. Technical briefing paper. The relationship between wasting and stunting, policy, programing and research implications. Oxford: Emergency Nutrition Network; 2014 (http://s3.ennonline.net/attachments/1862/WAST 140714.pdf, accessed 21 January 2018).
- 17. Stevens GA, Finucane MM, Paciorek CJ, Flaxman SR, White RA, Donner AJ et al., on behalf of the Nutrition Impact Model Study Group (Child Growth). Trends in mild, moderate, and severe stunting and underweight, and progress towards MDG 1 in 141 developing countries: a systematic analysis of population representative data. Lancet. 2012;380(9840):824–34. doi:10.1016/S0140-6736(12)60647-3.
- 18. Frongillo EA, Onis M, Hanson KMP. Socioeconomic and demographic factors are associated with worldwide patterns of stunting and wasting of children. J Nutr. 1997;127(12):2302–9.
- 19. Monteiro CA, Benicio MH, Conde WL, Konno S, Lovadino AL, Barros AJ et al. Narrowing socioeconomic inequality in child stunting: the Brazilian experience, 1974–2007. Bull World Health Organ. 2010;88(4):305–11. doi:10.2471/BLT.09.069195.
- 20. Ruel MT, Alderman H. Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? Lancet. 2013;382(9891):536–51. doi:10.1016/S0140-6736(13)60843-0.
- 21. Mother's education and children's nutritional status: new evidence from Cambodia. Manila: Asian Development Bank; 2009 (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.215.534&rep=rep1&type=pdf, accessed 22 January 2018).
- 22. Mushtaq MU, Umair M, Gull S, Khurshid U, Shahid U, Shad MA et al. Prevalence and socio-demographic correlates of stunting and thinness among Pakistani primary school children. BMC Public Health. 2001;11:790. doi:10.1186/1471-2458-11-790.
- 23. Mohamed AJ, Onyango AW, de Onis M, Prakash N, Mabry RM, Alasfoor DH. Socioeconomic predictors of unconstrained child growth in Muscat, Oman. Eastern Mediterr Health J. 2004;10:295–302.
- 24. Milman A, Frongillo EA, Onis M, Hwang Y J-Y. Differential improvement among countries in child stunting is associated with long-term development and specific interventions. J Nutr. 2005;135(6)1415–22.
- 25. Semba RD, de Pee S, Sun K, Sari M, Akhter N, Bloem MW. Effect of parental formal education on risk of child stunting in Indonesia and Bangladesh: a cross-sectional study. Lancet. 2008;371(9609):322–8. doi:10.1016/S0140-6736(08)60169-5.
- 26. Tiwari R, Ausman LM, Agho KE. Determinants of stunting and severe stunting among underfives: evidence from the 2011 Nepal demographic and health survey. BMC Pediatr. 2014;14:239. doi:10.1186/1471-2431-14-239.
- 27. Health inequities in the Eastern Mediterranean Region: selected country case studies. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2014 (EMRO Technical Publication Series 40; http://applications.emro.who.int/dsaf/emropub-2015-1863.pdf, accessed 22 January 2018).

