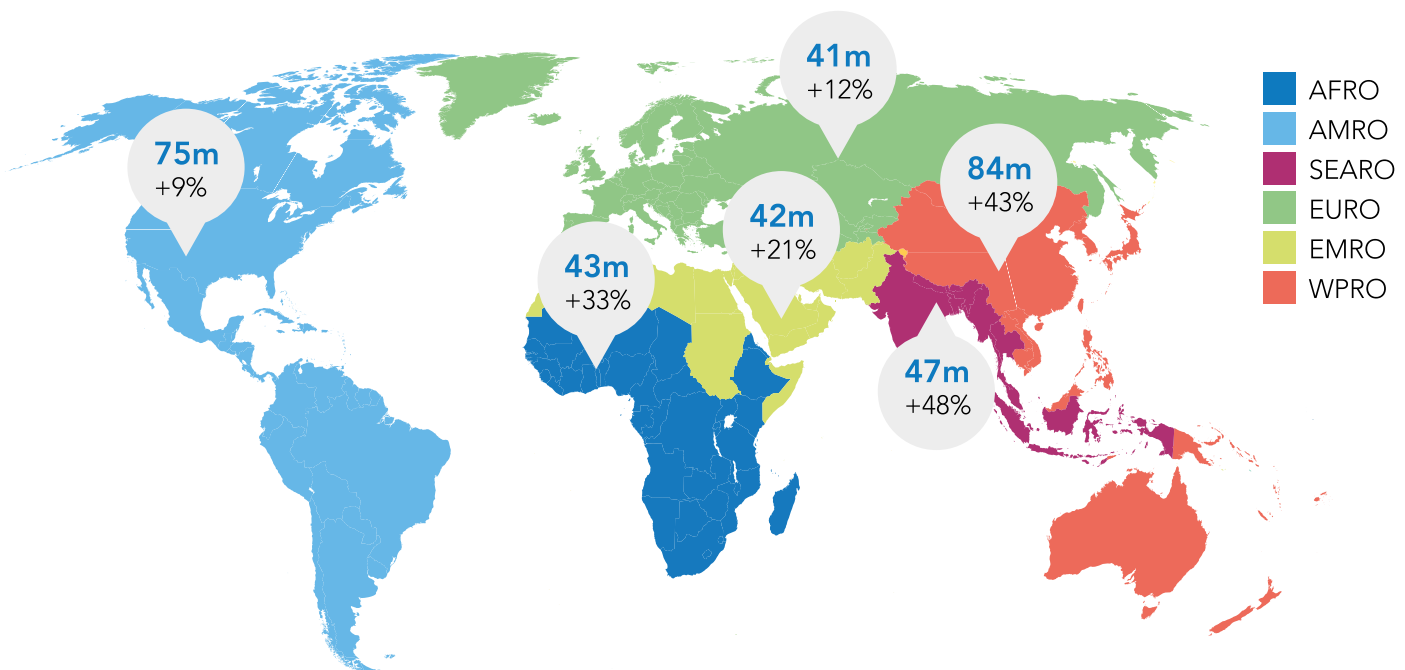


Taking Action on Childhood Obesity

Childhood obesity is one of the most serious global public health challenges of the 21st century, affecting every country in the world. In just 40 years the number of school-age children and adolescents with obesity has risen more than 10-fold, from 11 million to 124 million (2016 estimates).¹ In addition, an estimated 216 million were classified as overweight but not obese in 2016.¹

The condition also affects younger children, with over 38 million children aged under 5 living with overweight or obesity in 2017.²

Figure 1: Number of children aged 5-19 living with overweight or obesity in 2016, and the increase in prevalence from 2010 to 2016, by WHO region



Source: NCD-RisC (2017)³

In response, all countries have agreed a set of global targets for halting the increase in obesity. This includes *no increase in overweight among children under age 5, school-age children or adolescents by 2025 (from 2010 levels)*.^{4,5} Action to reverse the epidemic is the focus of the recommendations made by the WHO Commission on Ending Childhood Obesity⁶ and is one of the main objectives of the Decade of Action on Nutrition.⁷

The epidemic has been growing most rapidly in low- and middle-income countries, particularly in Northern and Southern Africa, the Middle East and the Pacific Islands.

