



Turkish Healthy Nutrition and Active Life Programme  
2010–2014 and related initiatives

*An evaluation of progress since the WHO Ministerial  
Conference on Counteracting Obesity*





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# ABSTRACT

Dietary factors and physical inactivity undermine health and well-being in every Member State in the WHO European Region. Turkey is no exception and has been at the forefront of the fight against obesity and other diet- and physical activity-related noncommunicable diseases (NCDs) in the Region. In 2010, Turkey introduced the Healthy nutrition and active life programme in order to increase the knowledge of the population and the adoption of healthy habits to decrease the prevalence of obesity and obesity-related diseases such as diabetes. This report presents the findings of a qualitative evaluation by a team of international and national experts. It demonstrates notable achievements, opportunities for building on the achievements and suggestions for a programme and action plan for 2017–2021.

The team found that Turkey is to be commended for its national plan and the range of activities under way to prevent and control obesity and overweight. Its strengths include: investment in action to improve physical activity; emphasis on leading by example in Government agencies; work in primary care, such as obesity counselling in family practices and community health centres; development of a healthy living centres model; and some structural environmental changes, such as increasing the number of cycling paths. Some areas for improvement include: moving from projects to sustained, coordinated programmes and policies; widening the scope of policies; improving use of data and validated information for evaluation; moving beyond awareness-raising and health education; and strengthening enforcement, auditing and implementation. The evaluation team heard of many plans to continue and extend the good work in the coming years, both by health actors and relevant Government stakeholders. A lot remains to be done in Turkey – as in every other country in the WHO European Region – to tackle obesity, diet and physical activity, but, with commitment and vision, much progress could be achieved.

## KEYWORDS:

NUTRITIONAL POLICY

OBESITY - PREVENTION AND CONTROL

CHRONIC DISEASE - PREVENTION AND CONTROL

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# FOREWORD

*To combat obesity effectively and reduce the incidence of the diseases caused by obesity and lack of physical activity (cardiovascular diseases, diabetes, high blood pressure, musculoskeletal system diseases), the Government of the Republic of Turkey introduced a programme for healthy nutrition and active life in 2010. It built on Turkey's commitment to the "Istanbul Charter – the European Charter on Counteracting Obesity" and is an outcome of the European Conference on Counteracting Obesity, hosted by Turkey in 2006. The healthy nutrition and active life programme is based on evidence that better nutritional habits and a more active lifestyle are necessary to prevent and counteract obesity.*

*The WHO evaluation included a review of implementation, to be used for updating and renewing the programme. Interviews and visits were conducted by international experts and experts from the WHO Regional Office for Europe between 25 and 29 April 2016 with many stakeholders, including the Ministry of Health, the General Directorate of Health Promotion and the Public Health Institute. Interviews were conducted with representatives of the ministries of education, youth and sports, environment and urban planning, food, agriculture and livestock, labour and social security and of the Radio and Television Supreme Council, relevant nongovernmental organizations and universities. In order to observe implementation, visits were arranged to the provincial public health directorates of Ankara, Afyonkarahisar, Konya and Eskişehir and Konya Selçuklu municipalities and Eskişehir Metropolitan Municipality. The preliminary report of the evaluation was presented to the press and programme stakeholders on 29 April 2016 in Ankara.*

*Turkey is one of the first countries in the WHO European Region to request involvement of WHO in an independent, scientific, external evaluation of their national activities to combat obesity, unhealthy diets and physical inactivity. The evaluation included a situational analysis, identification of progress, including opportunities and challenges, a review of activities with other stakeholders and planning future actions.*

*We consider that the WHO assessment will take us a step further, by enabling us to build on progress to date while providing important contributions to updating our programme for combatting noncommunicable diseases and their most important risk factors: unhealthy nutrition and an inactive lifestyle. It will also increase the interest of public and private sector stakeholders in the issue.*

*We express our sincere thanks to all the institutions and stakeholders that contributed to the evaluation, which will guide our future work. We also extend our thanks to the international experts of WHO for their valuable support.*

*Public Health Institution of Turkey*

V

# EXECUTIVE SUMMARY

Diet is one of the most important determinants of health and well-being in every Member State in the WHO European Region. All forms of malnutrition, including undernutrition, micronutrient deficiencies, overweight and obesity, as well as noncommunicable diseases (NCDs) resulting from unhealthy diets, have high social and economic costs for individuals, families, communities and governments. Physical inactivity has become another leading risk factor for ill health, resulting in 1 million deaths and 8.3 million disability-adjusted life years (DALYs) lost per year in the WHO European Region. Turkey is no exception and has therefore been on the forefront of the fight against obesity and other diet- and physical activity-related NCDs in the Region. In 2010, the Government introduced the *Healthy nutrition and active life programme*. The aim of the action plan for implementing the programme is to increase the knowledge of the population and increase adoption of an adequate, balanced diet and regular physical activity in order to decrease the prevalence of obesity and obesity-related diseases such as diabetes.

As part of the bilateral collaboration between the Ministry of Health and the WHO Regional Office for Europe, a group of international and national experts undertook a qualitative evaluation of the programme in April 2016. This report presents the findings of the evaluation: identification and description of achievements in implementing the action plan and related activities, identification of opportunities for improvement that build on the achievements and information for developing programme and action plan for 2017–2021.

The evaluation team commended Turkey on its national plan and the activities under way to prevent and control obesity and overweight. Clear strengths of the action plan and programme include: investment in action to increase physical activity; the emphasis on leading by example, with Government activities to change diet and physical activity; progressive circulars on food and marketing in schools; work in primary care, such as obesity counselling in family practices and community health centres; introduction of the healthy living centres model; and some changes in the structural environment, such as increasing the number of cycling paths.

Areas for improvement include: moving from projects to sustained, coordinated programmes and policies and widening the scope of policies; validated information, including determining whether resources have been allocated as projected; prevention and promotion beyond awareness-raising and health education; and enforcement and auditing of implementation.

Four recommendations are made to assist the Ministry of Health and the Public Health Institute in prioritizing actions in the short term:

1. Take stock, using the strategies of the 2010–2014 and 2014–2017 action plans and available information to systematically document whether the activities and actions were implemented and specific progress against any targets; activities and actions that were not implemented; whether and how health inequality was considered; and whether adequate funding was available.
2. Use the objectives and priorities of the *WHO European food and nutrition action plan 2015–2020* and the *Physical activity strategy for the WHO European Region 2016–2025* to inform the structure of the next programme and action plan to control and prevent obesity. For example, broaden the scope of action to include factors that create and promote health and thus focus on food, nutrition and physical activity, with specific attention to the burden of NCDs associated with high body mass index (BMI) and insufficient physical activity.
3. Prepare an overall programme for routine surveillance, monitoring and evaluation of policy, projects, epidemiology and food environments.
4. Undertake a rapid, equity-focused health impact assessment of a detailed draft of the next programme and action plan in order to identify intended and unintended, positive and negative potential health equity impacts of the revised



approach ; agree on priorities for implementation; ensure policy coherence; and encourage ownership of the new programme and plan by the health sector, other sectors and wider society.

During the interviews and field visits in Turkey, the evaluation team heard of many plans to continue and extend the work in the coming years, by both health and other relevant Government stakeholders. A lot remains to be done in Turkey to tackle obesity, diet and physical activity – as in every other country in the European Region – but, with commitment and vision, much progress could be made.

# 1. INTRODUCTION

## 1.1 Timing of the evaluation

Turkey has been at the forefront of the fight against obesity and other diet- and physical activity-related NCDs. In 2006, Istanbul hosted the first major WHO European Region ministerial conference to discuss the challenge of obesity in the Region. Since then, Turkey has been confronted with further increases in obesity and levels of physical inactivity, resulting in one of the highest prevalences of obesity among women in the European Region. Nevertheless, Turkey is one of the countries in the Region that is prioritizing the fight against overweight and obesity and leading through innovative solutions.

The initial national nutrition and physical activity action plan, *Healthy nutrition and active life 2010–2014* (HNAL), implemented as part of the programme for obesity prevention and control (1) promulgated by a Prime Ministerial regulation, ended in 2014. The extended, updated programme for 2014–2017 is currently being implemented.

While activity under the action plan and the overall programme has continued, Turkey considered it timely to review progress to date. The bilateral collaboration between the Ministry of Health and the WHO Regional Office for Europe includes a commitment to support country evaluations and revision of its policies for obesity prevention through diet and physical activity.

## 1.2 Methods used for the evaluation

A group of international and national experts undertook a qualitative evaluation during a mission to Turkey in April 2016 (see annexes 1 and 2). This included interviewing key informants in health and other sectors (see Annex 3); visits to family health, public health and healthy living centres in four provinces (Ankara, Eskisehir, Konya and Afyonkarahisar); and analysis of the limited data available. The background materials and reports, including the HNAL and the 2013 assessment of the capacity of the Turkish health system for addressing NCDs (1, 2), were provided in advance. The group reviewed how the action plan and its activities had been implemented, its effects, for whom, how and why. The group considered not only the overall population impact but also the distribution of impact(s) according to age and sex cross-linked to socioeconomic and cultural determinants, such as level of education, wealth and urban or rural residence.

The dual focus of the evaluation was to assess the extent to which the aims and objectives of the action plan had been met and whether the action taken was consistent with international evidence, recommendations and guidance.

The limitations of the evaluation included lack of quantitative data on implementation of the HNAL and related initiatives before and during the mission, including which initiatives had been implemented, the budgetary resources allocated and actual coverage. In addition, the time available for the evaluation meant that site visits were limited to provinces close to Ankara. Therefore, it is possible that not all the recommendations are fully relevant to the whole country, as the four provinces visited might have different profiles from the others.

## 2. CONTEXT FOR ACTION

### 2.1 Obesity, dietary factors and physical activity in the WHO European Region

Diet is one of the most important determinants of health and well-being in every Member State in the WHO European Region (3). All forms of malnutrition, including undernutrition, micronutrient deficiencies, overweight and obesity, and NCDs resulting from unhealthy diets have high social and economic costs for individuals, families, communities and governments. NCDs are the leading cause of disability and death in the Region: cardiovascular disease, diabetes, cancer and respiratory diseases (the four major NCDs) together account for 77% of the burden of disease and almost 86% of premature mortality. Excess body weight, excessive consumption of energy, fats, trans fats, sugar and salt, with low consumption of vegetables, fruits and whole grains, are leading risk factors for NCDs and are priorities for action (4).

The rising prevalence of overweight and obesity in children during the past few decades presents a formidable challenge. Childhood obesity is likely to continue into adulthood and result in metabolic, musculoskeletal and cardiovascular diseases and increase the risk for cancer. According to the WHO European Childhood Obesity Surveillance Initiative (COSI), the problem affects more than one in every four children. Severe obesity in children is also on the rise, particularly in the southern and eastern parts of the Region. Overweight and obesity already affect more than 50% of the adult population in the 53 Member States. Furthermore, the Region faces a double burden of malnutrition, with countries such as Turkey observing simultaneous overweight and obesity and a stubbornly high prevalence of micronutrient deficiencies (4).

Physical inactivity has become another leading risk factor for ill health: 1 million deaths (about 10% of the total) and 8.3 million DALYs lost per year in the WHO European Region are attributable to physical inactivity. It is estimated that more than one third of adult Europeans are insufficiently active (5) and that six in every 10 people over 15 years of age in the European Union never or seldom exercise or play a sport and more than half never or seldom engage in other kinds of physical activity, such as cycling, dancing or gardening. The problem starts young: physical activity begins to decrease precipitously in adolescence, particularly among girls (6). In parallel, sedentary behaviour appear also to be increasing.

It is estimated that, if no major policy changes are introduced, the vast majority of Member States in the European Region will fail to meet some of the targets of the Global monitoring framework, notably on childhood obesity, breastfeeding, salt consumption, physical inactivity, adult obesity and diabetes. Turkey will be no exception.

### 2.2 Dietary factors, physical activity and noncommunicable diseases in Turkey

When the HNAL was introduced in September 2010, no national study had been conducted on the prevalence of obesity among children and adolescents in Turkey. Data on the growth of children aged 6–10 years were published in 2011 and updated as part of the WHO European COSI in 2013. Four large-scale studies provided information on the prevalence of obesity in adults, which was used to calculate the numbers of deaths (ischaemic heart disease, stroke, diabetes and all deaths), years of life lost, years lived with disability and DALYs for adults that could be avoided by preventing obesity (1). Box 1 provides a snapshot of the situation in Turkey at the time of the evaluation, based on data available since preparation of the HNAL.

Data on mortality and DALYs for people of all ages in 2010 and 2013 indicate that a high BMI continues to be a major risk factor for mortality from diabetes, urogenital, blood and endocrine diseases, cardiovascular diseases and neoplasms and for fewer DALYs, due to musculoskeletal disorders, diabetes, urogenital, blood and endocrine diseases, cardiovascular diseases and neoplasms (Table 1). In 2013, high BMI was the main contributor to reduced total DALYs for females of all ages, followed by dietary risks, and the third for males of all ages, the first and second being tobacco and dietary risks (9) (Annex 4).

### Box 1. Obesity, physical inactivity and diet in Turkey – a snapshot

- Overweight adults (≥ 20 years): 59.7% of men, 64% of women (2008)
- Obese adults (BMI ≥ 30 kg/m<sup>2</sup>): 21.7% of men, 34% of women (2008)
- Overweight school-aged children aged 7–8 years: 23.3% of boys, 21.6% of girls
- High BMI one of the main risk factors for mortality from NCDs among Turkish population
- Physical inactivity among people aged ≥ 15 years: 54.6% insufficiently active (48.1% of men, 61.2% of women) (2008); women had the highest level in the WHO European Region
- Double burden of malnutrition, with pockets of undernutrition and increasing overweight and obesity among children < 5 years
- Differences in obesity and overweight among women aged 15–49 years, including by urban or rural residence, level of education and wealth quintile
- Salt intake: 15 g, one of highest in the WHO European Region (2012)
- Fruit and vegetable supply: 990 g per capita per day, one of the highest in the WHO European Region (2009), but consumption is significantly lower

Sources: (7, 8, 9, 10)

**Table 1. Disease burden attribute to high BMI, 2010 and 2013, all ages**

	Deaths				DALYs			
	No.		%		No.		%	
	2010	2013	2010	2013	2010	2013	2010	2013
All	59 710	66 974	15.6	16.3	1 901 313	213 922	10.5	11.3
Men	26 664	30 050	12.6	13.3	895 590	986 445	9.3	10.1
Women	33 045	36 267	19.3	20.1	1 005 724	1 092 477	12.0	12.7

Source: (9)

The 2013 demographic and health survey in Turkey includes data on both malnutrition and overweight and obesity, which are linked to socioeconomic factors for women of reproductive age and children under 5 years. A higher percentage of children under 5 years in the lowest wealth quintile were malnourished (14.6%) than children of the same age in the highest wealth quintile (2.9%), and a higher percentage of children under 5 years in the highest wealth quintile were more than two standard deviations above the median for weight-for-height (i.e. overweight) (11.3%) than children of the same age in the lowest wealth quintile (4.6%) (8).

