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Proposed policy priorities for preventing obesity and diabetes in the Eastern Mediterranean Region

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Contents

Executive summary

The Eastern Mediterranean Region of the World Health Organization (WHO) has an extremely high prevalence of overweight and obesity in both adults and children, precipitating the highest regional prevalence of diabetes in the world.

With regional obesity and overweight prevalence rates well above the global average, half the Region's adult women (50.1%) and more than two in five men (43.8%) were overweight or obese in 2014 *(1)*. In several countries two thirds or more of adults (especially women) are overweight or obese.

High rates of childhood overweight in the Region give particular cause for concern. On average, 6.9% of children under five years are already overweight – higher than the global average of 6.2% – and in some countries more than 15% of children are affected *(2)*. In many countries of the Region more than half of adolescents are overweight or obese.

Around 43 million people in the Region live with diabetes, and its prevalence has risen from 6% in 1980 to 14% in 2014, affecting more than 20% of adults in some countries. The Region has the highest death rates from diabetes of all WHO regions *(1)*. The prevalence of diabetes is higher than might be expected given the levels of obesity – diabetes prevalence rates are about twice the rates shown for equivalent obesity prevalence rates in, for example, European Union countries, potentially reflecting a greater sensitivity to diabetes in the Region.

The increasing prevalence of overweight, obesity and diabetes is closely linked to a dramatic reduction in physical activity accompanied by marked changes in dietary patterns in the Region. Average intakes of energy and fat are above WHO-recommended levels, with substantially higher fat intakes in the Region's high-income countries. More than three quarters of the Region's countries consume substantially higher levels of sugars than WHO recommends.

Such high prevalence rates of these conditions and the heavy burden of morbidity, disability and death they can cause threaten to generate a devastating financial burden for countries of the Region, overwhelming health services and undermining their economic and social well-being. Urgent action is therefore needed to tackle this alarming and escalating problem. Yet the Eastern Mediterranean has the highest proportion of countries of any region without any policies to combat diabetes *(1)*.

Taking the recommendations of several recent initiatives on the prevention of obesity and diabetes[1] into account, the WHO Regional Office for the Eastern Mediterranean has identified priorities for an approach to reduce exposure to unhealthy dietary risk factors for obesity and diabetes (See Annex 1 for the methodology). This document presents an initial proposal for 10 priority areas for action, which cover 37 strategic interventions to help prevent overweight, obesity and diabetes in the whole population – children, adolescents and adults. These areas for action and interventions are set out in Table 1.

All the priority areas and interventions proposed have a sufficiently strong case-based on research evidence and expert analysis of the measures – to warrant recommending their adoption (See Annex 2 for a summary of the

[1] Such as the United Nations Political Declaration of the High Level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases (2011), the WHO Eastern Mediterranean Region Framework for action to implement the UN Political Declaration on Noncommunicable Diseases, including indicators to assess country progress by 2018, the Commission on Ending Childhood Obesity (2016), the political declaration and Framework for Action from the Second International Conference on Nutrition (2014) and WHO's first Global Report on Diabetes (2016).

evidence). In addition, most of the interventions have been tried and tested in other countries or localities or adopted by innovative policy-makers, and growing country experience has bolstered the evidence base (See Annex 3 for examples of country implementation). Some of the proposed strategic interventions will be easier to implement than others and the challenges of their application, the financial implications, public acceptance and political feasibility very much depend on the particular country context (See Annex 4 for a summary of feasibility issues).

A phased approach may, therefore, be needed in some countries. The strongest candidate interventions for the first phase of action are indicated in Table 1, along with those that it may be more appropriate to implement in a second phase. Countries that are less affected by these feasibility constraints, however, are encouraged to implement all of the strategic interventions as soon as possible.

Detailed analysis of the effective measures and the responsibilities for implementing them has revealed that almost all the proposed interventions require simultaneous action by several government departments, in addition to the Ministry of Health, which should have an important coordination and monitoring role *(3)*. The exact configuration of a cross-government approach will vary, but it is important to establish the highest level of political commitment and leadership and to ensure coordinated action across government with mechanisms to evaluate and drive progress by each government department.

This highlights more than ever the need for a whole-of-government and whole-of-society approach – backed by strong political commitment at the highest level – to tackling these major public health problems, which have multiple and inter-related risk factors and determinants.

Table 1. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean and their implementation phase

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
1 Fiscal measures	1.1 Progressively eliminate national subsidies for all types of fats/oils and sugar. 1.2 Implement an effective tax on sugar-sweetened beverages.	1.3 Consider an effective progressive tax on high fat foods and on high sugar foods.
2 Public procurement	2.1 Implement mandatory nutrition standards across all public institutions through (a) application of the regional nutrient profile model to assess the nutritional quality of different foods, (b) introduction of meal standards and (c) measures to eliminate the sale of foods or drinks high in fat, sugar or salt. 2.2 Issue mandatory guidelines for the revision of procurement to provide healthy food, including limiting the volume of fats/oils, sugar and salt entering public sector catering facilities in order to facilitate the necessary menu changes (e.g. so that meals provide not more than 25% energy from fats and less than 5% from free sugars). 2.3 Develop guidance and provide training to catering companies on appropriate catering methods in public institutions to reduce the use of frying and sweetening of foods and help with menu design.	2.4 Continue implementing these measures, scaling up coverage and monitoring impact.

Table 1. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean and their implementation phase

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
3 Physical activity interventions	3.1 Promote healthy physical activity through mass media campaigns (see priority area 9) and ensure adequate legislation supporting delivery of daily physical activity for students in schools and universities. 3.2 Ensure comprehensive delivery of regular, quality physical education to all children, as a key component of education in schools. 3.3 Develop a set of standards/guidelines promoting physical activity in the workplace, including facility/building design, availability of sports facilities and programmes enabling access to facilities away from the workplace. 3.4 Increase availability of and accessibility for participation in formal and informal recreational and sporting activities, particularly providing opportunities for participation in programmes such as "Sports-for-All", with emphasis on ensuring equality of access and opportunity for participation. 3.5 Develop and implement an urban planning policy to ensure that urban environments encourage people to rely less on personal motorized vehicles and support access to safe, gender-sensitive and age-friendly public transport, cycling and walking, including by provision of facilities, equipment, open and green public space and shared use of school facilities (both indoor and outdoor).	3.6 Continue implementing these measures, scaling up coverage and monitoring impact.
4 Food supply and trade	4.1 Conduct a situation analysis of the national and/or local food supply, including establishing the proportions of fats/oils and sugar used in the diet that are derived from imports and domestic production, along with the extent of food manufacture and processing within the country and the supply of fruit, vegetables and whole grains. 4.2 Facilitate the development of local food policies and encourage city authorities to sign the Milan Urban Food Policy Pact and implement its Framework for Action to develop, where possible, sustainable urban food systems.	4.3 Consider introducing standards or other legal instruments (e.g. compositional standards, tariffs, import restrictions, sales bans, planning laws, zoning policies) to reduce the volume and improve the quality of fats/oils and reduce sugars in the national and local food supply. 4.4 Consider removing agricultural subsidies for producers of sugars and oils (especially those oils high in saturated fatty acids), replacing them, where necessary, with other mechanisms to support farmers and growers.
5 Reformulation	5.1 Cooperate with other Member States to adopt a regional approach for engaging with food producers to drive food reformulation to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size in a substantial proportion of processed foods.	5.2 Engage with private sector providers of food in catering/food service outlets (including takeaways and street food traders) to establish a programme to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size, with defined quantified reductions in use of these ingredients.

Table 1. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean and their implementation phase

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
6 Marketing	6.1 Work with other countries in the Region to establish a coordinated approach, including appropriate legal advice, to reduce the impact of cross-border marketing. 6.2 Implement the WHO Set of Recommendations on Marketing of Foods and Non-alcoholic Beverages to Children and consider mandatory restrictions to eliminate all forms of marketing of foods high in fat, sugar and salt to children and adolescents (up to age 18) across all media, according to the Regional Action Plan to Address Unopposed Marketing of Unhealthy Food and Beverages. 6.3 Use the regional nutrient profile model, which categorizes the appropriate level of nutrients in foods, to identify foods to which the marketing restrictions should apply. 6.4 Conduct an assessment (preferably as part of a regional collaboration) of the impact of marketing of foods high in fat, sugar or salt to adults to illuminate the magnitude of marketing and define how best to restrict inappropriate practices.	6.5 Consider extending mandatory restrictions on marketing of unhealthy foods to whole population. 6.6 Legislate to allow retail promotion only of healthy foods.
7 Labelling	7.1 Implement a mandatory front-of-pack labelling scheme with elements to enable consumers to interpret information easily (such as colour coding or the use of terms such as "high", "medium", "low").	7.2 Enforce the labelling scheme and monitor its impact with the potential to strengthen the labelling with suitable health warnings.
8 Breastfeeding	8.1 Promote breastfeeding through mandatory baby-friendly health systems and effective community-based strategies. 8.2 Fully implement the International Code of Marketing of Breast-milk Substitutes and the WHO Guidance on ending inappropriate promotion of foods for infants and young children.	8.3 Empower women to exclusively breastfeed, by enacting progressively increasing remunerated time off work up to a goal of 6 months' mandatory paid maternity leave, as well as policies that encourage women to breastfeed in the workplace including breastfeeding breaks and provision of suitable facilities.
9 Mass media campaigns	9.1 Implement appropriate social marketing campaigns, led by the public sector, on healthy diet and physical activity in order to build consensus, complement the other interventions in the package and encourage behaviour change.	9.2 Ensure sustained implementation of campaigns and monitor their impact.
10. Health sector interventions	10.1 Ensure provision of dietary counselling on nutrition, physical activity and healthy weight gain before and during pregnancy for prospective mothers and fathers. 10.2 integrate screening for overweight and other diabetes risk factors into primary health care and provide primary-care based counselling for high-risk individuals. 10.3 Establish or strengthen, as appropriate, a high-level multisectoral mechanism to define and oversee the implementation of food and physical activity policies for the prevention of obesity and diabetes. 10.4 Establish national targets for obesity and diabetes, along with SMART commitments for action, and work with WHO to develop and implement a monitoring framework for reporting on progress.	10.5 Implement evidence-based community-based interventions, addressing both healthy eating and physical activity, comprising different activities and targeting high-risk groups, to promote and facilitate behaviour change and prevent obesity and diabetes.

1. Introduction: Obesity and diabetes in the Eastern Mediterranean Region

There is an alarming and escalating burden of overweight, obesity and diabetes in the Eastern Mediterranean Region, closely linked to changing dietary patterns. Obesity and the most common type of diabetes are largely preventable and urgent action is needed to reduce exposure to their causal factors, such as unhealthy diet and physical inactivity.

1.1 Burden of obesity and diabetes

The prevalence of obesity and overweight is worryingly high in the Region – at 46.8%, well above the global average. In 2014, half the Region's adult women (50.1%) and more than two in five men (43.8%) were overweight or obese *(1)*. In some countries of the Region two thirds or more of adults are overweight or obese, while other countries, in an earlier stage of the nutrition transition that often accompanies economic development, have moderate levels of overweight/obesity or have emerging overweight/obesity only in certain socioeconomic groups (Fig. 1 and 2).

High rates of childhood overweight give particular cause for concern. On average, 6.9% of children under five years are already overweight – higher than the global average of 6.2% – and in some countries more than 15% of children are affected. In many countries of the Region more than half of adolescents (13–18 years) are overweight or obese *(2)* (Fig. 3).

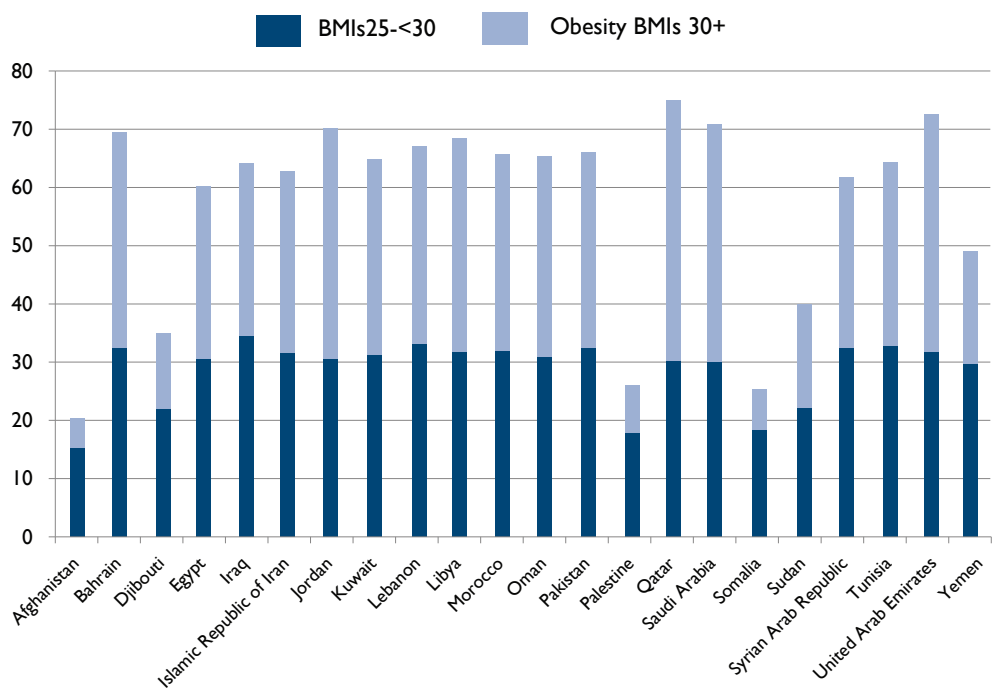


Fig. 1. Prevalence of female overweight and obesity in Eastern Mediterranean countries (latest integrated 2014 prevalence data for adult women)

Source: Data from NCD Risk Factor Collaboration. Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19.2 million participants. Lancet. 2016; 387:1377-96.

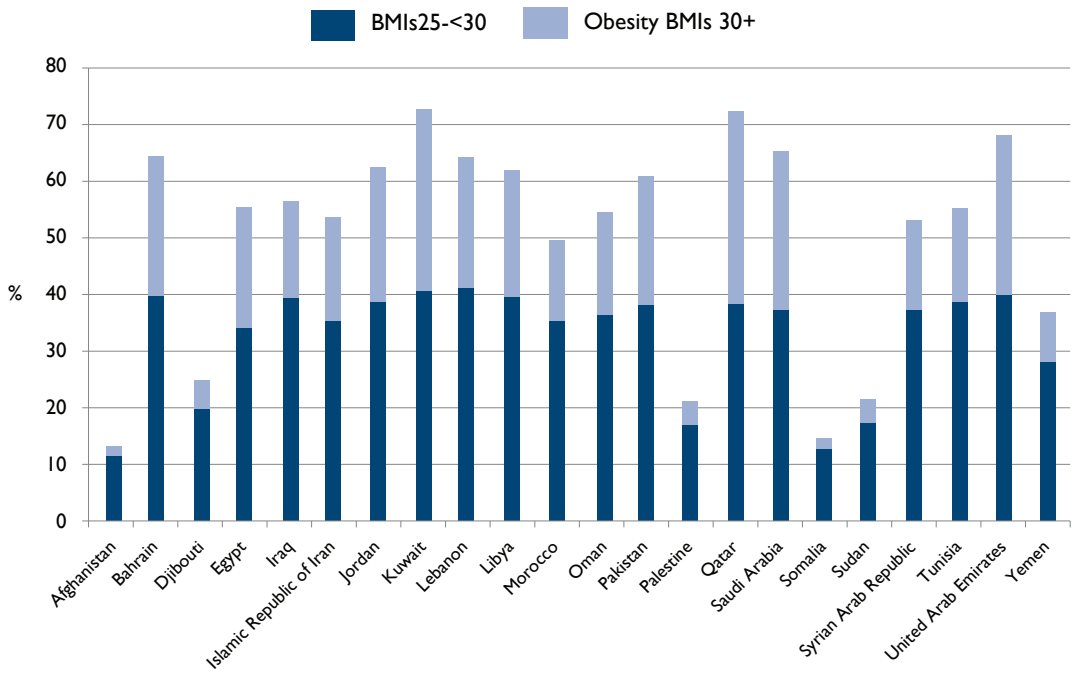


Fig. 2. Prevalence of male overweight and obesity in Eastern Mediterranean countries (latest 2014 integrated prevalence data for adult men)

Source: Data from NCD Risk Factor Collaboration. Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19.2 million participants. Lancet. 2016; 387:1377-96.

Young women who are overweight or obese before pregnancy are now having children who are immediately disadvantaged for life as they are at greater risk of later health problems, including obesity *(4)*. Diabetes during pregnancy not only exposes a mother to much greater risk, but also markedly increases her child's chances of ill health in the future *(5)*.