Although most countries are still off-track to meet the 2025 targets, many are taking action and some have achieved a levelling-off in childhood obesity rates.

In this document we illustrate the progress being made, with examples of actions at national level.

Effects of overweight and obesity

Obesity in adulthood is a major risk factor for the world's leading causes of poor health and early death including cardiovascular disease, several common cancers, diabetes and osteoarthritis. Preventing obesity has direct benefits for children's health and wellbeing, in childhood and continuing into adulthood.

Compared with children with a healthy weight, those with overweight or obesity are more likely to experience negative consequences,⁸ including:



Poorer health in childhood, including hypertension and metabolic disorders



Lower self-esteem



Higher likelihood of being bullied



Poorer school attendance levels and poorer school achievements



Poorer health in adulthood, including a higher risk of obesity and cardiovascular disease



Poorer employment prospects as an adult, and a lower-paid job

Health is an investment

Acting on childhood obesity can have major benefits for the health care services and wider economies of all countries. An initial economic analysis in 2014 estimated that globally, adult obesity was costing US \$2.0 trillion annually.⁹ Further economic analysis are needed to understand the full impact of increasing levels of obesity.¹⁰ A strategy including obesity prevention and treatment can be cost saving in the short term and provide large economic and fiscal benefits in the longer term in Australia.¹¹

Preventing childhood obesity must be a part of such a strategy. There are significant benefits from investing in children's health¹², and although the economic value of investing in childhood obesity prevention has not been

calculated at a global level, several national estimates indicate that interventions can be highly cost-effective:

- **Republic of Ireland:** Action to reduce childhood BMI by an average of 5% would save €1.1 billion in total lifetime costs.¹³
- **Mexico:** Action on childhood obesity could save the economy up to Mex\$110 billion annually for the treatment of diabetes, hypertension and complications by the year 2050.¹⁴
- **USA:** Investing \$2 billion a year would be cost-effective if it reduced obesity in children aged 12 years by just one percentage point.¹⁵

What needs to change?

Early nutrition

Obesity prevention requires action throughout the life course, starting before birth.

Maternal nutrition

Mothers with a high bodyweight or who are poorly nourished before or during pregnancy, and mothers who put on excess weight during pregnancy, are more likely to have children that develop overweight or obesity.

While undernutrition in women has been declining over the last two decades, maternal overweight and obesity have been increasing. Governments need to ensure that they update their guidance with recommendations on obesity prevention during pregnancy.¹⁶

Singapore: The Singapore government has developed clinical practice guidelines for diabetes and for obesity. These include guidelines on the diagnosis and treatment of gestational diabetes, as well as recommendations on weight management before, during and after pregnancy.¹⁷

Breastfeeding

Good nutrition in early life is crucial to lifelong health, and breastfeeding is recognised to protect against childhood obesity. Governments have various tools to reach the global target to increase the rate of exclusive breastfeeding in the first six months up to at least 50% by 2025 (against 2010 levels)¹⁸ including Baby Friendly Hospitals, legal measures to implement the International Code of Marketing of Breast-milk Substitutes and ensuring women are entitled to paid maternity leave.

New Zealand increased the baby friendly accreditations of maternity facilities from 3% in 2002 to 90% in 2016 (66 of 73 facilities).¹⁹ As a result, breastfeeding rates at discharge increased from 56% in 2001 to 83% in 2015, and exclusive breastfeeding from 8% to 18%.