- 28. Fenske N, Burns J, Hothorn T, Rehfuess EA. Understanding child stunting in India: a comprehensive analysis of socio-economic, nutritional and environmental determinants using additive quantile regression. PLoS One. 2013;8(11):e78692. doi:10.1371/journal.pone.0078692.
- 29. Marphatia AA, Cole TJ, Grijalva-Eternod C, Wells JCK. Associations of gender inequality with child malnutrition and mortality across 96 countries. Global Health, Epidemiology and Genomics. 2016;1:e6. doi:10.1017/gheg.2016.1.
- 30. Smith LC, Haddad L. Reducing child undernutrition: past drivers and priorities for the post-MDG era. World Dev. 2015;68: 180-204. doi:10.1016/j.worlddev.2014.11.014.
- 31. Grantham-McGregor S, Cheung YB, Cueto S, Glewwe P, Richter L, Strupp B; International Child Development Steering Group. Developmental potential in the first 5 years for children in developing countries. Lancet. 2007;369(9555):60-70. doi:10.1016/S0140-6736(07)60032-4.
- 32. Chen L, Wu Y, Coyte PC. Income-related children's health inequality and health achievement in China. Int J Equity Health. 2014;13(1):102. doi:10.1186/s12939-014-0102-6.
- 33. The World Bank. World Bank country and lending groups (https://datahelpdesk.worldbank. org/knowledgebase/articles/906519-world-bank-country-and-lending-groups, accessed 22 January 2018).
- 34. Kumar A, Kumari D, Singh A. Increasing socioeconomic inequality in childhood undernutrition in urban India: trends between 1992-93, 1998-99 and 2005-06. Health Policy Plan. 2015;30(8):1003-16. doi:10.1093/heapol/czu104.
- 35. Paciorek CJ, Stevens GA, Finucane MM, Ezzati M. Children's height and weight in rural and urban populations in low-income and middle-income countries: a systematic analysis of population-representative data. Lancet Glob Health. 2013;5:e300-309. doi:10.1016/S2214-109X(13)70109-8.
- 36. Ezeh A, Oyebode O, Satterthwaite D, Chen Y-F, Ndugwa R, Sartori J et al. The history, geography, and sociology of slums and the health problems of people who live in slums. Lancet. 2017;389(10068):547-58. doi:10.1016/S0140-6736(16)31650-6.
- 37. World Health Organization UN Habitat for a better urban future. Hidden cities: unmasking and overcoming health inequities in urban setting. Geneva: World Health Organization; 2010. (http://www.who.int/kobe_centre/publications/hiddencities_media/who_un_habitat_ hidden cities web.pdf, accessed 22 January 2018).
- 38. Fotso J-C. Child health inequities in developing countries: differences across urban and rural areas. Int J Equity Health. 2006;5:9. doi:10.1186/1475-9276-5-9.
- 39. Null S, Darden M, Garland A, Chan S. Dawn of the smart city? Perspectives from New York, Ahmedabad, Sao Paulo and Beijing. Washington (DC): Wilson Center; 2014 (https://www. wilsoncenter.org/sites/default/files/Dawn%20of%20Smart%20City 0623 web.pdf, accessed 22 January 2018).
- 40. Growing greener cities in Latin America and the Caribbean. A FAO report on urban and periurban agriculture in the region. Rome: Food and Agriculture Organization of the United Nations; 2014 (http://www.fao.org/3/a-i3696e.pdf, accessed 22 January 2018).
- 41. Garcia S, Sarmiento OL, Forde I, Velasco T. Socio-economic inequalities in malnutrition among children and adolescents in Colombia: the role of individual-, household- and community-level characteristics. Public Health Nutr. 2013;16(9):1703-18. doi:10.1017/S1368980012004090.

