Draft Final Report of the Commission on Ending Childhood Obesity

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Glossary and definitions

Adolescents	Aged 10 to under 19 years of age
BMI	Body mass index = weight (kg)/height (m) ^{2}
BMI-for-age	BMI adjusted for age, standardized for children
Children	Under 19 years of age
Infants	Under 12 months of age
NCDs	Noncommunicable diseases
Healthy foods	Foods that meet the micro- and macro-nutrient requirements with appropriate energy density, free sugar, salt and fat content
HICs	High-income countries
LMICs	Low- and middle-income countries
Obesity	**Birth to less than 5 years of age:** weight-for-height z-score more than or equal to 3SD (http://www.who.int/childgrowth/en/) **5 to less than 19 years of age**: BMI for age more than or equal to 2 SD above WHO growth standard median (http://www.who.int/nutrition/publications/growthref_who_bulletin/en/)
Overweight	**Birth to less than 5 years of age**: weight-for-height z-score more than or equal to 2 SD and less than 3 SD (http://www.who.int/childgrowth/en/) **5 to less than 19 years of age**: BMI for age more than or equal to 1 SD and less than 2 SD above WHO growth standard median (http://www.who.int/nutrition/publications/growthref_who_bulletin/en/)
WGSE	Ad hoc Working Group on Science and Evidence for Ending Childhood Obesity
WGIMA	Ad hoc Working Group on Implementation, Monitoring and Accountability for Ending Childhood Obesity
Unhealthy foods	foods high in saturated fats, trans-fatty acids, free sugars or salt. i.e., energy-dense, nutrient-poor foods
Young children	Under 5 years of age

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The prevalence of childhood obesity has risen rapidly in both high- and low- and middle-income countries and is an urgent public health concern.

Children with obesity have long-term morbidity and mortality risks. Obesity in childhood can affect their immediate health, educational attainment and quality of life.

Society and governments need to take urgent and meaningful action to address this issue.

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Preamble

1. Over the past decade, the World Health Assembly, the governing body of the World Health Organization (WHO), and the United Nations General Assembly have adopted a series of resolutions[1] that acknowledge noncommunicable diseases (NCDs) as a major challenge for development in the 21st century and have identified prevention and control as a core priority. The proposed Sustainable Development Goals propose a target on reducing premature mortality from NCDs[2].

2. Among the NCD risk factors, obesity is particularly concerning. In children (aged under 19 years) it is associated with a wide range of health complications and an increased risk of premature onset of illnesses, including diabetes and heart disease. Preventing childhood obesity is a key approach to the primary prevention of NCDs.

3. Childhood obesity has complex origins and progress in tackling the issue has to date been slow. It is clear that a combination of scientific research, government leadership and community partnerships is necessary in order to develop the best recommendations and implement them worldwide.

4. In order to develop a comprehensive response to childhood obesity, the WHO Director-General established a high-level Commission on Ending Childhood Obesity (ECHO), which comprises 15 accomplished and eminent individuals from a variety of relevant backgrounds. The Commission has reviewed, built upon and addressed gaps in existing mandates and strategies with the support of two ad hoc working groups, one on science and evidence for ending childhood obesity (WGSE), and one on implementation, monitoring and accountability for ending childhood obesity (WGIMA). An Interim Report was developed for feedback through a series of regional consultations and hearings with Member States and non-State actors, and an online process for the submission of comments from relevant stakeholders. The Commission has reviewed these inputs and developed this draft final report, which will form the basis for a final round of regional and global consultation.

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[1] Resolutions WHA53.17 on prevention and control of noncommunicable diseases; WHA57.17 on the global strategy on diet, physical activity and health; WHA61.14 on prevention and control of noncommunicable diseases: implementation of the global strategy; WHA63.14 on marketing of food and non-alcoholic beverages to children; WHA65.6 on the comprehensive implementation plan on maternal, infant and young child nutrition; and WHA66.10 and WHA68.11 on the follow-up to the political declaration of the high-level meeting of the General Assembly on the Prevention and Control of Non-communicable diseases; WHA68.14 on health in the post-2015 development agenda; WHA68.15 on adolescent health; WHA68.19 on the outcome of the second International conference on nutrition

[2] http://unsdsn.org/wp-content/uploads/2014/04/140417-Goals-and-Targets1.pdf

Goal of the Commission

The overarching goals of the Commission on Ending Childhood Obesity are to provide policy recommendations to:

a) prevent infants, children and adolescents from developing obesity; and

b) identify and treat pre-existing obesity in children and adolescents,

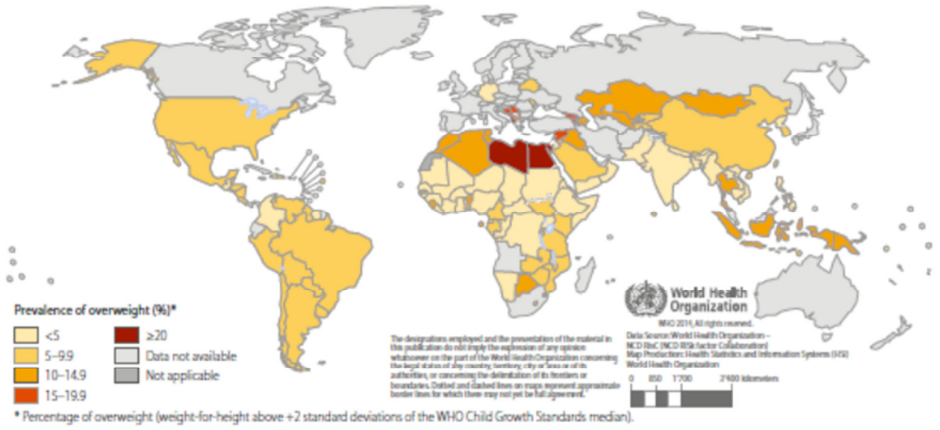
in order to reduce the risk of morbidity and mortality due to noncommunicable diseases, the psychosocial effects of obesity both in childhood and adulthood and the trans-generational risk of developing obesity.

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Introduction

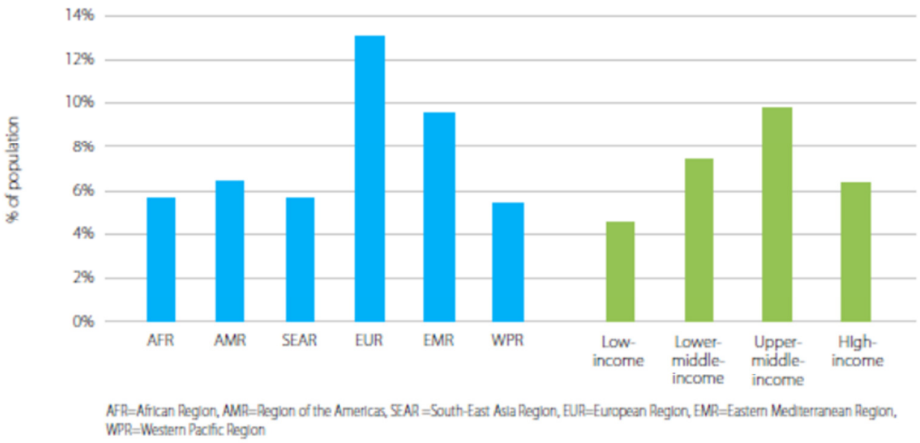
4. The obesity epidemic has the potential to negate many of the health benefits that have contributed to the increased longevity observed in the world. An estimated 42 million children were affected by overweight or obesity (defined as the proportion of children with values more than 2 SDs and more than 3SDs, respectively, from the WHO growth standard median*(1)*) in 2013. Figure 1 shows the prevalence of overweight children under five years of age around the world. In Africa, the estimated prevalence rate of child overweight and obesity of 8.5% in 2010 (or 12 million children) is projected to increase to 12.7% by 2020. In Asia, the 2010 prevalence rate of 4.9% equates to approximately 18 million children *(2-4)*. If current trends continue, over 70 million infants and young children will be overweight or obese by 2025, the vast majority living in LMICs *(5)*. The prevalence of infant, childhood and adolescent obesity may be plateauing in some settings, but in absolute numbers there are more children who are overweight and obese living in low- and middle-income countries (LMICs) than in high-income countries (HICs) *(5)*.Figure 2 shows the prevalence of overweight by WHO region and World Bank income group. Prevalence data available for older children and data on adolescents are currently being verified and will be released by WHO towards the end of 2015. To date, progress in tackling childhood obesity has been slow and inconsistent *(6)*.