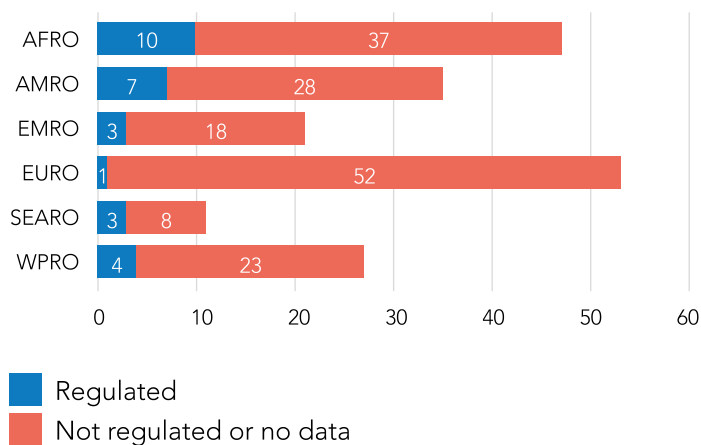
Nepal fully implemented the Code of Marketing of Breast-milk Substitutes in 1992. All primary health care facilities provide individual counselling on infant and young child feeding and all districts implement community-based nutrition, health, or other programs with IYCF counselling. Sixty-six percent of infants under 6 months of age are exclusively breastfed and at 2 years, 89% are still breastfeeding.²⁰

Complementary feeding

Complementary feeding is an opportunity to ensure good nutrition at an early age, but can be undermined by inappropriate marketing of commercial products. Governments need to prevent all forms of misleading marketing of complementary foods. WHO has published Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children Implementation Manual.²¹ For many countries legislation on complementary foods may need to be strengthened to include all recommendations.

Kuwait: Kuwait has adopted many of the recommendations to restrict the inappropriate marketing of complementary foods up to 36 months. It bans the promotion of complementary foods for infants younger than 6 months as well as any promotion of complementary foods including messages on complementary food packaging.²²

Figure 2: Number of countries with regulations on marketing of complementary foods, by WHO region



Source: WHO (2018)²²

What needs to change?

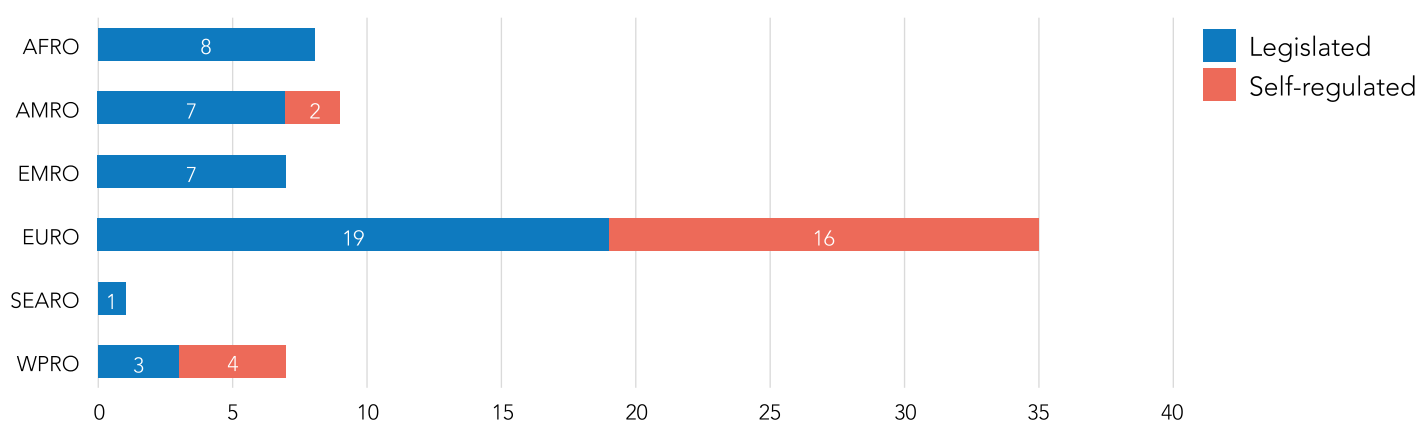
Food environments

Children need to be supported by food environments where the healthy choice is an easy and affordable choice, and they need to be protected from exposure to powerful marketing of foods and beverages.