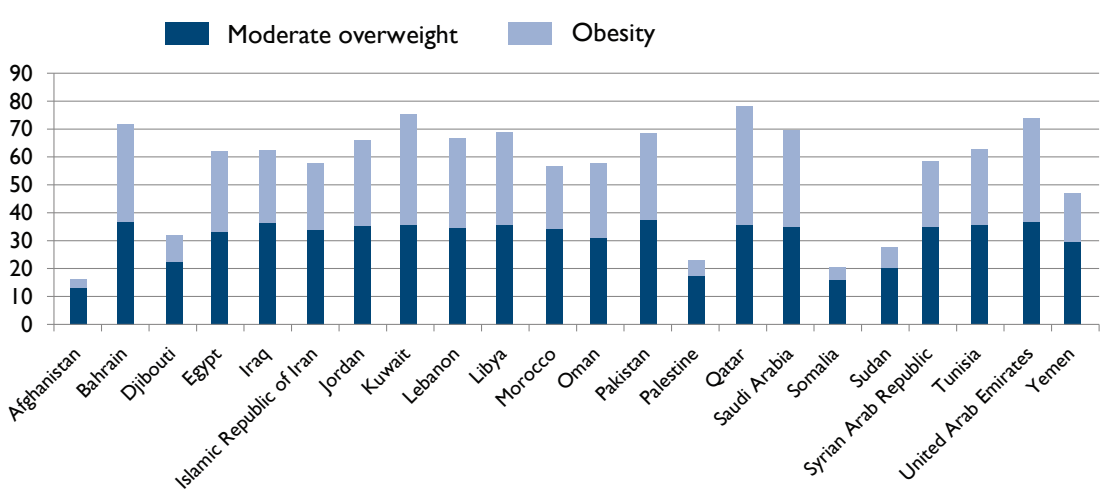


Fig. 3. Prevalence of adolescent overweight and obesity in Eastern Mediterranean countries (13–18 years, average for boys and girls, 2014)

Source: Recalculated from WHO Eastern Mediterranean Framework for health information systems and core indicators for monitoring health situtation and health system performance, 2015

The Eastern Mediterranean Region has the highest prevalence of diabetes in the world (Fig. 4) *(1)*. Around 43 million people in the Region live with this chronic disease, which, if not properly controlled, puts them at increased risk of serious complications, such as cardiovascular disease, vision loss, nerve damage, leg amputation or kidney failure, and of early death. More than 10% of deaths in adult women and 9% of deaths in adult men in the Region are attributable to high blood glucose *(1)*. The prevalence of diabetes in the Region rose from 6% in 1980 to 14% in 2014 and now affects more than 20% of adults in some countries. In addition, there are many millions more with pre-diabetes,[2] who are at increased risk of developing clinically evident diabetes within the next 5–10 years and who already have a greater risk of heart disease.

The risk of diabetes is recognized to increase as children and adults in particular gain weight. So the longer an adult has been overweight/obese and the more extreme their obesity, the greater their risk of diabetes. Yet in the Eastern Mediterranean Region, the prevalence of diabetes is about twice the rates found for equivalent prevalence rates of obesity in, for example, European Union countries *(1)* (Fig. 5), potentially reflecting a greater sensitivity of the population in the Region to diabetes if they gain weight.

Both obesity and diabetes were rare in the 1950s in most countries of the Region until the activity patterns and diet of the communities changed from the 1960s onwards with a

[2] Impaired glucose intolerance and impaired fasting glycaemia are intermediate conditions in the transition between normal blood glucose levels and diabetes, although the transition is not inevitable.

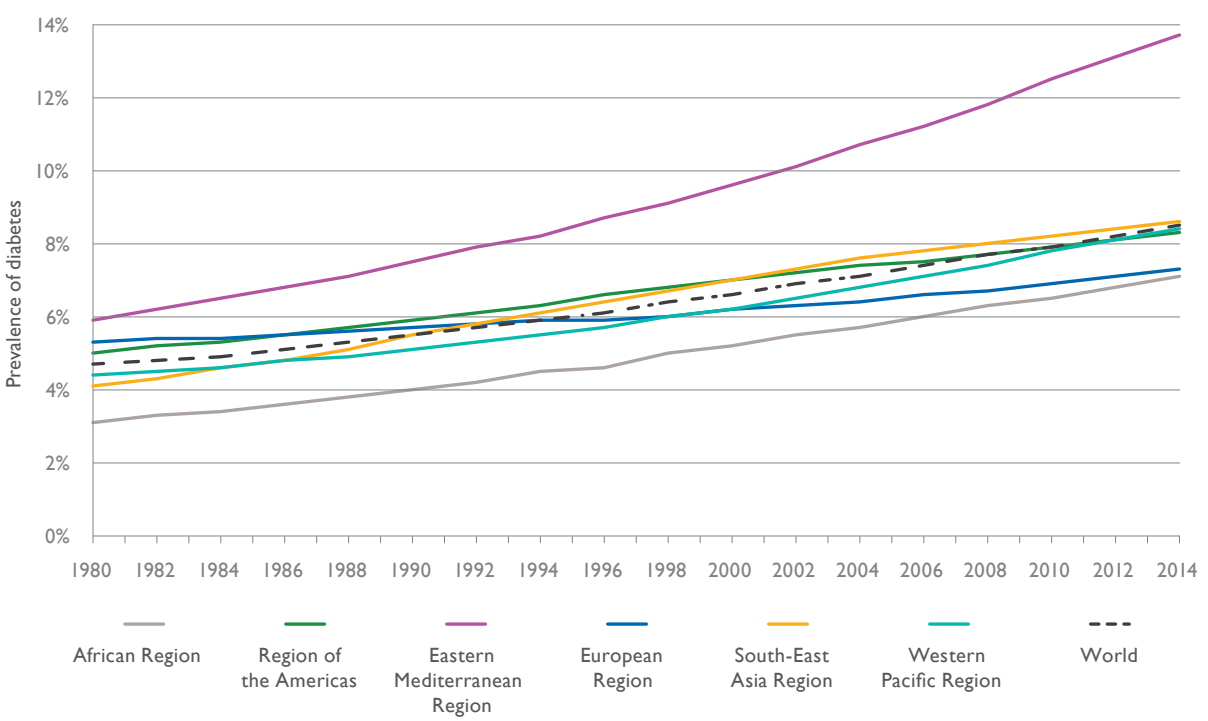


Fig. 4. Trends in the prevalence of diabetes, 1980–2014, by WHO Region

Source: *(1)*.

subsequent increase in body weight and increasing prevalence of diabetes.

The greater sensitivity to diabetes when adults gain weight may relate to the greater genetic sensitivity of the population but it is also recognized that early nutritional deficiencies affecting mothers in early pregnancy and children in early childhood can potentially increase the sensitivity of the community to the development of obesity and diabetes, as recently emphasized by the Commission on Ending Childhood Obesity *(6)*. These effects seem to relate to the impact of a poor environment on the responsiveness of normal genes through so-called "epigenetic changes" that are only just becoming understood. It is also being emphasized that a woman needs be nutritionally well fed and of normal weight before conception to promote the well-being of her child and avoid the problems of an increased risk of childhood obesity. The Region is, therefore, facing a huge challenge as future generations are increasingly affected by obesity and diabetes at a much earlier age. No country can afford the financial and social costs these changes will bring.

This alarming and escalating burden of obesity and diabetes in the Region is closely linked to the dietary changes of recent decades. The good news is that both obesity and type 2 diabetes are largely preventable – but multisectoral, population-based initiatives are needed to reduce exposure to the major causes, namely unhealthy diet and physical inactivity. The high levels of obesity and diabetes in the Region also suggest that substantial measures need to be taken soon to alleviate and reverse the current escalating burden of disease.

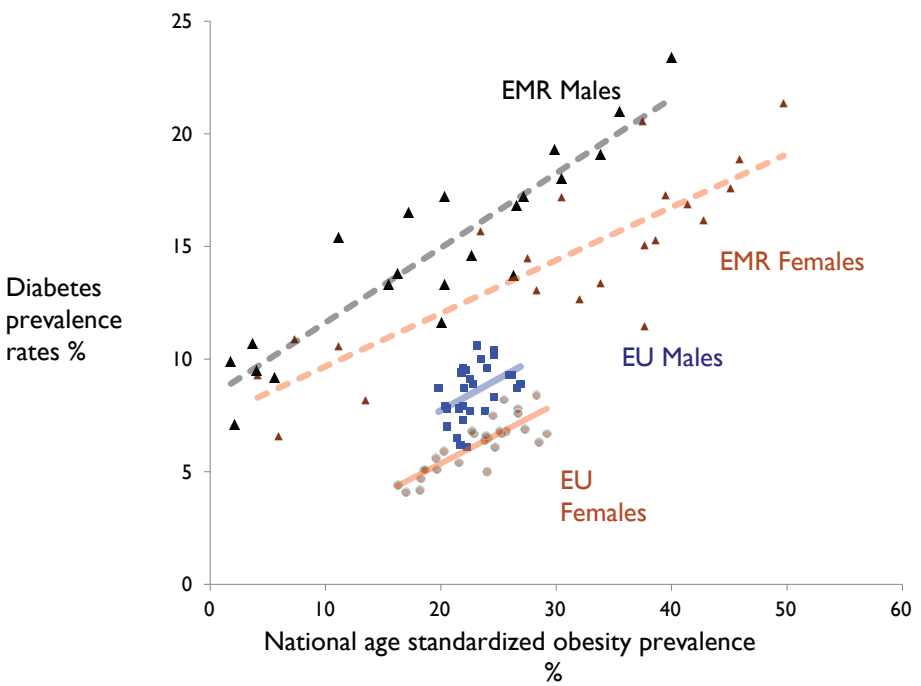


Fig. 5. National diabetes prevalence rates in countries of the Eastern Mediterranean Region (EMR) and European Union (EU) country equivalent obesity rates

Source: Based on WHO STEPS data

1.2 Dietary risk factors driving the burden of obesity and diabetes

Dietary factors causing unhealthy body weight gain and type 2 diabetes include high intakes of total fat and free sugars, excessive saturated fatty acid consumption and an inadequate intake of fibre-rich foods *(1)*. In addition, high intake of sugary drinks, not just overall sugar intake, increases the likelihood of being overweight or obese, particularly among children, and is also associated with an increased risk of type 2 diabetes *(1)*. WHO dietary recommendations for the prevention of type 2 diabetes include limiting saturated fatty acid intake to less than 10% of total energy intake (and for high-risk groups, less than 7%) and achieving adequate intake of dietary fibre (minimum daily intake of 20 g) through regular consumption of wholegrain cereals, legumes, fruits and vegetables *(7)*. WHO is currently updating its guidelines on fat intake and carbohydrate intake, which will include recommendations on dietary fibre as well as fruits and vegetables. WHO strongly recommends that all individuals should reduce their intake of free sugars[3] to less than 10% of total energy intake and suggests that "further reduction to 5% could have additional health benefits" *(8)*. Given the heavy burden of disease in the Region and WHO evidence that both weight gain and dental disease seem to be progressively lower when intakes are further reduced, free sugar intake of less than 5% of total energy intake for every individual is considered the goal in order to achieve the dramatic improvement needed in children's and adults' health in countries of the Region.

Remarkable increases in total energy, fat and sugar intakes in countries throughout the Eastern Mediterranean in recent decades mean that diets in the Region have gone in the opposite direction to all the national and WHO recommendations. Average intakes of energy and fat are above the WHO-recommended levels, with substantially higher fat intakes in the Region's high-income countries. Thus, for example, in the 1950s and early 1960s the fat intake of the Bedouin in the Negev desert was 13% and their diet was rich in high fibre carbohydrate but low in sugar, and obesity and diabetes prevalence rates were very low *(9)*, whereas now fat intakes are up to three times higher with much increased sugar intake. More than three quarters of the Region's countries now consume substantially higher levels of sugar than the WHO-recommended daily intake of less than 5% from free sugars *(10,11)*. This recommended level means that women should, on average, consume less than 25 g of free sugars per day and men less than 35 g per day. Average intakes in many countries already exceed 80 g per person daily *(8)*.

Since excess body fat is a risk factor for type 2 diabetes, there is clearly benefit to be derived – with lower overweight and obesity rates – if coherent dietary measures are taken. In 2010, WHO proposed a series of evidence-based "best buy" interventions for tackling noncommunicable diseases (NCDs) and these were endorsed by the United Nations General Assembly's political declaration on NCDs *(12,13)*. The best buys for addressing unhealthy diet and physical inactivity were: reduced salt intake in food, replacement of trans fat with polyunsaturated fat, and raising public awareness on diet and physical activity through mass media. For cardiovascular diseases and diabetes, the best buys were counselling and multidrug therapy for people with a high risk of developing heart attacks and strokes, and treatment of heart attacks with aspirin *(12)*. WHO's first Global Diabetes Report, published in 2016, recommends

[3] This includes "all monosaccharides and disaccharides added to foods by the manufacturer, cook, or consumer, plus sugars naturally present in honey, syrups, and fruit juices".

prioritizing actions to prevent people becoming overweight and obese, implementing policies and programmes to promote breastfeeding and to increase the consumption of healthy foods, together with measures to discourage the consumption of unhealthy foods *(1)*. The creation of supportive built and social environments is also recommended, in order to allow spontaneous as well as deliberate physical activity to improve health. These priorities can best be achieved through a combination of fiscal policies, legislation and regulations leading to environmental changes, as well as making the population aware of the changes and remedies needed.

1.3 Urgent action to tackle obesity and diabetes in the Region

Globally, countries are already working towards agreed global goals on maternal and infant nutrition and on the prevention of NCDs, and both these include halting the increase in overweight and obesity.[4] The United Nations General Assembly convened a high-level meeting on NCDs in September 2011 attended by Heads of State and Government in which a political declaration was endorsed urging Member States to implement a comprehensive agenda to prevent and control the four major groups of NCDs, namely cardiovascular diseases, diabetes, cancer and chronic lung disease *(13)*. The United Nations agenda covers high-impact, evidence-based and cost-effective measures (NCD best buys) to reduce risk factors including obesity and to create health-promoting environments through a whole-of-government and a whole-of-society effort. Subsequently, in 2012, the WHO Regional Committee for the Eastern Mediterranean endorsed a regional framework for action to translate the recommendations of the United Nations political declaration into a set of concrete population- and individual-based measures that Member States need to implement *(14)*.

In November 2014, the Second International Conference on Nutrition (ICN2) adopted the Rome Declaration on Nutrition and its Framework for Action, which presented a set of 60 recommended actions, across sectors, to prevent malnutrition in all its forms, including overweight, obesity and diet-related NCDs *(15,16)*. In early 2016, WHO's Commission on Ending Childhood Obesity also made a series of recommendations to respond to the global crisis in childhood overweight *(6)*.

Taking these recent recommendations and the regional framework for action into account, the WHO Regional Office for the Eastern Mediterranean has identified priorities for dietary change on a broad population-wide and regional basis to prevent obesity and diabetes in children, adolescents and adults. In that regard, this document presents 10 proposed priority areas for action involving 37 interventions.

With a focus on obesity and diabetes, these interventions have been selected to prioritize reducing the total amount of energy consumed from fat and sugar intakes, while recognizing that a shift from trans or saturated fats to unsaturated fats, reductions in salt intake and increases in fruit and vegetable consumption are also needed. These interventions should be seen as part of broader efforts to improve nutrition – especially since undernutrition is still prevalent in some countries of the Region – and to prevent other NCDs, including cardiovascular disease and cancer. Many of the priority interventions identified here would help prevent these other diseases by, for

[4] The WHA global nutrition goals include a goal to halt the increase in childhood overweight by 2025. The global NCD goals include a 25% relative reduction in overall mortality from NCDs (including diabetes) and halting the increase in obesity prevalence in adolescents and adults by 2025.

example, leading to reductions in intakes of salt and saturated fat or increases in fruit and vegetable consumption.

Priority area for action 1: Fiscal measures – Use judicious taxes and subsidies to promote healthier diets

Strategic interventions

1.1. Progressively eliminate all national subsidies for all types of fats/oils and sugar.

1.2. Implement an effective tax on sugar-sweetened beverages.

1.3. Consider an effective progressive tax on high fat foods and on high sugar foods.

2. Methodology for identifying priority actions for preventing obesity and diabetes in the Region

Starting with an informal regional meeting convened by the Regional Office in Geneva in May 2016, a process of identifying and defining effective, cost-effective and feasible interventions to address obesity and diabetes in the Eastern Mediterranean Region took place over the following eight months. The process involved consultation with policy experts and a review of the evidence on the key policy areas identified at the initial meeting. It culminated in the selection of 10 priority areas for action and 37 strategic interventions. This list was further developed, along with a summary of the evidence, case studies of implementation and feasibility considerations, into the current report. (The process is described in more detail in Annex 1).