The findings of the 2013 COSI report for Turkey, from a survey of a nationally representative sample of 5101 children aged 7–8 years (2541 girls, 2560 boys) in 216 schools (75.5% urban, 24.5% rural) included the following:

- 23.3% of the boys and 21.6% of the girls were overweight or obese;
- 24.9% of boys in urban areas and 14.8% in rural areas were overweight or obese;
- 11.2% of boys in urban areas and 3.7% of boys in rural areas were obese;
- 23.4% of girls in urban areas and 13.6% of girls in rural areas were overweight or obese; and
- the regions with highest levels of obesity were the Eastern Black Sea (18.3%), İstanbul (12.4%), the Aegean (10.8%) and the Mediterranean (8.9%).

Differences in stunting were also seen by region, Eastern Anatolia (4.8%), the Western Black Sea (4.4%), Southeastern Anatolia (3.6%) and Central Anatolia (2.5%) having the highest levels of stunting and severe stunting (10).

The 2013 demographic and health survey showed differences between women aged 15–49 years living in urban and rural areas with respect to education and wealth quintile, with the expected social gradient for total overweight or obesity; i.e. the greater the wealth, the less total overweight or obesity. A higher percentage of women living in rural areas, with lower education and in the lowest quintile were obese, whereas a higher percentage of women living in urban areas were overweight (29.1%), and more women in the fourth wealth quintile were overweight (31.1%) than in the lowest quintile. With respect to education, 42.3% of women with no or incomplete primary education and only 12.2% of those with secondary school or high school and 13.3% of those with higher education were obese, and a higher percentage of women with primary school education were overweight (34.7%) than women with other levels or incomplete education (8).

The 2010 nutrition and health survey showed that younger age groups (9–11 and 15–18 years) ate 420–447 g/day of fresh fruit and vegetables, while older people (31–64 years) ate 537–604 g/day, just at the limit of the WHO recommendation. Sugar intake in 2010 increased with age but decreased after 50 years. After the age of 11 years, males have a higher sugar intake than females, i.e. 19 g/day for males and 14.8 g/day for females aged 15–18 years (11). These data are, however, out of date and ad-hoc studies of the marketplace identified Turkey as having the highest sugar content in certain food categories, namely soft drinks, of all the countries in the WHO European Region. While a survey of salt intake in Turkey in 2008 (with the 24-h sodium excretion method) reported consumption of 18 g/day per adult, another survey in 2012 showed a 16% decrease to 15 g/day (12, 13). Despite the positive trend, this is still three times the WHO recommended maximum daily intake, placing Turkey among the very highest consumers of salt in Europe.

### 2.3 Regional and wider policy context

Since the HNAL was introduced in 2008–2009, inspired by the WHO European Charter on Counteracting Obesity, experience has accumulated in applying and analysing the effectiveness of interventions such as food marketing restrictions, consumer-friendly front-of-pack labelling, product reformulation, price policies including taxation, active transport policies, school interventions and the impact on inequalities among population groups. This experience is reflected in Regional documents such as the *WHO European food and nutrition action plan 2015–2020* and the *Physical activity strategy for the WHO European Region 2016–2025* (4, 6). These documents widen the focus of action to creating supportive environments for healthy and nutritious diets and for physical activity to counteract the burden of NCDs associated with unhealthy diets, high BMI, insufficient activity and sedentary behaviour. The important elements of these documents and the guidance they provide to countries were taken into account in the evaluation and provided the basis for assessing the extent to which action in Turkey continues to be ambitious and in line with the best evidence.

### 2.4 Turkish policy context: the Healthy nutrition and active life programme, 2010–2014; 2014–2017

The aim of the action plan for implementing the obesity prevention and control programme (HNAL) is to increase the knowledge of the population and to encourage them to adopt an adequate, balanced diet and regular physical activity in order to decrease the prevalence of obesity and obesity-related diseases such as diabetes. The four areas for action have related aims, targets and strategies.

1. **Establishment of obesity prevention and control programme management and policy.** The aim is to ensure political will, support and resources for action in health and other sectors and conduct a situation analysis of the current prevalence of obesity and overweight by age, sex and social determinants such as region and socioeconomic development, to inform action.
2. **Actions for obesity prevention.** The aim is to inform and raise awareness in the population of what is required for an adequate and balanced diet and physical activity; use educational and workplace settings to improve uptake, including improving catering in school and workplace cafeterias and opportunities for physical activity; cooperate with the food industry to improve advertising and marketing so that consumers can make the right choices; make effective use of written and visual media to inform the public; and increase and improve public areas for physical activity, including the built environment and sports and recreation facilities.

3. **Precautions in diagnosis and treatment of obesity in health institutions.** The aim is to reorganize healthcare services, take necessary measures for obesity including surgical treatment, ensure that patients with diagnosed overweight or obesity are referred to appropriate treatment, such as counselling, in order to decrease the long-term health expenses for treating obesity and related chronic diseases and to reduce the prevalence of obesity.
4. **Monitoring and assessment.** The aim is to establish a monitoring and assessment system for the obesity prevention and control programme to ensure wide, effective coverage and uptake (1).

The 2013 country assessment of health system challenges and opportunities for scaling up core NCD interventions and services so as to maintain improvements in life expectancy in Turkey recommended policies in three areas: to accelerate action on obesity- and nutrition-related risk factors for NCDs; increase the role of family medicine in NCDs; and build the case for change and refine NCD plans (2). The Ministry of Health's strategic plan for 2013–2017 emphasizes the need for action specifically against obesity, with actions on NCDs, health literacy and social determinants. Objective 1 of the plan is to protect individual and communities from health risks and to foster healthy life styles. Objective 1.1 is to encourage health dietary habits, increase levels of physical activity and reduce obesity.

## 3. EVALUATION OF IMPLEMENTATION OF THE HEALTHY NUTRITION AND ACTIVE LIFE PROGRAMME

### 3.1 Overall context for action: policy, resources, evidence and monitoring and evaluation

Overall, Turkey is to be commended for its national plan and the range of activities under way to prevent and control obesity and overweight. Some obvious strengths of the HNAL and the programme include: investment in action to improve physical activity; the emphasis on leading by example, i.e. Government activities to change diet and physical activity, such as not having salt shakers on tables in cafeterias and organizing regular walking events for both staff and the general public; progressive introduction of circulars on food and marketing in schools; work in primary care, such as obesity counselling in family practices, community health centres and introduction of the healthy living centres model; and some changes in the structural environment, such as increasing cycling paths. Obvious areas for improvement include moving from projects to sustained, coordinated programmes and policies and widening the scope of policies; data and validated information, including determining whether resources have been allocated as projected; prevention and promotion beyond awareness-raising and health education; and enforcement and auditing of implementation.

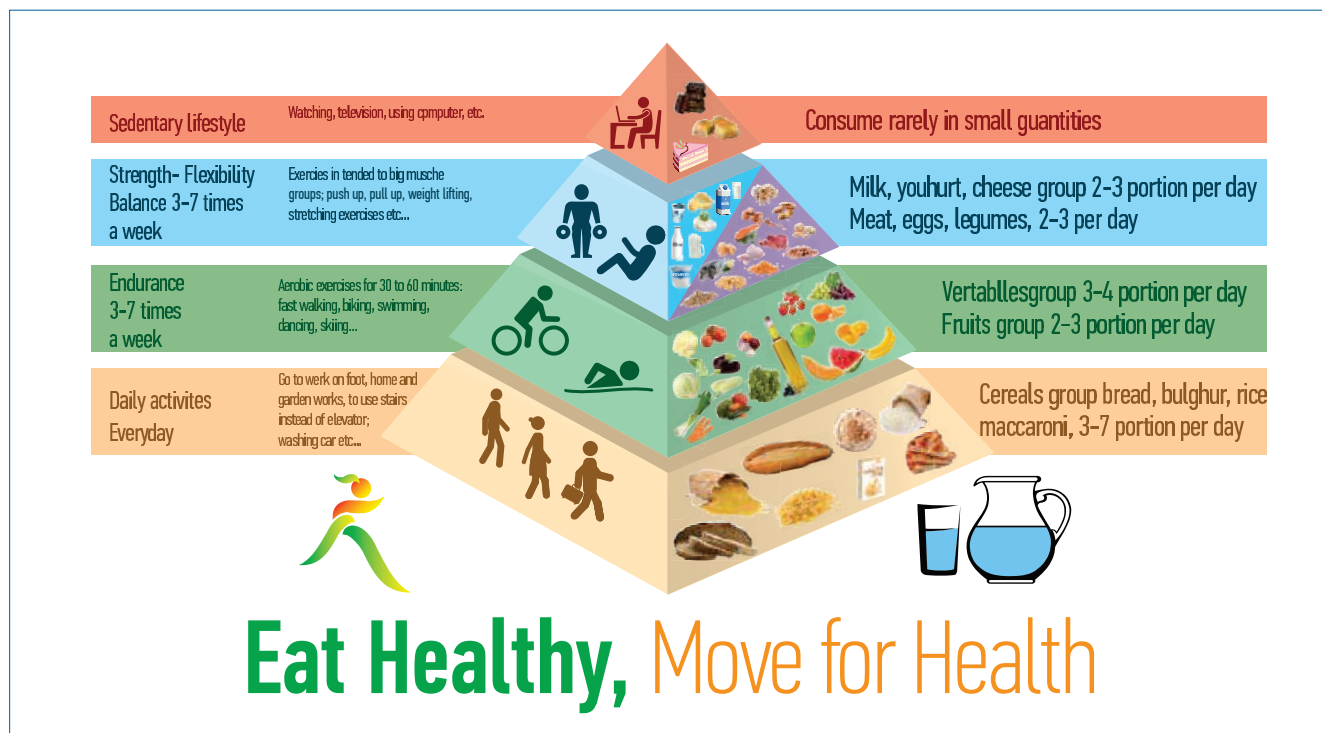
### 3.2 Areas of action: achievements and opportunities for improvement

Given the policy developments since the HNAL was introduced (see section 2.3), the team identified 22 core areas as the basis for assessing the extent to which action in Turkey continues to be ambitious and in line with the best available evidence. For each core area, the team identified the status of action, including progress and achievements, what else can be done to improve action and other relevant information. Links to the relevant sections and objectives of the HNAL are noted.

#### 3.2.1 Food-based dietary guidelines (part A.3)

*Status:* The dietary guidelines for Turkey, first introduced in 2004, were updated for the HNAL in 2015 (14), including the “healthy plate, healthy nutrition and physical activity pyramid” (Fig. 1). The guidelines are comprehensive, providing guidance consistent with the key objectives of the HNAL and specific to different life stages (e.g. pregnancy, preschool, adulthood) and population groups (e.g. workers, athletes and vegetarians). The updated pyramid emphasizes both healthy nutrition and physical activity, with the use of both text and pictures to communicate the levels of physical activity and the quantities of different food groups required.

**Fig. 1. Healthy nutrition and physical activity pyramid for Turkey**



Source: (14)

6

*Doing more, doing better:* The evaluation team identified the need for more specific guidance on issues such as physical activity (see for example section 3.2.11). It recommended that materials be tailored to different audiences (health professionals, the public and consumers) and age groups (older and younger people), with the use of different media. The 2015 guidelines provide a strong basis for developing a range of communication and education materials, and they could be used to prepare new materials on healthy nutrition and physical activity, consistent with the pyramid.

### 3.2.2 Mass-media campaigns to inform consumers about diet and physical activity (parts B.1 and B.5)

*Status:* The Directorate General for Health Promotion has produced some interesting public information “spots”, mainly on physical activity and maternal and young child nutrition; Box 2 illustrates “salt awareness”. Significant resources are being dedicated to mass-media campaigns, and social media staff are reportedly employed in the health promotion department of the Public Health Institute. Other initiatives include market surveys of the reach and awareness of the campaigns. For example, a survey in 2012 of perception of body weight found that 85.3% of participants viewed obesity as a health problem, 10.6% did not and 4.1% had no opinion. It revealed differences among participants according to where they lived (urban or rural), whether they were women and men, their age and their level of education (15).

*Doing more, doing better:* More emphasis needs to be placed on healthy diets for all age groups. In addition to promoting a healthy diet in dietary guidelines and an active lifestyle, public awareness initiatives also need to include targeted information about both foods that are nutritious (including fruit and vegetables) and those to be avoided or eaten only in moderation (e.g. sugar-sweetened beverages, processed foods high in sugar, salt and saturated or trans fats and/or low in fibre). This approach has been successful in countries such as Hungary and Mexico, where mass communication raised awareness at the time regulatory measures were being advocated and introduced (Box 3). Furthermore, evaluation of the mass awareness campaigns in Turkey needs to be extended, particularly with regard to their impact on actual health behaviours, e.g. changed cooking methods at home, and also their cost-effectiveness, relevance and differences in uptake between men and women and different population groups (see section 3.2.10 on food availability and accessibility for specific population groups). The findings of the 2012 survey on body weight perception further underline the need for better-targeted and differentiated materials and approaches to awareness-raising for different groups; more information

about the public's acceptance of different initiatives to prevent obesity; and more evaluation of the impact, both overall and in different groups.

### **Box 2. Salt awareness activities, 2013**

The following salt awareness activities were organized at national level by the Ministry of Health, the Ministry of Food, Agriculture and Livestock and Hacettepe University in collaboration with World Action on Salt and Health, leading up to World Health Day 2013 on the causes and consequences of high blood pressure:

- films on salt reduction for airing on national television;
- “Warning about salt week”, 1–7 February 2013, observed through various activities in all provinces;
- “Salt and health” Twitter chat with experts from the Ministry of Health during 11–17 March 2013; and a
- national lottery ticket with the message “Reduce salt – Maintain your health” on 9 February 2013 (12).

### *3.2.3 Consumer-friendly labelling (not specifically addressed in HNAL; part B.4)*

*Status:* The Ministry of Food, Agriculture and Livestock is preparing a new draft of food labelling legislation, which appears to be an improvement, in that nutrient declarations will be made compulsory. The regulation is expected to be largely in line with that of the European Union on the provision of food information to consumers (regulation EU 1169/2011). The Draft Regulation on Turkish Food Codex on Food Labelling and Information to Consumers stipulates declaration of foods with trans-fat content >2%.

*Doing more, doing better:* Ideally, legislation would make front-of-packaging nutrition labelling compulsory for the principal nutrients of dietary concern (salt, sugar, saturated fat, total fat and energy per 100 g or per portion). Evidence indicates that this is best done in a standardized, legible, consumer-friendly format, with interpretative elements such as colours, wording and symbols (19). The evaluation team noted that Turkey could make progress in this area.

The Ministry of Health has evidently considered various possibilities with regard to front-of-packaging labelling but appears to have come to no clear conclusion. It is recommended that the Ministry of Health propose a format for labelling to the Ministry of Food, Agriculture and Livestock that is based on experience in other countries, such as Australia, France, New Zealand and the United Kingdom (20, 21) and research on the effectiveness of different formats. Ideally the format would be present on all foods and indicate which foods are healthier and less healthy and not just signal healthier foods (as in the International Choices and the Nordic keyhole endorsement schemes) (17, 22–25). If mandatory front-of-package labelling is introduced, it will be most effective if it is supported by awareness initiatives about how to use and correctly interpret the labels, especially for population groups with lower literacy and educational attainment.