Restrictions on promotional marketing

Marketing restrictions were recommended as an effective strategy in 2010 and are also recommended as key policy actions in WHO's Global Action Plan for the Prevention and Control of NCDs 2013-2020.²³ Some progress is being made and governments are strengthening their restrictions on marketing of food and non-alcoholic beverages to children. Of 177 countries surveyed in 2015, 49 had government policies implemented on food and beverage marketing to children, of which 25 were government legislated and the remainder were voluntary or industry self-regulated.²⁴ In 2017 this had risen to 67 countries with implemented policies, of which 45 were government legislated (see figure 3).²⁵

Figure 3: Number of countries with restrictions on marketing food and beverages to children, by WHO region



Sources: WHO (2017),²⁵ WHO (2018)²⁶

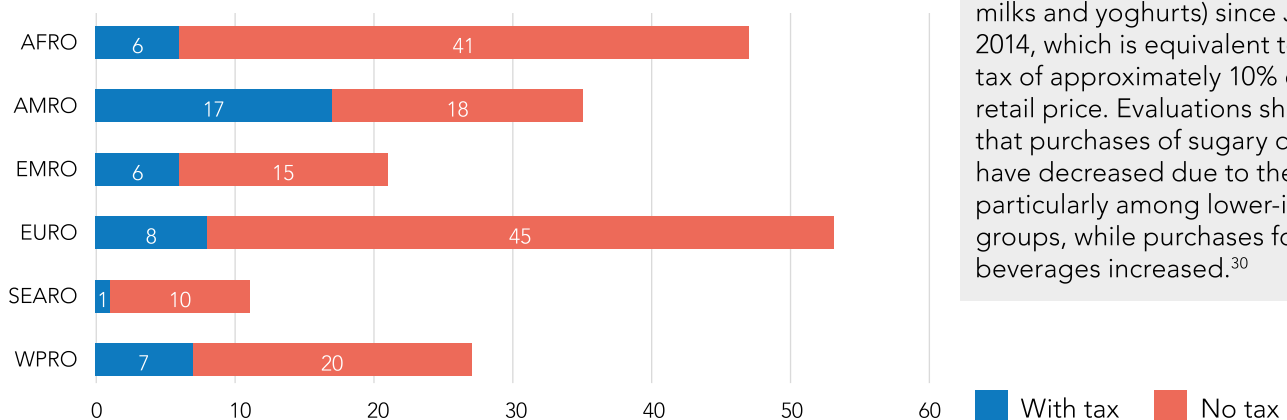
Which foods should be restricted? WHO has provided technical support for the development of 'nutrient profile' models. These models allow food products to be categorised as suitable or not suitable for promotion to children. Five of the six WHO regions have published regional nutrient profile models:

- WHO Regional Office for Europe (2015) http://www.euro.who.int/__data/assets/pdf_file/0005/270716/Nutrient-children_web-new.pdf
- Pan-American Health Organization/WHO Regional Office for the Americas (2016) http://iris.paho.org/xmlui/bitstream/handle/123456789/18621/9789275118733_eng.pdf
- WHO Regional Office for the Western Pacific (2016) <http://apps.who.int/iris/bitstream/handle/10665/252082/9789290617853-eng.pdf>
- WHO Regional Office for South-East Asia (2017) <http://apps.who.int/iris/bitstream/handle/10665/253459/9789290225447-eng.pdf>
- WHO Regional Office for the Eastern-Mediterranean (2017) http://apps.who.int/iris/bitstream/handle/10665/255260/EMROPUB_2017_en_19632.pdf

Taxes on sugar-sweetened beverages

School-based health surveys have found that a third of adolescents in many high- and middle-income countries say they are drinking at least one sugary drink every day.²⁷ Taxes or levies on sugar-sweetened beverages are recommended by WHO as a measure to reduce consumption of sugar-sweetened beverages.²⁸ Most recent data show 45 countries – nearly a quarter of all WHO Member States – are currently implementing some form of tax or levy on sugar-sweetened beverages.

Figure 4: Number of countries with a tax or levy on sugar-sweetened beverages, by WHO region



Mexico: An excise duty of 1 peso per litre is applied to all drinks with added sugar (excluding milks and yoghurts) since January 2014, which is equivalent to a tax of approximately 10% of the retail price. Evaluations show that purchases of sugary drinks have decreased due to the tax, particularly among lower-income groups, while purchases for untaxed beverages increased.³⁰

Source: WHO (2018)^{26, 29}

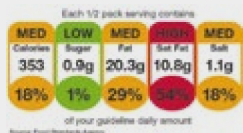
Front-of-pack labelling

To encourage greater understanding of the nutrition content of food products, several countries have encouraged or required nutrition information in front-of-pack labelling (FOPL) systems, in addition to the nutrient declaration.