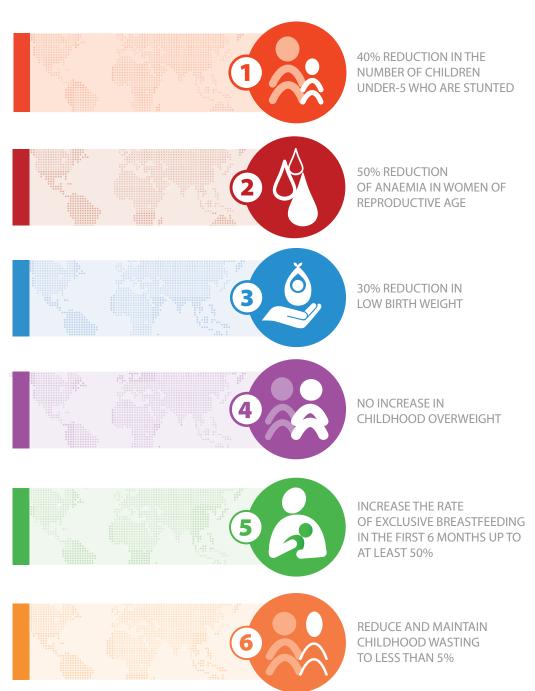
- 42. Dhingra B, Dutta AK, National Rural Health Mission. Indian J Pediatr. 2011;78(12):1520–6. doi:10.1007/s12098-011-0536-4.
- 43. Reddy V, Sheakr M, Rao P, Gillespie S. Nutrition in India. UN ACC/SCN Country case study supported by UNICEF. Prepared for the XV International Congress of Nutrition, Adelaide, Australia, 26 September 1 October, 1993. Hyderabad: National Institute of Nutrition Hyderabad, India; 1992 (https://www.unscn.org/web/archives resources/files/India1992.pdf, accessed 22 January 2018).
- 44. Ramachandran P. Nutrition in pregnancy. In: Gopalan C, Kaur S, editors. Women and nutrition in India. Special Publication No. 5. New Delhi: Nutrition Foundation of India; 1989:153–93.
- 45. Ota E, Ruoyan E, Tobe-Gai R, Mori R, Farrar D. Antenatal dietary advice and supplementation to increase energy and protein intake. Cochrane Database Syst Rev. 2012;(9):CD000032. doi:10.1002/14651858.CD000032.pub2.
- 46. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016 (http://apps.who.int/iris/bitstre-am/10665/250796/1/9789241549912-eng.pdf, accessed 22 January 2018).
- 47. Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? Lancet. 2013;382(9890):452–77. doi:10.1016/S0140-6736(13)60996-4.
- 48. Improving child nutrition. The achievable imperative for global progress. New York: United Nations Children's Fund; 2013 (https://www.unicef.org/gambia/Improving Child Nutrition the achievable imperative for global progress.pdf, accessed 22 January 2018).
- 49. Rasanathan K, Damji N, Atsbeha T, Drisse M-NB, Davis A, Dora C et al. Ensuring multisectoral action on the determinants of reproductive, maternal, newborn, child, and adolescent health in the post-2015 era. BMJ. 2015;351:h4213. doi:10.1136/bmj.h4213.
- 50. Lechtig A, Cornale G, Ugaz ME, Arias L. Decreasing stunting, anemia, and vitamin A deficiency in Peru: results of the Good Start in Life Program. Food Nutr Bull. 2009;30(1):37–48. doi:10.1177/156482650903000104.
- 51. The Scaling Up Nutrition (SUN) Movement. Annual progress report 2016. Geneva: Scaling Up Nutrition Movement; 2016 (http://docs.scalingupnutrition.org/wp-content/uploads/2016/11/SUN Report 20161129 web All.pdf, accessed 22 January 2018).
- 52. Smith LC, Kahn F, Frankenberger TR, Wadud A. Admissible evidence in the court of development evaluation? The Impact of CARE's SHOUHARDO project on child stunting in Bangladesh. IDS Working Papers 2011, no. 376 (October 1, 2011). Brighton: Institute of Development Studies; 2011 (https://www.ids.ac.uk/files/dmfile/Wp376.pdf, accessed 22 January 2018).
- 53. Wu L, Yang Z, Yin SA, Zhu M, Gao H. The relationship between socioeconomic development and malnutrition in children younger than 5 years in China during the period 1990 to 2010. Asia Pac J Clin Nutr. 2015;24(4):665–73.
- 54. The double burden of malnutrition. Policy brief. Geneva: World Health Organization; 2017 (WHO/NMH/NHD/17.3; http://apps.who.int/iris/bitstream/10665/255413/1/WHO-NMH-NHD-17.3-eng.pdf?ua=1, accessed 22 January 2018).
- 55. Popkin, Barry M. The nutrition transition in low-income countries: an emerging crisis. Nutr Rev. 1994;52(9):285–98. doi:10.1111/j.1753-4887.1994.tb01460.x.