It is also recommended that the Ministry of Health reconsider whether nutrition labelling should include a declaration about trans fats. Mandatory labelling of trans-fat content (including amount) is not currently implemented in any WHO European Member State. Experience with trans-fat labelling suggests some potential concerns. Regulation EC 1169/2011 requires the listing of food-product ingredients throughout the European Union and establishes the rules for the nutrition information to be provided, such that “fully” or “partly” hydrogenated oil are included in the ingredients with the specific vegetable origin of the oil or fat. For pre-packaged foods, consumers can determine from the ingredient list whether partially hydrogenated oils have been used to manufacture them; however, the amount of trans fats present in the product cannot be assessed from this information, and trans fats do not appear in the mandatory nutrition declaration. In this situation, consumers are therefore not provided with information on the amount of trans fats in products. Furthermore, products that are permitted to be labelled “trans-fat free” may assume a “health halo”, and consumers may inadvertently increase their intake of these products in the belief that they are somehow making a healthy choice. Consumers with low health literacy are less likely to be knowledgeable about nutrition and the health risks associated with trans-fat intake, and extensive public education may be required to ensure that a labelling system is effective, particularly to avoid inadvertently

### Box 3. Lessons from the introduction of price policies in Hungary and Mexico

In 2011, the Government of Hungary introduced a public health product tax on sugar-sweetened beverages, “energy drinks”, confectionery, salted snacks, condiments, flavoured alcohol and fruit jams. The specific health objective of the tax was to promote both consumption of healthier food by individuals and product reformulation by manufacturers. The economic objective of the tax is to create a continuous revenue stream earmarked for health to help offset the health care costs of diet-related illness. In 2013, the taxes generated Ft 18.9 billion (US\$ 1.3 billion). An impact assessment of the tax in 2014 showed decreased consumption and entire removal or substantial reduction by manufacturers of the taxed ingredient(s) in their products by reformulation. The tax was also shown to influence consumer awareness and attitudes towards healthy and less healthy foods; 80% of those who consumed less of the taxed product cited the price increase as the reason. Some of the reasons for the success of the tax are its application to a relatively narrow set of food items with unequivocally negative impacts on the quality of diets and health; its introduction as one of a comprehensive set of measures to change nutrition behaviour; its place as only one component of a diversified financing strategy to raise revenues for health, resulting in neither a financial windfall nor a public health financing revolution; strong intersectoral collaboration in formulation of the tax and its application; and continuous review of the legislation after initial enactment to ensure that loopholes were identified and closed to ensure the tax’s effectiveness (16, 17).

A special tax on production and services levied on soft drinks and sugar-sweetened beverages in Mexico (MXN 1.00/L of sugar-sweetened beverage) was preceded by a major mass communication strategy carried out by civil society organizations. In 2014, collection of the duties resulted in a revenue of MXN 124 016 000 (US\$ 9 152 472). Preliminary results of a study on changes in the demand for and consumption of sugar-sweetened beverages showed an average 6% reduction in purchases in 2014 as compared with 2013, an approximately 7% increase in purchases of non-taxed beverages and no significant change to the purchase of carbonated beverages not covered by the tax (e.g. beverages sweetened with artificial sweeteners, milk and juices with no added sugars). At the time the tax was introduced, the Government launched a mass-media information campaign to promote healthy habits and introduced supplemental measures at national level. A case study of introduction of the tax indicated that its acceptance by the population was greatest when they understood that the tax is meant to improve their health and well-being. Mexico’s investment in mass-media communication before and during introduction of the tax appears to have increased its acceptability and contributed to changing demand (18).

increasing inequality. Evidence from the USA also suggests that, in order to meet labelling criteria, manufacturers are resizing rather than reformulating products labelled “trans-fat free” (26).

Perhaps of greatest concern with regard to trans fats is that mandatory labelling does not apply to unpackaged foods. Consumers of large amounts of restaurant food or foods bought from small producers or the informal sector (e.g. food stalls and independent bakeries) are likely to continue to be at high risk. Establishing a legal limit – or a virtual ban – for the content of trans fats in all foods is therefore likely to be the most effective option for decreasing the mean population intake of artificial trans fats and potentially the only option for reducing the risks of all consumers associated with trans fats. Technology solutions for the food industry and market operators for reducing trans fats exist at affordable cost and demand almost no effort from the food sector. Turkey might consider a ban on (artificial) trans fats (see section 3.2.6.).

#### 3.2.4 School nutrition policies (part B.2)

*Status:* Key informants reported a good working relationship between the education and health sectors, with strong support from both ministers. About 17% of schools in Turkey are “white flag certified”. The voluntary white flag project supports schools in promoting hygiene, preventing disease, improving public health, increasing quality of life and raising healthy generations with adequate training. School managers are trained in awareness in order to increase the number of schools certified as “white flag” by provincial and national education and public health directorates. According to the Circular on Supervision of foods for sale in school canteens and supervision of food establishments in education institutions for hygiene, committees will be set up in each school, involving parents and under the direction of school managers, to review the food policy of the school each month.



A “nutrition-friendly schools project” was launched by the Ministry of Health and the Ministry of National Education in September 2010 to promote healthy nutrition and physical activity in pre-schools, primary and secondary schools and high schools. Schools that apply to become nutrition friendly are audited and, if successful, receive a certificate, which is valid for 3 years. The aim of the project is to support good practices and improve school environments and student health. It is, however, a voluntary programme, and it requires schools to have a white flag. Uptake has been reported to be low to date. The ministries of Health and Education have undertaken training of school principals and other personnel to increase uptake of the concept.

In May 2016, a “School–health collaboration protocol” was signed between the ministries of Education and Health to ensure that all school-aged children have the best physical, mental and social health and develop in a healthy environment to increase the health of the children, their families and society. As the result of an agreement between the two ministries, a “health-friendly school project” was initiated to provide a framework for all ongoing and future programmes and projects and to create a school health model. Activities are grouped in six areas: health care, health education, family and social participation, healthy school environment, nutrition, physical activity and workers’ health. Healthy schools is a voluntary programme, which builds on previous nutrition and physical activity projects and pilot programmes such as “white flag”. Schools or individuals that achieve the ideal in all components are given a “healthy school” award or incentives.

**Fig. 2. Healthy Schools Healthy Generations guidance**



Turkey has also provided guidance to schools regarding the nutritional quality of foods, such as *Food and beverage standards in schools* (27), which gives recommendations for school managers, cafeterias, canteens, school shops, caterers and families about nutritional content and appropriate portion sizes. The guidance is general and voluntary (Fig. 2). Circular 2011/41, a statutory regulation in force, states that “energy drinks, carbonated drinks, flavoured drinks and cola drinks, fried products and fries, which are high in caloric value but low in nutritive value, may not be sold.” Compliance is monitored regularly at district and national level by commissions. In 2015, the Ministry of Education undertook awareness-raising and training on these issues, and, in September 2016, a new circular was issued that extends the list to prohibit sale of a wider range of sugar-sweetened beverages, such as juices with sugar, and also chocolate in schools. This positive development, is expected to be in full effect during the academic year 2016–2017. Some preschool and primary school courses include the topics on the importance of healthy nutrition and physical activity for health:

- Life skills, 4hours/week at 1st and 2nd grades and 3 hours/week at 3rd grade;
- Science, 3 hours/week at 3rd and 4th grades and 4 hours/week at grades 5–8;
- Health information course, 9th grade.

A school food programme was established in 2011 as part of a collaboration between the ministries of Food, Agriculture and Livestock, Education and Health. Since 2011–2012 academic year, 6 million students in pre-school, nursery school and primary school are given milk three days a week. Raisins are also distributed once a week since 2014–2015 academic year. Besides, there are regulations against marketing of unhealthy foods in schools.

*Doing more, doing better:* Significant work has been done to improve school food in Turkey and to ensure that school meals provide the best possible nutritional options. The current school food regulations could, however, be extended to include confectionery and a wider range of sugar-sweetened beverages, in line with the planned content of the September 2016 circular. The list expanded in September 2016 should include fruit juices and milk drinks with added sugar above a defined threshold. In addition, it is recommended that the Ministry of Health consider setting mandatory guidelines for all food available in schools, including food brought into or prepared in canteens (e.g. lunches or breakfasts), based on

current guidelines to ensure e.g. that vegetables are served with every meal. Furthermore, the school food scheme could be improved by diversifying the foods offered and their frequency in primary schools, in particular by providing lower-fat milk than that currently provided (i.e. down from the current 3.5% to 1.5%), providing nuts as well as raisins (as is already being considered) and including other dried and fresh fruit. Ideally, the provision of dried fruits could be accompanied by information and education and adequate oral health practice, i.e. tooth brushing, after consumption. A comprehensive school food policy might be envisaged, including school meals.

While the “nutrition-friendly schools project” is a positive initiative, low coverage was reported, and it is not clear how effective it is. In line with the overall recommendation for better collection and use of data and information about the impact (as well as processes), it is recommended that the project be evaluated, including a review of evidence on the effectiveness of similar schemes in other countries and for different socioeconomic groups, as it has been reported that frequent free schemes are of greater benefit for groups of low socioeconomic status (28, 29).

In view of the limited data on the coverage and impact of the different initiatives, it is essential that the 2010 study on nutrition, diet and physical activity be repeated in 2016 as planned and include data on school-aged children disaggregated beyond 6–9 and 11–18 years, to 6–9, 9–11, 11–13, 13–15 and 15–18 years, given the significant development between 11 and 18 years of age. At the same time, the COSI study should be integrated into routine surveillance; the results of the current round of data collection will be available shortly.

#### **Box 4. Children’s lifestyles from family statements (COSI 2013)**

Of the 7–8-year-old children surveyed:

- 84.6% eat breakfast every day;
- 74.2% do not engage in any sports;
- three of four children walk to and from school;
- 22.4% play computer games for at least 1 h/day on week days and 19.7% during the weekend; and
- 96.8% watch television on week days and 97.7% during the weekend (10 p.23).

*Other:* School-aged children (4–18 years) comprise about 22% of the population of Turkey. Educational settings are therefore important for forming, influencing and improving nutrition and physical activity habits in the population. The actual reach, coverage and impact of such programmes overall is, however, unclear, as is the impact on pre-school-aged children, those attending private schools and young people who are not attending an educational institution, particularly during adolescence. It was reported that the adolescent health programme in Turkey covers all young people aged 10–24 years (see section 3.2.14), but, in the absence of data, it is not clear which young people are being reached (see Box 4 for information about 7–8-year-olds).

As in the raisin distribution program in schools, dried fruit is an important source of nutrition but has unintended consequences for oral health, as the fruit sticks to the teeth. The provision of foods such as raisins is therefore an opportunity for a lesson on oral health. While the regulatory arrangements and public–private partnerships policy allows for sponsorship of programmes such as nutrition education by food companies, greater consideration needs to be given to the *most appropriate and effective* role for the private sector in nutrition education, including:

- what role the private sector should have in light of its potential to deliver change but also in light of its vested interests, products and messages that frequently counter the efforts of government and civil society to promote healthier diets, and in lobbying against government action; and
- how these potential opportunities and risks differ between different settings (e.g. worksite versus branded nutrition education in schools).

It is recommended that Turkey examine more evidence on the effects, effectiveness and unintended consequences of nutrition education by the private sector with respect to awareness, skills, preferences and dietary intake, consistent with WHO conclusions on engagement with non-State actors (30, 31). We also recall the WHO set of recommendations on the marketing of foods and non-alcoholic beverages to children, which include that schools and other settings in which children gather be free from all forms of marketing and promotion (32).

### 3.2.5 Salt-reduction initiatives (not specifically addressed in HNAL, potentially covered in part B.4)

*Status:* In 2008, the salt consumption in Turkey was reported to be 18 g/day per adult, while it is estimated to be 8–12 g/day in most countries in the WHO European Region; consumption in Turkey is more than three times the WHO recommended maximum daily intake of 5 g. Turkey is one of the few countries that has conducted a nationally representative study of 24-h sodium urinary excretion, the most reliable technique for estimating salt consumption. When repeated in 2012 in four provinces, the results showed a 16% decrease, to 15 g/day (12). A regulation has been passed to reduce the salt content of bread to 1.5 g/100 g, and the Government is considering reducing it to 1.25 g/100 g. In addition, the regulation has gone beyond bread to limit the salt content of pastrami, dried red pepper, tomato paste and cheese (see Box 5).

#### **Box 5. Reducing salt in food in Turkey since 2010: reported changes**

- 25% reduction of salt in bread (Turkish Food Codex, Legislation of Bread, 2012), from 2 to 1.5/100 g of dried matter
- reduction of salt in pastrami, from 8.5 g to 7 g/100 g of dried matter (Turkish Food Codex, Legislation of Meat and Meat Products, 2012)
- 22% reduction of salt in red pepper (Turkish Food Codex, Legislation of Spices, 2013), from 9 to 7 g/100 g of dried matter
- 64% reduction of salt in tomato paste (Turkish Food Codex, Legislation of Tomato Paste and Purée, 2014), from 14 to 5 g/100 g of dried matter
- 50% reduction of salt in olives (Turkish Food Codex Legislation of Olives, 2014), with the maximum level restricted to 8%)
- 35–61% reduction of salt in cheese (Turkish Food Codex, Legislation of Cheese, 2015), with a maximum of 3–7.5 g/100 g of dried matter, depending on the type of cheese (Turkish Food Codex, Legislation of Salt, 2013)
- Compulsory message on salt packages: “Reduce salt, maintain your health”

Turkey’s programme and action plan to reduce excessive salt consumption between 2011 and 2015, focused on establishing targets for the reduction of short- and long-term salt intake, devising actions to control and reduce excessive salt intake, conducting education and awareness about salt consumption and establishing a monitoring and evaluation system for all activities in the programme. The removal of salt shakers from the cafeterias and food facilities of all public institutions is an important part of the overall approach of leading by example in the HNAL programme (Circular OG 27714, 29.09.2014).

*Doing more, doing better:* Turkey is encouraged to build on progress in this area, beginning with a fully comprehensive salt reduction strategy that is adopted and supported at the highest political level. The strategy needs to be accompanied by a new action and implementation plan, given that the previous plan finished in 2015, and provide for: routine surveillance of population salt intake (including repeating the previous study); better knowledge of the salt content of foods; harnessing industry by setting progressive targets for reformulation of priority product categories to decrease their salt content progressively and provide the best products, both on the Turkish market and abroad (by legislation or formal engagement with industry, led by the Ministry of Health); continue to reduce the maximum salt limits in specific product categories by consolidated (not separate) legislation, with specific targets for salt reduction, such as a maximum of 1 g/100 g salt in bread; ensure alignment with labelling and claims legislation (e.g. that front-of-packaging labelling is seen as contributing to the aims, and claims are prohibited on high-salt foods); education and awareness-raising about salt and health, not only about discretionary addition of salt by consumers, notably in cooking at home, but also the “hidden” salt content of processed foods; and increase use of impact rather than process measures to monitor and evaluate the plan.