Fig.1: Age-standardized prevalence of overweight in children under five years of age, comparable estimates, 2013



Source: Global status report on noncommunicable diseases 2014, WHO

Fig. 2: Prevalence of overweight in children under five years of age, by WHO region and World Bank income group, comparable estimates, 2013



Source: Global status report on noncommunicable diseases 2014, WHO

5. An even greater number of children are, even from before birth, on the pathway to develop obesity. Children who are not yet at the body mass index (BMI) -for-age threshold for the current definition of childhood obesity may be at increased risk of developing obesity. Many of the countries now face a double burden of malnutrition, with rising rates of childhood obesity and high rates of child undernutrition and stunting. Undernutrition places children at especially high risk of developing obesity when food and physical activity patterns change. Childhood obesity is often under-recognized as a public health issue in these settings, where often culturally an overweight child is considered healthy.

6. In HICs the risks of childhood obesity are greatest in lower socioeconomic groups. Although

today the converse is true in most LMICs, a changing pattern is emerging. Within countries certain population subgroups, such as migrant children or indigenous children are at particularly high risk of developing obesity *(7)*. As countries undergo rapid socioeconomic and/or nutrition transitions, they face a double burden in which undernutrition and overnutrition co-exist*(8)*.

7. Obesity arises from a combination of exposure of the child to an unhealthy lifestyle (the so-called obesogenic environment) and inadequate behavioural and biological responses to the obesogenic environment, which vary among individuals and which are strongly influenced by developmental or life course factors. The risk of obesity can be passed from one generation to the next – so "obesity begets obesity". This can be due to behavioural and/or biological influences.

8. Behavioural influences are passed from one generation to the next as children inherit socio-economic status, cultural norms and behaviours, and family eating and physical activity behaviours. Cultural values and norms influence the perception of healthy or desirable body weight, especially for infants and young children and women. In some settings, overweight and obesity are becoming social norms and, thus, contributing to the perpetuation of the obesogenic environment.

9. With globalisation and urbanisation, the exposure to this obesogenic environment is increasing in both HICs and LMICs and across all socio-economic groups. Many children today are growing up in environments that encourage weight gain and obesity. Changes in food availability and type, and a decline in physical activity for transport or play, have resulted in energy imbalance. Children are exposed to ultra-processed, energy-dense, nutrient-poor foods, which are cheap and readily available. Opportunities for physical activity, both in and out of school, have been reduced and more time is spent on screen-based and sedentary leisure activities.

10. There are two general developmental pathways by which biological factors can increase the risk of obesity in the child. The first, the 'mismatch' pathway, results from even subtle malnutrition during fetal and early childhood development, due for example to poor maternal nutrition or placental insufficiency. The underlying processes involve environmental effects on gene function (epigenetic effects), that do not necessarily have obvious effects on measures such as birth weight *(9)*. Children who have suffered from undernutrition and were born low birth-weight or are short-for-age (stunted), are at much greater risk of developing overweight and obesity when faced with overnutrition and a sedentary lifestyle later in life. Attempts to deal with undernutrition and stunting during childhood may have led to unintended consequences and obesity risk for these children.

11. The second developmental pathway is characterized by mother entering pregnancy with obesity or pre-existing diabetes, or developing gestational diabetes. This predisposes the child to increased fat deposits associated with metabolic disease and obesity. This pathway may also involve epigenetic processes. Recent animal research indicates that paternal obesity can also contribute to risk of obesity in the child. Inappropriate early infant feeding

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also impacts on the child's developing biology. Appropriate interventions before conception, during pregnancy and in infancy may prevent some of these effects on gene function, but these may not easily be reversed once a critical period of development has passed. Since many pregnancies are unplanned and many women do not consult a healthcare professional until the end of the first trimester, it is important to promote knowledge of the importance of healthy behaviours in adolescents, young women and men before conception and in early pregnancy.

12. In many populations individuals across the distribution of BMI have more body fat than before, i.e., the obesogenic environment has adverse effects on those not conventionally defined as obese *(10)*. Overweight and obesity are not all-or-nothing cut-offs and many children are on the pathway to obesity even when they are within the normal range for BMI-for-age. The health consequences of overweight and obesity are also continuous and can affect a child's quality of life before BMI-for-age cut-offs are reached. The pattern of fat deposit in the body is also important in terms of health outcomes. Although BMI is the simplest means to identify children affected by overweight and obesity, it does not necessarily identify children with abdominal fat deposits that put them at risk of health complications. New methodologies are available, but these may currently be beyond the scope of population-based surveys.

13. None of these upstream causal factors are in the control of the child, and childhood obesity therefore should not be seen as a result of lifestyle choices by the child.. Given that childhood obesity is influenced by biological and contextual factors, governments must address these issues by providing public health guidance, education and establishing regulatory frameworks to address developmental and environmental risks, in order to support families' efforts to change behaviours. Parents, families, caregivers and educators have a critical role to play in encouraging healthy behaviours.

14. Obesity has health and psychological consequences during childhood, adolescence and into adulthood. Obesity itself is a direct cause of morbidities in childhood including gastrointestinal and orthopaedic complications, sleep apnoea, and the accelerated onset of cardiovascular disease and diabetes, as well as the comorbidities of the latter two noncommunicable diseases (NCDs) *(11)*. Obesity in childhood can also contribute to behavioural and emotional difficulties, such as depression, lead to stigmatization and poor socialization and appears to impair learning *(12, 13)*.

15. Critically, childhood obesity is a strong predictor of adult obesity, which has well known health and economic consequences, both for the individual and society as a whole *(14, 15)*. Although, some longitudinal studies suggest that, for some NCD-related comorbidities, childhood obesity leaves a permanent imprint on adult health *(16)*, others indicate that improving BMI in adulthood can reduce the risk of morbidity and mortality *(17)*.

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16. Evidence on the life-time cost of childhood obesity is developing, but is scarce compared to that on the economic burden of adult obesity. To date studies have concentrated primarily on healthcare expenditure, ignoring other costs, including the cost of the accelerated onset of adult diseases and the tendency for childhood obesity to continue into adulthood, with the attendant economic costs *(18)*. Early onset of NCDs impair the individual's life-time educational attainment, labour market outcomes and place a significant burden on health care systems, family, employers and society as a whole *(19)*.

17. Prevention of childhood obesity will have significant economic benefits that we are currently not able to estimate accurately. The spill-over benefits from effectively addressing childhood obesity also include improved maternal and reproductive health and a reduction in obesogenic exposure for all members of the population, which further make the strong case for taking urgent action.

Guiding principles for addressing childhood obesity

The Commission affirms the following principles and strategies:

18. **Children's right to health:** Government and society have a moral responsibility to act on behalf of the child to reduce the risk of obesity. Tackling childhood obesity resonates with the universal acceptance of the rights of children to a healthy life as well as the obligations assumed by State Parties to the Convention of the Rights of the Child[3].

19. **Government leadership:** Childhood obesity is at crisis level in many countries and poses an urgent and serious challenge. The increasing rates of childhood obesity cannot be ignored and governments need to accept the responsibility to address this issue, on behalf of the children they are ethically bound to protect. A failure to act will have medical, social and economic consequences of major magnitude.

20. **A whole-of-government approach:** Obesity prevention and treatment requires a whole of government approach, in which all policies systematically take health into account, avoid harmful health impacts, and so improve population health and health equity. The education sector has a critical role to play in providing nutrition and health education and in increasing opportunities for physical activity and promoting healthy school environments. Agriculture and trade policies, and the globalisation of the food system impact on food affordability, availability and quality at national and local levels. Member States of WHO have adopted a resolution to consider the interplay between international trade and health through multi-stakeholder dialogue.[4] Urban planning and design, and transport planning all impact directly on opportunities for physical activity and access to healthy foods.. Inter-sectoral government

[3] Committee on the Rights of the Child: General comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health (art. 24), para 47; CRC/C/GC/15

[4] Resolution WHA59.26 on International trade and health

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structures can facilitate coordination, identify mutual interest, collaboration and exchange of information through coordinating mechanisms.

21. **Equity:** Governments should ensure equitable coverage of interventions, particularly for excluded, marginalised, or otherwise vulnerable population groups, who are at high risk of the double burden of malnutrition and developing obesity. These populations groups often have poor access to healthy foods, safe places for physical activity and preventative health services and support. The comorbidities associated with obesity erode the potential improvements in social and health capital, and increase inequity.

22. **Integration with existing initiatives:** There are direct linkages to the Millennium Development Goals and the United Nations Secretary General's Global Strategy for Women's, Children's and Adolescent's Health and the Every Woman, Every Child initiative, through a focus on maternal, infant and child health. Obesity and NCDs also significantly impact on education, poverty and inequality. The health targets of the proposed Sustainable Development Goals will further support these initiatives.