3. Proposed priority areas for action and strategic interventions

Ten priority areas for action are proposed for the population-wide prevention of obesity and diabetes in the Eastern Mediterranean Region. Under these 10 areas, 37 strategic interventions are proposed for Member States' consideration. These interventions focus mainly on a population-wide approach to address these major public health challenges, with a particular emphasis on food systems.

These recommendations are consistent with the WHO regional Framework for action to implement the United Nations Political Declaration on Noncommunicable Diseases and the 10 priority legal interventions for preventing NCDs identified for the Region *(17)*. They also reflect the recommendations of the Commission on Ending Childhood Obesity and the ICN2 Framework for Action *(6,16)*.

There are strong health and economic rationales for using fiscal measures, such as taxes and subsidies, which can both create incentives to reduce dietary risk factors for NCDs and generate government revenue, which could potentially be ring-fenced for health budgets *(18)*. There is convincing evidence from modelling, experimental studies and from a growing body of country experiences that fiscal measures such as taxes and subsidies are very effective in shifting purchasing habits and thereby promoting dietary change (18–20).

Evidence is strongest and most consistent for the effectiveness of taxes on sugar-sweetened drinks, which are important contributors to calorie and free sugars intake *(18)*. More than 10 countries (in addition to some sub-national or local jurisdictions) have introduced taxes on sugar-sweetened beverages. There is convincing and growing evidence that these

taxes are effective in reducing purchases, in the range of 20–50% *(18,20–25)*. There is also a demonstrable impact of nutrient-focused taxes, such as those on high fat and/or sugar foods, which may reduce consumption of the target foods but may also increase intakes of foods not targeted by the tax *(18–20,26–30)*. Subsidies on healthy foods have also been shown to increase intakes, with evidence strongest for subsidies on fruits and vegetables *(18)*.

Priority area for action 2: Public procurement – Implement policies for the procurement and provision of healthy food in public institutions

Strategic interventions

2.4. Implement mandatory nutrition standards across all public institutions through (a) application of the regional nutrient profile model to assess the nutritional quality of foods, (b) introduction of meal standards and (c) measures to eliminate the sale of foods or drinks high in fat, sugar or salt.

2.5. Issue mandatory guidelines for the revision of procurement to provide healthy food, including limiting the volume of fats/oils, sugar and salt entering public sector catering facilities in order to facilitate the necessary menu changes (e.g. so that meals provide not more than 25% energy from fats and less than 5% from free sugars).

2.6. Develop guidance and provide training to catering companies on appropriate catering methods in public institutions to reduce the use of frying and sweetening of foods and help with menu design.

2.7. Continue implementing these measures, scaling up coverage and monitoring impact.

WHO has issued a technical report on the design and implementation of fiscal policies that should help policy-makers ensure that these are designed carefully in order to avoid unintended consequences, particularly on poorer groups who may then purchase other untaxed or cheaper foods *(18)*. It has been suggested that taxes are more effective when applied to foods for which there are close healthy alternatives and that a targeted tax may be even more effective when combined with a subsidy on fruits and vegetables *(19,20)*.

With the potential to save between 139 and 1696 disability-adjusted life-years (DALYs) per million population after 20 years in six low- or middle-income countries, a package of fiscal measures is predicted to be cost saving, i.e. the country not only saves expenditure on treating obesity and diabetes and their complications, but these saved costs are greater than the costs of implementing the measures *(31–34)*.

Food subsidies, often on high fat or sugar commodities, are common throughout the Region – existing in three quarters of countries and amounting, on average, to just less than 1% of gross domestic product in 2011 *(35)*.

Priority area for action 3: Physical activity interventions – Implement policies, legislation and interventions to promote and facilitate health-enhancing physical activity

Strategic interventions

3.8. Promote healthy physical activity through mass media campaigns (see priority area 9) and ensure adequate legislation supporting delivery of daily physical activity for students in schools and universities.

3.9. Ensure comprehensive delivery of regular, quality physical education to all children as a key component of education in schools.

3.10. Develop a set of standards/guidelines promoting physical activity in the workplace, including facility/building design, availability of sports facilities and programmes enabling access to facilities away from the workplace.

3.11. Increase availability of and accessibility for participation in formal and informal recreational and sporting activities, particularly providing opportunities for participation in programmes such as "Sports-for-All", with emphasis on ensuring equality of access and opportunity for participation.

3.12. Develop and implement an urban planning policy to ensure that urban environments encourage people to rely less on personal motorized vehicles, and support access to safe, gender-sensitive and age-friendly public transport, cycling and walking, including by provision of facilities, equipment, open and green public space and shared use of school facilities (both indoor and outdoor).

3.13. Continue implementing these measures, scaling up coverage and monitoring impact.

These subsidies, often introduced to ensure food security, are in fact not particularly well targeted as a social protection measure and wealthier sectors of the population accrue a significant proportion of the benefits *(35)*. In addition, such subsidies readily promote consumption of sugar or oils and can also encourage food manufacturers to use subsidized sugars or fats or ingredients derived from these commodities (e.g. high-fructose corn syrup or partially hydrogenated vegetable oils). The poorest groups are, therefore, particularly likely to suffer from the disease consequences of these measures.

Country experience in the Region shows that subsidies can be removed.[5] It may be important to phase in the implementation to minimize public opposition, accompany it with explicit information campaigns that highlight the health benefits of such measures, and mitigate the impact on lower socioeconomic groups by replacing the subsidy with appropriate, nutrition-sensitive social protection measures, such as cash or food transfers, as advocated by the African Development Bank for at least one country in the Region *(36)*.

Given the major dietary contribution of food eaten in schools, hospitals, residential care homes, universities, prisons, armed forces catering, government buildings and other publicly-funded venues or events, there is a strong case for ensuring that food served in these public institutions is always healthy.

"Healthy food procurement"[6] can include application of nutritional standards/guidelines and may also – by changing what is served or sold – aim to promote healthy habits and preferences. The scale of government expenditure means that procurement policies also have the potential to affect markets and bring about changes further up the supply chain.

There is international evidence that healthy food procurement policies can improve diets and health outcomes, particularly in studies done in schools *(37–40)*, and experience shows that nutrition standards can be implemented across a wide range of public institutions. Many countries have introduced mandatory school food standards including bans on vending machines on school premises *(41)*. Some countries have gone beyond nutrition standards to implement wider school procurement policies, linked to sustainability and boosting local markets *(42,43)*. There are also examples of action at regional, national or local levels to improve public food beyond the school settings *(44,45)*. See Annex 3 for examples of implementation.

Implementing healthy food procurement or nutrition standards could have cost implications for public food, but various strategies are available to keep costs down *(42,46,47)*. There are, however, potentially high levels of return on investment in terms of health gains and the potential to bring about changes beyond health if social, environmental or economic objectives are also incorporated.

Physical inactivity is a risk factor for weight gain, type 2 diabetes and other NCDs, yet one third of men and half of the women in the Region do not undertake the minimum recommended levels of physical activity *(48)*. Prevalence of physical inactivity ranges from about 30% to as high as 70% in some countries. Compared with other regions, women and younger adults in the Eastern Mediterranean Region are the least physically active in the world *(48)*, but very few countries in the Region have programmes in place to increase physical activity. A high-level regional forum in 2014 agreed on a road map for promoting physical activity in the countries

[5] Egypt, for example, has started to reform its food price subsidies (153).

[6] The processes of procuring, distributing, selling and/or serving food in these institutions or distributing through social protection or welfare programmes, and ensuring it is healthy.

of the Region *(49)* and a regional Call to Action was issued, urging high-level decision-makers to implement multisectoral national plans of action *(48)*.

The high prevalence of physical inactivity should not be seen to be an issue solely of individual responsibility, rather the environment in many countries has been designed, in effect, to minimize activity. Thus, governments should recognize their responsibility to change societal arrangements so that physical activity is promoted and not inhibited, through policy actions in the fields of health, education, workplace, sport, communication, urban design and transport.

Priority area for action 4: Food supply and trade – Use food standards, legal instruments and other approaches to improve the national and/or local food supply in this Region of net food-importing countries

Strategic interventions

4.14. Conduct a situation analysis of the national and/or local food supply, including establishing the proportions of fats/oils and sugar used in the diet that are derived from imports and domestic production, along with the extent of food manufacture and processing within the country and the supply of fruit, vegetables and whole grains.

4.15. Facilitate the development of local food policies and encourage city authorities to sign the Milan Urban Food Policy Pact and implement its Framework for Action to develop, where possible, sustainable urban food systems.

4.16. Consider introducing standards or other legal instruments (e.g. compositional standards, tariffs, import restrictions, sales bans, planning laws, zoning policies) to reduce the volume and improve the quality of fats/oils and reduce sugars in the national and local food supply.

4.17. Consider removing agricultural subsidies for producers of sugars and oils (especially those oils high in saturated fatty acids), replacing them, where necessary, with other mechanisms to support farmers and growers.

The high-level forum recommended legislative and implementation measures to ensure the involvement of both boys and girls in daily physical activity as part of a comprehensive education with a whole-school approach to activity before, during and after school hours with measures to reduce time in sedentary activities. For many children, particularly from disadvantaged backgrounds, physical education classes are their only regular physical activity, yet provision of physical education has been in decline globally *(50)*. The right to quality physical education as an essential element of lifelong education is enshrined in UNESCO's 1978 International Charter of Physical Education and Sport *(50)*.

For adults, there is a need to develop practical guidelines from international experience to improve activity in the workplace, as well as linking these with other preventive health measures. It also recommended that "Sport for all" programmes be promoted and delivered, with a focus on outreach to vulnerable and disadvantaged groups, and should also be based on international experience.

Special arrangements may need to be made for women and new approaches are required so that adults, including older adults, of both sexes recognize the immense benefits of physical activity and meet the current recommended physical activity guidelines.

Urban design is one of the important areas for action. There has been rapid urbanization, dramatic changes in urban design and escalating car use in the often very hot climates of countries of the Region in the last 30–40 years *(49)*.

It is now becoming clear from new analyses of urban design *(51)* that urban communities, currently expanding throughout the Region, need to incorporate appropriate, shaded walking spaces, preferably with trees, suitable parks and open spaces with congenial settings for walking which promote physical activity *(52)*. There also needs to be a preferential

investment in safe, gender-sensitive and age-friendly public transport and the restriction of private car use, as these measures are all associated with greater rates of walking and physical activity *(53,54)*. High residential density in cities and diverse built environments promote widespread physical activity, particularly if public transport surpasses private car use. There is a need to consider specific environmental interventions targeting the built environment, with suitable policies that reduce barriers to physical activity and public transport and other policies to increase space for recreational activity.

Priority area for action 5: Reformulation – Implement a government-led programme of progressive reformulation, adapted to the national context, to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size

Strategic interventions

5.18. Cooperate with other Member States to adopt a regional approach for engaging with food producers to drive food reformulation to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size in a substantial proportion of processed foods.

5.19. Engage with private sector providers of food in catering/food service outlets (including takeaways and street food traders) to establish a programme to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size, with defined quantified reductions in use of these ingredients.

To be able to take action to improve the food supply, policy-makers need first to understand the food system (both at national and local levels) in order to understand where fats and sugars enter the food supply and how access to healthier foods can be improved. Major policy drivers, such as international trade agreements or agricultural policy, greatly influence what food is produced or imported and these policies have not always been consistent with nutrition objectives.

While, in theory, trade policies should support nutrition, in reality such policies may also sometimes undermine healthy diets by, for example, making foods high in fat, salt or sugar (HFSS) more accessible, reducing access to locally-produced nutritious foods or, by encouraging inward foreign direct investment by multinational food companies, facilitating greater exposure to soft drinks and processed foods *(55,56)*. Trade agreements may hinder efforts to tackle obesogenic food environments (those promoting obesity) by constraining governments' autonomy and the "policy space" available for implementing strong public health nutrition policies *(57)*. Mechanisms are needed to ensure that nutrition concerns are taken into account in trade negotiations *(55)*.

Policy-makers have access to a variety of policy or legal instruments to improve the nutritional quality of the food supply. Depending on the specific context, measures such as tariffs, import quotas, compositional standards or sales bans might be appropriate. Some countries, including some Pacific island states and Ghana, have used such instruments to reduce the availability or increase the price of fats and sugars in the food supply *(58–61)*. International trade and legal expertise is important for the design of appropriate tools within the constraints of current World Trade Organization and other trade agreements. The magnitude of the obesity and diabetes problem in the Region, however, justifies such actions on public health grounds.

Agricultural subsidies, which have usually been designed to support agricultural producers and rarely take nutrition considerations into account, can also have an impact on the food supply and may influence rates of nutrition-related NCDs *(62)*.

Although international trade and national policies are important drivers of the food supply, local policy-makers also have considerable scope to influence food systems

at the city or regional level. Globally, more than 130 cities, including a handful from the Eastern Mediterranean have signed up to the Milan Urban Food Policy Pact, committing to developing sustainable food systems that, among other things, provide healthy and affordable food to all *(63)*. To this end, a Framework for Action sets out nearly 40 strategic options as a starting point for cities to address the development of their own urban food systems.

The ICN2 Framework for Action recommends that countries encourage a progressive reduction of saturated fats, sugars, salt/sodium and trans fats from foods and beverages *(16)* and WHO identified reformulation as important for the prevention of NCDs *(64)*.

Priority area for action 6: Marketing – Implement appropriate restrictions on marketing (including price promotions) of foods high in fat, sugar and salt

Strategic interventions

6.20. Work with other countries in the Region to establish a coordinated approach, including appropriate legal advice, to reduce the impact of cross-border marketing.

6.21. Implement the WHO Set of Recommendations on Marketing of Foods and Non-alcoholic Beverages to Children and consider mandatory restrictions to eliminate all forms of marketing of foods high in fat, sugar and salt to children and adolescents (up to age 18) across all media, according to the Regional Action Plan to Address Unopposed Marketing of Unhealthy Food and Beverages.

6.22. Use the regional nutrient profile model, which categorizes the appropriate level of nutrients in foods, to identify foods to which the marketing restrictions should apply.

6.23. Conduct an assessment (preferably as part of a regional collaboration) of the impact of marketing of foods high in fat, sugar or salt to adults to illuminate the magnitude of marketing and define how best to restrict inappropriate practices.

6.24. Consider extending mandatory restrictions on marketing of unhealthy foods to the whole population.

6.25. Legislate to allow retail promotion only of healthy foods.

Specifically for the prevention of obesity and diabetes, the process of reformulation to reduce dietary energy density by reducing the fat and sugar content of foods is a particular priority. There is very strong and extensive evidence from many salt reduction programmes that progressive reformulation to lower the concentration of a specific nutrient can reduce the levels in available foods and thereby lower population intakes *(65)*. This experience with salt should be readily transferrable to other nutrients or ingredients. Country experience also shows that trans fats can be virtually removed from foods by effective national or local policy interventions *(66)*.

Progressive reformulation is well tolerated by consumers and can gradually alter consumer preferences *(67–69)*. There is also evidence that a mandatory approach to food reformulation is more cost effective than a voluntary approach *(70)*, and that this is also effective in creating a level playing field for the food industry. Specifying and requiring progressive reductions of the selected nutrients (e.g. salt, fats and sugars) with government-set limits using a combined multinutrient approach, together with comprehensive stakeholder engagement and a commitment to transparent monitoring and evaluation, are all key components of successful reformulation programmes *(70)*. In addition, reformulation programmes should be accompanied by front-of-pack labelling and consumer awareness campaigns.

The potential impact and cost–effectiveness of reformulation programmes will depend on the specific eating patterns in the national context, including aspects such as where and how fats and sugars are added to foods and the scale of the measures implemented. In order to have a meaningful impact, programmes need to cover a significant proportion of processed foods and strive for substantive reductions. Impact could be maximized by reformulating processed foods, cooking ingredients and food provided

in the food services sector (including takeaways which are a growing contributor to the diet in many countries in the Region). Analyses in high-income countries predict considerable population health benefits and estimate that reformulation (mainly salt) would be net cost-saving or very cost effective *(70–75)*.

Populations of all ages are exposed to marketing of HFSS foods through a variety of different channels (e.g. print, broadcast, Internet, social media and others) and using a vast array of marketing techniques.[7] There is convincing research that exposure to marketing for HFSS foods influences what and how much children eat *(76–80)*.

Priority area for action 7: Labelling – Implement or revise standards for nutrition labelling to include front-of-pack labelling for all pre-packaged foods

Strategic interventions

7.26. Implement a mandatory front-of-pack nutrition labelling scheme with elements to enable consumers to interpret information easily (e.g. multiple colour-coded traffic lights, use of terms such as "high", "medium", "low").