The previous plan placed more emphasis on awareness-raising than on reducing salt in food products. While awareness-raising is important, creating an environment that makes healthy choices easier is equally important and results in sustained change. The WHO Regional Office for Europe can provide support in setting targets, beginning with bread but extending to other product categories, to ensure maximum possible impact. At the primary care level, it is recommended that nutrition

counselling include clear advice about salt reduction. Educational initiatives involving key opinion leaders, such as famous chefs, politicians and other public figures, might also be effective.

*Other:* To strengthen action, Turkey needs to continue to use the 24-h sodium excretion method and monitor the salt content of all foods. Key informants in the food industry reported that they considered that most salt is added to food by consumers and that the issue is thus one of public awareness and education rather than of industry; they quoted figures of 30% salt from bread, 13% from processed foods and 57% added to home-cooked foods. The meat industry indicated, however, that it had successfully reduced the salt in processed meats by 16% with no decrease in sales due to a change in taste. Better data on the nutritional composition of commonly available, widely consumed foods would strengthen the already strong case for action.

### 3.2.6 *Initiatives to reduce trans and saturated fats and sugars (not addressed in HNAL, potentially covered in part B.4)*

*Status:* It was reported that trans fats are being taken out of foods, which is a step in the right direction. Both the ministries of Health and of Food, Agriculture and Livestock reported interest in a possible ban on trans fats, and the latter reported that they plan to introduce trans fats in labelling and a trans-fat free “tick”. The Turkish Food Codex Legislation on Labelling is being revised to comply with European Union regulations (EC) No. 1169/2011 and (EC) No 1924/2006, and the new drafts have provisions for trans fats. The draft of the Food Codex Legislation on Food Labelling and Information to Consumers has a provision for mandatory nutrition labelling of foods containing more than 2% trans fats and inclusion of the amount.

*Doing more, doing better:* Despite reassurances that trans fats are being removed, the evaluation team found several foods containing trans fats (on the ingredients list on packages). Analysis of foods is therefore a priority in order to understand the situation in Turkey and then propose a ban, as discussed above, which is recommended as cost-effective and most likely to minimize inequalities (27). An unintended consequence of the removal of trans fats is that they are apparently being replaced by palm oil in many foods, which is potentially the worst possible solution. Turkey needs to ensure that substitutions for trans fats in reformulated products result in the best possible fat profile. Substitution for saturated fatty acids such as palm oil is a secondary concern faced by other countries, in that it is less harmful than trans fats but does increase the risk for cardiovascular disease; however, affordable, healthier alternatives exist, with the properties required for stability and texture. The Government is encouraged to persuade food operators to use monounsaturated and polyunsaturated fatty acids wherever possible. As Turkey is a country in the Mediterranean basin, it is unusual that olive oil does not play a greater role in the food sector. Better monitoring of the composition of the food supply, particularly with regard to trans fats is urgently needed.

The ministries of Health (through its Scientific Committee), Education and of Food, Agriculture and Livestock need to work together to lower progressively the existing fat content of the milk provided under the school food scheme to < 1.5% fat. It was reported that the Scientific Committee recommended a higher-fat milk, however it is strongly recommended that this be reviewed.

A further area for action is nutrition in early life and for young children, to establish legal limits for sugar in baby and infant foods. Currently, infant foods can contain up to 30 g sugar per 100 g (33, 34). The amount could be regulated by legislation establishing maximum limits on the sugar and sodium content of foods for this age group, such as by the Turkish National Codex Committee. A similar approach is being considered by the European Union, with plans to lower the limits (35). Furthermore, marketing of foods high in salt, sugar and fats to parents could also be restricted (36).

*Other:* Another reported development is the introduction of a regulation restricting the addition of sugar to fruit juices. Further information is needed. As for salt reduction, key informants in the food industry claimed that sugar consumption does not contribute to obesity in Turkey and that soft-drink consumption is low. Although they admitted they did not know the sugar consumption profile (speculating that it was mainly from tea), they considered that sugar reduction would not make a major contribution. Further, while they were willing to address trans fats, they believed that the problem had been solved a long time ago and that no products containing trans fats are on the market (although they accept that industrial ingredients may still contain trans fats).

### 3.2.7 Breastfeeding promotion and protection policies and 3.2.8 Early nutrition (including maternal nutrition) (parts A.3 and B.1)

*Status:* In Turkey, 1150 hospitals (97.5% of all hospitals) are certified as “baby friendly”, and up to 97% of women give birth in such hospitals. The rate of initiation of breastfeeding in Turkey is high, 96% of infants being breastfed for at least some time. The 2013 demographic and health survey indicated that 58% of infants are exclusively breastfed for the first 2 months of life, but the proportion decreases rapidly with the age of the child, dropping to 10% for infants 4–5 months old (8). Pregnancy classes have been introduced as part of antenatal care in community health centres, which are supported by dietitians, and include a focus on nutrition and physical activity.

In terms of support for breastfeeding, according to Law 4857, article 74, female employees are entitled to 1.5 h/day leave for breastfeeding an infant under the age of 1 and to 16 weeks of maternity leave (8 weeks prenatal and 8 weeks postnatal). Public personnel have the same entitlement to 16 weeks’ maternity leave (Law 657), and mothers can have 3 h/day for breastfeeding for the first 6 months and 1.5 h/day for the remaining 6 months. Female public personnel or their spouse can apply and be given up to 24 months’ unpaid leave.

To ensure maternal nutrition, family physicians follow up and monitor women according to pregnancy monitoring and prenatal care protocols. The records are entered into family medicine information systems for monitoring and evaluation. Prenatal care management protocols and guidelines provide for the screening of pregnant women at risk for gestational diabetes, i.e. those whose fasting plasma glucose is 100–126 mmol/L. For pregnant women who are not at risk, the glucose screening test is performed at gestational weeks 24–28, providing for systematic screening of gestational diabetes in primary care.

*Doing more, doing better:* Action is needed to strengthen and expand the scope of existing legislation to ensure that it is fit for the current environment and to monitor compliance with the International Code on Marketing of Breastmilk Substitutes. Further, it is necessary to strongly counter the claim by the food industry that mothers do not have enough breastmilk to meet their child’s needs. The most recent report on compliance with the International Code shows that Turkey has few provisions in its law (36, 37). Efforts might be made regarding compliance with proper labelling and disclosure of information regarding the superiority of breastmilk on the package, inappropriate marketing and promotion of breastmilk substitutes by health professionals and in health care settings. Aggressive marketing of follow-on formula and so-called “growing-up milk”, use of which WHO considers unnecessary, should also be covered by legislation. These products can have a cross-promotional effect for breastmilk substitutes and can undermine exclusive breastfeeding by encouraging mothers to stop before 6 months. Representation of follow-up formula as a partial or total replacement for breast milk falls within the scope of the Code (38). These considerations should be included in national legislation for implementing the International Code. Strategies beyond awareness-raising and information are needed to keep mothers motivated to breastfeed for the first 6 months and also need to be strengthened to respond to the needs and motivations of mothers of different educational or socioeconomic backgrounds (see below). It is essential to involve primary care physicians, nurses, midwives and dietitians, who are educated accordingly and prepared to provide support to breastfeeding, not information alone.

Stronger action is required to address the gradients in education and wealth with respect to breastfeeding. For example, 40% of mothers with no education or incomplete primary schooling and 54% of women with high-school or higher education initiated breastfeeding within the first hour of birth. Similarly, breastfeeding was initiated by 41% of mothers in the lowest wealth quintile and 54% of those in the highest wealth quintile within 1 h of birth (8). More information is required about the introduction and coverage of pregnancy classes, including which women attend and their socioeconomic status. Given the urban/rural, education and wealth differences among women in antenatal care, i.e. women in urban areas have higher rates of antenatal care visits, particular attention is needed to determine whether pregnancy classes are being offered to the women most likely to benefit but the least likely to participate. The materials for pregnancy classes ought to be up to date, in line with the most recent scientific findings, and provided through a variety of media. We also recommend periodic monitoring of screening for gestational diabetes in primary care to determine whether it is universal and responds to the needs of all groups, including women of low socioeconomic status. Positive incentives might be considered.

*Other:* One reported challenge to exclusive breastfeeding up to 6 months is that infant formula manufacturers have found a way around the complete ban on advertising to and targeting of breastfeeding mothers. They promote their products by making women anxious that their baby is not receiving enough milk. This practice is common among certain companies in Turkey and should be banned.

### 3.2.9 Restrictions on food and beverage marketing (part B.5)

*Status:* Regulations on broadcasting (radio and television), including an article on food marketing to children, have been in place since 2011 (Official Gazette No. 28103). Sub-paragraph (a) of paragraph 7 of Article 9 of the Regulations on Principles and Procedures of Broadcasting Services specifically prohibits the marketing of foodstuff and beverages containing ingredients that are not recommended for excessive consumption in general diets, such as trans fats, salt or sodium and sugar, before, during and after children’s programming. The criteria for defining foods that are high in fats, salt and sugar have not yet been adopted, however, so that this regulation has not been implemented fully. It is encouraging, therefore, that the Ministry of Health and the broadcast authority have been using an adapted version of the nutrient profile model of the WHO Regional Office for Europe to support implementation of national regulation of television and radio in Turkey. This would make the list of foods for which marketing would be restricted more explicit. Sub-paragraph (b) of paragraph 7 of Article 9 of the Regulations on Principles and Procedures of Broadcasting Services, amended on 4 April 2016, further stipulates that if commercial communications about such foods and beverages are included during programmes other than children’s programmes, health promotion messages encouraging physical activity and healthy diet should be shown in a banner on the lower part of the screen, that are easily readable. The broadcast authority confirmed that they both actively monitor such marketing and respond to complaints.

*Doing more, doing better:* The action taken to date by the Supreme Council provides a foundation, which could be reinforced by making the list of restricted foods more explicit and thereby placing Turkey among the leading countries in the WHO European Region. The marketing restrictions could be extended to cover all media (non-broadcast as well), in order to reflect the changing communications environment, in which marketing is more widely integrated across platforms (television, Internet) and children are increasingly using personal devices to access the Internet. Such restrictions would also reflect international initiatives to regulate the media and to ensure that marketing communication is technology neutral, i.e. that the same protection applies both online and offline. The initiative could be pursued by the body responsible for all communications, the Communications High Council, and not by the broadcast authorities alone. Furthermore, it is also necessary to ensure that children and children’s programming are clearly and well defined in any legislation, including the forthcoming rules from the Supreme Council for television and radio, including, for example, the age of the children to which the regulation applies and marketing “targeted at” or “of appeal to” children. A specific mechanism for monitoring food marketing to children needs to be established. It is recommended that Turkey further develop methods for monitoring compliance and action on marketing restrictions.

*Other:* Key informants reported that the Supreme Council and the Ministry of Health reviewed existing legislation on food marketing and proposed several options to the Radio and Television Supreme Council, which is reviewing them and will make a decision. These include foods for which marketing would never be permitted (even to adults), those for which marketing will be restricted to children (to be defined) and foods that will be permitted. The main adaptation of the Regional Office nutrient profile model appears to be to the dairy category, to allow full-fat milk.

### 3.2.10 Fiscal measures (not addressed in HNAL)

*Status:* It is a positive development that the ministries both of Health and of Food, Agriculture and Livestock are open to the idea of a tax on foods high in fats, salt and sugars.

*Doing more, doing better:* These ministries could further advance the case for a tax on foods high in fats, salt and sugars and prepare a suitable proposal for the Ministry of Finance, drawing on recent experience, evidence and lessons learnt from other countries, such as Denmark, France and Hungary in introducing this measure (17). Consideration could be given initially to a tax on sugar-sweetened beverages, based on evidence about the links to childhood obesity and the greater effectiveness of interventions such as price in decreasing inequalities in healthy eating in the population. A systematic review of socioeconomic inequalities in the impact of healthy eating interventions showed that “price” interventions were

the most effective among groups of lower socioeconomic position and may have greater potential to reduce inequalities. All interventions in which taxes and subsidies were combined decreased inequalities (39). Until recently, countries had not widely adopted price policies to ensure healthy eating, and new proposals often faced significant opposition from stakeholders. Recently, however, several countries in the Region have introduced price policies to influence consumers' purchases and dietary intake (17). The experience of Hungary, other European countries (e.g. Finland and France) and Mexico with price policies provide initial lessons for increasing the acceptability and uptake of fiscal measures by both policy-makers and populations (17, 18).

Subsidies on or free provision of fruit and vegetables and other foods provide an important complement. An evaluation of the European Union scheme in 2012 showed that it had increased children's overall consumption of fruit and vegetables in the short term. The factors for success included ensuring a wide range of fruit and vegetables to maintain children's interest, providing them three times a week, the continuity of provision and free distribution (17, 29). Consideration might be given to extending the existing school food schemes in Turkey to include fresh fruit and vegetables, in addition to nuts. This would be an opportunity for collaboration among different Government stakeholders, such as the agricultural, health and education sectors.

*Other:* Member States in the Region committed themselves in the Vienna Declaration and the *European food and nutrition action plan 2015–2020* to advancing food policy for the prevention of obesity and diet-related NCDs. These documents recognize that tackling the burden of diet-related disease will require food policy interventions that address wider structural and environmental determinants of obesity, such as food prices. Thus, price policies to address affordability and purchasing incentives for different foods are seen as a key policy tool (17). Increasingly, fiscal measures are an important part of a balanced portfolio of actions for promoting a healthy diet and physical activity. Price and policy interventions that address structural factors are potentially more effective because they are more likely to reach a wider range of groups in the population and less likely to widen inequalities than individual or personal interventions (39).

### 3.2.11 Accessibility of healthy food (cost, access to outlets with quality produce) (not addressed in HNAL)

*Status:* Turkey is a major producer of fruit, vegetables and nuts. It was also reported in some of the provinces visited that access to land for household gardens was not a problem.

*Doing more, doing better:* It would be important to establish whether there are any barriers to access to healthy food in different regions or for specific population groups in Turkey. A survey could be conducted of food accessibility in a representative sample of provinces and districts, with mapping of access to sources of healthy foods, the location of fast-food providers and the absolute and relative costs of healthy foods.

*Other:* The *WHO European food and nutrition action plan 2015–2020* recognizes that adoption of a nutritious diet is in part enabled and supported by the determinants of food and nutrition security – sustainable, adequate supplies; hygienic, consistent quality; widespread availability, affordability and accessibility – and also by determinants of consumer choice and consumption patterns. While food availability appears to be positive (i.e. total amount, food groups), less is known about the accessibility of healthy food throughout Turkey and among different population groups due to their socioeconomic circumstances, including place of residence. Access to healthy foods includes consideration of factors such as cost, the location of suppliers relative to housing and other food suppliers and the quality of the foods, i.e. their freshness and appearance. This involves examining data on differences between regions and social groups, e.g. by wealth quintile. For example, the available TurkStat data show that monthly household expenditure on food and non-alcoholic beverages in 2013 was 17.8% of total income in urban areas and 27.2% in rural areas, and differences between the lowest and highest wealth quintiles were found within urban and rural areas. For those in different wealth quintiles, in 2013, the monthly expenditure of households in urban areas on food and non-alcoholic beverages was 24.6% of total income in quintile 1 (lowest) and 13.2% in quintile 5 (highest) (40).