Most FOPL systems are voluntary. A standardised approach across all packaged foods can provide easy-to-understand information. Such systems can also serve to encourage manufacturers to reformulate their products, benefiting all consumers.



Chile: Since June 2016, packaged food must bear a black-and-white warning label inside a stop sign if it exceeds defined limits of calories, saturated fat, sugar and sodium. There is early evidence that the warning labels have improved children’s preferences for food.³¹ In Chile, the new regulations were introduced at the same time as regulations to restrict advertising of foods high in salt, sugar and fat to children under 14 years on TV, radio, internet, print and in schools.³²



UK: In 2013, the government published national guidance for a voluntary Front of Pack Nutrition Labelling Scheme for pre-packaged products. The guidelines are for colour-coded labels which use green, amber and red to identify whether products contain low, medium or high levels of energy, fat, saturated fat, salt and sugar.

What needs to change?

Monitoring childhood obesity

Monitoring children’s health and bodyweight will help to evaluate a country’s childhood obesity strategy, both for prevention and treatment. Almost all countries track child growth in early childhood, and a significant number monitor obesity indicators during later childhood and adolescence.

In the European region several countries have adopted a common protocol under the WHO’s Childhood Obesity Surveillance Initiative.³⁸ Monitoring of physical activity is weak in most countries with almost no data activity in under 5 years and 6-10 year olds. Strengthening of regular surveillance and the use of device based objective measures is needed for countries to monitor physical activity and sedentary behaviours in all children.

Figure 5: Number of countries monitoring growth in school-age children, WHO regions

	AMRO	AFRO	EURO	EMRO	SEARO	WPRO	Total
Overweight	3	6	8	8	3	6	34
BMI	2	4	8	6	3	7	30
Protocol exists	4	6	8	8	4	7	37
Total Responding	4	9	8	10	5	7	43

Source: WHO (2018)³⁹

In addition, countries are recognising the need to monitor and report on their policy developments for tackling childhood obesity, improving health and meeting the targets for reducing noncommunicable disease. Several mechanisms already exist to assess progress on countries’ policy development and implementation and published by WHO and include: Assessing National Capacity for prevention and control of NCDs^{26,29} and Global Nutrition Policy Review.⁴⁰

England: Under the National Child Measurement Programme, local authorities are responsible for the annual measurement of height and weight of school children aged 4-5 and 10-11 attending public schools. Parents are informed of their children’s weight status and can receive counselling in case of need. Virtually all (99% of schools and 93% of children) participate.⁴¹

Physical activity

Physical activity levels in adolescents is poor, with some 81% of adolescents globally (78% boys, 84% girls) falling below minimum recommended levels.²⁶ Similar low levels of activity are found in all WHO regions, and in low- as well as middle- and high-income countries.

Recommended actions for Government to promote physical activity are detailed in the WHO’s Global Action Plan on Physical Activity 2018-2030,³³ launched in June 2018. The report notes that measures to encourage greater physical activity not only improves health but can result in reduced use of fossil fuels, cleaner air and less congested, safer roads. These outcomes are interconnected with achieving the shared goals, political priorities and ambition of the Sustainable Development Agenda 2030.

Finland: Schools on the Move is a government-led, lottery-funded national programme to promote physical activity in comprehensive schools in Finland. Participating schools and communities implement their own physical activity plans, involving children in the development of the plans. The programme started in 2010 with 45 pilot schools; by 2016, 62% of comprehensive schools were participating and the programme was extended to post-secondary educational facilities.³⁴

School environments

Schools offer an important opportunity to address childhood obesity by improving children's and adolescents' nutrition through providing healthy food and drink options, promoting physical activity and providing health education. Governments can take various actions to create a healthy school environment: setting nutritional standards for school meals, banning certain products or forms of retail (e.g. a ban of vending machines), restricting the marketing of food and non-alcoholic beverages in and around schools to minimise exposure to advertisements of foods and beverages high in fat, sugars and salt.