23. **Accountability:** Political and financial commitment is imperative to address the magnitude of the obesity epidemic. An accountability framework should be at the heart of any effective strategy to combat childhood obesity. A robust mechanism is needed to monitor policy development and implementation, and thus facilitate mutual accountability between governments, civil society and the private sector.

24. **Integration into a life-course approach:** A new emphasis on childhood obesity can be achieved by integrating with existing WHO and other global and regional initiatives and will have additional benefit in terms of longer-term health. There are a number of current WHO and other United Nations agencies strategies and implementation plans related to optimizing maternal, infant and child nutrition and adolescent health that are highly relevant to key elements of a comprehensive approach to obesity prevention. Relevant principles and recommendations can be found in a number of documents providing guidance throughout the life-course[5] and initiatives to address childhood obesity should build upon these to help

[5] Resolutions WHA53.17 on prevention and control of noncommunicable diseases; WHA57.17 on the global strategy on diet, physical activity and health; WHA61.14 on prevention and control of noncommunicable diseases: implementation of the global strategy; WHA63.14 on marketing of food and non-alcoholic beverages to children; WHA65.6 on the comprehensive implementation plan on maternal, infant and young child nutrition; and WHA66.10 on the follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable diseases; WHA68.19 Outcome of the Second International Conference on Nutrition. Meeting to develop a global consensus on preconception carte to reduce maternal and childhood mortality and morbidity, WHO, 2013; The optimal duration of exclusive breastfeeding. Report of an expert consultation, WHO, 2001; Complementary feeding. Report of global consultation: summary of guiding principles, WHO, 2002; Global recommendations on physical activity for health, WHO, 2012; Population-based approaches to childhood obesity prevention, WHO, 2010; PAHO/AMRO Plan of Action for the Prevention of Obesity in Children and Adolescents,53rd Directing Council, 66th Session of the Regional Committee of WHO for the Americas, October 2014.

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children realise their fundamental right to health, whilst reducing the burden on the health system.

25. **Universal Health Coverage for treatment of obesity :** The treatment of children already affected by obesity, and those with overweight who are on the pathway to obesity, should be considered an element of Universal Health Coverage. Integrated health services enable people to receive a continuum of health promotion, disease prevention, diagnosis, treatment and management, through the different levels and sites of care within the health system over the course of a lifetime[6]

Key elements to tackling childhood obesity

A comprehensive, integrated package of interventions to address childhood obesity

26. No single intervention can halt the rise of the growing obesity epidemic. Addressing childhood and adolescent obesity requires consideration of the obesogenic environment as well as a life-course approach. The Commission considers it essential to address both the environmental context and three critical time periods in the life-course:

    a. preconception and pregnancy
    b. infancy and early childhood
    c. older childhood and adolescence.

27. By focussing attention on these sensitive periods during the life-course, interventions can address specific risk factors, whilst simultaneously addressing the environmental influences is important to enable behaviour change. Such an approach integrates with other components of the maternal-neonatal-child health agenda and to the broader effort to tackle NCDs across the whole population.

28. Countries should consider the prevalence and trends of childhood obesity situation at national, regional and local level, giving special attention to vulnerable groups and equity. Data is needed on the BMI-for-age (in particular the 5-13 age group) and physical activity behaviours of children and adolescents in different social-economic groups and settings across the country. This will enable the development of appropriate policy priorities and provide a baseline against which to measure the success of policies and programmes.

Proposed policy directions

29. The policy directions proposed below are for consideration during the next phase of consultation. These have been developed following the review of feedback from the consultations, the scientific evidence and an analysis of the effectiveness, cost-effectiveness,

[6] United Nations General Assembly Resolution A/67/L36 Global Health and Foreign Policy

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affordability and applicability of potential policies and interventions. Data on the cost-effectiveness of interventions is diverse in nature, reports on a number of different outcome measures and to date is predominantly available from HICs. Further work needs to be done to determine the cost-effectiveness of interventions to prevent childhood obesity, using common definition of cost-effectiveness, and outcome measures.

1: Tackle the obesogenic environment and norms

30. To successfully challenge childhood obesity requires addressing the obesogenic environment as well as critical elements in the life-course. The major goals of addressing the environmental component include improving healthy eating and physical activity behaviours of children. A number of factors influence the obesogenic environment, including the political (trade agreements, fiscal and agricultural policies), built (access to healthy foods and opportunities for physical activity), social (body weight and image norms, cultural norms regarding the feeding of children, social restrictions on physical activity) and family (parental nutrition knowledge and behaviours, family economics, family eating behaviours) environment. The Commission proposes policy actions to address both healthy eating and physical activity behaviours.

Take action to reduce the intake of unhealthy foods and sugar-sweetened non-alcoholic beverages and promote the intake of healthy foods by children and adolescents.

31. Recent trends in food production, processing, trade, marketing and retailing have contributed to the rise in diet-related NCDs. Trade reform and foreign direct investment can affect diet and nutrition transition and the health and equity impacts need to be considered in national and international economic agreements and policies *(20)*. Processed, energy-dense, nutrient-poor foods and non-alcoholic beverages, in increasing portion size, at affordable prices have replaced minimally-processed fresh foods and water in many settings at many school and family meals. The easy access to energy-dense foods and non-alcoholic beverages and the tacit encouragement to "size-up" through commercial promotions have contributed to the rising caloric intake in many populations.

32. Nutrition information is both confusing and poorly understood by many people. Given that ultimately it is individuals and families who choose their own diets, all members of the population need to be empowered to make healthier choices about what to eat and provide their infants and children. This is not possible unless nutrition literacy is universal and provided in a manner that is both useful and understandable to all members of society.

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Policy actions:	Rationale:
Governments should ensure appropriate and context specific nutrition information and guidelines for both adults and children are developed and promulgated in a simple and understandable fashion to all groups in their society.	It is not sufficient to rely on nutrient labelling. Rather all governments must take the lead in developing appropriate and context specific nutrition guidelines for both adults and children and providing the necessary information through media and educational outlets and through public health messaging so that all of society is empowered to make healthier choices
Implement fiscal policies to reduce the consumption of unhealthy foods by: **i. imposing an effective tax on sugar-sweetened non-alcoholic beverages.**	The adoption of fiscal measures for obesity prevention has received a great deal of attention*(21)*. Overall, the rationale for taxation measures to influence consumption is supported by the albeit limited evidence *(22)* and further evidence will become available as countries that have implemented taxes on unhealthy foods monitor their progress[7]. In general the Commission believes there is sufficient rationale to warrant the introduction of such taxes. Low-income consumers and their children have the greatest risk of obesity in many societies and are most influenced by price and such fiscal policies could encourage this group of consumers to make healthier choices as well as providing an indirect educational signal to the whole population. The evidence available to date makes a case for applying taxes to products such as sugar-sweetened non-alcoholic beverages as the most feasible to implement. This would have additional spill-over benefits in the reduction of dental caries in children. Some countries may consider taxes on other unhealthy foods, such as those high in fats and sugar. Taxing energy-dense, nutrient-poor foods would require the development of nutrient profiles *(23)* and modelling would suggest this may have the potential to reduce consumption. Some countries have introduced policies that require such taxation revenues to be earmarked for health *(22)*, although this may be complex to establish in different settings.

[7] See preliminary data on Mexico tax on sugar-sweetened non-alcoholic beverages which has been submitted for publication. http://www.insp.mx/epppo/blog/3666-reduccion-consumo-bebidas.html

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Reduce the exposure of children and adolescents to, and the power of, the marketing of unhealthy foods, such as sugar-sweetened non-alcoholic beverages and energy-dense, nutrient-poor foods by:

i. **implementing the Set of Recommendations on the Marketing of Foods and Non-alcoholic Beverages to Children;**

ii. **developing clear definitions of age-categories and types of marketing, to facilitate uniform implementation;**

iii. **ensuring settings where children and adolescents gather and the screen-based offerings they watch or participate in, are free of marketing of unhealthy foods and non-alcoholic beverages;**

iv. **developing nutrient-profiles to help Member States to identify unhealthy foods and non-alcoholic beverages;**

v. **cooperating with other Member States to reduce the impact of cross-border marketing of unhealthy foods and non-alcoholic beverages; and**

vi. **developing and implementing monitoring**

There is unequivocal evidence that the marketing of unhealthy foods and non-alcoholic beverages is related to childhood obesity *(24, 25)*. Despite the increasing number of voluntary efforts by industry, exposure to marketing of unhealthy foods remains a major issue and there is a need for change that will protect all children equally. Any attempt to tackle childhood obesity should, therefore, include a reduction in exposure of children to, and the power of, marketing *(26)* as endorsed by the World Health Assembly[8]. Indeed, the Commission notes with concern and disappointment the failure of Member States to give significant attention to resolution WHA 63.14, which was passed in 2010 and which requested Member States to address this issue. Parents and caregivers are increasingly the target of marketing for foods and beverages high in fats and sugar, aimed at their children*(27)*. Growing-up Milks, which fall outside the current Code of Marketing of Breast milk Substitutes are increasingly marketed to parents and caregivers.