- 56. Valyasevi A, Dhanamitta S. Disciplinary and interdisciplinary breadth required for dealing with modern food and nutrition issues for countries in transition. Food Nutr Bull. 1997;18(2):146-50 (http://archive.unu.edu/unupress/food/V182e/ch05.htm, accessed 22 January 2018).
- 57. Shetty PS, McPherson K, editors. London School of Hygiene and Tropical Medicine. Sixth Annual Public Health Forum. Diet, nutrition and chronic disease: lessons from contrasting worlds. Chichester: John Wiley & Sons; 1997.
- 58. Shetty P, Gopalan C, editors. Diet, nutrition, and chronic disease: an Asian perspective. London: Smith-Gordon; 1998.
- 59. Bassett MN, Romaguera D, Giménez MA, Lobo MO, Samman NC. Prevalence and determinants of the dual burden of malnutrition at the household level in Puna and Quebrada of Humahuaca, Jujuy, Argentina. Nutr Hosp. 2014;29(2):322–30. doi:10.3305/nh.2014.29.2.7075.
- 60. Dinsa, GD, Goryakin Y, Fumagalli E, Suhrcke M. Obesity and socioeconomic status in developing countries: a systematic review. Obes Rev. 2012;13(11):1067-79. doi:10.1111/j.1467-789X.2012.01017.x.
- 61. Popkin BM, Adair LS, Ng SW. The global nutrition transition: the pandemic of obesity in developing countries. Nutr Rev. 2012;70(1):3-21. doi:10.1111/j.1753-4887.2011.00456.x.
- 62. Tzioumis E, Adair LS. Childhood dual burden of under- and over-nutrition in lowand middle-income countries: a critical review. Food Nutr Bull. 2014;35(2):230-43. doi:10.1177/156482651403500210.
- 63. Nuruddin R, Hadden WC. Are pre-school girls more likely to be under-nourished in rural Thatta, Pakistan? A cross-sectional study. Int J Equity Health. 2015;14:151. doi:10.1186/s12939-015-0287-3.
- 64. Handbook on health inequality monitoring with a special focus on low- and middleincome countries. Geneva: World Health Organization; 2013 (http://apps.who.int/iris/ bitstream/10665/85345/1/9789241548632 eng.pdf?ua=1, accessed 22 January 2018).
- 65. World Health Organization. Global Health Observatory (GHO) data. Health Equity Assessment Toolkit (HEAT) (http://www.who.int/qho/health_equity/assessment_toolkit/en/, accessed 22 January 2018).
- 66. Mara D, Lane J, Scott B, Trouba D. Sanitation and health. PLoS Med. 2010;7(11):e1000363. doi:10.1371/journal.pmed.1000363.
- 67. Joint child malnutrition estimates 2016 edition. New York: United Nations Children's Fund; 2016 (https://data.unicef.org/resources/joint-child-malnutrition-estimates-2016-edition/, accessed 22 January 2018).
- 68. Kjellstrom T, Friel S, Dixon J, Corvalan C, Rehfuess E, Campbell-Lendrum D et al. Urban environmental health hazards and health equity. J Urban Health. 2007;84(Suppl.1):86-97. doi:10.1007/s11524-007-9171-9.
- 69. Fenn B, Bulti AT, Nduna T, Duffield A, Watson F. An evaluation of an operations research project to reduce childhood stunting in a food-insecure area in Ethiopia. Public Health Nutr. 2012;15(9):1746-54. doi:10.1017/S1368980012001115.
- 70. Nutrition and social protection. Rome: Food and Agriculture Organization of the United Nations; 2015 (http://www.fao.org/3/a-i4819e.pdf, accessed 22 January 2018).
- 71. Bashir MK, Schilizzi S. Determinants of rural household food security: a comparative analysis of African and Asian Studies. J Sci Food Agric. 2013;93(6):1251–8. doi:10.1002/jsfa.6038.