### 3.2.12 Physical activity guidelines and policy (part A.3)



*Status:* Turkey introduced physical activity guidelines in 2014 to raise population awareness, guide specialists working in this area, elicit suggestions about physical activity and increase the levels. The guidelines describe physical activity for different age groups and also for people with auditory, visual, physical or intellectual disability. A national sports policy was also introduced, in which the ministries of Education, Health and the Environment are responsible for specific components. The Ministry of Youth and Sports, established in 2011, is the central Government authority for young people and monitors all services for this group except formal education. It organizes a

wide range of activities, youth centres and camps, an annual youth week and studies on young people and seeks to develop mechanisms for the participation of young people in all areas of social life (Box 6). The national youth and sports policy defines sports as “all kinds of physical activity performed in an organized or an unplanned way to protect and develop physical and mental health, to establish social relations, to have fun and a good time or to win a competition.” The ministries of Health, Education and Environment contribute to implementation of the policy by collaborating for example in training of physical education teachers in schools and promoting school sports. Government facilities are free of charge.

#### **Box 6. Youth camps and youth centres**

The Ministry of Youth and Sports has two free programmes: youth camps, with a reported 56 000 participants and the aim of reaching 80 000, and youth centres, of which there are currently 223 with the aim of reaching 1 million. Sports are practised in youth camps, and sports facilities are being built in the youth centres, the aim being to increase awareness about the relation of physical activity to NCDs. Gender parity is reported to be about 50:50. About 25% of participants aged 12–22 years in the camps come from low-income groups, and there are quotas for people with a disabilities, those with a criminal record, the children of veterans and high-performing students. Nutrition guidelines prepared by the Ministry of Health are strictly adhered to at the camps and youth centres.

*Doing more, doing better:* In any revision of the physical activity guidelines, it is recommended that consideration be given to preparing a range of materials for different audiences, from the general population to health and physical activity professionals, with more technical information included when required. More specific guidance is needed on the recommended 150 min of health-enhancing physical

activity per week, i.e. the actual intensity required to enhance health in different age groups, in males and females and for different health statuses. For example, materials for the general population could include recommendations for signs that indicate that they are doing physical activity at the appropriate level, e.g. slight breathlessness; strength training could be emphasized, particularly for women and older people living in the community. The overall message needs to emphasize that health-enhancing physical activity is more than sport. The guidelines also need to better specify which professionals in primary care are mainly responsible for guidance on physical activity. To ensure implementation of the revised guidelines, all stakeholders, including personnel in the Ministry of Health, will need adequate education or training about the recommendations for health-enhancing physical activity. It is recommended that a range of guidance, materials and tools also be prepared for different audiences (health professionals, various age groups) for dissemination, implementation and monitoring. For example, primary health care materials such as the nutrition and physical activity guidelines for family health nurses (see Annex 5) clearly distinguish the different intensities of physical activity, and this type of information could be included in the guidelines being developed for professionals later in 2016.

The current collaboration between the Ministry of Health and the Ministry of Youth and Sports provides a good foundation for increasing physical activity in the population, particularly by young people through sports camps and community centres. Health-enhancing physical activity, beyond sports, should stress participation and inclusion in order to increase physical activity by all groups, for instance by working with sports federations. The Ministry of Health should evaluate its investment in bicycles and distribution of pedometers to determine their coverage, the reported health impact (including changed health behaviour) and cost–effectiveness.



### 3.2.13 Promoting physical activity and active travel and 3.2.14 “Cyclability” and “walkability” of the built environment (part B.6)

*Status:* The bicycle distribution programme (1 million bicycles are being distributed over 3 years) and the cycling path development scheme are positive developments, raising awareness about the importance of changing the environment for active travel and a culture of physical activity. This is one of the first such schemes globally. It is encouraging that it is being extended from schools to universities and workplaces in projects such as “Active campus” initiated by Hacettepe University.



*Doing more, doing better:* The bicycle distribution programme should be evaluated for its impacts in all age groups, including positive and negative impacts, intended and unintended consequences, such as increased injuries, and the expected outcomes and evidence base of the programme. Turkey could draw on regular reporting on other bicycle distribution programmes, including Boston Bikes (41, 42) and the use of bicycles for education empowerment in rural Zambia (43). While the bicycle distribution programme is an important initiative, the reported reduction in use during winter, when the roads are icy, indicates that increased, accelerated action is required also to improve the built environment to promote other forms of active transport. Other issues that affect active transport therefore need to be addressed, such as the availability and accessibility of public transport (cost, timetables, routes, safety, more female transport workers), physical accessibility (e.g. evenly paved paths, proper pedestrian crossings) and public transport itself (e.g. wheelchair-accessible buses) and stations and stops (e.g. escalators or lifts to trains for mothers with prams). Safe walking routes should be assured for accessing workplaces, communities and homes between transport stops, such as well-lit, clean, safe underpasses.

*Other:* Many bicycle distribution programmes are under way globally, and Turkey might review evaluation and monitoring reports from such programmes to identify lessons learnt, particularly unintended positive and negative health impacts.

### 3.2.15 Physical education classes in schools (including facilities) (parts B.2 and B.6)

*Status:* The frequency of physical activity in the first three grades of primary school is positive, with 5 h of games and physical activity per week, while children from the fourth grade of primary school on have 2 h per week, through to secondary school, where there is an option for an additional 2–4 h as part of elective arts, field sports and physical activity classes. In high school, there are 1–2 h of physical education per week with the option of an additional 1–2 h as part of elective classes. The system of youth centres and camps with a focus on sports is an important initiative for increasing physical activity among young people (see section 3.2.12). As part of the ongoing initiative “Gaining the habit of regular physical activity in the community”, the Ministry of Education has developed a “fitnessgram” system in the e-school system, whereby it is planned for physical activity teachers to record each child’s BMI at the beginning and end of the school year. This system can then be used by parents to monitor their child’s physical activity.

*Doing more, doing better:* The frequency of physical activity from the fourth grade of primary school and throughout secondary and high-school needs to be increased. While students in secondary and high schools have the option of an extra 2–4 h/week, the levels of compulsory physical education and sports are still below the recommended 150 min/week. Furthermore, the options in high school are for arts, field sports, physical activities and social activities. Overall physical activity decreases dramatically for both girls and boys in adolescence. Fig. 3 shows the numbers of children aged 11–15 years who reported moderate-to-vigorous physical activity for at least 1 h/day. The decrease in physical activity starts at a younger age for girls, from an already lower level, with a much steeper decrease (44). From a life-course perspective, early adolescence is a critical stage for intervention, by providing increased and better opportunities for physical education and physical activity in order to reverse this trend. This include assessing and addressing gender norms and stereotypes, which may act as barriers to participation by adolescent girls and young women. To improve knowledge for action, it is recommended that the Ministry of Youth and Sports with the ministries for Health and Family and Social Policy (Status of Women Branch) and other relevant ministries undertake a review with a gender focus to identify how gender norms and stereotypes affect the participation of adolescent girls and boys in physical activity. In addition, the 5 h/week of physical activity in primary schools up to grade 4 needs to be consistent with the guidelines for physical activity in terms of intensity and actual physical activity as opposed to games.

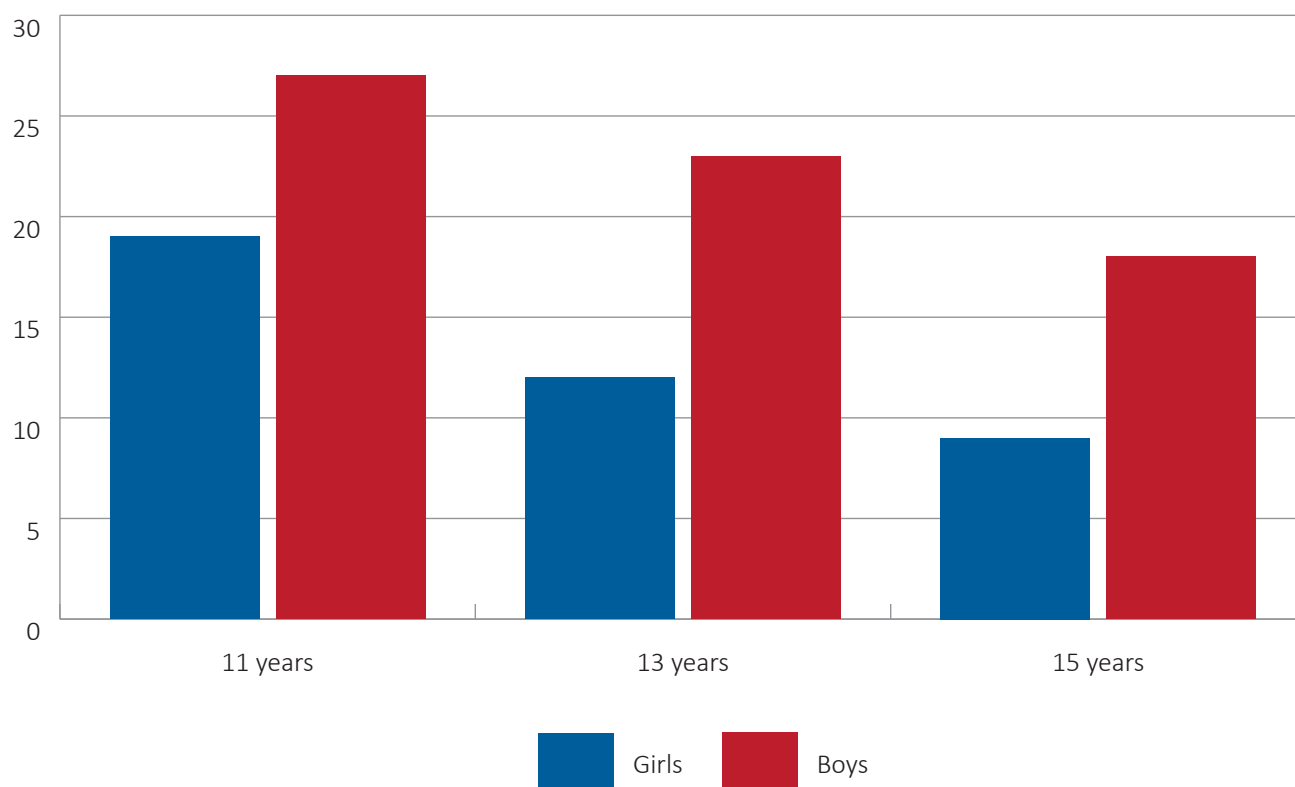
For all levels of schooling from 4 to 18 years, greater attention is needed to ensure that school facilities are appropriate for physical activity, in all weather. In terms of availability of sports facilities, 4.2% of primary schools (6–14 years), 33.6% of secondary schools, 19.5% of facilities for students with disabilities and 42.6% of private schools have sports halls. Of the 59 043 schools in Turkey, just under 13% have sports halls. Better data are required on: (i) the distribution of physical activity facilities in schools across Turkey, including the proportion of schools that have suitable facilities (including appropriate changing rooms, particularly for girls), their location and plans for improvement; (ii) access to municipal and youth centres and camps; and (iii) the levels of physical activity in the school-aged population, particularly during adolescence, i.e. 9–11, 11–13 and 13–15 years.

### 3.2.16 Nutrition, physical activity and obesity in primary health care and 3.2.17 Care pathways for the management of overweight and obesity in adults and children (parts B.1, B.3 and C)

*Status:* Much investment and effort has been made in strengthening the health system to address overweight and obesity in primary care, including a greater orientation to prevention of NCDs and related risk factors rather than treatment alone. This is reflected in the extensive investment in 970 public health centres and 19 healthy living centres and training of health professionals with the train-the-trainer approach. It was reported that some provinces plan to make detailed studies of the results of this exercise and their obesity counselling programme on the basis of clinical guidance (see annexes 5 and 6). The plan to reduce the number of patients per family physician so as to increase the time they can spend per patient is a positive development. The reported development of an integrated information system could improve monitoring of the uptake and impact of nutrition, physical activity and obesity initiatives in primary care. An elective unit on NCDs for second- and third-year students in nursing, dentistry and medicine at Hacettepe University is being pilot-tested, in which each discipline is provided with relevant technical knowledge about NCDs and all learn how to work as a multidisciplinary team.

*Doing more, doing better:* Evaluation of this innovative service delivery model is a priority in order to establish its cost, reach, benefits and cost-effectiveness for different groups, especially given the current level of investment. We were unable to obtain a national overview of the implementation and coverage of different primary health care initiatives, nor information about who is receiving counselling for overweight and obesity and who is benefiting from the programme and who is not; for example, the high prevalence of obesity among women aged 15–49 years living in rural areas or in the lowest wealth quintile (8) suggests that they would benefit from such services. Whether this is indeed the case was not clear to the evaluators. It was reported that this information is available and that the programmes in different provinces are effective; however, the data needs to be used and incorporated as part of any evaluation. This will assist Turkey in translating the gains in primary care to date, to NCD prevention and control at the primary care level, emphasizing primary care as the first point of entry into the health system. Furthermore, it includes strengthening gatekeeping, incentives and empowering primary care practitioners, e.g. with changed prescribing rights, and making better use of the health information system.

**Fig. 3. Numbers of girls and boys aged 11–15 years who reported at least 1 h of moderate-to-vigorous exercise daily**



Source: (44)

Greater involvement of people, patients and communities in decisions about the current approach to nutrition, physical activity and obesity in primary health care is recommended (45, 46). This includes looking at how to provide programmes that promote healthy nutrition and physical activity to people in community settings other than workplaces, schools and health facilities, in order to reach people before they acquire the risk factors for overweight, obesity and NCDs, with methods such as community walking groups for women. Greater investment is therefore needed in mapping community needs and interests and in involving them in this process from the start.

Turkey could explore ways to implement policies to ensure that physical activity screening and counselling are part of NCD screening in routine practice. Continuing to establish multi-disciplinary teams in primary health care centres is critical, as family physicians will benefit from such teams. Education and professional development initiatives for multi-disciplinary work, such as that reported by Hacettepe University, could be built on or extended. All health workers who are in contact with patients need the skills, knowledge and confidence to provide advice about physical activity and basic nutrition. The issue of reimbursement for prescribing diet and physical activity needs to be resolved so that it becomes normal practice.

*Other:* Health education and promotion, regulation, fiscal measures and individual counselling in primary care are effective in improving health and increasing longevity. An analysis by the Organization for Economic Co-operation and Development on the economics of preventing obesity (47) showed that interventions in primary care can result in larger health gains than other interventions and are cost-effective, but only in countries in which large sectors of the population have regular access to doctors and facilities. It was also reported that fiscal measures are the only intervention that consistently provides health gains for more disadvantaged groups in the population (47, 48). A more recent systematic review of socioeconomic inequalities in the impact of healthy eating interventions found that individual information and education interventions, such as tailored nutritional education and counselling, has a greater impact for people with a higher socioeconomic position and that all four dietary interventions appeared likely to widen inequalities (39). For example, the finding of a higher percentage of obese women in rural areas and in the lowest socioeconomic quintile might indicate that women in a higher socioeconomic position receive primary prevention and care much earlier than those with a lower socioeconomic position – the “inverse care law” (49).