Given the wide variation in the types of business, attitudes and behaviour within the food and non-alcoholic beverage, retail and marketing industries, voluntary initiatives that are not subject to independent audit and oversight are likely insufficient. Governments must define clear parameters, enforcement and monitoring mechanisms.

Regulatory and statutory approaches may be needed to ensure that changes reach the desirable level and apply to forms of marketing that are not currently covered under voluntary codes. Regulation will provide equal protection to all children regardless of socio-economic group and ensure equal responsibility to large multi-national and small local producers.

There needs to be clarity as to the range of healthy products that can be marketed, and consideration of both direct and indirect marketing strategies, including pricing, promotion and placement.

Such approaches will require identifying healthy and unhealthy foods using independent nutrient profiling. These considerations must also take into account issues of food security, where this is relevant either at a national, sub-national or sub-population level.

The WHO Framework for implementing the set of

[8] WHA63.14 on marketing of food and non-alcoholic beverages to children

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and compliance mechanisms, with clearly defined sanctions.	recommendation on the marketing of foods and non-alcoholic beverages to children *(28)* can provide practical guidance to Member States on the development and implementation of policy and monitoring and evaluation frameworks. The Commission recognises that in certain settings adolescents consume alcohol and alcohol is particularly obesogenic. This is beyond the scope of work of the Commission, but they note that, in particular, it is very difficult to market alcoholic products targeted at young adult consumers without exposing cohorts of adolescents under the legal age to the same marketing. The exposure of children and young people to appealing marketing is of particular concern. A precautionary approach to protecting young people against the marketing of such products should be considered.
Help consumers make healthier choices by: **i. implementing a standardized global nutrient labelling system; and** **ii. considering interpretive front-of-pack labelling supported by public education of both adults and children for nutrition literacy.**	A standardised system of food labelling, as recommended by the Codex Alimentarius Commission[9] can support nutrition and health literacy education efforts if mandatory for all packaged foods and beverages. Healthy eating habits can be nurtured from infancy and indeed has both biological and behavioural dimensions. This requires caregiver understanding of the relationship between diet and health, and behaviours to encourage and support the development of such healthy habits. As the child enters school, health and nutrition literacy should be included in the curriculum and supported by a health-promoting school environment (see recommendations for early childhood, school-age children and adolescents).
Improve access to healthy foods by: **i. creating healthy food environments in settings such as schools, child-care settings, sports facilities and events, urban and rural communities; and**	Nutrition literacy and knowledge of healthy food choices cannot be acted upon if access to those foods is limited by virtue of the foods that are readily available or affordable. Influencing the food environment requires a collaborative approach to food production, processing and accessibility, availability and affordability. Where access to healthy foods is limited, ultra-processed foods are often the only alternative available and affordable. A number of public and private sector initiatives to promote healthier food

[9] WHA56.23 Joint FAO/WHO evaluation of the work of the Codex Alimentarius Commission.

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ii.	**giving particular attention to increasing access to healthy foods in disadvantaged communities.**	behaviours have been developed and the limited evidence available indicates the potential to promote healthier choices amongst consumers.

Take action to reduce sedentary behaviours and promote physical activity in children and adolescents.

30. Recent evidence shows that physical activity declines from the age of school entry. Less than 20% of the global population is sufficiently active by the age of 13-15 years *(29)*, and are attaining the 60 minutes of moderate-to-vigorous physical activity every day recommended by WHO *(30)*. Low physical activity is fast becoming the social norm in most countries, and is an important factor in the obesity epidemic. Physical activity can reduce the risk of diabetes, cardiovascular disease and cancers *(31)*, and improve mental health and wellbeing.

31. Urban planning and design has the potential to both contribute to the problem and the opportunity to form part of the solution. Increased recreational space and safe walking and cycling paths to facilitate active transport, help make physical activity functions of daily life. Recent evidence suggests that obesity, in turn, reduces physical activity, creating a vicious cycle of increasing body fat levels and declining physical activity.

32. Physical activity behaviours across life can be heavily influenced by childhood experience. Creating safe, gender-friendly, physical activity-friendly communities, which enable, and actively encourage the use of active transport (walking, cycling etc.) and participation in an active lifestyle and physical activities, will benefit all communities. Particular attention needs to be given to improving access to, and participation in, physical activity for children already affected by overweight and obesity, disadvantaged children, girls and children with disabilities.

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Policy actions:	Rationale:
Encourage all children, adolescents and their families to become more physically active by: **i. ensuring that adequate facilities are available on school premises and in public spaces for physical activity during recreational time for all children, including the provision of gender-friendly spaces where these are appropriate;** **ii. including Quality Physical Education[10] in the school curriculum and providing adequate staffing and facilities to support this; and** **iii. providing guidance on healthy movement and sleep behaviours and appropriate use of screen-based entertainment for children and adolescents to the children and adolescents, their parents, caregivers, teachers and health professionals.**	Physical activity provides fundamental health benefits for children and adolescents, including increased cardiorespiratory and muscular fitness, reduced body fatness and enhanced bone health. Regular participation in quality physical education and other forms of physical activity can improve a child's attention span, enhance their cognitive control and processing *(32)*. It can challenge stigma and stereotypes, reduce symptoms of depression and improve psychosocial outcomes. It is important that school-based physical education is inclusive rather than focused on the potential elite sportsperson. Increasing the opportunities for safe, appropriate and gender-friendly structured and unstructured physical activity, both in and out of school, including active transport (walking and cycling), will have positive health and spill-over effects for all children and adolescents. Context-specific guidance on how to achieve physical activity recommendations and the appropriate number of hours that children should sleep or watch TV, for example, should be a component of any healthy-living education provided to children or caregivers.

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2: Reduce the risk of obesity by addressing critical elements in the life-course

33. Developmental factors change both the biology and behaviour of the individual from before birth and through infancy, such that they are at greater or lesser risk within the obesogenic environment. It is the responsibility of governments to reduce the obesogenic environment, and provide guidance and support for individual behaviour change at each stage of the life-course. By improving and integrating these actions, there will be major spill-over benefits to other parts of the maternal, reproductive and child health agendas.

[10] UNESCO Quality physical education (QPE). Guidelines for policy-makers, Paris 2015

Reduce the risk of childhood obesity by preventing low or high birth weight, prematurity and other complications in pregnancy. *Integrate and strengthen current guidance for preconception and antenatal care with guidance for NCD prevention.*

34. The care that women receive before, during and after their pregnancy has profound implications for the health and development of their children. Timely and good-quality care throughout these periods provides important opportunities to prevent the intergenerational transmission of ill-health and has a high impact on the health of the child throughout the life course[11]. Evidence shows that maternal undernutrition (whether global or nutrient specific), maternal overweight or obesity, excess pregnancy weight gain, maternal hyperglycaemia (including gestational diabetes), smoking or exposure to toxins can increase the likelihood of obesity during infancy and childhood *(33-38)*. New evidence is emerging that the health of fathers at conception can also influence the risk of obesity in their children, and healthy lifestyle advice needs to include would-be fathers too.

35. Current guidance for preconception and antenatal care focus on the prevention of fetal undernutrition. Given the changing obesogenic exposure and the double burden of malnutrition, guidelines are clearly needed that address undernutrition and later obesity risk in the offspring. Interventions to address childhood obesity risk factors also prevent other adverse pregnancy outcomes *(39)* and so contribute to improving maternal and newborn health. Maternal overweight and obesity increase the risk of complications during pregnancy, labour and delivery, including stillbirth for example, and maternal undernutrition increases the risk of low-birth weight, which puts the child at greater risk of infant mortality, childhood obesity and adult NCDs.

Policy actions:	Rationale:
Optimize maternal health before conception and during pregnancy by: **i. diagnosing and managing hyperglycaemia and hypertension; and** **ii. monitoring and managing appropriate gestational weight gain.**	There is a need to screen for, and appropriate management of, pre-existing diabetes mellitus and hypertension in pregnant women; early diagnosis and effective management of gestational diabetes and pregnancy-induced hypertension, depression and mental health issues; gestational weight gain pattern, dietary quality and movement behaviours.