7.27. Enforce the labelling scheme and monitor its impact, with the potential to strengthen the labelling with suitable health warnings

Concern about the potential negative impact of such marketing led WHO to issue a Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children *(81)*. The Commission on Ending Childhood Obesity noted that exposure to marketing of unhealthy foods is still a major issue despite the increasing number of voluntary efforts by industry *(6)*. This implies that in many countries mandatory changes are now required.

Country experience shows that measures to restrict marketing of HFSS foods to children and adolescents can reduce children's exposure to such marketing, but the overall effectiveness depends on which foods are restricted, which age groups are protected, how audiences are targeted and what media and marketing techniques are covered *(82–85)*. Research shows that mandatory restrictions on a national basis are more effective than the voluntary or self-regulatory approaches that have been adopted in many countries *(86,87)*.

Priority area for action 8: Breastfeeding – Implement a package of policies and interventions to promote, protect and support breastfeeding

Strategic interventions

8.28. Promote breastfeeding through mandatory baby-friendly health systems and effective community-based strategies.

8.29. Fully implement the International Code of Marketing of Breast-milk Substitutes and the WHO Guidance on ending inappropriate promotion of foods for infants and young children.

8.30. Empower women to exclusively breastfeed, by enacting progressively increasing remunerated time off work up to a goal of 6 months' mandatory paid maternity leave, as well as policies that encourage women to breastfeed in the workplace including breastfeeding breaks and provision of suitable facilities.

Modelling studies suggest that marketing restrictions would have a substantial health impact (especially in the longer term since most of the current measures target children). From a cost-benefit point of view, tackling adult obesity can bring much earlier financial benefits. Such measures have very low implementation costs and would be cost effective or cost saving *(33,34)*.

To address these issues the WHO Regional Office for the Eastern Mediterranean has developed a regional action plan to address

[7] Marketing techniques include, for example, advertising, sponsorship, product placement, sales promotion, cross-promotions using celebrities, brand mascots or characters popular with children, web sites, packaging, labelling and point-of-purchase displays, e-mails and text messages, philanthropic activities tied to branding opportunities, and communication through "viral marketing" and by word-of-mouth (154).

unopposed marketing of unhealthy food and beverages (unpublished) and a nutrient profile model to help Member States define foods for which marketing is to be restricted.[8] Region-wide cooperation will be important because cross-border broadcast media dominate the Region, and a human rights-based approach and relevant international law should be applied. Any regional or national measures should incorporate clauses, first, to enable court action to be taken against companies based or incorporated under its jurisdiction but operating across borders and, second, to curtail the right of foreign companies to sue for loss of revenue under international investment law.[9]

Some countries have been sufficiently concerned about the impact of marketing of HFSS foods on the whole population (not just children) that they have introduced broader limitations on marketing of these foods.[10] Restricting all marketing of HFSS foods is a way to protect adult health and to protect adolescents and children from exposure to marketing that is supposedly targeted only at adults. Given that no country has completely eliminated children's exposure to marketing of HFSS foods by defining child audiences, a whole population approach might well be particularly relevant to the Eastern Mediterranean Region, where children and adolescents comprise more than half of the population.

Some health advocates and government public health institutions have called for mandatory or voluntary restriction of price promotions on HFSS foods to bring about dietary improvements *(75,88,89)*. Retail price promotions on HFSS foods are increasingly common throughout the Region, including in fast food chains *(90)*. Analyses from high-income countries show that price promotions – such as temporary price reductions, "multibuy" offers and "extra free" offers – selectively promote HFSS foods and drinks *(88,91,92)*. No examples have been identified yet of regulatory implementation, but some United Kingdom (UK) retailers, for example, have voluntarily restricted price promotions on HFSS foods *(88)*. Given the Region's extraordinarily high rates of obesity and diabetes, consideration should be given to developing a coherent policy to restrict marketing inducements to eat unhealthy foods.

Three quarters of the world's population is estimated to live in countries that legally require pre-packaged food labels which provide a breakdown of the nutrient content, and this nutrition information panel is usually on the back (or side) of the package *(93)*. There is growing interest in making nutrition information more accessible, understandable and meaningful for all consumers, since research shows that women, people with higher levels of education and those on particular diets are more likely to use labels *(22)*. Options that have been explored include various forms of front-of-pack labelling for pre-packaged foods, menu and display board labelling for food sold in restaurants/food service outlets, shelf labelling in shops, and specific warning labels on pre-packaged and/or restaurant food.

Many authoritative bodies have called for the introduction of rules on front-of-pack labelling, menu labelling and/or other interpretative labelling schemes *(6,94,95)*. There is evidence

[8] Nutrient profile model for the marketing of food and non-alcoholic beverages to children in the WHO Eastern Mediterranean Region. Cairo: WHO Regional Office for the Eastern Mediterranean; 2017 (http://applications.emro.who.int/dsaf/EMROPUB_2017_en_19632.pdf?ua=1, accessed 17 July 2017).

[9] The United Nations Guiding principles on business and human rights and the Maastricht principles on the extraterritorial obligations of states in the area of economic, social and cultural rights apply here.

[10] The Islamic Republic of Iran has prohibited all broadcast advertising of soft drinks and other food items; Ireland has a Code limiting the amount of broadcast advertising of HFSS foods to no more than 25% of advertising time; France requires advertisements for certain foods to carry a healthy diet message.

that consumers like simple, interpretive, front-of-pack labels and that this can help them to make healthier choices *(93,96,97)*. Evidence from several high-income countries suggests that interpretive front-of-pack labelling can drive food manufacturers to reformulate their products to make them healthier *(40,98–100)*.

The government costs of introducing, explaining and enforcing compulsory food labelling – although the type of labelling is not specified – are generally estimated to be very low or low *(33,34)*. It is predicted to be cost effective after 20 years and cost-saving after 50 years in low- and middle-income settings *(34)*. It is estimated that the introduction of mandatory front-of-pack, menu and shelf labelling in the UK would be cost effective and would save 575 000 DALYs across the whole of the UK population *(75)*.

It is estimated that universal breastfeeding would avert the deaths of 823 000 children under five years and 20 000 mothers every year (*101*). In addition to providing protection from respiratory infections, diarrhoeal disease and other common childhood illnesses, breastfeeding[11] protects against overweight and obesity in children and adults *(102,103)*. There is also some statistically significant evidence of protection for both the mother and her children against later diabetes *(102,104)*. Some evidence that very early introduction of solid foods is associated with childhood overweight also exists *(105,106)*.

There is highly significant evidence of the substantial positive impact of interventions on exclusive breastfeeding rates in various settings – including health systems and services, home and family, community, and combinations of settings *(107)*. There is modest evidence of workplace interventions that support, promote or protect breastfeeding on breastfeeding outcomes *(107)*, and guaranteeing paid daily breastfeeding breaks for at least six months is associated with higher breastfeeding rates *(108)*.

Priority area for action 9: Mass media campaigns – Conduct mass media campaigns on healthy diet and physical activity

Strategic interventions

9.31. Implement appropriate social marketing campaigns, led by the public sector, on healthy diet and physical activity in order to build consensus, complement the other interventions in the package and encourage behaviour change.

9.32. Ensure sustained implementation of campaigns and monitor their impact.

Marketing of breast-milk substitutes undermines breastfeeding *(109)* and national legislation to implement the International Code of Marketing of Breast-milk Substitutes has been shown to diminish the influence of marketing *(110)*. Inappropriate promotion of baby foods also undermines optimal infant and young child feeding *(111)*.

Countries should already be working towards the globally agreed target to increase the rate of breastfeeding in the first six months up to at least 50% by 2025 (Resolution WHA 65.6, 2012). WHO has set out the required actions:

1. Revitalize, expand and institutionalize the Baby-friendly Hospital Initiative in health systems.
2. Provide community-based strategies to support exclusive breastfeeding (e.g. tailored communication campaigns, home visits, support groups and counselling).
3. Implement, monitor and enforce legislation to implement the International Code of Marketing of Breast-milk

[11] WHO recommends that infants should be exclusively breastfed (giving an infant only breastmilk and no other foods or liquids) for the first six months of life and that, thereafter, infants should receive nutritionally adequate and safe complementary foods, while continuing to breastfeed for up to two years or beyond. Optimal breastfeeding also comprises initiation of breastfeeding within one hour of life.

Substitutes and subsequent relevant World Health Assembly resolutions and WHO's Guidance on ending the inappropriate promotion of foods for infants and young children *(112)*.

4. Enact mandatory paid maternity leave, ideally for 6 months, as well as policies that encourage women to breastfeed in the workplace and in public.
5. Invest in training and capacity-building in breastfeeding protection, promotion and support.

Priority area for action 10: Health sector interventions – Harness the health sector to enable change and to provide leadership on governance and accountability

Strategic interventions

10.6. Ensure provision of dietary counselling on nutrition, physical activity and healthy weight gain before and during pregnancy for prospective mothers and fathers.

10.7. Integrate screening for overweight and other diabetes risk factors into primary health care and provide primary care-based couselling for high-risk individuals.

10.8. Establish or strengthen, as appropriate, a high-level multisectoral mechanism to define and oversee the implementation of food and physical activity policies for the prevention of obesity and diabetes.

10.9. Establish national targets for obesity and diabetes, along with SMART commitments for action, and work with WHO to develop and implement a monitoring framework for reporting on progress.

10.10. Implement evidence-based community-based interventions, addressing both healthy eating and physical activity, comprising different activities and targeting high-risk groups, to promote and facilitate behaviour change and prevent obesity and diabetes.

Despite the existence of clear guidance and tools, the implementation of laws to protect and promote breastfeeding remains inadequate in most countries *(113)*. There are, nonetheless, examples of countries that have achieved remarkable results through a range of health and community interventions, maternity protection legislation and regulatory action to counter the marketing of breast-milk substitutes and inappropriate promotion of baby foods *(114)*.

Mass media campaigns to raise public awareness on diet and physical activity are proposed as a WHO "best buy" for tackling unhealthy diet and physical inactivity *(12)*. They also have a role to play in enhancing the public's understanding of the need for other interventions in order to create a positive climate for policy action.

Long-term, intensive mass media campaigns can change health behaviour *(115)* and, more specifically, have been shown to be effective for promoting physical activity and moderately effective for promoting healthy diet *(116)*. Intensive campaigns promoting one simple message are also moderately effective *(116)*. Evidence shows that it is challenging to sustain effects after campaigns finish in the face of competing factors, such as pervasive food marketing across many forms of media, so long-term campaigns are more successful *(115)*.

Health education and the use of so-called "nudge" techniques (positive reinforcement and indirect suggestions to try to achieve non-forced compliance) are far more effective if used in conjunction with other measures, such as those in the other priority areas for action *(117)*. Experts advocating for the implementation of interventions such as reformulation, taxation or front-of-pack labelling also argue that accompanying education and information campaigns are required *(31,97)*. Media and education have been used as part of successful multicomponent approaches at national and community levels, but it is difficult to assess the relative contribution of health education to the overall success *(22)*.

Assessments of cost–effectiveness estimate that, after 20 years, such campaigns would be

cost-effective in three of six low- or middle-income countries assessed. After 50 years, costs per DALY saved would drop to between US$ 1994 and US$ 15 211 and the intervention was estimated to be cost effective in four of the six low- or middle-income countries *(34)*.

While most of the proposed priority areas for action depend largely on action from those outside the health sector, there remains a fundamentally important role for the health sector itself. It is important to harness the knowledge and skills of the health workforce – along with the respect and authority often accorded to health professionals – in order to promote, facilitate and support behaviour change.

Good nutrition and a healthy diet before and during pregnancy are important for the health of the mother and her child, and pregnancy may be an optimal time for behaviour change. Excessive weight gain during pregnancy is associated with many adverse short-term and long-term health outcomes for mother, including a higher risk of later obesity and gestational diabetes, and child. Propensity to obesity and diabetes appears to be, at least partially, programmed during early life – especially during the 1000-day period from conception to the child's second birthday – and can be influenced by a mother's nutritional status before and during pregnancy *(4)*. Interventions on diet and/or exercise reduce the risk of excessive weight gain during pregnancy by around 20% *(118)* and WHO recommends counselling about healthy eating and keeping physically active during pregnancy *(119)*. Interventions should be woman-centred, delivered in a non-judgemental manner and developed to ensure appropriate weight gain.[12] Cost implications of diet and exercise interventions are highly variable and, while diet and exercise counselling might have relatively low costs, available health service resources are critical for implementation.

In addition, physician counselling for at-risk groups has been shown to be effective *(116)* and cost effective *(34)* and is one of WHO's "best buys" for preventing diabetes. Primary care-based counselling works best when the information is targeted and there is follow-up from trained personnel, while minimal contact interventions (such as health checks, single-visit counselling or distribution of information) are less effective *(116)*. Primary care interventions are also effective when linked with other stakeholders, such as community groups or ongoing mass media campaigns.

Community-based interventions which comprise many different activities and address both diet and physical activity can be effective *(116)*. Such interventions usually include a strong educational component and may target high-risk groups, such as those who are at a high risk of developing diabetes *(116)*.

The health sector also has a vital – much broader – role to play in providing leadership, engaging other sectors and monitoring progress. While a cross-governmental approach is absolutely essential, the particular perspective and priorities of the Ministry of Health, and all those working in the health sector, will provide key incentives to drive progress in this area. The health sector will also be required to take a leading role in monitoring progress (see section 4 for more on these issues).

[12] The definition of "normal" gestational weight gain is subject to regional variations, but should take into consideration pre-pregnant body mass index. According to the Institute of Medicine, women who are underweight at the start of pregnancy (i.e. BMI < 18.5 kg/m2) should aim to gain 12.5–18 kg, women who are normal weight at the start of pregnancy (i.e. BMI 18.5–24.9 kg/m2) should aim to gain 11.5–16 kg, women who are overweight (BMI 25–29.9 kg/m2) should aim to gain 7–11.5 kg and obese women (BMI ≥ 30 kg/m2) should aim to gain 5–9 kg.

4. Implementation of the proposed priority areas for action

Ten priority areas and 37 interventions have been proposed as options for Eastern Mediterranean countries to take action on the growing burden of obesity and diabetes. All of these proposed interventions have a sufficiently strong case to warrant recommending their adoption and are considered to be proportionate responses to the major health and economic burden from these conditions in the Region. This case is based on consideration of the evidence for the effectiveness of these measures (see Annex 2) and practical experience of their implementation (see Annex 3). In a few cases where prior experience of country implementation does not exist, or where there are some evidence gaps, a strong logical basis for action together with international expert support are taken into account. Consideration has been given to implementation costs, along with feasibility issues and political acceptability of the proposed interventions (see Annex 4).

4.1 Multisectoral action is essential

It is very clear from the proposed interventions that action is also required outside the health sector. Health ministers will not be able to act alone. In all of the priority areas for action, the commitment and engagement of other ministries and government bodies will be essential. Fig. 6 illustrates the different sectors that may need to be involved *(3)*. The exact configuration of ministries and other institutions – and their respective roles and responsibilities – will vary from one country to another, but the figure clearly shows the importance of multisectoral collaboration.

This highlights more than ever the need for a whole-of-government and whole-of-society approach to tackling these major public health problems, which have multiple and inter-related risk factors and determinants.

Political commitment at the highest level is important and political dialogue and advocacy will be important for building that political commitment and enhancing social participation. Effective mechanisms for governance and multisectoral collaboration and coordination are essential. As recommended by the ICN2 Framework for Action, countries should strengthen or establish national cross-government, intersector, multi-stakeholder mechanisms at various levels (including robust safeguards against abuse and conflicts of interest). In order to be most effective, such mechanisms should involve collaboration at a very high level (e.g. ministerial, cabinet-level) and leadership at the highest political level is essential.

4.2 Clear commitments to action and monitoring of progress

Countries are encouraged to make clear commitments to take action on these priority areas and to report on their progress. Member States are urged to make country-specific commitments that are SMART – specific, measurable, achievable, relevant and time-bound – on the 10 areas for action proposed here.