A 2016 survey of school policies in 153 countries found 53 (24%) regulate food and beverage marketing in schools and 28 (18%) have some form of ban on food and beverage vending machines in schools.³⁵

Uruguay: Since 2015, Uruguay has prohibited any kind of marketing of foods and non-alcoholic beverages in schools that do not meet the Ministry of Health's school nutrition recommendations, including sponsorship, use of logos or brands on school supplies, or distributing prizes or free samples.³⁶

France: In 2005, France extended a ban on vending machines in primary schools to include secondary schools. The ban decreased the frequency of morning snacks and reduced sugar intake from these snacks by 10 grams. In 2010, all French schools were required to adopt nutritional criteria for all foods provided in the school.³⁷

References

- 1 NCD Risk Factor Collaboration (NCD-RisC) (2017) *Lancet* 16;390:2627-2642.
- 2 UNICEF/WHO/World Bank (2018). Joint Child Malnutrition Estimates 2018.
- 3 NCD-RisC (Lancet op cit), and UNICEF population estimates.
- 4 World Health Assembly (2012) Resolution 65.6.
- 5 World Health Assembly (2013) Resolution 66.10.
- 6 Commission on Ending Childhood Obesity (2016). Report of the Commission on Ending Childhood Obesity.
- 7 United Nations (2018) Decade of Nutrition 2016-2025.
- 8 Lobstein T, Baur L, Uauy R, IOTF TaskForce (2004) *Obesity Reviews* 5(S1).
- 9 McKinsey (2014) Overcoming obesity: An initial economic analysis.
- 10 World Obesity Federation (2017) Global data on costs of the consequences of obesity.
- 11 PricewaterhouseCoopers Australia (2015) Weighing the cost of obesity: A case for action. Sydney, NSW.
- 12 Stenberg K et al (2014). Advancing social and economic development by investing in women's and children's health: a new Global Investment Framework. *Lancet*;383(9925):1333-54.
- 13 Perry IJ et al. (2017) Dublin: safe food. <https://www.safe food.eu/SafeFood/media/SafeFoodLibrary/Documents/Publications/Research%20Reports/Cost-of-childhood-obesity-Report.pdf>.
- 14 Garduño-Espinosa J, Morales-Cisneros G, Martínez-Valverde S, Contreras-Hernández I, Flores-Huerta S, Granados-García V, Rodríguez-Ortega E, Muñoz-Hernández O. Una mirada desde los servicios de salud a la nutrición de la niñez mexicana. III. Carga económica y en salud de la obesidad en niños mexicanos. *Proyecciones de largo plazo. Bol Med Hosp Infant Mex* 2008; 65 (1) 49-56.
- 15 Trasande, Leonardo. (2010). How Much Should We Invest In Preventing Childhood Obesity?. *Health affairs (Project Hope)*. 29. 372-8.
- 16 WHO European Regional Office (2016) Good maternal nutrition: the best start in life.
- 17 MOH and Health Promotion Board of Singapore (2016). Clinical Practice Guidelines on Diabetes Mellitus and on Obesity.
- 18 WHO (2014) Comprehensive Implementation Plan for Maternal, Infant and Young Child Nutrition.
- 19 UNICEF (2017) BFHI Case Studies (pp 41-44).
- 20 UNICEF (2018) Global breastfeeding scorecard: Nepal.
- 21 WHO (2018) Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children Implementation Manual.
- 22 WHO (2018) Marketing of breast-milk substitutes: national implementation of the international code, status report 2018.
- 23 WHO (2013) Global Action Plan for the Prevention and Control of NCDs 2013-2020.
- 24 WHO (2016) Assessing National Capacity for the Prevention and Control of Noncommunicable Diseases 2015.
- 25 WHO (2017) Noncommunicable Diseases Progress Monitor 2017.
- 26 WHO (2018) Global Health Observatory.
- 27 WHO European Regional Office (2016) Health Behaviour of School-aged Children Survey of 2013-14; WHO (2018) Global school-based student health survey (GSHS) country reports.
- 28 WHO (2017) Tackling NCDs: "Best buys" and other recommended interventions for the prevention and control of noncommunicable diseases.
- 29 WHO (2018) Assessing National Capacity for the Prevention and Control of Noncommunicable Diseases: report of the 2017 global survey (forthcoming 2018); www.extranet.who.int/ncdccc/documents.
- 30 Colchero M et al. (2016) *British Medical Journal*, 352:h6704; Colchero MA et al. (2017) *Health Affairs* 36:564-571.
- 31 Arrúa A. et al (2017). *Appetite* 116:139-146.
- 32 World Cancer Research Fund International (2018) NOURISHING policy database.
- 33 WHO (2018) Global Action Plan on Physical Activity 2018-2030.
- 34 Board of Education (2018) Finnish Schools on the Move.
- 35 WHO (2018) Global Nutrition Policy Review (2016-2017) (Draft pp36-37).
- 36 Government of Uruguay (2013) Law No. 19.140 on Healthy Food in Educational Institutions.
- 37 Capacci S et al. (2018). *Journal of Policy Analysis & Management* 37:88-111.
- 38 WHO European Regional Office (2018). WHO European Childhood Obesity Surveillance Initiative (COSI).
- 39 WHO (2018) Global Nutrition Policy Review (2016-2017) (Draft p44).
- 40 WHO (2018) Global Nutrition Policy Review (2016 – 2017); WHO (2018) Global database on Implementation of Nutrition Action (GINA).
- 41 NHS Digital (2018) National Child Measurement Programme.