[11] Committee on the Rights of the Child: General comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health (art. 24), para 53; CRC/C/GC/15

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Strengthen guidance and advice for both prospective mothers and fathers before conception and during pregnancy by:

i. **including an additional focus on the risk of childhood obesity; and**

ii. **developing clear guidance and support for promotion of nutrition, healthy diets, and physical activity, and avoid use of and exposure to tobacco, alcohol, drugs and other toxins.**

Interventions that integrate guidance related to all forms of malnutrition should address undernutrition, overnutrition and specific nutrition deficiencies. There is evidence that nutrition understanding is broadly deficient in the reproductive age group, highlighting the need for governments to take leadership in ensuring nutrition literacy.

There is evidence for the beneficial effects of exercise programmes in pregnancy on maternal BMI, gestational weight gain and birth outcomes linked to risk of childhood obesity, although the effect size varies*(40)*.

There is limited, but growing, evidence that paternal health prior to conception also has some impact on offspring health and, thus, there are direct reasons to also target paternal behaviour and health, as well as the contextual issues concerning the maternal environment, if shared with her partner.

Ensure children grow appropriately and develop healthy eating and physical activity behaviours. *Integrate actions related to healthy eating and feeding practices, physical activity and sleep behaviours with current guidance on best practices for parenting and child-care during the first 5 years of life.*

36. The first years of life are a critical period for establishing good nutrition and physical activity behaviours that have an impact on the risk of developing obesity. Exclusive breastfeeding for the first six months of life, followed by the introduction of appropriate complementary foods (in line with current WHO recommendations) is a significant factor in reducing the risk of obesity. These recommendations are compatible with the prevention of undernutrition, while reducing the risk for excess body fat deposition in infants. Encouraging the intake of a variety of healthy foods, rather than unhealthy, energy-dense, nutrient-poor foods and non-alcoholic beverages, during this critical period supports optimal growth and development. Health care providers can use routine growth monitoring opportunities to track children's BMI-for-age and give appropriate advice to caregivers to help prevent children developing overweight and obesity.

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Policy actions:

Protect, promote and support breastfeeding, according to WHO guidelines by:

i. **using regulatory measures such as The International Code of Marketing of Breast-milk Substitutes[12] and subsequent World Health Assembly resolutions[13];**

ii. **promoting the benefits of breastfeeding for mother and child through broad-based education to parents and community at large; and**

iii. **supporting mothers to breastfeed, through regulatory measures such as maternity leave, facilities and time for breastfeeding in the work place.[14]**

Rationale:

Breastfeeding is core to optimising infant development, growth and nutrition. It may also be beneficial for postnatal weight management in women.

Given changes in women's lifestyles and roles, the ability to breastfeed outside of the home and to sustain breastfeeding when a mother returns to work is critical to enable achievement of recommendations.

Policies that establish rights of women and responsibilities of employers are needed. Some are in place, but they should be universal, to protect all mothers and infants, regardless of social or economic status.

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[12] WHA34.22 International Code of Marketing of Breast-milk Substitutes

[13] WHA35.26,WHA37.30, WHA39.28, WHA41.11, WHA43.3, WHA45.34, WHA47.5, WHA49.15, WHA54.2, WHA55.25, WHA58.32, WHA59.21 , WHA61.20 and WHA63.23 on infant and young child nutrition; WHA65.6 Comprehensive implementation plan on maternal, infant and young child nutrition.

[14] International Labour Organization, Maternity Protection Convention 183, 2000

Strengthen existing Infant and Young Child Feeding guidelines on the timely introduction of appropriate complementary foods by:

i. **providing clear advice to caregivers to avoid specific categories of foods (e.g., sugar-sweetened non-alcoholic beverages (including sugar-sweetened milks and fruit juices) or energy-dense, nutrient-poor foods) for the prevention of excess weight gain; and**

ii. **providing clear guidance and support to caregivers to encourage the consumption of wide variety of healthy foods, through repeated exposure and care-giver modelling of healthy eating behaviours, during complementary feeding and early childhood.**

Established global guidance for infant and young child feeding primarily targets undernutrition. It is now important to consider the risks created by overnutrition, in infancy and childhood, in different contexts.

Guidelines that address both undernutrition and obesity risk are clearly needed for countries where there is a double burden of malnutrition *(27)*.

Current complementary feeding guidelines *(41)* provide guidance on the timing of introduction, responsive feeding, amount and types of foods needed.

Family attitudes to eating and perceptions of ideal body weight are important determinants of complementary feeding behaviours and need to be considered.

Recent evidence shows that sensory experiences begin in utero, continue during breastfeeding and transmit the flavours of foods mothers eat to their infants and play an important role in establishing food preferences and appetite control. Encouraging healthy food variety in families will help children develop good food habits, through repeated, positive exposure to new foods *(42)* and limiting exposure to unhealthy foods that may lead to preference for very sweet foods and drinks, for example *(43)*.

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Foster healthy eating, physical activity and sleep behaviours for young children (2-5 years of age) by:

i. **providing guidance to caregivers on appropriate nutrition and portion size for this age group;**

ii. **strengthening the eating environment (by serving only healthy foods and snacks) and curriculum in formal child care settings or institutions;**

iii. **strengthening the physical activity environments (by ensuring physical activity is incorporated into the daily routine) and curriculum in formal child care settings or institutions;**

iv. **providing guidance on appropriate movement (sleep, sedentary or screen-time and physical activity or active play) behaviour for this age group; and**

v. **engaging the whole-of-the-community to support caregivers and child-care settings to promote healthy lifestyles for young children.**

The evidence to support early interventions to prevent obesity in HICs is still emerging, but looks very promising. Evidence supports interventions in pre-school and child care settings for children aged 2 to 5 years for early child feeding, activity patterns, media exposures, and sleep that help to promote healthy behaviours and weight trajectories in this period of life *(44)*.

Several strategies in this age group have also supported parents and caregivers to ensure minimal television/screen viewing, encourage active play, establish healthy eating behaviours and diets, promote healthy sleep routines and role-model healthy caregiver and family lifestyles.

The evidence shows that interventions to improve child nutrition and movement behaviours are most effective if these are comprehensive and involve caregivers and the community at large *(44)*. Societal changes and transitions require a more deliberate and concerted approach to interventions in this domain, including support for parents and other caregivers to enable them to contribute to the recommended behaviour changes.

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Promote healthy eating and physical activity amongst school-age children and adolescents.
Implement comprehensive programmes that promote healthy schools and health and nutrition literacy among young people.

37. School-age children and adolescents, whether in formal education, or out of school, face particular challenges. They are highly susceptible to the marketing of unhealthy foods and non-alcoholic beverages, peer pressure and perceptions of ideal body image. Adolescents in particular may have more freedom when it comes to food and beverage choices made outside the home. Physical activity also declines at this age. Although a significant number of school-age children are sadly not in formal education, schools continue to provide an easy entry-point to engage this age group and it is essential that school environments are required by governments to be healthy environments where both nutrition and physical literacy are promoted. Further attention is needed to develop programmes to reach children and adolescents outside formal education, to ensure equity.

38. There is a growing evidence base to support interventions in school settings and the wider community for pre-adolescent and adolescent children as an obesity prevention strategy*(21)*. Qualitative assessments suggest that their effectiveness on obesity prevention behaviours and outcomes is related to: a) quality of implementation; b) the pedagogical rigor of the programme and its integration within mainstream curricula (eg reading, science) and c) positioning of school-based efforts within the context of broader educational and community efforts.

39. To be successful, programmes to improve the eating and movement behaviours of children and adolescents need to engage with a number of stakeholders. Obesity prevention and health promotion has traditionally been the remit of ministries of health. Interventions that will be incorporated into the school day or curriculum need the active engagement of the education sector that needs to see it as part of their own remit for success. The most frequently mentioned challenge to implementation is the competition with the schools' primary mission *(44)*. By appropriate pedagogical engagement, such education can be effectively integrated into mainstream topics rather than requiring separate time allocation. Collaboration and exchange of information, the use evidence-based approaches, appropriately adapted to context, and resource-sharing between education and health ministries will help to move this agenda forward. Key to success will be the integration of activities into a health-promoting school initiative, with active engagement of the education sector.

40. Older children and adolescents need to be engaged in the development and implementation of interventions to reduce childhood obesity *(45)*. It is only through their active contribution in the process that interventions will be shaped to meet their specific needs, such that they, and their peers, can fully participate and benefit.