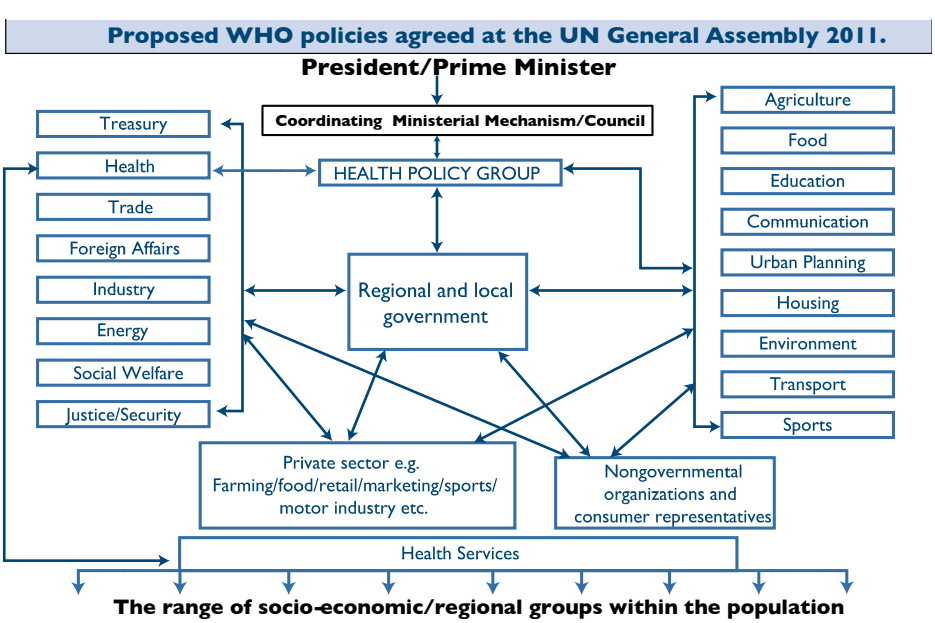
These commitments should also feed into country commitments for action under the United Nations Decade of Action on Nutrition (2016–2025) (Resolution WHA 69.8, 2016) declared to help realize the commitments of the Rome Declaration of Nutrition *(15)*. Countries making commitments for the Decade of Action will be able to showcase their role as nutrition champions taking urgent action for better diet and health–through inclusion of their written commitments in a public repository of international commitments–and will have access to technical support from WHO and the Food and Agriculture Organization of the United Nations.

To facilitate the process of measuring and reporting of progress, the WHO Regional Office for the Eastern Mediterranean will work with Member States to establish a monitoring framework and define indicators relevant to the SMART commitments.

4.3 Feasibility issues and phased implementation

All the priority areas and interventions proposed have a sufficiently strong case – based on research evidence and expert analysis of the measures – to warrant recommending their adoption (see Annex 2 for a summary of the evidence). In addition, most of the interventions have been tried and tested in other countries or localities or adopted by innovative policy-makers, and growing country experience has bolstered the evidence base (see Annex 3 for examples of country implementation). Some of the proposed strategic interventions will be easier to implement than others and the challenges of their application, the financial implications, public acceptance and political feasibility very much depend on the particular country context (see Annex 4 for a summary of feasibility issues).

A phased approach may, therefore, be needed in some countries. The strongest candidate interventions for the first phase of action are shown in Section 5, along with those that it may be more appropriate to implement in a second phase. Countries that are less affected by these feasibility constraints – or which have already implemented many of the first phase interventions – are encouraged to move forward with implementation of all of the strategic interventions as quickly as possible. Importantly, countries should already be taking action and reporting on some of the interventions in both phases in order to meet existing global goals on nutrition and NCDs (e.g. all the breastfeeding interventions, including maternity protection legislation).



WHO 2012: Options for strengthening and facilitating multisectoral action for the prevention and control of noncommunicable diseases(NCD) through effective partnership. Transmitted by the UN Secretary General to all Member states following the UN General Assembly approval for an action plan on NCDs

Fig. 6 Multisectoral action is needed to implement the proposed priority areas for action to prevent obesity and diabetes

Table 2. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean Region and their implementation phase

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
1 Fiscal measures	1.1 Progressively eliminate national subsidies for all types of fats/oils and sugar. 1.2 Implement an effective tax on sugar-sweetened beverages.	1.3 Consider an effective progressive tax on high fat foods and on high sugar foods.
2 Public procurement	2.1 Implement mandatory nutrition standards across all public institutions through (a) application of the regional nutrient profile model to assess the nutritional quality of different foods, (b) introduction of meal standards and (c) measures to eliminate the sale of foods or drinks high in fat, sugar or salt. 2.2 Issue mandatory guidelines for the revision of procurement to provide healthy food, including limiting the volume of fats/oils, sugar and salt entering public sector catering facilities in order to facilitate the necessary menu changes (e.g. so that meals provide not more than 25% energy from fats and less than 5% from free sugars). 2.3 Develop guidance and provide training to catering companies on appropriate catering methods in public institutions to reduce the use of frying and sweetening of foods and help with menu design.	2.4 Continue implementing these measures, scaling up coverage and monitoring impact.
3 Physical activity interventions	3.1 Promote healthy physical activity through mass media campaigns (see priority area 9) and ensure adequate legislation supporting delivery of daily physical activity for students in schools and universities. 3.2 Ensure comprehensive delivery of regular, quality physical education to all children, as a key component of education in schools. 3.3 Develop a set of standards/guidelines promoting physical activity in the workplace, including facility/building design, availability of sports facilities and programmes enabling access to facilities away from the workplace. 3.4 Increase availability of and accessibility for participation in formal and informal recreational and sporting activities, particularly providing opportunities for participation in programmes such as "Sports-for-All", with emphasis on ensuring equality of access and opportunity for participation. 3.5 Develop and implement an urban planning policy to ensure that urban environments encourage people to rely less on personal motorized vehicles and support access to safe, gender-sensitive and age-friendly public transport, cycling and walking, including by provision of facilities, equipment, open and green public space and shared use of school facilities (both indoor and outdoor).	3.6 Continue implementing these measures, scaling up coverage and monitoring impact.

Table 2. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean Region and their implementation phase (cont.)

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
4 Food supply and trade	4.1 Conduct a situation analysis of the national and/or local food supply, including establishing the proportions of fats/oils and sugar used in the diet that are derived from imports and domestic production, along with the extent of food manufacture and processing within the country and the supply of fruit, vegetables and whole grains. 4.2 Facilitate the development of local food policies and encourage city authorities to sign the Milan Urban Food Policy Pact and implement its Framework for Action to develop, where possible, sustainable urban food systems.	4.3 Consider introducing standards or other legal instruments (e.g. compositional standards, tariffs, import restrictions, sales bans, planning laws, zoning policies) to reduce the volume and improve the quality of fats/oils and reduce sugars in the national and local food supply. 4.4 Consider removing agricultural subsidies for producers of sugars and oils (especially those oils high in saturated fatty acids), replacing them, where necessary, with other mechanisms to support farmers and growers.
5 Reformulation	5.1 Cooperate with other Member States to adopt a regional approach for engaging with food producers to drive food reformulation to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size in a substantial proportion of processed foods.	5.2 Engage with private sector providers of food in catering/ food service outlets (including takeaways and street food traders) to establish a programme to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size, with defined quantified reductions in use of these ingredients.
6 Marketing	6.1 Work with other countries in the Region to establish a coordinated approach, including appropriate legal advice, to reduce the impact of cross-border marketing. 6.2 Implement the WHO Set of Recommendations on Marketing of Foods and Non-alcoholic Beverages to Children and consider mandatory restrictions to eliminate all forms of marketing of foods high in fat, sugar and salt to children and adolescents (up to age 18) across all media, according to the Regional Action Plan to Address Unopposed Marketing of Unhealthy Food and Beverages. 6.3 Use the regional nutrient profile model, which categorizes the appropriate level of nutrients in foods, to identify foods to which the marketing restrictions should apply. 6.4 Conduct an assessment (preferably as part of a regional collaboration) of the impact of marketing of foods high in fat, sugar or salt to adults to illuminate the magnitude of marketing and define how best to restrict inappropriate practices.	6.5 Consider extending mandatory restrictions on marketing of unhealthy foods to whole population. 6.6 Legislate to allow retail promotion only of healthy foods.
7 Labelling	7.1 Implement a mandatory front-of-pack labelling scheme with elements to enable consumers to interpret information easily (such as colour coding or the use of terms such as "high", "medium", "low").	7.2 Enforce the labelling scheme and monitor its impact with the potential to strengthen the labelling with suitable health warnings.

Table 2. Summary of proposed priority areas of action and strategic interventions for preventing obesity and diabetes in the Eastern Mediterranean Region and their implementation phase (cont.)

Area for action	Interventions most suitable for first phase implementation	Interventions for which there is evidence of impact, but which it may be more appropriate to implement in a second phase
8 Breastfeeding	8.1 Promote breastfeeding through mandatory baby-friendly health systems and effective community-based strategies. 8.2 Fully implement the International Code of Marketing of Breast-milk Substitutes and the WHO Guidance on ending inappropriate promotion of foods for infants and young children.	8.3 Empower women to exclusively breastfeed, by enacting progressively increasing remunerated time off work up to a goal of 6 months' mandatory paid maternity leave, as well as policies that encourage women to breastfeed in the workplace including breastfeeding breaks and provision of suitable facilities.
9 Mass media campaigns	9.1 Implement appropriate social marketing campaigns, led by the public sector, on healthy diet and physical activity in order to build consensus, complement the other interventions in the package and encourage behaviour change.	9.2 Ensure sustained implementation of campaigns and monitor their impact.
10. Health sector interventions	10.1 Ensure provision of dietary counselling on nutrition, physical activity and healthy weight gain before and during pregnancy for prospective mothers and fathers. 10.2 integrate screening for overweight and other diabetes risk factors into primary health care and provide primary-care based counselling for high-risk individuals. 10.3 Establish or strengthen, as appropriate, a high-level multisectoral mechanism to define and oversee the implementation of food and physical activity policies for the prevention of obesity and diabetes. 10.4 Establish national targets for obesity and diabetes, along with SMART commitments for action, and work with WHO to develop and implement a monitoring framework for reporting on progress.	10.5 Implement evidence-based community-based interventions, addressing both healthy eating and physical activity, comprising different activities and targeting high-risk groups, to promote and facilitate behaviour change and prevent obesity and diabetes.

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Annex 1. Methodology for identifying priority actions for preventing obesity and diabetes in the Region

The proposed interventions have been identified through a number of steps outlined below.

Informal regional meeting on developing an action plan for preventing obesity and diabetes in the Eastern Mediterranean Region

An informal regional meeting was organized by the Regional Office and held in Geneva in May 2016 to discuss the feasibility of different evidence-based interventions to prevent obesity and diabetes *(120)*. Participants benefited from extensive analysis of the effectiveness and the costs of different interventions, with WHO and many other institutions having undertaken systematic reviews and assembled evidence from many different sectors.

Senior policy officials and experts assessed these interventions in different sectors. These included the scale of change required, costs of implementation, cost–effectiveness of measures, government departments involved, industrial sectors affected, potential implementation problems, robustness of evidence for the measure and the political challenges involved.

A series of recommendations emerged from the meeting.

1. Enforce the legal strategies and policies that regulate the marketing of breast-milk substitutes and unhealthy complementary foods to eliminate the conflict of interest and control the misconduct related to national food procurements and supplies.
2. Develop/reinforce coherent policies between trade, industry and health to ensure healthy food supply partnership with private sectors to support implementation of WHO's agenda on diabetes and obesity without conflict of interest.
3. Strengthen regional and national multistakeholder and multisectoral committees to harmonize the monitoring processes and implementation of the WHO strategies.
4. Restrict marketing, advertising and sponsorship across all media (including digital) platforms for all fat/sugar rich foods and drinks to children.
5. Progressively eliminate any subsidies by national governments for certain food items, i.e. sugar, fat.
6. Encourage companies to progressively reformulate sugar-rich drinks to lower sugar content.
7. Conduct vibrant media campaigns and explanations linked to health benefit aiming to change the political acceptance of the need for radical policies.

From these recommendations nine policy areas were identified and recommended for further exploration.

Evidence summary

In response to the recommendations of the Geneva meeting, a review was commissioned to summarize the evidence of the effectiveness, cost–effectiveness and country experience for nine specific policy areas identified (Table A1.).

Table A1. Potential priority areas for action requiring a summary of evidence

Priority area	Potential interventions on which evidence to be summarized
1. Breastfeeding	Protection, promotion and support of breastfeeding and regulatory control of breast-milk substitutes and complementary foods.
2. Regulating marketing	a) Restrictions on marketing, advertising and sponsorship across all media (including digital) platforms for all fat/sugar-rich foods and drinks to children. b) Restrictions on marketing, advertising and sponsorship across all media (including digital) platforms for all fat/sugar-rich foods and drinks to adults.
3. Fiscal measures	a) Progressive elimination of any subsidies by national governments for certain food items, i.e. sugar, fat. b) Tax(es) to raise the price of sweetened soft drinks and beverages. c) Tax(es) on fat(s).
4. Price promotions	Action to limit price promotions on foods high in fat, sugar or salt (HFSS) in supermarkets, catering or street markets.
5. Public procurement	Action on publicly-funded food – standards for foods in public institutions and improving public procurement.
6. Reformulation	a) Progressive reformulation of sugar-rich drinks to lower sugar intakes. b) Progressive reformulation of HFSS foods.
7. Mass media	Mass media campaigns to increase political/public acceptance of these initiatives.
8. Labelling	Introduction of new standards for nutrition labelling (front-of-pack labelling, colour-coded schemes, menu labelling, warning labels), including: (1) examination of evidence on whether front-of-pack nutrition labels attract attention more readily than more complete, mandated nutrition information (the Nutrition Facts Panel) and (2) determination of whether label design characteristics, specifically colour-coding and/or coding with facial icons, increase attention to the front-of-pack label.
9. Trade	Development of trade-related policy approaches to create a less obesogenic food environment.

The review generally focused on key systematic reviews (published in English after 2010) and reported pooled results from recent meta-analyses where possible.

Evidence review meeting

A further meeting was held in Cairo in August 2016 to review the findings of the rapid summary of evidence, while also taking account of the particular context of the Eastern Mediterranean Region. With input from external advisors, the meeting considered the potential specific impact in the regional context and questions of feasibility.

A list of priority areas for action and strategic interventions was then identified. This list was further developed, along with a summary of the evidence, case studies of implementation and feasibility considerations into the current report.

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
Fiscal measures	**Careful use of taxes and subsidies to promote healthier diets**	**Extensive evidence that food price policies influence consumer purchases, thereby affecting health (including risk of obesity and diabetes)**	**139 to 1696 DALYs saved per million population after 20 years in 6 LMICs: After 50 years: 355 to 5 898 DALYs per million[14] Australia: 170 000 DALYs averted over lifetime of 2003 population[13]**	**Cost saving after 20 or 50 years in 6 LMICs and cost effective in 2 HICs[13]**	**Very low implementation costs (From US$ 0.01 to 0.02 per capita in 6 LMICs, rising to US$ 0.11 in 1 HIC assessed)**	**Lead: Prime Minister's Office/ Ministry of Finance Others: Trade/ Industry/Supply Industry**
	Progressively eliminate all national subsidies for all types of fats/oils and sugar	Subsidies on high fat or sugar commodities are prevalent through the Region Clear evidence that selective subsidization increases consumption of subsidized commodities Country experience shows that subsidies can be removed. Shifting subsidies to unsaturated fats, per se, is not effective for obesity/diabetes prevention				Lead: Prime Minister's Office/Ministry of Finance Others: Trade/ Industry/Supply Industry

[13] Highly cost-effective is less than per capita GDP per DALY saved; cost-effective is 1-3 times per capita GDP per DALY; more than 3 times per capita GDP is not cost-effective.

[14] All figures relating to 6 LMICs (with England as comparator) are from an analysis by Organisation for Economic Cooperation and Development (31). Unless otherwise cited, figures for Australia are from the ACE Prevention Project (30) and figures for the UK are from an analysis by McKinsey Group International *(73)*.