In the planned evaluation, Turkey could determine which population groups are benefiting from obesity counselling offered in primary care and undertake a more detailed analysis, e.g. in focus groups or by interviews with key informants in the population, to determine which groups do not participate in primary prevention initiatives at an early stage and why. It is also suggested that Turkey explore investing in prevention programmes in communities, in addition to health centres, workplaces and schools (see also section 3.2.18). Thus, the settings for delivering primary prevention could be diversified, so that people are not required to attend primary care for a diagnosis of overweight or obesity. This action might improve the effectiveness of Turkey's investment in individual counselling for obesity and overweight.

### 3.2.18 Nutrition and physical activity in the workplace (part B.3)

*Status:* The change of focus from compensation to prevention and promotion in occupational health services is worthwhile. Efforts have been made to build the capacity of occupational health professionals in nutrition and physical activity and to establish links to primary health care. Examples of initiatives for improving nutrition and physical activity in the workplace were reported to include a 2-day training programme for workplace physicians in 2015 in the prevention of NCDs and their risk factors, such as insufficient physical activity, poor nutrition, addiction and workplace diseases; and a “workplace healthy lifestyles programme” in the Ministry of Labour with support from the Hacettepe University Public Health Institute, which promotes healthy behaviour through health education and information. These are positive developments, given the amount of time most adults spend in the workplace. An initial survey provided baseline data, and a second data set has since been collected. The emphasis on “leading by example” in Government institutions is another positive initiative. Key informants reported walks and physical activity events organized by the Ministry of Health that were designed for staff and also open to the public.

*Doing more, doing better:* The workplace is a crucial setting for interventions, as most adults spend a significant portion of their day at work. It is recommended that the existing occupational health and safety policy be reviewed to include promotion of healthy behaviour, in compliance with the preventive health component of the ILO Convention (50). More support could be given to workplace physicians and other professionals to increase prevention of both occupational risks and NCDs and apply health promotion practices. Turkey is strongly encouraged to evaluate both its workplace physician training program and the “workplace healthy lifestyles” programme of the Ministry of Labour and Social Protection within the next 12 months. It is understood that data from the latter programme will become available to evaluate its impact. It is recommended that sex- and age-disaggregated data be used in the evaluation, linked to any information on the characteristics of the participants, including occupational role or category, level of education and type of contract. Similar information about workers who are not participating in the programme also needs to be included.

Further workplace initiatives need to be based on an evaluation of the impact and effectiveness of existing initiatives, beyond providing health education and information to workers. For example, the European Network for Workplace Health Promotion (51) includes criteria for the quality of promotion activities and models of good practice for public and private institutions in various countries, and it encourages greater involvement of workers in the design and implementation of such initiatives. Consideration could be given to ways in which workplaces can be made conducive to not only reducing behavioural risk but also increasing active health-promoting behaviour, such as good nutrition (guidelines on the foods to be made available), physical activity (facilities) and mental health promotion.

*Other:* Studies of physical activity in certain occupations (taxi drivers, public servants and engineers) were reported, but the results had either not been published (taxi drivers) or the data had not yet been analysed. Information was also not available on workplace interventions in the informal sector, a group that may not be reached. As a result, existing workplace programmes may inadvertently increase inequality. Turkey had the lowest rate of participation in the labour market by women aged ≥ 15 years in the WHO European Region in 2013: 29.4%, as compared with 70.8% of men in the same age group (52). Adult women are therefore unlikely to be reached in formal workplace interventions, and current action to reduce obesity and overweight may widen the existing gender inequality, albeit unintentionally. More investment is needed in programmes delivered in the community, in addition to primary health care centres, beyond population awareness and education initiatives. For example, health promotion programmes could be implemented in community groups and buildings in which women meet regularly. It is important that primary prevention of risk factors does not depend on women using primary care, and collaboration with municipalities is necessary to better reach all women.

### 3.2.19 Population-based responses to micronutrient deficiencies (part B.2)

*Status:* Fortification initiatives are in place, with good reported coverage.

*Doing more, doing better:* Evaluation and monitoring of fortification initiatives could be strengthened, particularly those for adding iron and iodine, to determine whether the initiatives are reaching the groups that are most vulnerable to micronutrient deficiencies and their effectiveness. For example, in Turkey, the percentage of children under 5 years who are malnourished is higher in the lowest wealth quintile (14.6%) than in the highest quintile (2.9%) (8). To complement the fortification policies, the Government could provide guidance to health professionals and the public about healthy, nutritionally complete diets and good dietary sources of essential micronutrients (e.g. vegetables, fruit). The Ministry of Health and the Scientific Committee for Mandatory Fortification of milk and flour have provided guidance in an official report to the Ministry of Food, Agriculture and Livestock.

### 3.2.20 Cross-sectoral leadership and coordination (parts A.1 and A.2)

*Status:* Key informants reported good working relationships with other ministries, including those of Food, Agriculture and Livestock and Education. The department responsible for controlling obesity shows apparent leadership, ownership and willingness to engage and motivate other sectors. Intersectoral collaboration appears to be effective, with e.g. the higher authority for radio and television. Collaboration, communication, uptake and awareness also appear to be strong among provinces.

*Doing more, doing better:* It is recommended that Turkey establish a formal coordination mechanism at undersecretary level, as a minimum. Multi-sectoral work on drug dependence with provincial representation is one model. Turkey is encouraged to develop mechanisms for involving private sector stakeholders with strong accountability, clear objectives and benchmarks. More specific indicators need to be elaborated for assessing processes, such as the degree of intersectoral collaboration and shared budgeting, with minimum standards for e.g. the timeliness of inputs to intersectoral proposals and representativeness.

### 3.2.21 Policy coherence (not included in HNAL)

*Status:* Key informants outside the health sector were well aware of the HNAL and reported a shared commitment to reducing obesity and overweight in Turkey. Within the health system, other plans, such as lowering salt consumption, are aligned and consistent with the HNAL.

*Doing more, doing better:* Some plans and initiatives appear to cross over and potentially duplicate effort, including for monitoring and reporting. In view of wider regional and global policy developments, it might be timely to expand the focus of the HNAL approach to a policy on food, nutrition and physical activity, with obesity and overweight as a top priority. Obesity and overweight would thus be part of an action plan within a wider strategy. Such an approach needs to place greater emphasis on policies that enable structural and environmental changes to support and sustain healthier choices and behaviour, such as improvement of the environment for walking and other active transport and physical activity and improvement of the nutritional quality of available foods (e.g. salt and trans-fat content).

Discussions with key informants at the Ministry of Education indicated lack of policy coherence, whereby projects on healthy nutrition are funded or sponsored by food companies, in compliance with Government policy for public-private partnerships. As indicated in section 3.2.4, it is strongly recommended that Turkey examine the appropriateness of partnerships with the food industry to determine the most appropriate and effective role for the private sector, particularly in delivering nutrition education, and prepare clearer guidance for all Government and related institutions, so as not to undermine the current gains.

*Other:* Health impact assessment is used to identify the potential intended and unintended positive and negative impacts of a policy proposal. Turkey could consider using a formal coordinating mechanism to review policy proposals from relevant ministries (including Food, Agriculture and Livestock, Education, Environment, Family and Social Policy, Labour and Social Protection, Finance and Treasury) that might have positive or negative impacts on actions and policies to tackle NCDs and

their risk factors. A rapid health impact assessment of such proposals could be undertaken to identify both impacts and any inconsistencies with NCD policy and practice.

### 3.2.22 *Monitoring and surveillance for nutrition, physical activity and obesity (parts A.3 and D)*

*Status:* Turkey is part of the COSI and is planning to join the WHO STEPwise approach to Surveillance (STEPS) through its national health survey (53). It has also participated in data collection for the Health Behaviour in School-aged Children surveys (44) and plans to continue collaboration.

*Doing more, doing better:* The review team recommended improved monitoring and surveillance on nutrition, physical activity and obesity in virtually all the areas described above. It was reported that data is available but it does not appear to be being used. For example, the primary care sites visited reported that their obesity counselling initiatives were effective but that they had not made use of the data collected at the time of the team's visit. Both the HNAL and related plans, such as that for lowering salt consumption, include process rather than impact indicators. Furthermore, the targets are often nonspecific, such as the number of meetings held. It is critical that Turkey now prepare a roadmap for routine surveillance for nutrition, physical activity and obesity, including food and the built environment, including a survey of 24-h urinary sodium excretion, validated measures of physical activity, the improved available data from food composition and dietary surveys, particularly the new national nutrition survey. The evaluation team were informed that plans have been drawn up for routine surveillance of childhood obesity (through COSI) every 3 years and a national nutrition survey every 5 years.

Greater investment is also needed to build a culture of project evaluation, using various methods. This is essential to ensuring that new plans and strategies can be informed by a robust analysis of policy options and evidence on the major diseases and risk factors. This recommendation is consistent with recommendation 5.5 of the 2013 country assessment of health systems strengthening for better NCD outcomes in Turkey (2).

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It is recommended that impact (coverage, changed behaviour, changed risk factors and prevalence) be monitored and evaluated from sex- and age-disaggregated data linked to one or more of the following social determinants: urban or rural residence, level of education and or wealth quintile. This information is available on the TurkStat website and from the demographic household surveys. Cross-linking of sex- and age-disaggregated data with the social determinants will provide more specific indications of the population groups that are benefiting or being missed, providing a basis for improving policies and programmes. This recommendation builds on recommendation 5.4 of the 2013 country assessment of health systems strengthening for better NCD outcomes (2). Data from the 2013 demographic household survey on women aged 15–49 years, however, show large differences, which require further analysis to determine whether primary prevention is reaching women in rural areas and in the lowest wealth quintile soon enough. If they are not, higher percentages of women in these groups may become obese, potentially widening inequality because of greater uptake, coverage and impact among women in urban areas and higher wealth quintiles. This survey however, provides data only on infants, young children and women of reproductive age, resulting in lack of data on adolescents, older people and adult males, which are necessary to establish whether and how the effectiveness of interventions is affected by socioeconomic factors such as place of residence, education or wealth.

*Other:* The lack of published data and information about the implementation and impact of many initiatives and lack of data and information about the rationale for selecting certain activities for the HNAL programme made it difficult to evaluate the programme systematically and to verify progress and challenges. The current HNAL action plan includes information on process, e.g. the numbers of meetings held and projects established, rather than impacts and differences from baseline. While it is always difficult to attribute change to a specific policy or programme directly, it is even more difficult when there are limited data or measurements of impact. For example, the effectiveness of physical activity initiatives for adolescents cannot be evaluated in the absence of updated data on the levels of physical activity among young people. Furthermore, if data are not available or are not used, policies and programmes that have unintended negative impacts are not identified, which could result in e.g. a shift in consumption to undesirable substitutes, such as fruit juices with added sugar.

## 4. OVERALL RECOMMENDATIONS

During its brief mission and document review, the evaluation team recognized that Turkey had invested significantly to achieve the overall aim of the HNAL of increasing population knowledge and adoption of healthy habits (an adequate, balanced diet and regular physical activity) to decrease the prevalence of obesity and obesity-related diseases such as diabetes. For this, Turkey should be congratulated. Section 3.2 lists specific recommendations for building on the gains and strengthening action, including addressing gaps, in the next programme and plan. As that list is detailed, four overall recommendations are made for implementation of the findings of this evaluation by the Ministry of Health and the Public Health Institute in the next 12–15 months.

1. It is recommended that the Public Health Institute take stock, using the strategies of the 2010–2014 action plan and the available information, and systematically document:
  - whether the activities and actions were implemented and specific progress against targets;
  - activities and actions that were not implemented, including information on why and to identify the planned next steps on the basis of the assessment of possible obstacles in the 2010–2014 action plan;
  - whether and how health inequalities were considered; and
  - whether adequate funding was available.

It is recommended that each aim in the four parts of the plan be assessed (e.g. B.1. To inform and raise awareness in society about obesity, an adequate, balanced diet and physical activity), with the following or a similar scoring system: (1) no success, (2) limited success, (3) moderate success (measures reached > 50% of the target population), (4) successful (measures being implemented in all provinces and reaching > 50% of the target population) and (5) very successful (sustained, full implementation for all social groups in the population). It needs to be noted that some areas may show no success because a detailed situational analysis after the start of implementation showed that the action or activity was not needed.

A suggested template for taking stock is provided in Annex 7. The purpose of stock-taking is to obtain a documented, detailed baseline or situational analysis to inform development of the next programme or action plan. This could be undertaken reasonably rapidly, as a largely desk-based analysis of the information collated for this qualitative evaluation. The results might encourage primary care facilities to use their existing data to evaluate their obesity counselling services.

2. It is recommended that the Public Health Institute use the objectives and priorities of the *WHO European food and nutrition action plan 2015–2020* and the *Physical activity strategy for the WHO European Region 2016–2025* as a basis for the next programme and action plan for obesity control and prevention. The findings of this qualitative evaluation indicate the importance of broadening the scope of action to include the factors that create and promote health and so to focus on food, nutrition and physical activity with specific attention to the burden of NCDs associated with high BMI and insufficient physical activity, rather than just obesity and overweight. It would be logical, more efficient and effective to address these issues together. This approach reflects the imperative that any new programme and action plan reflect developments in the epidemiology of obesity and overweight, to give specific attention to the importance of physical activity and to be based on evidence for the effectiveness of interventions, particularly those that tackle structural and environmental determinants of obesity and overweight at population level, and their impact on equity. The specific recommendations of this qualitative evaluation could be integrated into the draft of the next programme and plan. WHO could provide guidance and support for this exercise (see Annex 8).
3. It is recommended that the Public Health Institute prepare a programme for routine surveillance, monitoring and evaluation of policies, projects, epidemiology and food environments. As indicated in section 3.2.22, this would include routine surveillance of dietary and nutritional risk factors (in regular dietary surveys, another 24-h urinary sodium excretion survey, continued implementation of COSI and Health Behaviour in School-aged Children surveys) and determining the intended and unintended positive and negative health impacts of policies and interventions, including

their distribution in the population. Advice from key informants and a review of documents indicated that much of the data is available, with some gaps; it is therefore largely a case of making better use of the available data in a more systematic way. Routine surveillance will allow Turkey to monitor progress towards the global targets for nutrition and NCDs. WHO could work with the Ministry of Health to build capacity in research institutions for devising and adapting methods on the basis of the best available guidelines and evidence, for monitoring relevant aspects of the modern food and obesogenic environment in Turkey, including marketing, labelling, food composition, availability and affordability.

4. It is recommended that the Public Health Institute conduct a rapid equity-focused health impact assessment of a detailed draft of the next programme and action plan in order to: identify potential intended and unintended positive and negative health equity impacts of the revised approach, agree on priorities for implementation, ensure policy coherence and encourage ownership of the new programme and plan within the health sector, other sectors and wider society. The rapid assessment can be effectively undertaken only if a detailed draft is available. WHO could provide guidance and support.