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Policy actions:	Rationale:
Improve access to healthy foods and restrict that of unhealthy food in and around schools by: **i. eliminating the provision or sale of unhealthy foods such as sugar-sweetened non-alcoholic beverages and energy-dense, nutrient-poor foods in the school environment;** **ii. ensuring access to potable water in schools and sports facilities; and** **iii. considering "zoning" around educational establishments to restrict the sale of unhealthy foods.**	Energy-dense, nutrient-poor foods and sugar-sweetened non-alcoholic beverages are important drivers of the obesity epidemic in school-age children and adolescents globally, acting to both cause and maintain overweight and obesity. To establish healthier behavioural norms and make the environment less obesogenic it is necessary to reduce the access to, or provision of, unhealthy foods and non-alcoholic beverages in places where children gather. It is a paradox to encourage and educate children on healthy behaviours, whilst allowing inappropriate foods and beverages to be sold in the school environment. This strategy must go hand-in-hand with increasing access to, and promotion of, lower energy-density foods, and to water as an alternative to sugar-sweetened non-alcoholic beverages.
Increase the nutrition literacy of children and adolescents by: **i. mandating inclusion of nutrition and health education within the core curriculum in schools;** **ii. improving the nutrition literacy and skills of their parents and caregivers; and** **iii. making food preparation classes available to children and their caregivers.**	Understanding the role of nutrition in good health is central to the success of interventions to improve diet. As teenagers are the next generation of parents, the importance of health and nutrition literacy in the teenage years cannot be overestimated – indeed the school years and the mainstream curricula offer important opportunities for progress. Life course education in schools should be co-constructed with teachers, according to pedagogical criteria and embedded in core curricula subjects. Nutrition literacy goes beyond knowledge to actual behaviour change. Although there is evidence of the effectiveness of interventions to improve nutrition knowledge and understanding, the impact of these interventions on dietary behaviour is less clear. Combining nutrition literacy interventions and clear context-specific nutrition advice to children and their caregivers and providing additional knowledge on food preparation in the context of an improved obesogenic environment, would enable children, adolescents and their parents/caregivers to make healthier choices.

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3: Treat children already affected by obesity to improve their current and future health

Provide family-based, multi-component (including nutrition, physical activity and psychosocial aspects) lifestyle weight management services for children and young people affected by obesity.

41. When children are already overweight or obese, additional goals include reduction in the level of overweight, improvement in obesity-related comorbidities and improvement in risk factors for excess weight gain. The health sector in each country varies considerably and will face different challenges in responding to the need for treatment services for those affected by obesity. However, the management of children affected by overweight and obesity should be included in effective services extended under universal health coverage.

42. Primary health-care services are important for the early detection and management of obesity and its associated complications, such as diabetes. Regular growth monitoring at the primary health care facility or at school provides an opportunity to identify children at risk of developing obesity. Low-energy diets can be effective in the short term for the management of obesity, but reducing inactivity and increasing physical activity can increase the effectiveness of interventions. There is little written on models of health service delivery for the provision of obesity treatment in children and adolescents, but it is clear that these efforts can only be effective with the involvement of the whole family or care environment. The 2013 United Kingdom National Institute for Health and Care Excellence guidelines on lifestyle weight management services for children and young people make a number of recommendations in this regard *(46)*. While they are United Kingdom-based, many of the key recommendations would apply to other countries.

43. Health workers and others may discriminate against children affected by overweight and obesity, and such discrimination needs to be addressed in order to provide children and their caregivers with supportive care*(47)*.

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Policy actions:	Rationale:
Develop and support appropriate weight management services for children and adolescents already affected by overweight or obesity as part of Universal Health Coverage. These should be: **i. family-based;**	Evidence reviews of childhood obesity show that family-focussed behavioural lifestyle interventions can lead to positive outcomes in weight, BMI and other measures of body fatness. This is the case for both the adolescent (12-18 years) and pre-adolescent (5-12 years) age groups *(48)*. Such an approach is the foundation for all treatment interventions. However, very few studies have been undertaken in LMICs.
ii. multi-component, including nutrition, physical activity and psychosocial support; and	For the morbidly obese child, in the face of failure of properly applied life style modification pharmacological and/or surgical options may be *(49)*.
iii. delivered by multi-professional teams with appropriate training and resources.	Health professionals and all those providing services to children and adolescents need appropriate training on nutrition, physical activity and the risk factors for developing obesity.

Monitoring and accountability for success

44. The greatest risk to progress on childhood obesity is that governments and other actors will fail to take ownership, leadership and the necessary actions. A whole of society approach offers the best opportunity for addressing childhood obesity. Both governments and other actors, notably, civil society can hold each other, and private sector entities, to account, to ensure they adopt policies and comply with standards. Strong accountability mechanisms are needed so that governments remain answerable for what they have agreed to do, to encourage appropriate contributions by civil society and the private sector and, where appropriate, to ensure compliance with legal and regulatory requirements.

45. Governments bear primary responsibility for setting the policy and regulatory framework for the prevention and management of childhood obesity at the country level. Accountability must therefore begin with the adoption of meaningful policies that give clear guidance on the actions required and the timeframe for doing so. Although the task of developing the policy framework is one for government, in some countries the task of developing education campaigns, or implementing programmes might be shared between government and civil society.

46. What gets measured gets done. Governments should prioritize investment in building robust monitoring and accountability systems that identify specific indicators that measure childhood obesity and related determinants in a standardized manner. This is critical to demonstrating the scale of the problem, providing data for further policy development, as well as evidence of the impact and effectiveness of interventions.

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47. The Commission is aware that governments do not want to increase the reporting burden. A number of monitoring mechanisms currently exist which countries could draw upon and integrate into a comprehensive national monitoring framework for childhood obesity. These include the Global Monitoring Framework for NCDs and the Global Monitoring Framework for Maternal, Infant and Young Child Nutrition[15].

48. To monitor the success of national efforts to address childhood obesity would require tracking three process milestones, namely: national strategic leadership; supportive laws and policies; and programmes, investments and activities. Data is needed from population-based surveys of child weight and height to determine if these have been successful in reducing the prevalence of childhood obesity.

49. National strategic leadership includes establishing the governance structures across a variety of sectors that are necessary to manage the development and implementation of laws, policies and programmes. These should address the obesogenic environment, nutrition and life-style literacy, the health of mothers and children during critical periods of the life course, and management of children with obesity. National monitoring systems may select out some of these laws and policies (priority interventions), measuring their existence and/or impact.

50. National leadership is also necessary to manage engagement with civil society and (where appropriate) with entities representing private sector interests. Government leadership will be reflected in the successful implementation of programmes, activities and investments by various sectors of governments (e.g. education, health, transport), civil society organisations and the private sector.

51. A whole-of-government approach requires that a clear chain of responsibility is established and relevant institutions tasked with developing or implementing interventions are held accountable in the performance of those tasks. The development of policy and action planning matrices, intended to assist governments to translate recommendations and policy intentions into action, can be useful tools by which the level of government compliance with commitments made can be assessed, thereby facilitating accountability. These will specify actions, tasks and work programmes for which specific actors are held accountable. Indicators to measure the existence of the programme or activity, and/or its impact will permit stakeholder groups to hold other actors to account for taking steps towards full implementation of the proposed policies.

52. Civil society can play a critical role in bringing social, moral and political pressure to demand that governments fulfil their commitments *(50)*. However, the capacity of civil society to hold governments accountable is often inadequate or limited in scope. United Nations agencies and donor partners have a role to play in building the capacity of civil society to effectively play a 'watchdog' role on government's policies and private sector activities.

[15] WHA66.8 Global Monitoring Framework for NCD'S; WHA68.9 Indicators for the Global Monitoring Framework for Maternal, Infant and Young Child Nutrition.

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53. Countries will also need to engage constructively with the private sector to encourage implementation of policies and interventions. The Commission is aware of a number of private sector initiatives that have the potential to significant impact on childhood obesity. These need to be encouraged while acknowledging the complexities of motive and interest that might exist. Codes of conduct and independently audited assessments of compliance with government oversight are therefore important to manage risks. These need to be identified, avoided, or mitigated in a transparent and appropriate manner. When governments engage with the private sector, it is important to set clear goals and ground rules, and to proceed with a clear understanding of who is accountable to whom, for what, why, by when, and what the sanctions are for non-compliance or poor performance.

54. Ensuring constructive engagement on one hand and greater accountability on the other from the private sector will require a wide range of additional accountability strategies, including legal, political, market-based and media-based mechanisms *(51)*. Market-based accountability mechanisms include campaigns to weaken consumer demand for unhealthy foods, and in the case of government, regulatory strategies affecting the relative price of healthy and unhealthy foods and beverages. In the case of governments it includes stricter controls over conflicts of interest.

55. Governments have the power to regulate directly in order to improve the food environment, to enforce regulatory standards, to implement internationally-recognized standards such as the WHO's International Code of Marketing of Breast-milk Substitutes[16], and the WHO Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children[17]. Scorecards can be useful tools in holding private sector actors to account, and institutional investors are increasingly aware of community expectations when making investment decisions. While these examples do not cover all the accountability mechanisms that governments and civil society actors can seek to use, the point is that the optimal results will be achieved using a mix of accountability tools and strategies, within a framework of mutual accountability.