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	Implement an effective tax on sugar-sweetened beverages	Convincing evidence from modelling and country experience that purchases are reduced by taxes				Lead: Prime Minister's Office/Ministry of Finance Others: Trade/ Industry/Supply Industry
	Consider an effective progressive tax on high fat foods and on high sugar foods	Considerable evidence from modelling and demonstrable impact from experience in individual countries	UK: 203 000 DALYs over lifetime of 2004 pop for 10% tax on HFSS foods	Cost-effective: US$ 1800 per DALY saved in UK for 10% tax on HFSS foods		Lead: Prime Minister's Office/Ministry of Finance Others: Trade/ Industry/Supply Industry
Public procurement	**Procurement and provision of healthy food in public institutions (e.g. schools, hospitals, military, prisons, other government institutions)**	**Food served in public institutions is a sizeable contributor to diet for many groups in countries across the Region. International evidence shows that healthy food procurement policies can improve diets and health outcomes, particularly among studies done in schools**	**No estimates available**	**No cost–effectiveness analyses available**	**No generic estimates of implementation costs. Investment will be required, but scale of government buying can be harnessed to keep costs down**	**Lead: Ministry of Finance/ Procurement/ Supplies Other: All government departments**

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	Implement mandatory nutrition standards across all public institutions, through (a) application of the Regional nutrient profile model to assess the nutritional quality of different foods (b) introduction of meal standards, and (c) measures to eliminate the sale of foods or drinks high in fat, sugar or salt	Country experience shows that nutrition standards can be implemented across a wide range of public institutions to bring nutritional improvements				Lead: Food standards authority Other: Health, Trade/Industry/ Supply, Chamber of Commerce, Food inspection authorities
	Issue mandatory guidelines for the revision of procurement to provide healthy food, including limiting the volume of fats/ oils, sugar and salt entering public sector catering facilities in order to facilitate the necessary menu changes (e.g. so that meals provide not more than 25% energy from fats and less than 5% from free sugars)					Lead: Ministry of Finance/Procurement/ Supplies Other: All government departments

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	Develop guidance and provide training to catering companies on appropriate catering methods in public institutions to reduce the use of frying and sweetening of foods and help with menu design Continue implementing these measures, scaling up coverage and monitoring impact					Lead: Ministry of Health and municipalities Other: All government departments
Physical activity interventions	**Implement policies, legislation and interventions to promote and facilitate health-enhancing physical activity**	**Promoting physical activity and healthy diet is one of WHO's "best buys" for NCD prevention**	**No estimates identified**	**There is an emerging body of evidence suggesting that physical activity interventions may be cost-effective** *(12)*, **although the number of studies remains limited** *(121)*	**WHO estimated that the annual cost per person of promoting public awareness about diet and physical activity would be US$ 0.038 (on the basis of US$ 2008)** *(122)*	**Lead: President/ Prime Minister's Office with Ministry of Health Other: Treasury/ Finance, Industry, Education, Communication, Urban Planning, Housing, Environment, Transport and Sport**

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Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Promote healthy physical activity through mass media campaigns (see action 9 below) and ensure adequate legislation supporting delivery of daily physical activity for students in schools and universities	Mass media campaigns to promote physical activity and healthy diet are considered a "best buy" by WHO *(12)*. School-based interventions show consistent improvements in knowledge, attitudes and behaviour and, in some cases, physical and clinical outcomes *(12)*		Mass media campaigns on physical activity are estimated to be very cost-effective *(122)*. School health education programmes to promote physical activity have been found to be cost-effective *(121)*, while WHO estimated promoting physical activity in schools would cost >3 times GDP per person (classified as "less cost-effective") *(122)*.	Promoting physical activity through mass media is estimated to have a very low cost (< US$ 0.50 per capita), while promoting physical activity in schools would have a higher cost (> US$ 1 per capita on the basis of US$ 2008) *(122)*	Lead: President/Prime Minister's Office with Ministry of Education; Communication
	Ensure comprehensive delivery of regular, quality physical education to all children, as a key component of education in schools	Enhanced physical education (PE) interventions (increased time during PE classes where students are active, additional PE classes in the school timetable of longer PE classes) are effective *(123)*		A systematic review of school-based interventions (including PE) have been found to be very cost-effective, at a cost ranging from US$ 0.06 to 0.79 per MET-hour (a way of estimating physical activity) gained per person per day *(121)*		Lead: Ministry of Education

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	Develop a set of standards/ guidelines promoting physical activity in the workplace, including facility/ building design, availability of sports facilities and programmes enabling access to facilities away from the workplace	Evidence that multi-component programmes to promote physical activity in the workplace are effective in improving health-related outcomes *(12,124)*		Promoting physical activity in worksites is estimated to be quite cost effective (<3 times GDP per capita per DALY prevented) *(122)*	Promoting physical activity in worksites is estimated to cost >US$ 1 per capita (on the basis of US$ 2008) *(122)*	Lead: President/Prime Minister's Office with Ministry of Health; Ministry of Industry
	Increase availability of and accessibility for participation in formal and informal recreational and sporting activities, particularly providing opportunities for participation in programmes such as "Sports-for-All", with emphasis on ensuring equality of access and opportunity for participation	Evidence that creating or enhancing access to places for physical activity is effective in raising the proportion of the population who are physically active *(123)*		The relative cost and cost-effectiveness will depend on the precise measures, but a US study found that "enhanced access to physical activity information and opportunities" to be cost-effective and to offer good value for money *(125)*		Lead: Ministry of Sport with Ministry of Health Other: Treasury/ Ministry of Finance

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	Develop and implement an urban planning policy to ensure that urban environments encourage people to rely less on personal motorized vehicles and support access to safe, gender-sensitive and age-friendly public transport, cycling and walking, including by provision of facilities, equipment, public open and green space and shared use of school facilities (both indoor and outdoor) Continue implementing these measures, scaling up coverage and monitoring impact	City planning approaches that support walking, cycling and public transport with a safe infrastructure and prioritize them over private motorized transport are most effective *(51)*. Small-scale urban design policies (including improving street lighting, making crossings safer, traffic calming, improving the appearance of streets and providing continuous pedestrian pavements) are effective in facilitating walking *(123)*.		Policies to change the built environment have been estimated to be the most cost-effective strategy for increasing physical activity among large populations because, although they often require substantial investment, their benefits are long-lasting *(121)*. Creation of new cycle or pedestrian trails requires budget investment but provides good value per hour of physical activity gained (US$ 0.243 per Met-hour gained) *(121)*		Lead: Urban Planning, Housing, Environment, Transport and Sport
Food supply and trade	**Use food standards, legal instruments and other approaches to improve the national and/or local food supply in this Region of net food-importing countries**	**Evidence from several countries shows that trade policy tools and/or standards can be effective in reducing the availability or increasing the price of fats and sugars in the food supply**	**No estimates of impact identified**	**No cost–effective analyses identifiness**	**No cost estimates identified**	**Lead: Food standards authority Other: Foreign Affairs, Health, Customs, Finance, Trade/Industry/ Supply**

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	Facilitate the development of local food policies and encourage city authorities to sign the Milan Urban Food Policy Pact and implement its Framework for Action to develop, where possible, sustainable urban food systems					
	Consider introducing standards or other legal instruments (e.g. compositional standards, tariffs, import restrictions, sales bans, planning laws, zoning policies) to reduce the volume and improve the quality of fats/oils and reduce sugars in the national and local food supply					
	Consider removing agricultural subsidies for producers of sugars and oils (especially those oils high in saturated fatty acids), replacing them, where necessary, with other mechanisms to support farmers and growers					

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Reformulation	Implement a government-led programme of progressive reformulation, adapted to the national context, to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size	There is strong and extensive evidence from experience with salt reduction that progressive reformulation can reduce levels of specific ingredients in foods and reduce population intakes of those ingredients/nutrients There is evidence that voluntary efforts are less effective than mandatory approaches. Evidence has identified the key components of successful reformulation programmes: • Progressive reductions • Government-set target levels have to be set by food category • Multinutrient reductions (total fat, sugar, salt) • Accompanied by front-of-pack labelling and consumer awareness • Government-led and comprehensive stakeholder engagement • Commitment to monitoring and evaluation	UK estimate: 1.7 million DALYs over lifetime of 2004 population for incremental reduction of energy in packaged food, drink and restaurant foods	Highly cost effective (UK estimate US$ 2 600 per DALY saved)		Lead: Ministry of Trade/Industry/ Supply, food standards authority and Ministry of Health

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	Cooperate with other Member States to adopt a regional approach for engaging with food producers to drive food reformulation to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size in a substantial proportion of processed foods					Lead: Ministry of Trade/Industry/ Supply, food standards authority and Ministry of Health
	Engage with private sector providers of food in catering/food service outlets (including takeaways and street food traders) to establish a programme to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size, with defined quantified reductions in use of these ingredients					Lead: Ministry of Trade/Industry/Supply, Ministry of Health and municipalities (food inspectors)

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Marketing	Implement appropriate restrictions on marketing (including price promotions) of foods high in fat, sugar and salt	Convincing research that exposure to marketing for HFSS foods influences children's diets. Country experience shows that restrictions can reduce children's exposure to such marketing. Research on country implementations shows that mandatory restrictions are most effective Retail price promotions on HFSS foods are increasingly common throughout the Region, and evidence from HICs shows that price promotions selectively promote HFSS foods and can increases sugar intake	See below for estimates for some specific interventions	Cost-saving, highly cost-effective or cost-effective (see below for specific estimates)	Very low cost implementation (see below)	Lead: Trade/ Industry/Supply/ Advertising regulatory bodies and municipalities Other: Health

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	Work with other countries in the Region to establish a coordinated approach, including appropriate legal advice, to reduce the impact of cross-border marketing	Cross-border broadcast marketing dominates Regional media outlets. Advertising expenditure analyses show that pan-Arab media marketing of HFSS foods is extensive and escalating rapidly				
	Implement the WHO Set of Recommendations on Marketing of Foods and Non-alcoholic Beverages to Children and consider mandatory restrictions to eliminate all forms of marketing of foods high in fat, sugar and salt to children and adolescents (up to age 18) across all media, according to the regional Action Plan to Address Unopposed Marketing of Unhealthy Food and Beverages	Country experience shows that restricting advertising only for particular media (e.g. television and radio) do not reduce overall exposure to marketing. There is evidence that children are increasingly exposed to HFSS marketing through digital and social media Extensive country experience shows that limited definitions of target audiences (e.g. the hours of children's television) are ineffective	38 to 288 DALYs saved per million population after 20 years in 6 LMICs; 658 to 5 823 DALYs per million after 50 years	Cost saving, highly cost-effective or cost-effective in 6 LMICs after 20 and 50 years	Very low cost [US$ 0.04 to 0.13 per head in 6 LMICs for obesity prevention. In 1 high income country (England) = US$ 0.30/ head]	
	Use the regional nutrient profile model, which categorizes the appropriate level of nutrients in foods, to identify foods to which the marketing restrictions should apply	Country experience shows that government-led nutrient profiles are more effective in restricting marketing of HFSS foods				Lead: Ministry of Health with advertising regulatory bodies

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Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Conduct an assessment (preferably as part of a regional collaboration) of the impact of marketing of foods high in fat, sugar or salt to adults to illuminate the magnitude of marketing and define how best to restrict inappropriate practices. Consider extending mandatory restrictions on marketing of unhealthy foods to whole population	Over 50% of the Region's population are children or adolescents. No country has completely eliminated children's exposure to marketing of HFSS foods by implementing restrictions on marketing to children, since children and adolescents remain exposed to marketing targeted at adults	UK estimate: 401 000 DALYs over lifetime of 2004 population from restricting high-calorie food advertising to reduce exposure to marketing	Highly cost-effective UK estimate: Restricting high-calorie food advertising to reduce exposure to marketing would cost US$ 50 per DALY saved.		
	Legislate to allow retail promotions only of healthy foods	Retail price promotions on HFSS foods are increasingly common throughout the Region. Analyses from high-income countries show that price promotions selectively promote HFSS foods and affect a high proportion of all food purchases, with identified increases in sugar consumption consistent with promotion of obesity and diabetes	UK estimate: 561 000 DALYs over lifetime of 2004 population from regulating price promotions on high-calorie foods	Highly cost-effective UK estimate: US$ 200 per DALY saved from regulating price promotions on high-calorie foods		Lead: Trade/ Industry/Supply and municipalities Other: Health

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
Labelling	Implement or revise standards for nutrition labelling to include front-of-pack labelling for all pre-packaged foods	Evidence that consumers like simple, interpretive, front-of-pack labels and that this can help them to make healthier choices.	358 to 1176 DALYs per million population for compulsory food labelling after 20 years in 6 LMICs; After 50 years: 1089 to 4099 DALYs per million population. UK: 575 000 DALYs over lifetime of 2004 population for labelling on all packaged foods, menus and shelf-choices in fast food restaurants and work place; Australia: 32 000 DALYs over lifetime of 2003 population for front-of-pack labelling	Highly cost-effective or cost-effective after 20 years in 6 LMICs; Cost saving or highly cost-effective after 50 years. Cost saving or highly cost-effective in HICs (UK, Australia)	Very low: US$ 0.05 to 0.23 (2005) in 6 LMICs; Very low (< AS$ 0.50 per capita) in Australia	Lead: Food standards authority and Ministry of Health Other: Trade/ Industry/Supply, Customs

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Implement mandatory front-of-pack nutrition labelling scheme with elements to enable consumers to interpret easily (e.g. multiple colour-coded traffic lights, use of terms "high", "medium", "low")	Evidence from several countries suggests that interpretive front-of-pack labelling can drive food manufacturers to reformulate their products to make them healthier				
	Enforce the labelling scheme and monitor its impact with the potential to strengthen the labelling with suitable health warnings					

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
Breastfeeding	**Implement a package of policies and interventions to promote, protect and support breastfeeding**	**Substantial evidence that breastfeeding protects against overweight and obesity in children and adults and some statistically significant evidence of protection for both mothers and children against later diabetes. Highly significant evidence of substantial impact of interventions on exclusive breastfeeding rates**	**823 000 deaths per year averted in 75 high-mortality LMICs if scaled up to near universal levels; plus 22 216 lives per year saved by increasing breastfeeding duration to 12 months in HICs and 2 years per child in LMICs. In addition, 20 000 annual deaths in women (breast cancer) would be avoided**	**No specific cost-effective analyses of promoting breastfeeding for prevention of obesity and diabetes. Considerable literature exists on sizeable economic benefits of increasing breastfeeding**	**Cost estimates for scaling up interventions to promote breastfeeding vary immensely. One global estimate for a package of measures is US$ 130 per live birth *(126)***	**Lead: Ministry of Health**
	Promote breastfeeding through mandatory baby-friendly health systems and effective community-based strategies	Convincing evidence of positive impact on exclusive breastfeeding			Estimated costs of US$ 28 per live birth for baby-friendly hospital initiative implementation, training health workers and community support *(126)*	Lead: Ministry of Health

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Fully implement the International Code of Marketing of Breast-milk Substitutes and WHO Guidance on ending inappropriate promotion of foods for infants and young children	Extensive evidence that marketing of breast-milk substitutes and inappropriate promotion of foods for infants and young children undermines optimal infant and young child feeding, with potential negative impact on breastfeeding, obesity and NCDs. Country experience shows that national legislation to regulate such marketing can be effective in reducing marketing influence.			Costs of implementing the International Code estimated at US$ 3.60 per live birth as a one-off cost and US$ 0.70 per live birth annually for training and monitoring (126)	Lead: Ministry of Trade/Industry with Ministry of Health and food standards authority
	Empower women to exclusively breastfeed, by enacting progressively increasing remunerated time off work up to a goal of 6 months' mandatory paid maternity leave, as well as policies that encourage women to breastfeed in the workplace including breastfeeding breaks and provision of suitable facilities	Modest evidence of a positive impact on exclusive breastfeeding. Positive country experience of guaranteeing paid daily breastfeeding breaks on breastfeeding outcomes			Estimated government cost of US$ 94 per live birth per year to enact maternity entitlements for 6 months (126).	Lead: Ministry of Labour/Work and Pensions

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
Mass media campaigns	Conduct mass media campaigns on healthy diet and physical activity	Long-term, intensive mass media campaigns have been shown to be effective for promoting physical activity and moderately effective for promoting healthy diet. Intensive campaigns promoting one simple message are also moderately effective.	246 to 1361 DALYs per million population in 6 LMICs; UK: Could save 49 000 DALYs over lifetime of 2004 population	Highly dependent on context: would not be cost-effective, cost-effective or highly cost-effective in 6 LMICs after 20 years; after 50 years highly cost effective or cost-effective in 4 countries, not cost-effective in 2 countries. More likely to be highly cost-effective In HICs (UK: US$ 200 per DALY saved)	Quite low in LMICs (generic estimate for LMICs costs US$ 0.038 per person per year *(122)*; Estimates in the 6 LMICs range from US$ 0.27 to 0.80 per head Higher costs in a high-income country (England = US$ 2.32 per head) *(34)*	Lead: Ministry of Information, Ministry of Health, Ministry of Sport and Ministry of Education
	Implement appropriate social marketing campaigns, led by the public sector, on healthy diet and physical activity in order to build consensus, complement the other interventions in the package and encourage behaviour change					

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Ensure sustained implementation of campaigns and monitor their impact	Evidence shows that it is challenging to sustain effects after campaigns finish, in the face of competing factors, such as pervasive food marketing across many forms of media				
Health sector interventions	**Harness the health sector to enable change and to provide leadership on governance and accountability**	**Evidence that health sector interventions can be effective, particularly nutrition counselling during pregnancy and primary-care based counselling for at risk groups (see below)**	**No overall estimates identified, see below for some specific estimates**	**No overall estimates available. Some estimated that dietary advice to pregnant women and primary-care based counselling for at-risk groups would be cost effective**	**No overall estimates identified, see below for some specific estimates**	**Lead: President/ Prime Minister's Office with Ministry of Health Other: Treasury/ Finance, Trade, Foreign Affairs, Industry, Energy, Social Welfare, Justice/Security, Agriculture, Food, Education, Communication, Urban Planning, Housing, Environment, Transport and Sport**