- 72. Report of the World Food Summit, 13–17 November 1996, Rome, Italy. Rome: Food and Agriculture Organization of the United Nations; 1996 (http://www.fao.org/docrep/003/w3548e/w3548e00.htm, accessed 22 January 2018).
- 73. Ethiopia. Productive Safety Net Programme (PSNP). Quick facts 2012. Rome: World Food Programme; 2012 (https://www.wfp.org/sites/default/files/PSNP%20Factsheet.pdf, accessed 22 January 2018).
- 74. Manley J, Gitter S, Slavchevska V. How effective are cash transfer programs at improving nutritional status? A rapid evidence assessment of programmes' effects on anthropometric outcomes. London: EPPI-Centre, Social Science Research, Institute of Education, University of London; 2012 (https://assets.publishing.service.gov.uk/media/57a08a7540f0b652dd00073a/Q33-Cash-transfers-2012Manley-rae.pdf, accessed 22 January 2018).
- 75. Mason JB, Saldanha LS, Ramakrishnan U, Lowe A, Noznesky EA, Girard AW et al. Opportunities for improving maternal nutrition and birth outcomes: synthesis of country experiences. Food Nutr Bull. 2012;33(2 Suppl. 1):S104–37. doi:10.1177/15648265120332S107.
- 76. Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E et al. What works? Interventions for maternal and child undernutrition and survival. Lancet. 2008;371(9610):417–40. doi:10.1016/S0140-6736(07)61693-6.
- 77. Lagarde M, Haines A, Palmer N. The impact of conditional cash transfers on health outcomes and use of health services in low and middle income countries. Cochrane Database Syst Rev. 2009;(4):CD008137. doi:10.1002/14651858.CD008137.
- 78. Phalkey RK, Aranda-Jan C, Marx S, Höfle B, Sauerborn R. Systematic review of current efforts to quantify the impacts of climate change on undernutrition. Proc Natl Acad Sci U S A. 2015;112(33):E4522–9. doi:10.1073/pnas.1409769112.
- 79. Habtezion S. Overview of linkages between gender and climate change. Gender and climate change. Asia and the Pacific. Policy Brief 1. New York: United Nations Development Programme; 2013 (http://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB1-AP-Overview-Gender-and-climate-change.pdf, accessed 23 January 2018).
- 80. Levy BS, Patz JA. Climate change, human rights, and social justice. Ann Glob Health. 2015;81(3):310–22. doi:10.1016/j.aogh.2015.08.008.
- 81. The Partnership for Maternal, Newborn and Child Health. Knowledge summary women's and children's health. Reaching child brides. Geneva: World Health Organization; 2012 (http://www.who.int/pmnch/topics/part_publications/KS22_Standalone_low.pdf?ua=1, accessed 22 January 2018).
- 82. Appropriate complementary feeding. E-Library of Evidence for Nutrition Actions (eLENA). Geneva: World Health Organization; 2017 (http://www.who.int/elena/titles/complementary-feeding/en/, accessed 21 January 2018).
- 83. Ruel MT, Menon P. Child feeding practices are associated with child nutritional status in Latin America: innovative uses of the demographic and health surveys. J Nutr. 2001;132(6):1180–7. doi:10.1093/jn/132.6.1180.
- 84. Ijarotimi OS, Ogunsemore MT. Weaning foods and their impact on child-feeding practices among low-income Nigerian mothers. Food Nutr Bull. 2006;27(4):327–34. doi:10.1177/156482650602700407.