56. The Commission has noted the important influence that trade policies can have on the obesogenic environment. This is particularly the case for island states that have a very high dependency on important foods and where that nature of the food supply and pricing is largely determined by the importer. Further there are examples of unhealthy foods made in one jurisdiction being marketed in other jurisdictions and of transnational companies using different standards across national boundaries. The Commission acknowledges the complexity of international trade particularly in food and agricultural products but urges Member States and those involved in international trade arrangements to seek ways to address trade issues that impact on child obesity.

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[16] WHA34.22 International Code of Marketing of Breast-milk Substitutes
[17] WHA63.14 on marketing of food and non-alcoholic beverages to children

Roles and responsibilities

57. The Commission recognizes that the scope of potential policy recommendations to address childhood obesity is broad and contains a number of novel elements, including a focus on the life-course dimension and on the education sector. A multisectoral approach will be essential for sustained progress. The Commission is also cognizant of the potential spill-over benefits and costs to many other areas of policy formation. Indeed, reconciling these issues creates major challenges for stakeholders and in some cases will challenge established perceptions and thinking.

58. **WHO**: WHO can lead and convene high-level dialogue within the United Nations system and with and between Member States to address the actions detailed in this report to end childhood obesity. Using its normative function, both globally and through its network of regional and country offices, WHO can provide technical assistance by developing or building on guidelines, tools and standards to support the recommendations of the Commission and other relevant WHO mandates at country level. WHO can disseminate guidance for implementation, monitoring and accountability, and monitor and report on progress to end childhood obesity.

59. **International organizations**: Cooperation between international organizations including other UN agencies can promote the establishment of global and regional partners and networks for advocacy, resource mobilization, capacity building and collaborative research. International organizations can lead the development and monitoring of international food and beverage standards, nutrition labelling and nutrient profiling. The UN Inter-Agency Task Force on NCDs can support Member States in addressing childhood obesity.

60. **Member States**: Governments have the ultimate responsibility for ensuring their future citizens have a healthy start to life. Thus, taking an active role to address childhood obesity should not be interpreted as the so called "nanny-statism", but as rather the state taking ownership of the development of their human capital. It is clear that to effectively address childhood obesity, active engagement of multiple agencies of government is needed. There is an understandable tendency to see obesity as a problem for the health sector, but preventing childhood obesity requires the coordinated contributions of all government sectors and institutions responsible for policies, including but not limited to, on education, food, agriculture, commerce and industry, development, finance/revenue, sport and recreation, media and communication, environmental and urban planning, transport and social affairs, and trade. Governments must establish appropriate whole-of-government approaches to address childhood obesity. Further, regional and local governments must understand their obligations and harness resources and efforts to ensure a coordinated and comprehensive response.

61. Governments should ensure data collection on BMI-for-age of children, including for ages not currently monitored. Using these data, governments can establish obesity targets and intermediate milestones, consistent with the global nutrition and noncommunicable disease targets established by the World Health Assembly. They should include in their national monitoring frameworks agreed international indicators for obesity outcomes (to track progress in achieving national targets), diet and physical activity programme implementation (including

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coverage of interventions) and the obesity policy environment (including institutional arrangements, capacities and investments in obesity prevention and control). Monitoring should be conducted, to the fullest possible extent, through existing monitoring mechanisms.

62. Governments should develop guidelines, recommendations or policy measures that engage relevant sectors, including the private sector as appropriate to implement actions in this report aimed at reducing childhood obesity.

63. **Non-State actors:** There are many ways in which non-State actors can play an important and supportive role in addressing the challenge of childhood obesity. As this report shows, childhood obesity is greatly influenced by food, physical activity and eating behaviours, by the school environment, by cultural attitudes to body image, and by the behaviour of adults.

    a. **Nongovernmental organizations** (NGOs) can motivate consumers to demand that governments support healthy lifestyles and that the food and non-alcoholic beverage industry provide healthy products, and do not market unhealthy foods and non-alcoholic beverages to children. This can be achieved through advocacy efforts and the dissemination of information to raise the profile of childhood obesity prevention. NGOs also have a role to play in developing a monitoring and accountability mechanism, and in ensuring the monitoring of policy implementation by all actors. Social movements can engage members of the community and provide a platform for advocacy and action.

    b. **The private sector** is not a homogeneous entity. It is, therefore, important to consider those entities whose activities are directly or indirectly related to addressing childhood obesity either positively or negatively. These include the agricultural food production sector, the food and non-alcoholic beverage industry, retailers, catering companies, sporting-goods manufacturers, advertising and recreation businesses, and the media. As many companies operate globally, international collaboration is vital. However, attention must also be given to local and regional entities and artisans. Cooperative relationships with industry have already led to some encouraging outcomes related to diet and physical activity. Initiatives by the food manufacturing industry to reduce fat, sugar and salt content, and portion sizes of processed foods, and to increase the production of innovative, healthy and nutritious choices, could accelerate health gains worldwide. The Commission believes that real progress can be made by constructive, transparent and accountable engagement with the private sector. Governments can develop policies that encourage the private sector to support the production of, and facilitate access to, foods and non-alcoholic beverages that contribute to a healthy diet, and facilitate access to, and participation in, physical activity.

    c. **Philanthropic foundations** can make significant contributions to global public health by mobilising funds to support research, capacity-building and service delivery. Philanthropic foundations can also engage in monitoring and accountability activities.

    d. **Academic institutions** can contribute to addressing childhood obesity through studies on biological, behavioural and environmental risk factors and determinants, and the effectiveness of interventions in each of these. Academic institutions may be well placed to support monitoring and accountability activities.

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Research agenda

64. Many of the research gaps have been alluded to already, but these include:

a. Biology of childhood obesity – growth trajectories, adiposity patterns, maternal and paternal risk factors, other risk factors.

b. Psychosocial determinants of childhood obesity – ethnic differences, childhood obesity prevalence with respect to socio-economic status, impact of social norms and peers.

c. Economic consequences of childhood obesity – economic burden of childhood obesity throughout the life-course.

d. Effectiveness of interventions at each critical stage of the life course – preconception care, nutrition and physical activity interventions in childcare and school, nutrition and health literacy interventions.

e. Cost-effectiveness of interventions to prevent and treat childhood obesity, particularly in LMICs.

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References

1. WHO Multicentre Growth Reference Study Group. WHO child growth standards based on length/height, weight and age. Acta paediatrica. 2006;Suppl 450:76-85.
2. Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. Lancet. 2013;382(9890):427-51.
3. de Onis M, Blossner M. Prevalence and trends of overweight among preschool children in developing countries. Am J Clin Nutr. 2000;72(4):1032-9.
4. de Onis M, Blossner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. Am J Clin Nutr. 2010;92(5):1257-64.
5. Ng M, Fleming T, Robinson M, Thomson B, Graetz N, Margono C, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014;384(9945):766-81.
6. Roberto CA, Swinburn B, Hawkes C, Huang TTK, Costa SA, Ashe M, et al. Patchy progress on obesity prevention: emerging examples, entrenched barriers, and new thinking. The Lancet. 2015.
7. Taveras EM, Gillman MW, Kleinman K, Rich-Edwards JW, Rifas-Shiman SL. Racial/ethnic differences in early-life risk factors for childhood obesity. Pediatrics. 2010;125(4):686-95.
8. Food and Agriculture Organization. The double burden of malnutrition. Case studies from six developing countries. Food and Nutrition Paper. 2006;84:1-334.
9. Hanson MA, Gluckman PD. Early developmental conditioning of later health and disease: physiology or pathophysiology? Physiol Rev. 2014;94(4):1027-76.
10. Sun SMS, et al. Secular trends in body composition for children and young adults: The fels longitudinal study. Am J Hum Biol. 2012;24:506-14.
11. Lobstein TJ-LR. Estimated burden of paediatric obesity and co-morbidities in Europe. Part 2. Numbers of children with indicators of obesity-related disease. Int J Pediatr Obes. 2006;1(1):33-41.
12. Miller AL, Lee HJ, Lumeng JC. Obesity-Associated Biomarkers and Executive Function in Children. Pediatr Res. 2014.
13. Pizzi MA, Vroman K. Childhood obesity: effects on children's participation, mental health, and psychosocial development. Occupational Therapy In Health Care. 2013;27(2):99-112.
14. Litwin SE. Childhood Obesity and Adulthood Cardiovascular Disease: Quantifying the Lifetime Cumulative Burden of Cardiovascular Risk Factors. Journal of the American College of Cardiology (JACC). 2014;64(15):1588-90.
15. Nader PR, O'Brien M, Houts R, Bradley R, Belsky J, Crosnoe R, et al. Identifying risk for obesity in early childhood. Pediatrics. 2006;118(3):e594-e601.
16. Kelsey MM, Zaepfel A, Bjornstad P, Nadeau KJ. Age-related consequences of childhood obesity. Gerontology. 2014;60(3):222-8.
17. Juonala M, Magnussen CG, Berenson GS, Venn A, Burns TL, Sabin MA, et al. Childhood adiposity, adult adiposity, and cardiovascular risk factors. N Engl J Med. 2011;365(20):1876-85.
18. Finkelstein EA, Graham WC, Malhotra R. Lifetime direct medical costs of childhood obesity. Pediatrics. 2014;133(5):854-62.
19. Muller-Riemenschneider F, Reinhold T, Berghofer A, Willich SN. Health-economic burden of obesity in Europe. Eur J Epidemiol. 2008;23(8):499-509.
20. Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinsts of health. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization, 2008.