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Ensure provision of dietary counselling on nutrition, physical activity and healthy weight gain before and during pregnancy for prospective mothers and fathers	Interventions on diet and/ or exercise reduce the risk of excessive weight gain during pregnancy by around 20% *(118)* and WHO recommends counselling about healthy eating and keeping physically active during pregnancy *(119)*. The Commission on Ending Childhood Obesity recommended that preconception counselling also be provided to prospective parents *(6)*		Economic assessment of an randomized controlled trial in New Zealand found it highly probable that antenatal dietary advice to overweight or obese women would be cost-effective *(127)*		Lead: Ministry of Health
	Integrate screening for overweight and other diabetes risk factors into primary health care and provide primary-care based counselling for high risk individuals	Physician counselling for at-risk groups is one of the most effective interventions *(116)* and is one of WHO's "best buys" for preventing diabetes	Physician counselling for at risk groups is estimated to save up to 6 988 DALYs per million population after 20 years, rising to 16 644 after 50 years *(34)*	Cost-effectiveness of this intervention is dependent on most of the population having regular access to primary care *(34)*	Cost per head varies from US$ 0.20 to 4.40 per head in six LMICs *(34)*	Lead: Ministry of Health

Annex 2. Summary of strategic interventions in 10 priority areas for action for the prevention of obesity and diabetes in the Eastern Mediterranean Region

Area for action	Strategic interventions	Extent and strength of evidence	Potential health impact (DALYs saved)	Cost–effectiveness (US$ per DALY saved)	Affordability (implementation cost in US$ per capita: very low = <US$ 0.50; quite low = < US$ 1; higher = > US$ 1)	Government institutions involved (lead body, other ministries/ departments involved)
	Establish or strengthen, as appropriate, a high-level multisectoral mechanism to define and oversee the implementation of food and physical activity policies for the prevention of obesity and diabetes	Globally, countries have inadequate coordination mechanisms, and coordination within and between ministries and other partners is inadequate or ineffective *(41)*. WHO has long recommended that countries implement cross-government, multisectoral governance mechanisms to steer action on diet and nutrition				Lead: President/Prime Minister's Office with Ministry of Health Other: Treasury/ Finance, Trade, Foreign Affairs, Industry, Energy, Social Welfare, Justice/ Security, Agriculture, Food, Education, Communication, Urban Planning, Housing, Environment, Transport and Sport
	Establish national targets for obesity and diabetes, along with SMART commitments for action, and work with WHO to develop and implement a monitoring framework for reporting on progress	Governments that prioritize nutrition in policy documents spend more money on nutrition, but, by 2016, only 30% of countries had set targets for obesity and diabetes in their national NCD plans *(43)*				Lead: President/Prime Minister's Office with Ministry of Health Other: As above
	Implement evidence-based community-based interventions, addressing both healthy eating and physical activity, comprising different activities and targeting high-risk groups, to promote and facilitate behaviour change and prevent obesity and diabetes	Community-based interventions which comprise many different activities and address both diet and physical activity can be effective *(116)*. Such interventions usually include a strong educational component and may target high-risk groups, such as those who are at a high risk of developing diabetes *(116)*				

DALYs: Disability Adjusted Life Years; GDP: gross domestic product; HFSS: high in fat, salt or sugar; HICs: high-income countries; LMICs: low- or middle-income countries; MET: metabolic equivalent of task; NCD: noncommunicable disease; UK: United Kingdom.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
Fiscal measures	1.1 Progressively eliminate all national subsidies for all types of fats/oils and sugar.	Three – quarter of the countries in the Region subsidize food commodities, often including sugar and oils *(35)*. The Islamic Republic of Iran and Egypt have reduced or removed such subsidies and replaced them with measures, such as cash transfers, that are known to provide more effective social protection for poorer families *(128)*.
	1.2 Implement an effective tax on sugar-sweetened beverages.	Globally, by 2016, more than 30 national or sub-national authorities had introduced, or were planning, taxes on sugar-sweetened drinks – including Egypt, Islamic Republic of Iran and the Gulf Cooperation Council States in the Eastern Mediterranean Region (129–131). After one year of Mexico's tax on sugar-sweetened drinks (equivalent to about a 10% price increase) purchases were down by 12% on average (and by as much as 17% in poorer households) and over US$ 9 million had been collected in excise duty, an increase of 51% *(24)*.
	1.3 Consider an effective progressive tax on high fat foods and high sugar foods.	There is an emerging country experience, although not as well developed as the experience on taxing sugar-sweetened drinks. Hungary's Public Health Tax on foods high in sugars or salt and on sugar-sweetened and energy drinks has resulted in a drop in consumption of taxed products (by as much as 25–30% according to some estimates) (18,27). The Government also encouraged manufacturers to reformulate their products and raised around € 60 million in 2013 for government health spending *(6)*. Denmark's saturated fat tax, although short-lived, reduced fat consumption by 10–15% and raised € 134 million in less than a year (28,29). Finland's tax on sweets, ice cream and soft drinks raised € 204 million in 2013 *(19)*.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
Public procurement	2.1 Implement mandatory nutrition standards across all public institutions through (a) application of the regional nutrient profile model, (b) introduction of meal standards and (c) measures to eliminate the sale of foods or drinks high in fat, sugar or salt.	National action on publicly-funded food has generally focused on schools. By 2013, 47 countries globally reported national policies for school meals based on national dietary guidelines and 17 had nationwide bans on vending machines on school premises *(41)*. In the Region, the Islamic Republic of Iran, Jordan, Kuwait and the United Arab Emirates, for example, have introduced nutrition standards for healthy school meals and introduced restrictions on provision or sale of unhealthy foods in schools *(132)*. The concept of introducing nutrition standards across all publicly-funded food is attracting increasing attention and there are some pioneering examples. New York City, for example, established nutrition standards for all foods purchased or served in all of the City's 3000 schools, hospitals, childcare or residential care facilities and prisons in 2008. All procurement contracts contain a mandatory clause to say that any food provided must meet the standards *(45)*.
	2.2 Issue mandatory guidelines for the revision of procurement to provide healthy food, including limiting the volume of fats/oils, sugar and salt entering public sector catering facilities in order to facilitate the necessary menu changes (e.g. so that meals provide not more than 25% energy from fats and less than 5% from free sugars).	Some national, or subnational, authorities are taking action on the rules and guidelines on procurement for public institutions to ensure that the foods served in these institutions are healthy. Brazil's approach to procurement of school food combined nutrition standards with a requirement for 30% of school food budgets to be spent in local farmers' markets *(43)*. The State of Massachusetts in the United States of America (USA) set nutritional standards for all food purchased by state agencies (including hospitals, prisons and childcare services) and their contractors *(44)*.
	2.3 Develop guidance and provide training to catering companies on appropriate catering methods in public institutions to reduce the use of frying and sweetening of foods and help with menu design.	Public institutions are likely to require support to be able to make the necessary changes to comply with new nutritional standards and/or procurement guidelines. In the USA, the federal government has developed a national contract template for healthy food procurement *(133)*. In Europe, Malta is developing some voluntary guiding principles for food procurement, initially focusing on schools but for future use in other sectors *(134)*.
	2.4 Continue implementing these measures, scaling up coverage and monitoring impact.	
Physical activity	3.1 Promote healthy physical activity through mass media campaigns (see priority area 9) and ensure adequate legislation supporting delivery of daily physical activity for students in schools and universities.	Many countries have legislation requiring a certain number of hours to be dedicated to physical activity in the school curriculum. In Denmark, for example, parliament revised the law in 2014 to make it compulsory for schools to offer an average of 45 minutes of physical activity per school day in primary and lower-secondary education and to add an extra physical education lesson per school week in grade 1. Childcare facilities are also required to include "body and motion" in their curricula *(135)*.
	3.2 Ensure comprehensive delivery of regular, quality physical education to all children, as a key component of education in schools.	

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
	3.3 Develop a set of standards/guidelines promoting physical activity in the workplace, including facility/building design, availability of sports facilities and programmes enabling access to facilities away from the workplace.	In the United Kingdom (UK), the National Institute for Health and Care Excellence (NICE) issued guidelines on promoting physical activity in the workplace for National Health Service organizations in England, which employ more than half a million people (136,137). In 2015, this guidance was translated into practical advice and recommendations as part of a toolkit on healthy workplace *(138)*. In a government-supported initiative in Thailand, private and public sector employers provide their employees with training and time to engage in various types of physical activities *(139)*.
	3.4 Increase availability of and accessibility for participation in formal and informal recreational and sporting activities, particularly providing opportunities for participation in programmes such as "Sports-for-All", with emphasis on ensuring equality of access and opportunity for participation.	In Jordan, as part of a multisectoral partnership, Greater Amman Municipality opened four public gardens at specific times for women only so that they can walk and participate in exercise *(140)*. In Bahrain, there have been efforts to reach agreements between the Ministry of Health and shopping malls to provide malls as a public venue for sports *(48)*.
Physical activity	3.5 Develop and implement an urban planning policy to ensure that urban environments encourage people to rely less on personal motorized vehicles and support access to safe, gender-sensitive and age-friendly public transport, cycling and walking, including by provision of facilities, equipment, public open and green spaces and shared use of school facilities (both indoor and outdoor).	National and local authorities are increasingly recognising the need to enact policies to create urban environments conducive to physical activity. The Islamic Republic of Iran has implemented a package of activities to promote physical activity, including improvements to public open spaces, development of cycle hire schemes in some cities and expanding cycle lanes *(48)*. A liveable neighbourhoods design code was introduced in the city of Perth, Western Australia. A study comparing implementation in different neighbourhoods found that for every 10% increase in its implementation, the odds of walking increased by 50% *(51)*. Oman's National Nutrition Strategy 2014–2050 includes the aim to create urban green spaces and pedestrian transport routes for cycling, walking and jogging in all cities that are pedestrian-friendly and open for safe exercise and travel day and night, including "green tunnels" of trees and shrubs to provide shade for walking *(141)*.
	3.6 Continue implementing these measures, scaling up coverage and monitoring impact.	Sustained efforts are required to bring about the required changes in urban and rural environments and various settings and facilitate greater participation in physical activity. Finland has shown commitment to increasing physical activity since 1980 through a variety of different actions, including legislation, guideline development, recommendations and local funding *(46)*. It has successfully developed national programmes for every phase of the life-course *(135)*.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
	4.1 Conduct a situation analysis of the national and/or local food supply, including establishing the proportions of fats/oils and sugar used in the diet that are derived from imports and domestic production, along with the extent of food manufacture and processing within the country and the supply of fruit, vegetables and whole grains.	As part of development of a nutrition strategy for Oman, a SWOT analysis was conducted, which identified a need to reduce imports of high-energy density food products. The nutrition strategy includes the aim of reducing importation of high-density foods to < 30% of all intakes through cooperative agreements with regional suppliers, increased regulation and import tariffs on unhealthy foods *(141)*.
	4.2 Facilitate the development of local food policies and encourage city authorities to sign the Milan Urban Food Policy Pact and implement its Framework for Action to develop sustainable urban food systems.	By the end of 2016, 133 cities globally, with a total of more than 460 million inhabitants, had signed up to the Milan Urban Food Policy Pact. In the Eastern Mediterranean, a few cities, such as Bethlehem and Hebron, are signatories *(63)*.
Food supply and trade	4.3 Consider introducing standards or other legal instruments (e.g. compositional standards, tariffs, import restrictions, sales bans, planning laws, zoning policies) to reduce the volume and improve the quality of fats/oils and reduce sugars in the national and local food supply.	A number of countries have introduced import duties on products such as soft drinks, sugar, confectionery, ice cream, fatty meats and specific oils. In response to concerns about high levels of consumption of cheap meat products with a very high fat content – such as turkey tails – , Samoa and Ghana, for example, introduced legal measures (a sales ban and compositional standards respectively) in order to limit availability of these products (59,60). The Islamic Republic of Iran introduced measures to reduce imports of palm oil, with the aim of lowering the share of palm oil in total vegetable oil consumption to 30% *(142)*. Oman's nutrition strategy includes the aim of reducing importation of high-density foods to <30% of all intakes through cooperative agreements with regional suppliers, increased regulation and import tariffs on unhealthy foods *(141)*.
	4.4 Consider removing agricultural subsidies for producers of sugars and oils (especially those oils high in saturated fatty acids), replacing them, where necessary, with other mechanisms to support farmers and growers.	In Eastern European countries, changes to national subsidies of animal fats after the political changes of the early 1990s led to much higher consumption of vegetable oils in some countries, with resultant health benefits *(143)*.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
Reformulation	5.1 Cooperate with other Member States to adopt a regional approach for engaging with food producers to drive food reformulation to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size in a substantial proportion of processed foods.	Most of the experience of reformulation to data has focused on reducing salt levels in processed foods. A 2015 review found that 61 countries included reformulation in their national salt reduction strategies, 19 countries report reductions in the salt content of foods and 12 countries report a fall in population salt intake *(65)*. Kuwait has introduced a voluntary food reformulation programme to reduce salt and fat levels, with an initial focus on reducing salt the salt content of bread and cheeses *(132)*. More than 11 countries have introduced laws to limit the trans fatty acid content of foods, including, from the Region, the Islamic Republic of Iran *(132)*. A number of countries have moved beyond salt, to implement reformulation measures to reduce the levels of other nutrients or ingredients. The Netherlands has implemented a programme to reduce salt, saturated fat and calories in sugar products; In the UK, a programme to reduce sugar levels by 20% by 2020 will focus initially on nine types of product that make the biggest contribution to children's sugar intake [breakfast cereals, yoghurts, biscuits, cakes, confectionery, morning goods (for example, pastries), puddings, ice cream and sweet spreads] *(144)*.
	5.2 Engage with private sector providers of food in catering/food service outlets (including takeaways and street food traders) to establish a programme to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size, with defined quantified reductions in use of these ingredients.	Singapore's Healthier Hawker programme encourages street food vendors to use healthier ingredients and involves the government absorbing some of the costs associated with the use of the healthier ingredients *(145)*. The UK's sugar reduction programme – to reduce sugar contents by at least 20% by 2020 – will also apply to the out-of-home sector, including restaurants, takeaways and cafés *(144)*
Marketing	6.1 Work with other countries in the Region to establish a coordinated approach, including appropriate legal advice, to reduce the impact of cross-border marketing.	In the Eastern Mediterranean Region, where cross-border marketing is so prevalent, a regional approach will be fundamental. In the European Union food manufacturers have themselves recognized the value of the level playing field created by a harmonized regional approach and have introduced a voluntary pledge (the EU Pledge) to restrict broadcast marketing of foods high in fat or salt or sugar to children *(146)*.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
	6.2 Implement the WHO Set of Recommendations on Marketing of Foods and Non-alcoholic Beverages to Children and consider mandatory restrictions to eliminate all forms of marketing of foods high in fat, sugar and salt to children and adolescents (up to age 18) across all media, according to the Regional Action Plan to Address Unopposed Marketing of Unhealthy Food and Beverages.	Six years on from the publication of WHO's Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children, around 20% of countries in the Eastern Mediterranean (and 28% of countries globally) have introduced government legislation on this issue *(147)*. Although no country has comprehensively implemented the Recommendations, there are elements of good practice. Restrictions introduced in South Korea, Ireland, Brazil and Norway concern children up to the age of 18 years *(132)*. Measures in Chile and Portugal include audiences with 20% or more children, in contrast to many schemes that only cover audiences comprising at least 35% or 50% children *(132)*. Restrictions in Peru and Brazil are based on broad definitions of marketing, covering different media (e.g. television, radio, print, Internet, apps) and marketing methods *(132)*. In the Eastern Mediterranean Region, the Islamic Republic of Iran has introduced rules to restrict radio and television advertising to children and adolescents (up to 19 years of age) (unpublished report).
Marketing	6.3 Use the regional nutrient profile model, which categorizes the appropriate level of nutrients in foods, to identify foods to which the marketing restrictions should apply.	The nutrient profile model developed for the European region has already been adopted and adapted by a number of European countries (e.g. Slovenia, Ireland) for use in restricting marketing to children.
	6.4 Conduct an assessment (preferably as part of a regional collaboration) of the impact of marketing of foods high in fat, sugar or salt to adults.	Policy attention, to date, has focused predominantly on marketing to children and this is an under-researched area.
	6.5 Consider extending mandatory restrictions on marketing of unhealthy foods to whole population.	Some countries have taken steps to limit the effects of marketing of foods high in fat or salt or sugar to the whole population. The Islamic Republic of Iran has prohibited broadcast advertising of soft drinks since 2004 and, in 2014, further restrictions were proposed on an additional 24 food items *(132)*. Ireland limits broadcast advertising of HFSS foods to no more than 25% of sold advertising time *(132)*.
	6.6 Legislate to allow retail promotions only on healthy foods.	Some UK-based supermarket chains have voluntarily agreed to limit the proportion of price promotions on HFSS foods *(148)*.
Labelling	7.1 Implement a mandatory front-of-pack labelling scheme with elements to enable consumers to interpret information easily (e.g. colour coding or the use of terms such as "high" "medium", "low").	Mandatory front-of-pack nutrition labelling has been introduced in, for example, Ecuador and Mexico *(132)*, and traffic-light labelling has been introduced in the Islamic Republic of Iran *(133)*. Government-defined voluntary traffic-light schemes are in place in a number of other countries such as South Korea and the UK *(132)*.
	7.2 Enforce the labelling scheme and monitor its impact.	It is important that the introduction of the labelling scheme is properly enforced and monitored, particularly to assess the impact across all socioeconomic groups.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
Breastfeeding	8.1 Promote breastfeeding through mandatory baby-friendly health systems and effective community-based strategies.	Cambodia increased breastfeeding from 11% in 2000 to 74% by 2010 through vigorous promotion of breastfeeding, regulating the marketing of breast-milk substitutes and baby foods and a wide-ranging baby-friendly initiative *(114)*.
	8.2 Fully implement of the International Code of Marketing of Breast-milk Substitutes and the WHO Guidance on ending inappropriate promotion of foods for infants and young children.	In the Region, 85% of countries have enacted legislation to implement the Code but only 30% have laws with all or many of the Code provisions *(113)*. Kenya and South Africa have adopted comprehensive Code-related legislation, including wide-ranging prohibitions on promotional activities and measures to ensure effective enforcement *(113)*. Kuwait's 2014 Code-implementing legislation features a broad scope, a wide range of prohibitions and detailed requirements for information and education materials and labelling *(113)*.
	8.3 Empower women to exclusively breastfeed by enacting progressively increasing remunerated time off work up to a goal of 6 months' mandatory paid maternity leave, as well as policies that encourage women to breastfeed in the workplace, including breastfeeding breaks and provision of suitable facilities.	Globally, 32 countries have ratified the International Labour Organization Maternity Protection Convention (Convention No. 183) *(149)*. In the Eastern Mediterranean Region, Morocco ratified the Convention in 2011, providing 14 weeks of maternity leave *(149)*.
Mass media	9.1 Implement appropriate social marketing campaigns, led by the public sector, on healthy diet and physical activity in order to build consensus, complement the other interventions in the package and encourage behaviour change.	Many countries have implemented public awareness, mass media and informational campaigns and social marketing on healthy eating. There are also examples of countries using mass media campaigns to reinforce other actions. Mexico launched a media campaign aimed at raising awareness of obesity at the same time as introducing the sugary drink tax and new front-of-pack labelling requirements, as well as an initiative on food in schools and increasing access to drinking water *(25)*. The Pouring on the Pounds public information campaign in New York City ran at the same time as the excise tax was introduced on sugary drinks. A 35% and 27% drop in the number of adults and public high school students respectively having one of more sugary drinks a day was reported *(26)*.
	9.2 Ensure sustained implementation of campaigns and monitor their impact.	Campaigns need to be sustained in order to have a long-term impact.
Health sector	10.1 Ensure provision of dietary counselling on nutrition, physical activity and healthy weight gain before and during pregnancy for prospective mothers and fathers.	Several countries provide nutritional counselling to pregnant women. These include, for example, Finland, where nutrition guidance is provided by public health nurses as part of antenatal and postnatal care, and Mexico, where individual counselling is provided to pregnant women and mothers of children under five years *(132)*.