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## Annex 1. Programme of the evaluation mission

Monday 25 April 2016	Tuesday 26 April 2016	Wednesday 27 April 2016	Thursday 28 April 2016	Friday 29 April 2016
09:00–10:00 Briefing for international experts and WHO team (Farabi Hall, Public Health Institute)	08:30 Briefing	08:00 Departures from Ankara for provincial visits and data collection (Eskişehir, Konya and Afyonkarahisar)	08:30 Briefing	09:00–12:00 Launch meeting and press briefing
10:00–12:00 Overview of the programme and agenda with the international and national technical team at the Department of Obesity, Diabetes and Metabolic Disorders	<p>Group 1: 09:00–12.00 Visit to the Ministry of National Education Nutrition-friendly schools</p> <p>Group 2: 09.00–10.30 Visit to Ministry of Youth and Sports 11.00–12.30 Visit to Ministry of Environment and Urban Planning</p>	<p>Group 1: Visit to Eskişehir Public Health Directorate and Eskişehir Metropolitan Municipality</p> <p>Group 2: Visit to Konya Public Health Directorate and Konya Metropolitan Municipality</p> <p>Group 3: Visit to Afyonkarahisar Public Health Directorate and Healthy Life Centre</p>	<p>Group 1: 09:00–10:30 Visit to Hacettepe University Public Health Institution</p> <p>10:30–11.30 Visit to Hacettepe University Beytepe Campus to observe physical activity and cycling Paths</p> <p>11.30–12.30 Visit to Başkent University Nutrition and Dietetics Department and Turkey Dietitians Association</p> <p>Group 2: 09.00–12.00 Visit to Ministry of Food, Agriculture and Livestock</p>	

12:00–13:00 Lunch break 13:00–17:00 Visits to relevant departments of the Public Health Institution (Primary Health Care Services, Child and Adolescent Health, Chronic Diseases, Elderly Health and Disabled People , Women and Reproductive Health, Cancer Department and Occupational Health and Safety)	12:00–13:00 Lunch break 13:00–17:00 Group 1: Visits to the Ankara Public Health Directorate President of the Directorate Noncommunicable Diseases Unit Ankara Beştepe Family Health Centre Ankara Çankaya Public Health Centre Altındağ Healthy Life Centre Group 2: 13: 00–15:30 Visit to Turkey Food and Beverage Industry Associations Federation 15:30–17.30 Visit to Radio and Television Supreme Council	12:00–13:00 Lunch break Visits continue Group 1: Visit to Eskişehir Public Health Directorate and Eskişehir Metropolitan Municipality Group 2: Visit to Konya Public Health Directorate and Konya Metropolitan Municipality Group 3: Visit to Afyonkarahisar Public Health Directorate and Healthy Life Centre	12:00–13:00 Lunch break 13:00–15.00 Visit to Ministry of Labour and Social Security, Social Security Institution 15:00–18.00 Visit to Ministry of Health Department of Health Promotion to report initial findings and preliminary recommendations	12:00–14:00 Lunch break Departure of international experts and WHO team
17:00–18:00 Arrival at the Public Health Institute, Department of Obesity Diabetes and Metabolic Diseases	17:30–18:00 Arrival at the Public Health Institute, Department of Obesity Diabetes and Metabolic Diseases	18:00 Arrival at the Public Health Institute, Department of Obesity Diabetes and Metabolic Diseases	17:00–18:00 Preparation for launch meeting and press release	

## Annex 2. International and national experts on the evaluation panel

Mike Rayner, Oxford University and British Heart Foundation

Thomas Ernst Dorner, Vienna School of Medicine

Sarah Simpson, EquiACT, France

Sanja Music-Milanovic, National Public Health Institute, Zagreb, Croatia

João Breda, World Health Organization Regional Office for Europe, Copenhagen

Jo Martin Jewell, World Health Organization Regional Office for Europe, Copenhagen

Stephen Whiting, World Health Organization, Geneva

Pavel Ursu, World Health Organization Representative in Turkey

Toker Ergüder, World Health Organization Turkey Country Office

## Annex 3. Key informants

### **Public Health Institution, Ministry of Health, Ankara**

İrfan Şencan, President

Gülsüm Nurhan İnce, Vice President, Noncommunicable Disease Programmes and Cancers

Bekir Keskinkiliç, Vice President

Ömer Tontuş, Head, General Directorate of Health Promotion

Nazan Yardim, Head, Department of Obesity, Diabetes and Metabolic Diseases

Adem Kucur, Primary Health Care Services, Head of Family Medicine Implementation Department

Özlem Yığıtbaşıoğlu, Primary Health Care Services, Head of Family Medicine Training Development Department

Kanuni Keklik, Primary Health Care Services, Head of Public Health Department

Tacetin Kizilboğa, Primary Health Care Services, Department of Planning and Organization

Başak Tezel, Head of Child and Adolescent Health Department

Banu Ekinci, Head of Chronic Diseases, Elderly Health and Disabled People Department

Sema Sanısoğlu, Head of Women and Reproductive Health Department

Murat Gültekin, Head of Cancer Department

Deniz Çakmak, Head of Family Medicine Monitoring and Assessment Department

Ahmet Özlü, Head of Occupational Health and Safety Department

Sibel Gögen, Obesity, Diabetes and Metabolic Diseases Department

Sabahattin Kocadağ, Obesity, Diabetes and Metabolic Diseases Department

Şeniz Ilgaz, Obesity, Diabetes and Metabolic Diseases Department

Beytül Yılmaz, Obesity, Diabetes and Metabolic Diseases Department

Duygu Ünal, Obesity, Diabetes and Metabolic Diseases Department

Nermin Çelıkay, Obesity, Diabetes and Metabolic Diseases Department

Berna Karakaş, Obesity, Diabetes and Metabolic Diseases Department

Meral Çarkçı, Obesity, Diabetes and Metabolic Diseases Department

Meryem Saygi, Obesity, Diabetes and Metabolic Diseases Department

Gülay Sarioğlu, Chronic Diseases, Elderly Health and Disabled People Department

Nevin Çobanoğlu, Chronic Diseases, Elderly Health and Disabled People Department

### **Eskişehir Provincial Public Health Directorate**

Kadir Demirel, President

Filiz Koç, Vice President

Fulya Kurnaz

Tülin Dağış

Bülent Yağci, İstiklal Family Health Centre

### **Eskişehir Metropolitan Municipality**

Ahmet İlker, Deputy Mayor

Didem Aydınmakına, Head of Social Services Department

### **Konya Provincial Public Health Directorate**

Hasan Öznavruz, President

Kürşat Kiraç

Aykut Emre Yildirim

Giray Yolcu

### **Konya Selçuklu Municipality**

Uğur İbrahim Altay, Mayor

### **Afyon Provincial Public Health Directorate**

Lütfi Akgün, President

Ahmet Çelikkaya

Abdullah Canavarcı

Nihan Yerlikaya

### **Ankara Provincial Public Health Directorate**

Zeynep Belma Şenlik, Vice-President

Tuğba Özdemîrkan

### **Altındağ Healthy Life Centre**

Emel Özen

### **Social Security Institution, Ministry of Labour**

Ayşe Özkan

Semiha Akdağ

### **Ministry of Environment and Urban Planning**

Funda Fílíz

Şeyma Uçar

### **Ministry of Youth and Sports**

İbrahim Sezgîn

Ömer Kalkan

### **Ministry of Food, Agriculture and Livestock**

Muharrem Selçuk

Ümit Bayram Kutlu

Selman Ayaz

Neslihan Alper

İlhan Yaşar Peker

### **Ministry of National Education**

Gülderen Öztürk

Ertuğrul Geçgîl

Murat Gülşen

Şennur Çetîn

### **Maltepe Secondary School Ankara**

Semra Demir, Director

Hatice Aktaş, Deputy Director

### **Radio Television Supreme Council**

Fatih Yalçın

### **Başkent University, Turkish Dietitians Association**

Muhittin Tayfur, President

Aydan Ercan

### **Hacettepe University**

Haydar Demírel, Sport Sciences

Ayda Karaca, Sport Sciences

Pınar Arpınar Avşar, Sport Sciences

Hilal Özcebe, Public Health Institute

Nazmi Bîlír, Public Health Institute

Tülay Bağci Bosí, Public Health Institute

Murat Ünalacak, President of Turkish Family Physicians Association

### **Food and Beverage Industry Associations Federation**

İlknur Menlík

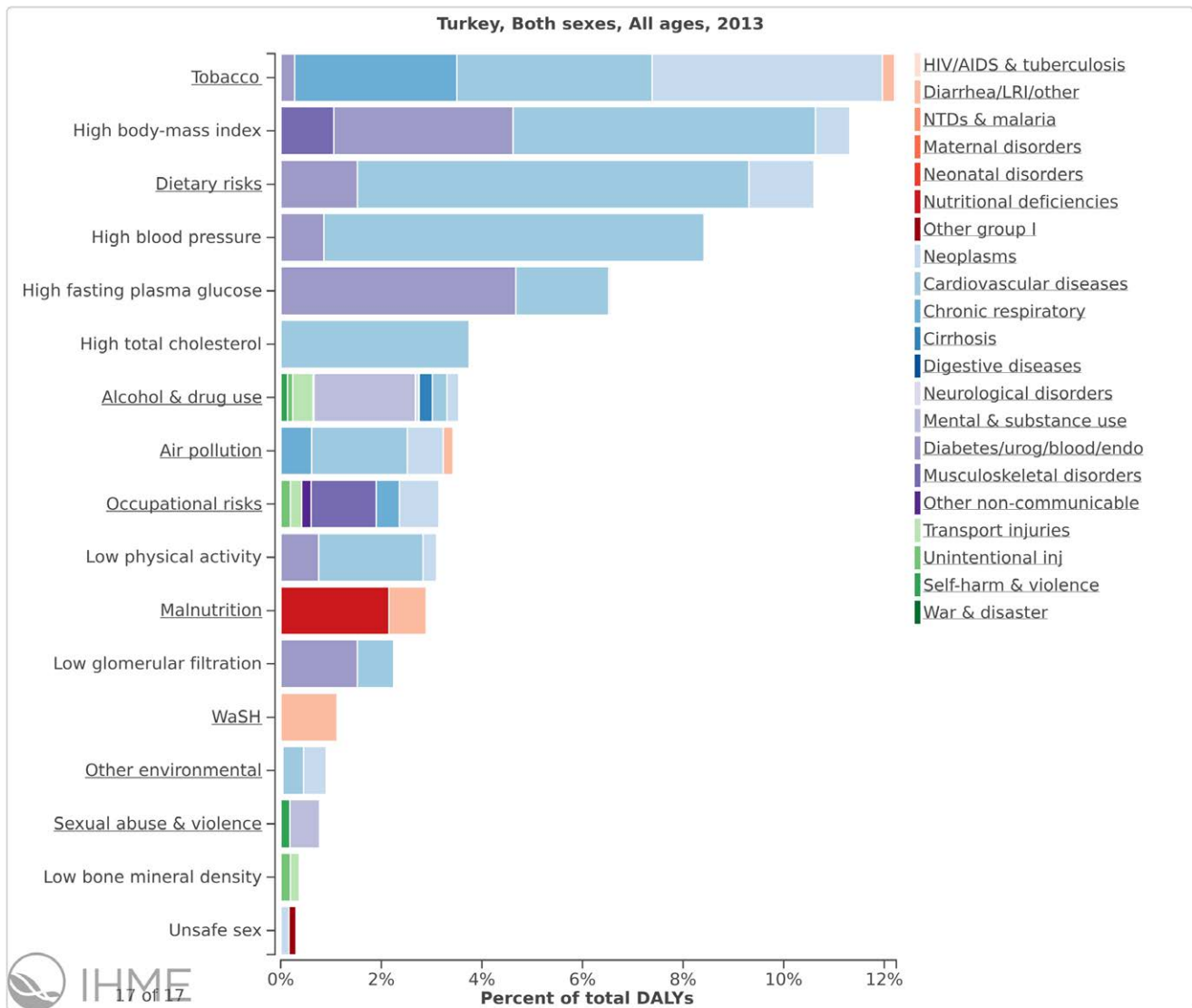
Aziz Ekşí

Rint Akyüz



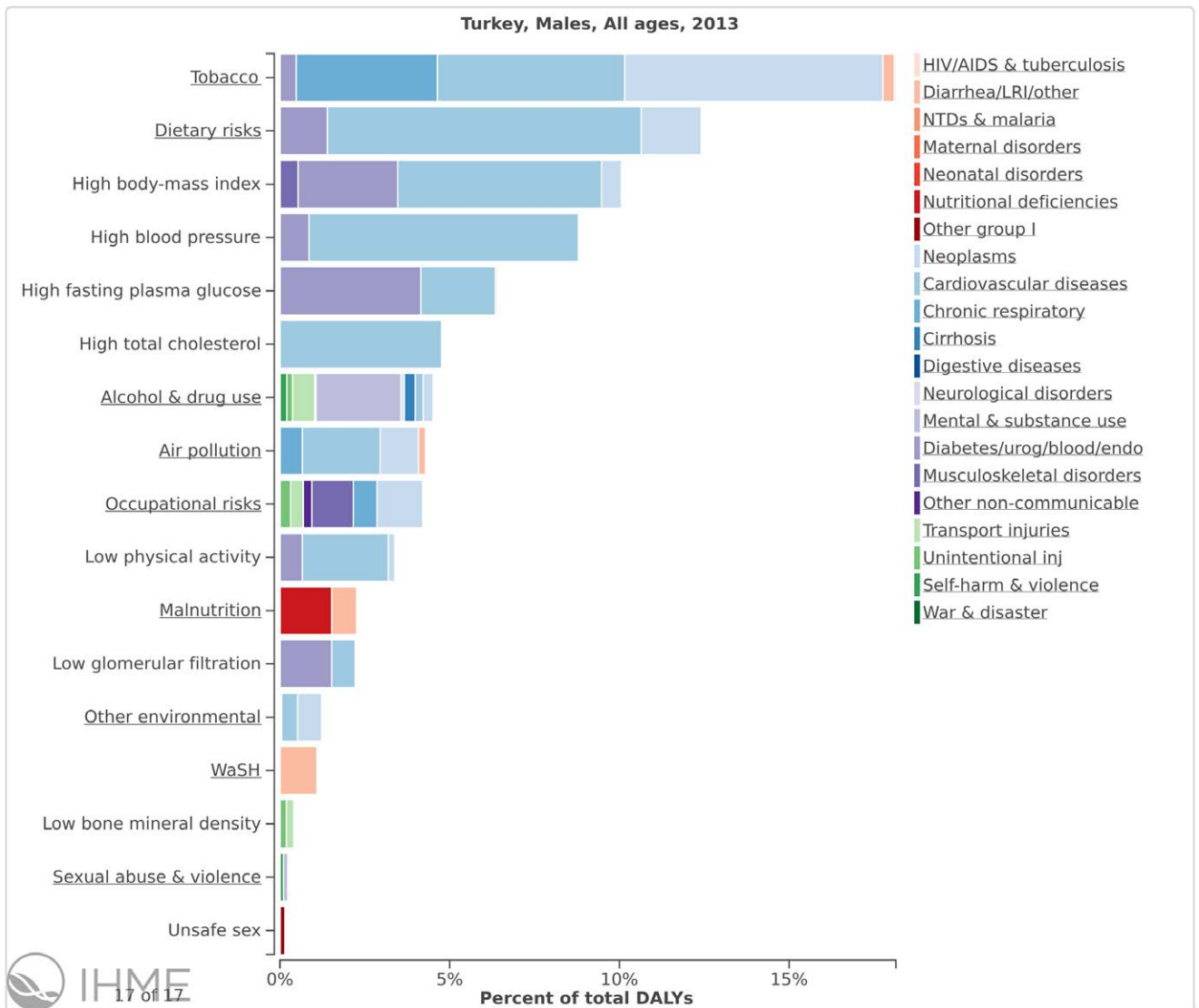
# Annex 4. Risk factors for disability-adjusted life-years, all ages, Turkey, 2013

**Fig. 4.1. Risk factors for disability-adjusted life-years (%), males and females, all ages, 2013**



Source: Institute for Health Metrics and Evaluation. Seattle, WA: University of Washington, GBD Compare; 2015 (<http://vizhub.healthdata.org/gbd-compare>, accessed 14 May 2016).