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21. Hawkes C, Smith TG, Jewell J, Wardle J, Hammond RA, Friel S, et al. Smart food policies for obesity prevention. The Lancet. 2015.
22. World Health Organization Regional Office for Europe. Using price policies to promote healthier diets. Copenhagen, Denmark: WHO Regional Office for Europe, 2014.
23. Powell LM, Chriqui JF, Khan T, Wada R, Chaloupka FJ. Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: a systematic review of prices, demand and body weight outcomes. Obes Rev. 2013;14(2):110-28.
24. Hastings G, Stead M, McDermott L, Forsyth A, MacKintosh AM, Rayner M, et al. Review of research on the effects of food promotion to children – final report. Report to the Food Standards Agency. Glasgow: University of Strathclyde, Centre for Social Marketing, 2003.
25. McGinnis JM, Gootman JA, Kraak VI. Food marketing to children and youth. Threat or opportunity? . Washington, DC: Institute of Medicine, National Academies Press; 2006.
26. Thow AM, Downs S, Jan S. A systematic review of the effectiveness of food taxes and subsidies to improve diets: Understanding the recent evidence. Nutrition reviews. 2014;72(9):551-65.
27. Lobstein T, Jackson-Leach R, Moodie ML, Hall KD, Gortmaker SL, Swinburn BA, et al. Child and adolescent obesity: part of a bigger picture. The Lancet. 2015.
28. World Health Organization. A framework for implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva: World Health Organization, 2012.
29. Tremblay MS, Gray CE, Akinroye K, Harrington DM, Katzmarzyk PT, Lambert EV, et al. Physical activity of children: a global matrix of grades comparing 15 countries. Journal of physical activity & health. 2014;11(4 Suppl 1):S113-25.
30. World Health Organization. Global recommendations on physical activity for health. Geneva: World Health Organization, 2010.
31. World Cancer Research Fund., American Institute for Cancer Research. Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. Washington, D.C.: America Institute of Cancer Research, 2007.
32. UNESCO. Quality physical education. Guidelines for policy-makers. Paris: UNESCO, 2015.
33. Yu Z, Han S, Zhu J, Sun X, Ji C, Guo X. Pre-pregnancy body mass index in relation to infant birth weight and offspring overweight/obesity: a systematic review and meta-analysis. PloS one. 2013;8(4):e61627.
34. Eriksson JG, Sandboge S, Salonen MK, Kajantie E, Osmond C. Long-term consequences of maternal overweight in pregnancy on offspring later health: findings from the Helsinki Birth Cohort Study. Ann Med. 2014;46(6):434-8.
35. Okubo H, Crozier SR, Harvey NC, Godfrey KM, Inskip HM, Cooper C, et al. Maternal dietary glycemic index and glycemic load in early pregnancy are associated with offspring adiposity in childhood: the Southampton Women's Survey. Am J Clin Nutr. 2014;100(2):676-83.
36. Poston L. Maternal obesity, gestational weight gain and diet as determinants of offspring long term health. Best Pract Res Clin Endocrinol Metab. 2012;26(5):627-39.
37. Oken E, Levitan EB, Gillman MW. Maternal smoking during pregnancy and child overweight: systematic review and meta-analysis. Int J Obes (Lond). 2008;32(2):201-10.
38. Janesick A, Blumberg B. Endocrine disrupting chemicals and the developmental programming of adipogenesis and obesity. Birth Defects Res C Embryo Today. 2011;93(1):34-50.
39. Temel S, van Voorst SF, Jack BW, Denktas S, Steegers EA. Evidence-based preconceptional

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lifestyle interventions. Epidemiol Rev. 2014;36(1):19-30.
40. Choi J, Fukuoka Y, Lee JH. The effects of physical activity and physical activity plus diet interventions on body weight in overweight or obese women who are pregnant or in postpartum: a systematic review and meta-analysis of randomized controlled trials. Prev Med. 2013;56(6):351-64.
41. Pan American Health Orgnaization, World Health Organization. Guiding principles for complementary feeding of the breastfed child. Washington, D.C.: Pan American Health Organization and World Health Organization, 2002.
42. Mennella JA, Nicklaus S, Jagolino AL, Yourshaw LM. Variety is the spice of life: strategies for promoting fruit and vegetable acceptance during infancy. Physiol Behav. 2008;94(1):29-38.
43. Liem DG, Mennella JA. Sweet and sour preferences during childhood: role of early experiences. Dev Psychobiol. 2002;41(4):388-95.
44. Waters E, de Silva-Sanigorski A, Hall BJ, Brown T, Campbell KJ, Gao Y, et al. Interventions for preventing obesity in children. Cochrane Database Syst Rev. 2011(12):CD001871.
45. World Health Organization. School policy framework. Implementation of the WHO global strategy on diet, physcial activity and health. Geneva: World Health Organization, 2008.
46. National Institute for Health and Care Excellence. Managing overweight and obesity among children and young people: lifestyle weight management services. NICE public health guidance 47 2013. Available from: https://www.nice.org.uk/guidance/ph47.
47. Dietz WH, Baur LA, Hall K, Puhl RM, Taveras EM, Uauy R, et al. Management of obesity: improvement of health-care training and systems for prevention and care. The Lancet. 2015.
48. Oude Luttikhuis H, Baur L, Jansen H, Shrewsbury VA, O'Malley C, Stolk RP, et al. Interventions for treating obesity in children. Cochrane Database Syst Rev. 2009(1):CD001872.
49. Spear BA, Barlow SE, Ervin C, Ludwig DS, Saelens BE, Schetzina KE, et al. Recommendations for Treatment of Child and Adolescent Overweight and Obesity. Pediatrics. 2007;120(Supplement 4):S254-S88.
50. Huang TTK, Cawley JH, Ashe M, Costa SA, Frerichs LM, Zwicker L, et al. Mobilisation of public support for policy actions to prevent obesity. The Lancet. 2015.
51. Swinburn B, Kraak V, Rutter H, Vandevijvere S, Lobstein T, Sacks G, et al. Strengthening of accountability systems to create healthy food environments and reduce global obesity. The Lancet. 2015.

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ANNEX 1: Commissioners serving in the Commission on Ending Childhood Obesity

Sir George Alleyne

Director Emeritus

Pan American Health Organization (PAHO)

Dr Constance Chan Hon Yee

Director of Health

Department of Health

Hong Kong Special Administrative Region

China

Ms Helen Clark

Administrator

United Nations Development Programme (UNDP)

Sir Peter Gluckman (co-chair)

Chief Science Advisor to the Prime Minister of New Zealand

&

Liggins Institute University of Auckland

New Zealand

Dr Sania Nishtar (co-chair)

Founder, Heartfile

Pakistan

Ms Paula Radcliffe

Athlete and parent

Professor Hoda Rashad

Research Professor and Director

Social Research Center

American University in Cairo

Egypt

Professor K. Srinath Reddy

President

Public Health Foundation of India

Institute of Studies in Industrial Development (ISID) Campus

India

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Mr Adrian Gore

Founder and Chief Executive Officer

Discovery Group

South Africa

Dr Jacques Rogge

Honorary President

International Olympic Committee (IOC)

Switzerland

Ms Betty King

Former Ambassador

Permanent Mission of the United States of America to the United Nations Office and other International Organizations at Geneva

Ms Sachita Shrestha

Youth Advocate

Nepal

Ms Nana Oye Lithur

Minister of Gender, Children and Social Protection

Ghana

Dr Colin Tukuitonga

Director-General

Secretariat of the Pacific Community (SPC)

New Caledonia

Dr David Nabarro

Coordinator, Scaling up Nutrition (SUN) Movement

Special Representative of the UN Secretary General for Food Security and Nutrition

Coordinator for the High Level Task Force

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