Annex 3. Examples of country experience with implementation of the proposed strategic interventions

Priority area for action	Proposed strategic interventions	Examples of country experience of implementation
Health sector	10.2 integrate screening for overweight and other diabetes risk factors into primary health care and provide primary-care based counselling for high-risk individuals.	Countries that have integrated screening and/or counselling for high-risk individuals into primary care include Brazil, Fiji, South Africa and Malaysia (132). Under Brazil's Unified Health System health teams promote healthy eating, evaluate food intake and anthropometry of individuals and provide nutritional counselling. The government provides manuals and teaching materials for health professionals, as well as providing funds for this work *(132)*. Under Qatar's national nutrition and physical activity action plan, regular screening of the population in primary health care centres was introduced, along with provision of counselling for high-risk groups *(150)*.
	10.3 Establish or strengthen, as appropriate, a high-level multisectoral mechanism to define and oversee the implementation of food and physical activity policies for the prevention of obesity and diabetes.	Many countries have established some kind of cross-government coordination mechanism for nutrition and/or noncommunicable diseases (NCD) prevention. Leadership at the highest level is important to create the necessary political will. In the Pacific island states, the Pacific NCD Partnership, which was set up to encourage a multisectoral approach, has high level political participation with the involvement of Pacific Island Forum Leaders and Ministers of Health *(132)*. Brazil's National Council of Food and Nutrition Security (CONSEA) reports to the office of the country's President *(132)*.
	10.4 Establish national targets for obesity and diabetes, along with SMART commitments for action, and work with WHO to develop and implement a monitoring framework for reporting on progress.	The Tunisian strategy for preventing and tackling obesity 2013-2017 sets out five priority areas and 88 specific actions are detailed. For each action the body responsible (and partners), timetable, sources of information and monitoring indicators are defined *(151)*.
	10.5 Implement evidence-based community-based interventions, addressing both healthy eating and physical activity, comprising different activities and targeting high-risk groups, to promote and facilitate behaviour change and prevent obesity and diabetes.	Some of the most well-known work in this area has taken place in Finland, where, famously, the North Karelia project reduced cardiovascular deaths. Programmes targeting middle-aged overweight men and women at higher risk of diabetes (overweight with impaired glucose tolerance) provided individual counselling and reduced the risk of diabetes by more than 50% *(152)*.

Annex 4. Feasibility considerations for implementing strategic interventions in 10 priority areas for action to prevent obesity and diabetes in the Eastern Mediterranean Region

Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Fiscal measures: Careful use of taxes and subsidies to promote healthier diets	Whole population benefits from appropriate fiscal policies, with a graded socioeconomic effect (bigger impact on poorer groups).	Selective application of fiscal measures to help the poor require specific expertise from international agencies, e.g. the regional development banks. Technical support from Regional Office to help countries implement taxes. For taxes on high fat and/or sugar foods, ideally conduct modelling exercises to carefully design appropriate taxes to avoid unintended effects (e.g. increased salt intakes). Careful analyses have suggested a simpler approach is to use a commodity approach, i.e. on the vegetable oils and fats or total free sugar input to the industry, rather than a retail product basis which is more complicated in countries without existing sales taxes. Technical support from the Regional Office to adapt the nutrient profile model to use for taxes.	Appropriate taxes can generate revenue and provide greater flexibility for other government spending. Removing existing subsidies on fats/oils and sugars can remove a major burden on national finances. Some of the financial gain to government finances can be selectively used for targeting through cash transfers and other schemes, e.g. vouchers for poorer sections of the community as already proposed by development bank analyses for some countries in the Region.	Political and social acceptance can be increased by public commitment to allocate some of the tax revenue to support health promotion/health services. The concept of taxation for health purposes is already well accepted. Some taxes on sugar-sweetened beverage are already in place, but at low levels. Consider increasing taxes progressively as with tobacco tax. Removal of food subsidies needs careful handling politically. Phased implementation may be needed and measures to mitigate the impact on lower socioeconomic groups by replacing with appropriate cash transfers.

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Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Public procurement: Procurement and provision of healthy food in public institutions (e.g. schools, universities, hospitals, military, prisons, other government institutions)	Reach is considerable, but will depend on proportion of meals eaten in public sector facilities.	Will require capacity building of those involved in procurement and catering. Assessments of budget implications will be required, along with advice on the preparation of nutritionally appropriate meals without substantial cost increases.	There have been concerns that implementing healthy food procurement or nutrition standards might increase the costs of public sector food, whether because of higher costs of fresh and/or whole foods or a need for more equipment and/or more skilled staff. Effective strategies to minimize the investment needed include (a) collaboration with food wholesalers, manufacturers and caterers to improve the nutritional quality of products, (b) partnerships between public institutions to harness their collective bargaining power and (c) rigorous oversight of contract caterers' charges *(42,46,47)*. Emphasis on reducing the use of oils and sugars (in addition to switching types of oil used) should lead to cost savings. These measures will create new demand for healthy foods and will, with their increased scale, often result in price reductions.	Dramatic changes in societal food patterns have occurred throughout the Region over the past 10–20 years. Yet resistance to these proposed changes is likely unless accompanied by a clear public awareness campaign to explain the importance of these measures for reducing the risk of diabetes and obesity. There is potential for coherence with sustainability and economic objectives. This will depend on the particular food environment/context. Public-funded food is often a source of profit for catering contractors, who may show resistance to change especially if there is a perceived threat to profit margins. However, alternative catering sources should be considered as well as, in some countries, the possibility of setting up selective initiatives to purchase foods from local farmers. There is substantial international experience that this can be very effective and lead to community engagement, with local farmers profiting from these developments.

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Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Physical activity: Implement policies, legislation and interventions to promote and facilitate health enhancing physical activity	There is potential to reach the whole population, particularly through interventions on urban planning and improving access to physical activity opportunities.	Policy expertise in different areas will be needed, such as education, urban planning, community organization and sport.	Some of the interventions may require capital investment (particularly in relation to transport and urban planning) and will take time to enact, but the resulting impact should be sustainable and the benefits long-lasting. In addition, the benefits are likely to extend well beyond obesity and diabetes prevention. Transport and planning policies may generate environmental benefits, including improving health outcomes through cleaner air. Physical education and school-based interventions may reap broader social and academic rewards *(50)*.	Careful design of interventions is needed to ensure that they facilitate increased physical activity for all. Spaces and facilities that are safe and appropriate for women are essential. Facilities and programmes should also address the specific needs of people with disabilities. The potential synergies with environmental and sustainability objectives should be emphasised in order to build public support.

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Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Food supply and trade: Use food standards, legal instruments and other approaches to improve the national and/or local food supply in this Region of net food-importing countries	Any trade measures have potential for universal reach if imported foods make up a substantial proportion of the national food supply. City- or municipality-based interventions could reach a substantial proportion of the population in these localities.	International trade and legal expertise is required to design appropriate tools, within the constraints of current World Trade Organization (WTO) and other trade agreements, to reduce the volume of imports of fats and sugars. The detailed case of the magnitude of the obesity and diabetes problem in the Region may need to be made for a public health exemption to justify these measures within WTO rules (invoking the SPS sub-clauses). However if restrictions are not discriminatory because domestic supply and imports are both restricted, then applying consistency to domestic food supply as well as imports is legitimate and minimizes disputes within a WTO context. As part of a package with reformulation efforts, technical expertise will be provided to the food industry to cut the levels of fats/sugars and/or replace with healthier ingredients (fruit and vegetables, pulses, complex carbohydrates).	This will depend on the precise instruments used. Import duties will generate public revenue, while trade restrictions will not.	Phased reductions, supported with advocacy, will help with public acceptance and industrial adaptation. Local food initiatives can combine health, economic and sustainability objectives, which can help to generate a broad base of support.
Reformulation: Implement a government-led programme of progressive reformulation, adapted to the national context, to eliminate trans fats and reduce progressively total and saturated fat, salt, sugars, energy and portion size.	Reach depends on the specifics of the national food supply, i.e. how and where the ingredients/ nutrients enter food (imports, local production or in the home).	Technical support/expertise will be needed to conduct initial analyses to design a reformulation programme appropriate to the national food environment. A detailed understanding of the national food chain is required to design an effective programme. Food producers/providers will require technical support to make the changes.		Phased and progressive nutrient/ ingredient changes are well tolerated, provided that they are universally applied across food categories. Non- compliant companies can limit the effectiveness of national measures. These desired changes are therefore best mandated as standards that are changed every 1–2 years as the limits on the undesirable nutrients/ ingredients are reduced progressively.

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Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Marketing: Implement appropriate restrictions on marketing (including price promotions) of foods high in fat, sugar and salt.	A comprehensive approach (media, audience, type of marketing) is required to have substantial impact. There is potential to reach a large proportion of the regional population given the dominance of cross-border media. There is potential for total coverage if restrictions are extended to marketing to the whole population (as is currently done in one country in the Region). In view of the Region's young population and the major health and societal costs of obesity, diabetes and the other NCDs in adults, there is merit in restricting marketing of foods high in fat or salt or sugar for the whole of society. Adoption of the regional nutrient profile model ensures widespread application of restrictions to unhealthy foods. Only regulatory measures to restrict price promotions on high fat/sugar foods will permit complete coverage, particularly in poorer areas. Measures for monitoring and enforcement are an important challenge for the Region.	Specialist legal and media expertise is required from the beginning of the legislative process. Given the consistent Region-wide consequences of these issues, a human rights-based approach to regulation in this area should be taken, such that action is understood as necessary to promote, respect and fulfil the right to health in the Region, especially the child's right to health. The legal basis is the common obligations of those countries in the Region that are state parties to the International Covenant on Economic, Social and Cultural Rights. On this human rights understanding, the UN Guiding Principles on Business and Human Rights, and the Maastricht Principles on the Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights provide guidelines on how to deal with the complex cross-border issues involved in successfully restricting inappropriate marketing across the Region. Country-specific analyses on the demographic profile and marketing exposure of children and adolescents are needed. Technical support from the Regional Office may be needed to implement the nutrient profile model and to adapt it for various uses.	Primary costs for government implementation are modest.	There are major implications for media and other organizations dependent on the current intensive marketing of foods high in fat or salt or sugar; this requires major high-level political commitment and sustained advocacy. A preliminary study to document the extent and nature of price promotions in the Region would be helpful to build political acceptability. Prior awareness-raising campaigns to enhance public understanding of the harmful effects of current price promotions on foods high in fat or salt or sugar will probably be needed to improve the public and political acceptability of these changes.

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Priority area for action	Reach (capacity to deliver an intervention to the target population)	Technical complexity (e.g. technologies or expertise needed)	Affordability considerations	Cultural acceptability (social norms, beliefs)
Labelling: Implement or revise standards for nutrition labelling to include front-of-pack labelling for all pre-packaged foods	The reach of the programme will be very dependent on the proportion of national diet derived from pre-packaged food.	The food industry will require technical support to implement the standards.	Phased implementation (e.g. over a two-year period) to minimize the costs to industry will be important. Investment in training of staff involved in regulation and inspection of foods will be needed.	The growing acceptance of health messages and rapid expansion of access to different forms of media present an opportunity to communicate messages to accompany and explain labelling.
Breastfeeding: Implement a package of policies and interventions to promote, protect and support breastfeeding	Full capacity can be reached in politically stable contexts. (All efforts to promote protect and support breastfeeding should also be made in conflict situations.)	Legal expertise is needed to implement the International Code, the Guidance and maternity legislation. Capacity to monitor and enforce legislation is crucial. Public and private sector (employer) engagement is required to introduce maternity protection for women.	Substantial investment is required particularly for maternity protection, depending on the proportion of women working in the formal sector.	Negative attitudes to breastfeeding among young women, especially in high-income countries, need to be transformed. There is growing cultural acceptance of the need for paid maternity leave already in evidence in the Region and one country (Morocco) has ratified the relevant ILO Convention (ILO Maternity Protection Convention 2000, No 183).
Mass Media Campaign: Mass media campaigns on healthy diet and physical activity.	The extent of reach depends on the design of campaigns, which need to be targeted and adapted for different audiences.	Expert understanding of societal attitudes and communication techniques is required. Detailed evaluation and message adaptation are frequently required to sustain campaigns	Major repeated annual commitment is necessary to counter pervasive industrial marketing in the Region.	Campaigns must be culturally appropriate in order to be effective.
Health Sector Action: Harness the health sector to enable change and to provide leadership on governance and accountability	There is potential to reach future generations through counselling to prospective parents; primary-care based counselling and community-based interventions would be more targeted at high-risk groups.	The effectiveness and the cost–effectiveness of the health-service based interventions (antenatal counselling, primary-care based counselling and screening) will depend on extent and ease of access to primary care. Specific training of health professionals will also be required.	The affordability of the health-service related interventions is also related to the current state of primary care provision and health system financing.	Multisectoral coordination and accountability are heavily dependent on successfully convincing policy-makers outside the health domain that their policy areas are important for health and that this will translate to broader social and economic gains.

There is an alarming and escalating burden of overweight, obesity and diabetes in the Eastern Mediterranean Region, closely linked to changing dietary patterns. Obesity and the most common type of diabetes are largely preventable and urgent action is needed to reduce exposure to their causal factors, such as unhealthy diet and physical inactivity. This document takes into account the recommendations of several recent initiatives on the prevention of obesity and diabetes and identifies priorities for an approach to reduce exposure to unhealthy dietary risk factors. It presents an initial proposal for 10 priority areas for action, which cover 37 strategic interventions to help prevent overweight, obesity and diabetes in the whole population, including children, adolescents and adults.