- 85. Neumann CG, Harrison GG. Onset and evolution of stunting in infants and children. Examples from the Human Nutrition Collaborative Research Support Program Kenya and Egypt Studies. Eur J Clin Nutr. 1994;48(Suppl. 1):S90-102.
- 86. Dewey KG, Brown KH. Update on technical issues concerning complementary feeding of young children in developing countries and implications for intervention programs. Food Nutr Bull. 2003;24(1):5-28. doi:10.1177/156482650302400102.
- 87. SembaRD, Moench-Pfanner R, Sun K, de Pee S, Akhter N, Rah J Hetal. Consumption of micronutrientfortified milk and noodles is associated with lower risk of stunting in preschool-aged children in Indonesia. Food Nutr Bull. 2011;32(4):347–53. doi:10.1177/156482651103200406.
- 88. Jerlig J, Pelletier D, Fanzo J, Covic N. Supporting multisectoral action: capacity and nutrition leadership challenges facing Africa. In: Covic N, Hendriks SL, editors. Achieving a nutrition revolution for Africa: the road to healthier diets and optimal nutrition. Washington DC: International Food Policy Research Institute; 2016:147–69 (http://ebrary.ifpri.org/utils/getfile/ collection/p15738coll2/id/130767/filename/130978.pdf, accessed 22 January 2018).
- 89. Bryce J, Coitinho D, Darnton-Hill I, Pelletier D, Pinstrup-Andersen P. Maternal and child undernutrition: effective action at national level. Lancet. 2008;371(9611):510-26. doi:10.1016/ S0140-6736(07)61694-8.
- 90. Gillespie S, Haddad L, Mannar V, Menon P, Nisbett N. The politics of reducing malnutrition: building commitment and accelerating progress. Lancet. 2013;382(9891):552-69. doi:10.1016/ 50140-6736(13)60842-9.
- 91. Vir SC, Improving women's nutrition imperative for rapid reduction of childhood stunting in South Asia: coupling of nutrition specific interventions with nutrition sensitive measures essential. Matern Child Nutr. 2016;12(Suppl. 1):72-90. doi:10.1111/mcn.12255.
- 92. Childhood stunting: challenges and opportunities. Report of a colloquium. Geneva: World health Organization; 2014 (WHO/NMH/NHD/GRS/14.1; http://apps.who.int/iris/ bitstream/10665/107026/1/WHO NMH NHD GRS 14.1 eng.pdf, accessed 22 January 2018).
- 93. International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization; 1981 (http://www.who.int/nutrition/publications/code_english.pdf, accessed 22 January 2018).
- 94. World Health Organization, Food and Agriculture Organization of the United Nations. Codex Alimentarius International Food Standards (http://www.fao.org/fao-who-codexalimentarius/ standards/en/, accessed 22 January 2018).
- 95. Aguayo, VM, Menon P. Stop stunting: improving child feeding, women's nutrition and household sanitation in South Asia. Matern Child Nutr. 2016;12(Suppl. 1):3–11. doi:10.1111/mcn.12283.
- 96. Resolution WHA 69.9. Ending inappropriate promotion of foods to infants and young children. In: Sixty-ninth World Health Assembly, Geneva, 23-28 May 2016. Resolutions and decisions, annexes. Geneva: World Health Organization; 2016 (http://apps.who.int/gb/ebwha/pdf_files/ WHA69/A69 R9-en.pdf, accessed 22 January 2018).
- 97. Smith JP, Sargent GM, Mehta K, James J, Berry N, Koh C et al. A rapid evidence assessment: does marketing of available complementary foods affect infant and young child feeding? Canberra: Australian National University; 2015 (http://www.who.int/nutrition/topics/CF anu effects marketingcommercial.pdf?ua=1, accessed 22 January 2018).













Target: 40% reduction in the number of children under-5 who are stunted

For more information, please contact:

Department of Nutrition for Health and Development

World Health Organization Avenue Appia 20 CH-1211 Geneva 27 Switzerland

Fax: +41 22 791 4156 E-mail: nutrition@who.int www.who.int/nutrition

Gender, Equity and Human Rights Team

World Health Organization Avenue Appia 20 CH-1211 Geneva 27 Switzerland

Fax: +41 22 791 4853 E-mail: <u>GER@who.int</u>

www.who.int/gender-equity-rights