Key messages

- While most countries are still off-track to meet the target, many are taking action and some have achieved a levelling-off in childhood obesity rates.
- Investing in children's health will help meet the global health targets and substantially reduce the predicted health and economic costs of obesity.

Call to action

Governments should urgently review their progress to meeting the 2025 targets, and implement the recommendations of the Commission on Ending Childhood Obesity:

- Improve the environments in which children live, play and learn
- Implement policies to support healthy food environments, for mothers, infants and children
- Increase policy priority to ensure safe and accessible environments for physical activity for children of all ages
- Strengthen the measurement of food and physical activity environments and policy implementation
- Work towards Universal Health Coverage for all people to ensure children, adolescents and their families have access to the obesity prevention and treatment services they need.

Acknowledgments

This report was prepared by Simone Bösch, Tim Lobstein, Hannah Brinsden and Johanna Ralston of the World Obesity Federation and Fiona Bull, Juana Willumsen, Francesco Branca, Kaia Engesveen, Laurence Grummer-Strawn, Chizuru Nishida, Thahira Mustafa, Elaine Borghi, Melanie Cowan, Mercedes de Onis, and Lina Mahy of the World Health Organization.

Design and layout: www.optimadesign.co.uk



World Obesity Federation represents professional members of the scientific, medical and research communities from over 50 regional and national obesity associations. Through our membership we create a global community of organisations dedicated to solving the problems of obesity. Our mission is to lead and drive global efforts to reduce, prevent and treat obesity.

World Obesity Federation, 107 Gray's Inn Road, London WC1 X8TZ, UK.

Telephone: **+44 20 7685 2580**
Email: enquiries@worldobesity.org

www.worldobesity.org

Twitter: @WorldObesity
LinkedIn: <https://www.linkedin.com/company/iaso>



World Health Organization, Avenue Appia 20, 1211 Geneva 27, Switzerland

Department of Prevention of Noncommunicable Diseases

Telephone: **+41 22 791 4426**
Email: hq_pnd@who.int

www.who.int/ncds

Department of Nutrition for Health and Development

Telephone: **+41 22 791 4156**
Email: nutrition@who.int

www.who.int/nutrition

Twitter: @WHO
Facebook: <https://www.facebook.com/WHO>

WHO/NMH/PND/ECHO/18.1

© World Health Organization 2018
Some rights reserved. This work is available under the CC BY-NC-SA 3.0 IGO licence.