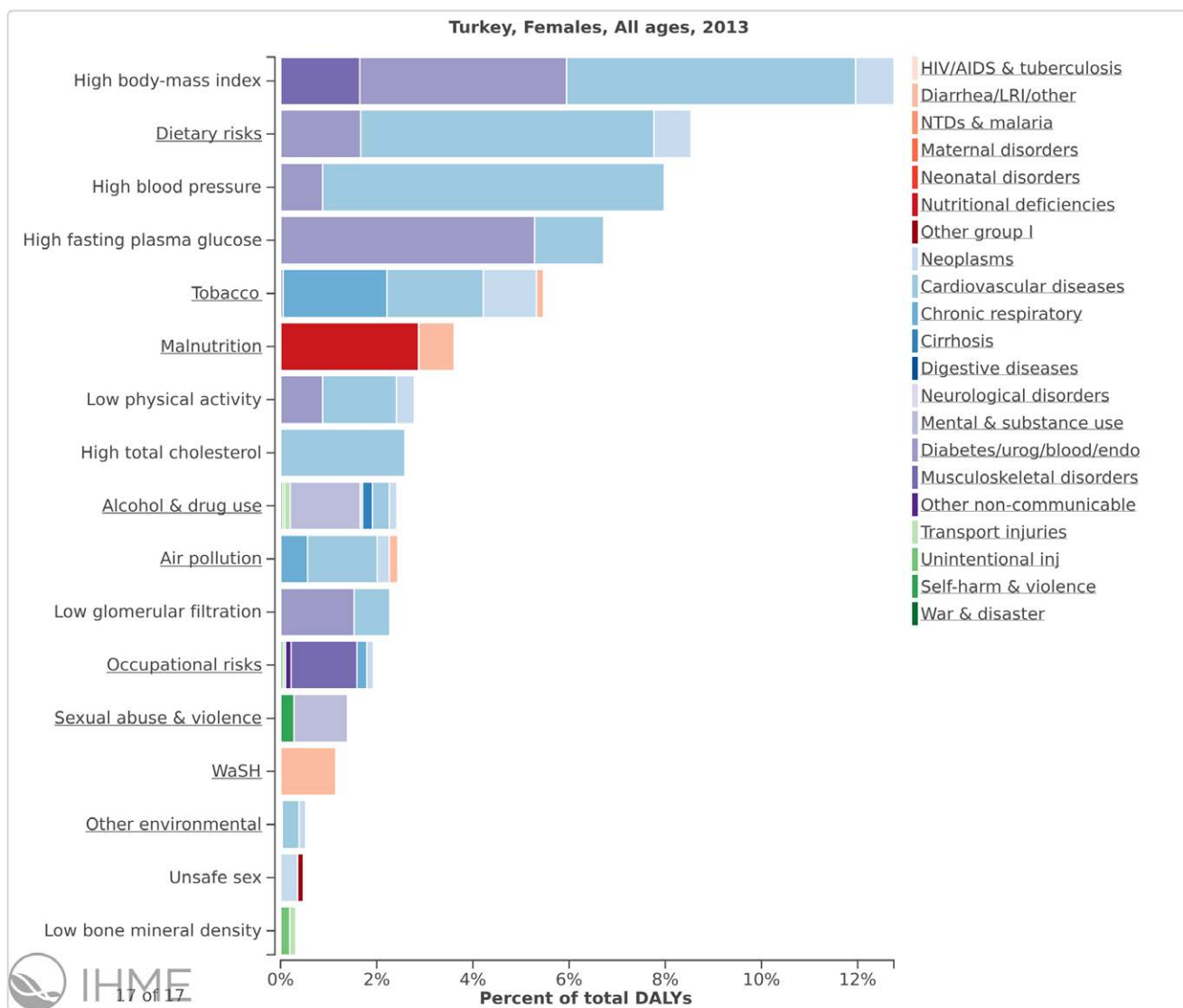
**Fig. 4.2. Risk factors for disability-adjusted life-years (%), males, all ages, 2013**



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Source: Institute for Health Metrics and Evaluation. Seattle, WA: University of Washington, GBD Compare; 2015 (<http://vizhub.healthdata.org/gbd-compare>, accessed 14 May 2016).

**Fig. 4.3. Risk factors for disability-adjusted life-years (%), females, all ages, 2013**



Source: Institute for Health Metrics and Evaluation. Seattle, WA: University of Washington, GBD Compare; 2015 (<http://vizhub.healthdata.org/gbd-compare>, accessed 14 May 2016).

# Annex 5. Guidelines on nutrition and physical activity for family health nurses

## PLEASE ADVISE HEALTHY EATING RECOMMENDATIONS

- Do not start the day without breakfast.
- Reduce the size of dinner plates you use.
- Avoid to eat snacks without sitting down and fast food.
- Consume the foods as small bites, chewing for a long time.
- Take care of consuming 3 main meal, 2-3 interim meals every day .
- Please do not skip meals.
- Prefer seasonal natural and fresh foods for healthy nutrition.
- Reduce sugar and salt consumption.
- Please remove salt shakers from your dinner tables.
- Prefer whole grain products.
- Please drink at least 8-10 glass of water daily.
- Avoid alcohol and cigarette consumption

## PLEASE QUERY

<b><u>In the last 7 days</u></b> Have you exercised/did sports AT LEAST 5 DAYS A WEEK or last 7 days for 30 minutes at moderate intensity?	<b><u>Moderate intensity activity</u></b> Fast walking, low tempo running, jumping rope, swimming, Ping pong, dancing, Slow tempo cycling
<b><u>In the last 7 days</u></b> Have you exercised/did sports in vigorous intensity physical activity for 20 minutes or more 3 AT LEAST? DAYS A WEEK	<b><u>Vigorous activity</u></b> jogging, basketball, football, volleyball, to play handball and tennis, step-aerobics, Fast tempo cycling

ADEQUATE PHYSICAL ACTIVITY

INADEQUATE PHYSICAL ACTIVITY

*Please use this guide before the person interviews with Family Physician and then direct to the Family Physician.*



T.C. Sağlık Bakanlığı  
Türkiye Halk Sağlığı  
Kurumu

## GUIDELINE FOR FAMILY HEALTH NURSES (Nutrition and Physical Activity)



[www.beslenme.gov.tr](http://www.beslenme.gov.tr)

## Annex 6. Cardiovascular risk assessment criteria in terms of physical activity

	Yes	No
Does the patient have any known cardiovascular disease?		
Does the patient have uncontrolled hypertension? ( <i>The blood pressure of obese patients may be higher when measured with small cuffs.</i> )		
Does the patient have chest pain or feel dizzy or faint during effort?		
Does the patient have a chronic lung disease?		
Is the blood glucose of a diabetic patient uncontrolled (HbA1c > 7), or are there any complications of diabetes (nephropathy, retinopathy, neuropathy)?		
Does the patient have a musculoskeletal disorder that might interfere with exercise?		
Does the patient have a cramp-like leg pain (claudication) when starting exercise that persists at rest?		
Is there a history of sudden death or severe coronary artery disease in first-degree relatives under the age of 55 years for men and under 65 years in women? If you are planning to prescribe moderate–severe exercise for a patient with a sedentary lifestyle: Is the patient male and > 45 years? Is the patient female and > 55 years? Does the patient (male or female) have diabetes and is > 35 years?		
Physical examination: Does the patient have a heart murmur? Is there a souffle in the carotid artery or a weak peripheral pulse? Is there oedema in the leg or foot? Is the resting electrocardiogram abnormal (ST segment, T wave changes, bundle branch block, myocardial infarct symptoms or arrhythmia)?		

Direct your patient to a second-level health care centre if you answer Yes to one or more of the questions above.

## Annex 7. Suggested template for stock-take

This template is provided as an example for the recommended stock-taking exercise. See notes on the health inequalities component and the scoring system for making the overall assessment.

HNAL Plan	Activities/ actions implemented	Activities/ actions not implemented and why	Health inequalities – considered and how <sup>1</sup>	Adequate resources including funding available	Adequate system and capacity for monitoring	Overall assessment using scoring system <sup>2</sup>
Establishment of obesity prevention and control program management and development of policy						
A.1 Supplying political will and determination at national and local level and putting into application.						
A.2 Financial arrangements in the management of obesity prevention.						
A.3 To determine the current situation at the national and local level and to support the researches that are going to be done.						
Actions for obesity prevention						
B.1 To inform and make society conscious about obesity, adequate and balanced diet and physical activity.						
B.2 To gain the habit of adequate and balanced diet and regular physical activity for obesity prevention in schools.						
B.3 Actions for workplaces.						
B.4 Providing cooperation with food industry for obesity prevention.						

HNAL Plan	Activities/ actions implemented	Activities/ actions not implemented and why	Health inequalities – considered and how <sup>1</sup>	Adequate resources including funding available	Adequate system and capacity for monitoring	Overall assessment using scoring system <sup>2</sup>
B.5 Supporting adequate and balanced nutrition and Active Life in media news and advertisements.						
B.6 Encouragement of physical activity and improvement of environmental factors.						
Precautions for diagnosis and treatment of obesity in health institutions						
1. To contribute to the increase of knowledge of health personnel on diagnosis and treatment of obesity and to the generalisation of applications directed to the public.						
2. To ensure diagnosis and treatment of the individuals who applied to the health institutions in terms of overweight and obesity.						
3. To make the necessary official arrangements for the application conditions of the bariatric surgery and for payment of the costs of these methods.						
Monitoring and assessment						
1. To form the monitoring and assessment system.						
2. To prepare 3-yearly progress reports and to publish the first progress report in 2010.						

HNAL Plan	Activities/ actions implemented	Activities/ actions not implemented and why	Health inequalities – considered and how <sup>1</sup>	Adequate resources including funding available	Adequate system and capacity for monitoring	Overall assessment using scoring system <sup>2</sup>
3. To do the assessment of the “Obesity Prevention and Control Program of Turkey” in 2015 and to publish the assessment report.						

<sup>1</sup> *Health inequalities:* (i) Was the activity/action implemented with a specific focus on reducing existing inequalities. How were these defined; and or (ii) was the activity/action assessed or evaluated for the distribution of impact across different social groups and using age- and sex- disaggregated data? For example, is there any information available about differences in access, coverage, impact and or outcome for intended target groups, e.g. children, pregnant women, by place of residence (urban, rural or remote) or education level or socioeconomic status (including wealth quintile, or income or occupation).

<sup>2</sup> *Scoring for overall assessment:* it is suggested that the following system be used for allocating a score based on both quantitative and qualitative information:

1. No information available
2. No success
3. Limited success
4. Moderate success – e.g. measures reached more than 50% of the target population
5. Successful – measures implemented in all provinces and reached more than 50% of the target population
6. Very successful – sustained and fully scaled implementation including evidence about the impact on different social groups in the population



## Annex 8. Additional resources: publications and websites for use in designing the new action plan and implementing the recommendations of the evaluation

In accordance with feedback from national counterparts, this annex does not include WHO publications on country experiences, particularly with regard to food regulation, front-of-package labelling and use of price interventions, some of which are presented in the report. For WHO and other publications documenting country experiences on use of price policies to promote healthier diets, please see the reference list.

Publications on evaluating nutrition, healthy eating and physical activity interventions that include an equity perspective:

- Attwood S, van Sluijs E, Sutton S. Exploring equity in primary-care-based physical activity interventions using PROGRESS-Plus: a systematic review and evidence synthesis. *Int J Behav Nutr Phys Act* 2016;13:60.
- Centre for Diet and Activity Research, United Kingdom (<http://www.cedar.iph.cam.ac.uk>): The CEDAR group studies factors that influence diet- and physical activity-related behaviour, develops and evaluates public health interventions and helps shape public health practice and policy. It is one of five centres of Excellence in Public Health Research funded by the United Kingdom Clinical Research Collaboration. It issues publications on equity in diet and physical activity interventions, including the study of Attwood et al., above, and a systematic review of studies on the equity of physical activity interventions for children (see Love et al., below).
- The Campbell and Cochrane Equity Methods Group encourages the authors of Campbell and Cochrane reviews to describe explicitly the effects of interventions on disadvantaged groups and the capacity of the interventions to reduce socioeconomic inequalities in health and promote their use in the wider community. Links are provided to the Equity checklist for incorporating equity in a review and to the PRISMA-E 2012 reporting guidelines for equity-focused reviews. See also O’Neill et al., below.
- Hawkes C, Smith TG, Jewell J, Wardle J, Hammond RA, Friel S, et al. Smart food policies for obesity prevention. *Lancet* 2015;385: 2410–21. This is the second in a six-part series on obesity (<http://www.thelancet.com/series/obesity-2015>).
- Love R, van Sluijs E, Adams J. A systematic review exploring the equity effects of children’s physical activity interventions. PROSPERO 2016:CRD42016034020 ([http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42016034020](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016034020)).
- McGill R, Anwar E, Orton L, Bromley H, Lloyd-Williams F, O’Flaherty M, et al. Are interventions to promote healthy eating equally effective for all? Systematic review of socioeconomic inequalities in impact. *BMC Public Health* 2015;15:457.
- O’Neill J, Tabish H, Welch V, Petticrew M, Pottie K, Clarke M, et al. Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. *J Clin Epidemiol* 2014;67:56–64.
- Olstad D, Ball K, Raine K, Nykiforuk C, Taber D, Minaker L, et al. Can policy ameliorate socioeconomic disparities in obesity and obesity-related behaviours? A systematic review of policy interventions in adults and children. PROSPERO 2015:CRD42015025055 ([http://www.crd.york.ac.uk/PROSPERO\\_REBRANDING/display\\_record.asp?ID=CRD42015025055](http://www.crd.york.ac.uk/PROSPERO_REBRANDING/display_record.asp?ID=CRD42015025055)).

## **The WHO Regional Office for Europe**

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

### **Member States**

Albania  
Andorra  
Armenia  
Austria  
Azerbaijan  
Belarus  
Belgium  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Cyprus  
Czech Republic  
Denmark  
Estonia  
Finland  
France  
Georgia  
Germany  
Greece  
Hungary  
Iceland  
Ireland  
Israel  
Italy  
Kazakhstan  
Kyrgyzstan  
Latvia  
Lithuania  
Luxembourg  
Malta  
Monaco  
Montenegro  
Netherlands  
Norway  
Poland  
Portugal  
Republic of Moldova  
Romania  
Russian Federation  
San Marino  
Serbia  
Slovakia  
Slovenia  
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Switzerland  
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The former Yugoslav  
Republic of Macedonia  
Turkey  
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Ukraine  
United Kingdom  
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